



# **TARIFF ORDER**

True-up of the FY 2014-15, Annual Performance Review of the FY 2018-19, Aggregate Revenue Requirements (ARR) for 2<sup>nd</sup> MYT Control Period (FY 2019-20 to FY 2021-22) and Determination of retail tariff for the FY 2019-20

Petition No. 266/2018

For

Electricity Department, Government of Goa (EDG)

20<sup>th</sup> May 2019

**JOINT ELECTRICITY REGULATORY COMMISSION**

For the State of Goa and Union Territories,

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## List of abbreviations

| Abbreviation    | Full Form  |
|-----------------|--|
| A&G             | Administration & General   |
| ABR             | Average Billing Rate   |
| ACoS            | Average Cost of Supply   |
| Act             | The Electricity Act, 2003  |
| APR             | Annual Performance Review  |
| ARR             | Aggregate Revenue Requirement  |
| ATE             | Appellate Tribunal of Electricity  |
| BPL             | Below Poverty Line   |
| CAGR            | Compound Annualized Growth rate  |
| Capex           | Capital Expenditure  |
| CEA             | Central Electricity Authority  |
| CERC            | Central Electricity Regulatory Commission  |
| CGRF            | Consumer Grievance Redressal Forum   |
| CGS             | Central Generating Stations  |
| Ckt. Km         | Circuit Kilometer  |
| COD             | Commercial Operation Date  |
| Commission/JERC | Joint Electricity Regulatory Commission for the State of Goa and Union Territories |
| Cr              | Crore  |
| DELP            | Domestic Efficient Lightening Program  |
| Discom          | Distribution Company   |
| DSM             | Deviation Settlement Mechanism   |
| EA 2003         | The Electricity Act, 2003  |
| EDG             | Electricity Department, Govt. of Goa   |
| ED              | Electricity Duty   |
| EDF             | Electricity Development Fund   |
| EHT             | Extra High Tension   |
| ERP             | Enterprise Resource Planning   |
| FAR             | Fixed Asset Register   |
| FPPCA           | Fuel and Power Purchase Cost Adjustment  |
| FY              | Financial Year   |
| GFA             | Gross Fixed Assets   |
| GGPP            | Gandhar Gas based Power Plant  |
| HP              | Horse Power  |
| HT              | High Tension   |
| IEX             | Indian Energy Exchange Limited   |
| INR             | Indian Rupee   |
| IPDS            | Integrated Power Development Scheme  |



| <b>Abbreviation</b> | <b>Full Form</b>   |
|---------------------|--|
| IPP                 | Independent Power Producer   |
| ISTS                | Inter-State Transmission System  |
| JERC                | Joint Electricity Regulatory Commission for the State of Goa and Union Territories |
| KAPS                | Kakrapar Atomic Power Station  |
| KGPP                | Kawas Gas based Power Plant  |
| KSTPS               | Kota Super Thermal Power Station   |
| KVA                 | Kilo Volt Ampere   |
| KWh                 | Kilo Watt Hour   |
| LT                  | Low Tension  |
| MOD                 | Merit Order Dispatch   |
| MU                  | Million Units  |
| MW                  | Mega Watt  |
| MYT                 | Multi-Year Tariff  |
| NFA                 | Net Fixed Assets   |
| NPCIL               | Nuclear Power Corporation of India Limited   |
| NTPC                | National Thermal Power Corporation   |
| NVVNL               | NTPC Vidyut Vyapar Nigam Limited   |
| O&M                 | Operation and Maintenance  |
| PGCIL               | Power Grid Corporation of India Ltd.   |
| PLF                 | Plant Load Factor  |
| PLR                 | Prime Lending Rate   |
| POSO                | Power System Operation Corporation Limited   |
| PPA                 | Power Purchase Agreement   |
| R&M                 | Repair and Maintenance   |
| R-APDRP             | Restructured Accelerated Power Development and Reforms Programme                   |
| REC                 | Renewable Energy Certificate   |
| RLDC                | Regional Load Despatch Centre  |
| RoE                 | Return on Equity   |
| RPO                 | Renewable Purchase Obligation  |
| RSTPS               | Ramagundam Coal Based Thermal Power Stations                                       |
| RTC                 | Round the Clock  |
| SBI PLR             | SBI Prime Lending Rate   |
| SECI                | Solar Energy Corporation of India  |
| SERC                | State Electricity Regulatory Commission  |
| SLDC                | State Load Dispatch Centre   |
| SOP                 | Standard of Performance  |
| SRPC                | Southern Regional Power Committee  |
| TAPS                | Tarapur Atomic Power Station   |
| T&D                 | Transmission & Distribution  |
| TVS                 | Technical Validation Session   |
| UI                  | Unscheduled Interchange  |

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| <b>Abbreviation</b> | <b>Full Form</b>                        |
|---------------------|---|
| UT                  | Union Territory                         |
| VSTPS               | Vindhyachal Super Thermal Power Station |
| WART                | Weighted Average Retail Tariff          |
| WRPC                | Western Region Power Committee          |

**Before the**  
**Joint Electricity Regulatory Commission**  
**For the State of Goa and Union Territories, Gurugram**

QUORUM

**Shri. M. K. Goel, Chairperson**

**Smt. Neerja Mathur, Member**

**Petition No. 266/2018**

**In the matter of**

Approval for the True-up of the FY 2014-15, Annual Performance Review of the FY 2018-19, Aggregate Revenue Requirements (ARR) for 2<sup>nd</sup> MYT Control Period (FY 2019-20 to FY 2021-22) and retail tariff for the FY 2019-20

**And in the matter of**

Electricity Department, Government of Goa (EDG).....Petitioner

**ORDER**

Dated: 20<sup>th</sup> May 2019

- 1) This Order is passed in respect to the Petition filed by the Electricity Department, Government of Goa (EDG) (herein after referred to as “The Petitioner” or “EDG” or “The Licensee”) for approval of True-up of the FY 2014-15, Annual Performance Review of the FY 2018-19, Aggregate Revenue Requirements (ARR) for 2<sup>nd</sup> MYT Control Period (FY 2019-20 to FY 2021-22) and Tariff Proposal for the FY 2019-20 before the Joint Electricity Regulatory Commission (herein after referred to as “The Commission” or “JERC”).
- 2) On receipt of the Petition, the Commission scrutinised its contents and requisitioned further information/clarifications on the data gaps observed in the Petition to take a prudent view of the Petition. The Commission also held a Technical Validation Session to determine sufficiency of data and the veracity of the information submitted. Further, suggestions /comments/objections were invited from the public/stakeholders. A Public Hearing was held and the stakeholders/public were heard.
- 3) The tariff, as detailed in the Chapter “Tariff Schedule,” Open Access Charges and other provisions as approved in this Order shall come into force from 1<sup>st</sup> June 2019 and shall remain valid till further Orders of the Commission.
- 4) The licensee shall publish the revised Tariff Schedule and the salient features of tariff within one week of receipt of the Order in three daily newspapers in the respective local languages of the region, besides English, having wide circulation in their respective areas of supply and upload the Tariff Order on its website.
- 5) The Commission based on the Petitioner’s submission, relevant Regulations, facts of the matter and after proper due diligence has approved the True-up of FY 2014-15 and ARR for the 2<sup>nd</sup> MYT Control Period along with the retail tariff for FY 2019-20. The Commission has not been able to approve the True-ups of FY 2015-16, FY 2016-17 and FY 2017-18 due to non-submission of audited accounts and APR for

FY 2018-19 due to submission of unreliable data as has been discussed in relevant chapters. The summary of each year has been provided as follows:

- a) The following table provides ARR, Revenue and gap as submitted by the Petitioner and approved by the Commission in the True-up of FY 2014-15

**Table 1: Standalone Revenue Gap/ (Surplus) approved for FY 2014-15 (In INR Cr)**

| S. No | Particulars                                   | Petitioner's Submission | Approved by Commission |
|-------|---|-------------------------|------------------------|
| 1     | Net Revenue Requirement                       | 1,485.36                | 1,478.02               |
| 2     | Revenue from sale of power at Existing tariff | 1,221.07                | 1,221.07               |
| 3     | Gap / (Surplus) for the year                  | 264.28                  | 256.94                 |
| 4     | Upfront Budgetary support from Govt.          | 264.28                  | 256.94                 |
|       | <b>Net Revenue Gap/ (Surplus)</b>             | <b>0.00</b>             | <b>0.00</b>            |

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

**Table 2: Standalone Revenue Gap/ (Surplus) approved for FY 2019-20 (In INR Cr)**

| S. No | Particulars                                   | Petitioner's Submission | Approved by Commission |
|-------|---|-------------------------|------------------------|
| 1     | Net Revenue Requirement                       | 2,188.33                | 2,212.23               |
| 2     | Revenue from sale of power at Approved tariff | 1,880.00                | 1,882.97               |
| 3     | Gap / (Surplus) for the year                  | 308.33                  | 329.25                 |
| 4     | Upfront Budgetary support from Govt.          | 308.33                  | 329.25                 |
|       | <b>Net Revenue Gap/ (Surplus)</b>             | <b>0.00</b>             | <b>0.00</b>            |

- 6) In order to recover the revenue gap of INR 329.25 Cr, average tariff hike of 17.49% would have been required. However, in view of Govt. of Goa providing an upfront commitment for the budgetary allocation needed to recover the revenue gap in FY 2019-20, no increase in tariff has been approved for FY 2019-20.
- 7) The Commission believes that the demand for charging infrastructure for electric vehicles will increase in the near future due to increased commercialization. Furthermore, the Commission is of the opinion that to impart the necessary impetus for the adoption of E-Vehicles in the Territory a sustainable framework has to be developed and having a designated electricity tariff is the first step towards achieving it. Therefore, keeping in view the anticipated demand and need, the Commission introduces a new category namely Electric Vehicle Charging Stations for consumers setting up infrastructure for charging of Electric vehicles/ Electric rickshaws etc. and has fixed the tariff as per the guidelines of Ministry of Power, Govt. of India.
- 8) Ordered as above, read with the attached document giving detailed reasons, grounds and conditions.

-Sd-

**(Neerja Mathur)**  
**Member**

-Sd-

**(M.K. Goel)**  
**Chairperson**

Place: Gurugram

Date: 20<sup>th</sup> May 2019

# 1. Chapter 1: Introduction

## 1.1. About Joint Electricity Regulatory Commission for the State of Goa and UT's (JERC)

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

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

## 1.2. About Electricity Department, Government of Goa (EDG)

The Electricity Department, Government of Goa (hereinafter referred to as “ED-Goa” or “EDG” or ‘Petitioner’) 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, coordinated and economical distribution system;
- To supply electricity on an application by any person, 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.

The primary objective of EDG is to undertake the transmission, distribution and retail supply of electricity in its license area and for this purpose plan, construct, and manage the power system network in all its aspects. EDG is further responsible for carrying out the business of purchasing and selling of electricity along with activities such as billing and collection in the area.

## 1.3. JERC Tariff Regulations, 2009

The Commission notified the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Terms and Conditions for Determination of Tariff) Regulations, 2009 on 9<sup>th</sup> February 2009 applicable to the whole of the State of Goa and the Union Territories of Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Lakshadweep and Puducherry. The Regulations were applicable till the FY 2015-16 till the MYT Distribution Tariff Regulations, 2014 were notified by the Commission on 30<sup>th</sup> June 2014.

## 1.4. Multi-Year Distribution Tariff Regulations, 2014

The Commission notified the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (except Delhi) (Multi-Year Distribution Tariff) Regulations, 2014 on 30<sup>th</sup> June 2014 applicable for a three year Control period starting from FY 2015-16 till FY 2017-18. The Commission subsequently notified the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (except Delhi) (Multi-Year Distribution Tariff) (First Amendment) Regulations, 2015 on 10<sup>th</sup> August 2015 shifting the MYT Control Period

to FY 2016-17 to FY 2018-19. These Regulations are applicable to all the distribution licensees in the State of Goa and Union Territories of Andaman & Nicobar Islands, Lakshadweep, Chandigarh, Daman & Diu, Dadra & Nagar Haveli and Puducherry.

### **1.5. Multi-Year Tariff Regulations, 2018**

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

### **1.6. Approval of Business Plan for 2<sup>nd</sup> MYT Control Period**

In accordance with the Clause 8.1 of the JERC MYT Regulations, 2018 the Petitioner filed the Petition for approval of Business Plan for 2<sup>nd</sup> Multi-Year Control Period from FY 2019-20 to FY 2021-22 on 27<sup>th</sup> September 2018. The Commission issued the Business Plan Order for the MYT Control Period (hereinafter referred to as ‘Business Plan Order’) on 16<sup>th</sup> November 2018.

### **1.7. Filing and Admission of the Present Petition**

As per Clause 9.1 of the JERC MYT Regulations, 2018 the Petitioner was required to file for approval of the Commission, the Multi-Year Tariff application along with the forecast of Aggregate Revenue Requirement for each year of the Control Period and tariff proposal for the first year of the Control Period.

EDG submitted the current Petition for approval of ‘True-up of the FY 2014-15, Annual Performance Review of the FY 2018-19, Aggregate Revenue Requirements (ARR) for 2<sup>nd</sup> MYT Control Period (FY 2019-20 to FY 2021-22) and Tariff Proposal for the FY 2019-20 vide letter no. 120/03/MYT 19-20 to 21-22/CEE/Tech/1629 dated 30<sup>th</sup> November 2018.

After initial scrutiny/analysis, the Petition was admitted on 10<sup>th</sup> December 2018 and was marked as Petition no. 266/2018.

### **1.8. Interaction with the Petitioner**

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

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

**Table 3: Timelines of the interaction with the Petitioner**

| <b>S. No</b> | <b>Subject</b>                         | <b>Date</b>                    |
|--------------|--|--------------------------------|
| 1            | Issue of First Discrepancy Note        | 6 <sup>th</sup> December 2018  |
| 2            | Reply received from Petitioner         | 21 <sup>st</sup> December 2018 |
| 3            | Technical Validation Session           | 4 <sup>th</sup> January 2019   |
| 5            | Reply to deficiency pointed out in TVS | 10 <sup>th</sup> January 2019  |

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

### **1.9. Notice for Public Hearing**

Public Notices were published by the Commission in the leading newspapers as tabled below, giving due intimation to the stakeholders, consumers and the public at large about the Public Hearing to be conducted by the Commission. These notices were also uploaded on the Commission’s website

**Table 4: Details of Public Notices published by the Commission**

| S. No. | Date                           | Name of Newspaper | Language | Place of Circulation |
|--------|--------------------------------|-------------------|----------|----------------------|
| 1.     | 20 <sup>th</sup> December 2018 | Gomantak          | Konkani  | Goa                  |
|        |                                | Times of India    | English  | Goa                  |
|        |                                | The Navhind times | English  | Goa                  |
| 2.     | 9 <sup>th</sup> January 2019   | Gomantak          | Konkani  | Goa                  |
|        |                                | Times of India    | English  | Goa                  |
|        |                                | The Navhind times | English  | Goa                  |

The Public Notice was published by the Petitioner in the following newspapers for inviting objections/suggestions from the stakeholders on the Tariff Petition:

**Table 5: Details of Public Notices published by the Petitioner**

| S. No. | Date                           | Name of Newspaper | Language | Place of Circulation |
|--------|--------------------------------|-------------------|----------|----------------------|
| 1.     | 19 <sup>th</sup> December 2018 | Gomantak          | Konkani  | Goa                  |
| 2.     |                                | Times of India    | English  | Goa                  |
| 3.     |                                | The Navhind times | English  | Goa                  |

### **1.10. Public Hearing**

The Public Hearing was held on 14<sup>th</sup> January 2019 from 10:00 AM onwards at Nalanda Auditorium, EDC House 5<sup>th</sup> Floor Dr. Atmaram Borkar Road, Panaji, Goa to discuss the issues related to the Petition filed by the Petitioner. The issues and concerns raised by the stakeholders in writing and as voiced by them during the hearing have been examined by the Commission. The issues discussed during the public hearing and/or written comment made by the stakeholders, the responses of the Petitioner thereon and the views of the Commission, have been summarized in Chapter 2 of this Order.

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

### ***2.1. Regulatory Process***

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

The Public Hearing was held on 14<sup>th</sup> January 2019 from 10:00 AM onwards at Goa. During the Public Hearing, some of the stakeholders who had submitted their comments in writing also presented their views in person before the Commission. Other participants from the general public, who had not submitted written comments/objections earlier, were also given an equal opportunity to present their views/suggestions in respect of the Petition.

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

### ***2.2. Suggestions/ Objections, Response of the Petitioner and Commission's Views***

The Commission is appreciative of the efforts of various stakeholders in providing their suggestions/comments/observations to make the process responsive and efficient. The relevant observations of the stakeholders have been suitably considered by the Commission while finalizing this Tariff Order. The submissions of the stakeholders, response of the Petitioner and views of the Commission are summarized below:

#### ***2.2.1. Submission of audited annual accounts of FY 2014-15***

##### **Stakeholder's Comment:**

The audited accounts are available for FY 2014-15 however the same have not been uploaded on the Petitioner's website.

##### **Petitioner's Response:**

The audited annual accounts of FY 2014-15 have been made available to the Commission. The same shall be uploaded on the website, if the Commission directs so and after taking approval from the Govt. of Goa.

##### **Commission's View:**

The Commission directs the Petitioner to upload the audited annual accounts for FY 2014-15 on its website (In Public domain). The Commission further directs the Petitioner to ensure that from the next tariff proceedings, the Petition and all the associated documents submitted to the Commission are made available in the Public Domain on admission of the Petition .



### ***2.2.2. Enormous increase in employee expenses in the True-up year***

#### **Stakeholder's Comment:**

The JERC Tariff Order for 2014-15 clearly says that the Employee costs are high and needs to be decreased. But the Employee costs has increased from INR.152.42 Cr as approved to INR.205.00 Cr as per actual, a 35% increase.

#### **Petitioner's Response:**

The increase in the employee expenses is due to increase in the number of employees recruited during FY 2014-15. Further, there has also been actual increase in employee salaries on account of Dearness Allowance (DA), HRA and travel allowance which is uncontrollable.

#### **Commission's View:**

The Commission has noted the submission of the stakeholder and the Petitioner. The Commission has verified the employee expenses from the audited annual accounts. The matter has been dealt with in detail in section 3.8.1 of this Order.

### ***2.2.3. Interest paid on Consumer Security Deposit***

#### **Stakeholder's Comment:**

The Petitioner does not provide any interest on the consumer security held, in the monthly consumer bills.

#### **Petitioner's Response:**

No interest was paid in FY 2014-15 and the same has also not been considered as part of the ARR. However, it has initiated the process of disbursement of interest to consumers in recent years.

#### **Commission's View:**

The Commission directs the Petitioner to start the practice of paying interest on security deposit to consumers timely and start adjusting the same in the consumer bills. The Commission while approving the ARR for True-up year only allows the interest actually paid to the consumers thereby ensuring that any expense not incurred by the Petitioner is not passed on to the consumers in form of increased tariffs.

### ***2.2.4. Veracity of energy sales, power procurement and T&D loss figures submitted***

#### **Stakeholder's Comment:**

The Commission is requested to verify the integrity of the data for energy sales, power purchase quantum and T&D loss figures as submitted by the Petitioner. Further, there is 10.47% increase of sales in MU from 3,114 MU to 3,439 MU, while revenue from tariff has increased by only 6.45%.

#### **Petitioner's Response:**

The sales/demand and Inter-State losses are uncontrollable factors and cannot be controlled by ED Goa. Further, the True-Up is filed based on the audited accounts where the audit is conducted by CAG, Govt. of India.

#### **Commission's View:**

The Commission has approved the energy sales, power purchase cost & quantum and T&D loss levels for the Petitioner based on the audited information submitted by the Petitioner and the sources available in the public

domain. Various levels of checks have been undertaken to ensure authenticity of the data. Furthermore, the data on energy sales has also been authenticated in the CAG audit.

The Commission, with regards to the mismatch in percentage increase in the energy sales and the revenue would like to clarify that the present tariff structure has inherent cross- subsidies among categories. Some categories are cross-subsiding while others are cross-subsidised. Therefore, increase in sales would not lead to proportionate increase in revenue as tariff for each consumer category is different. The Commission through the years has approved the tariff ensuring tariffs progressively reflect the cost to serve.

### ***2.2.5. Actual capital expenditure vis-à-vis planned capital expenditure***

#### **Stakeholder's Comment:**

The Petitioner has not been able to undertake capital expenditure and capitalisation as approved by the Commission. The capitalisation levels are much lower than that were approved in the Tariff Order. The Commission should ensure the approval and monitoring of capital works.

#### **Petitioner's Response:**

As submitted in the Business Plan and MYT Petition, a lot of schemes could not be implemented as financial sanctions were not accorded by the Central Government. However, the same are being implemented in the new Control Period.

#### **Commission's View:**

The Commission has noted the objection of the stakeholder and response of the Petitioner. The issue has been discussed in detail while approving the capital expenditure and capitalisation approved for the MYT Control Period in the Business Plan Order dated 16<sup>th</sup> November 2018.

### ***2.2.6. Measures under Demand Side Management (DSM) proposed in the MYT Control Period***

#### **Stakeholder's Comment:**

The Petitioner has made a provision of INR 3.03 Cr in each year of the Control Period but as of now has not initiated any measures for implementation of these programs. The reasons for the same need to be submitted in the petition. We request the Commission to direct ED Goa, to implement DSM programs in Goa which help reduce the purchase of costly marginal power and also help the consumers reduce and conserve electricity.

Street Lights across many areas in the villages are yet to be deployed with LED Lights.

#### **Petitioner's Response:**

EDG is in collaboration with EESL and have been implementing DSM program for replacement of all street lights with LED lights under Phase-I. Further, under DELP scheme ED-Goa has also been distributing free LED bulbs to the consumers. In the coming days, all the remaining streetlights shall be converted to LEDs by the department under phase-II. The Petitioner further submitted that several other DSM schemes such as the following are in progress:

- Formation of ECBC (Energy Conservation Building Code) 2018, rules and by-laws.
- Proposal is being finalized to distribute 9W LED Bulbs, 20W LED Tubes, 50W (5 star rated) Fans to all the categories of the consumers at upfront cost, in the entire State of Goa.
- Further, PAT scheme of BEE has been implemented, under which Audit of big industries and hotels is conducted by BEE affiliated agencies and if consumption is found high, they are instructed on ways to reduce consumption.

All these schemes will help in reducing the consumption and thus conservation of electricity.

**Commission's View:**

The Commission has noted the response of the Petitioner and directs the Petitioner to promote the various schemes taken up on a large scale and increase awareness among general public. The Commission would like to clarify that no provision for such additional expense on account of DSM schemes has been allowed in the MYT Control Period. Such expenses shall only be allowed once taken up and implemented on ground.

Further, the Commission directs the Petitioner to expedite the process of replacing the conventional street lights with LED lights.

***2.2.7. Impact of cumulative revenue gap of previous years*****Stakeholder's Comment:**

The Petitioner has proposed to meet the revenue gap for the current year and previous years by way of budgetary support from the Govt. In the previous years as well, the Petitioner had proposed to meet the gap by way of budgetary support. The Commission should ensure that the same should not be passed on to the consumers at the time of True-up.

**Petitioner's Response:**

Once Government of Goa has provided the letter for budgetary support, it applies to all the gaps of true-up of FY 2014-15, APR of FY 2018-19 and FY 2019-20, hence, there will not be any cumulative carry over of the respective gaps and the same shall be met through Government Budgetary Support and will not have any impact on the consumers.

**Commission's View:**

During the tariff proceedings for each year, the Commission approves tariff for the upcoming year based on the ARR approved. Each year, the Petitioner submits the tariff proposal to recover the proposed ARR. In the previous years, the Petitioner has been proposing to recover the gap by way of budgetary support by the Government. The Commission has dealt with the revenue gap in previous years in the Tariff Orders of respective years. The cumulative gap/surplus approved for the upcoming year is finalised based on the gap/surplus approved in the previous years (True-up/APR) and the gap/surplus for the upcoming year. In case the Government provides budgetary support to fund the gap for a certain year, the same is considered in the cumulative revenue gap determined as well. In the current petition as well, the Government has provided budgetary support for any gap approved for FY 2019-20. The same has been discussed in detail in the Chapter 7 of this Order.

***2.2.8. Reliability of Power Supply in the State*****Stakeholder's Comment:**

The quality and reliability of supply is very poor in the State. Further, the Commission is requested to direct ED-Goa to publish every month reliability indices feeder wise on their website and also publish actions to improve reliability.

**Petitioner's Response:**

The Petitioner is undertaking a lot of schemes and the capital expenditure is being incurred to improve the reliability of the system. Further, the area wise interruption details are available on the National Power Portal of Government of India at the link <https://npp.gov.in/dashBoard/ud-map-dashboard>. ED-Goa further submitted that it will try to update the same on its website at the earliest.

**Commission's View:**

The Commission has received various complaints against the Petitioner with regards to the capital expenditure being undertaken in the State. The Petitioner during the past few years has been undertaking lower capitalisation and R&M expenses than approved by the Commission which clearly implies that enough efforts are not being made to supply quality/reliable power to the consumers. The indices of performance are governed by the Standards of Performance Regulations. However, infrastructure towards monitoring of various indices is necessary. Therefore, the Commission directs the Petitioner to increase its efforts towards augmenting and maintaining the requisite infrastructure to meet the growing demand and avoid any kind of supply constraints to the consumers. The Commission further directs the Petitioner to upload the area-wise interruption details on its website.

**2.2.9. Submission of Energy Audit Report****Stakeholder's Comment:**

EDG should provide an Action Plan with timelines for preparation of Energy Audit Report. In case of non-compliance, the Commission should initiate action.

**Petitioner's Response:**

The Petitioner has implemented SAP and AMR modules to track real time data. Certain communication / modem issues are there, as soon as they are resolved, ED-Goa shall submit the Energy Audit report to the Commission at least till Feeder level.

**Commission's View:**

The Commission directs the Petitioner to resolve the communication/ modem issues and submit the Energy Audit report on priority.

**2.2.10. Residential apartments are being rented out as Commercial/ Paying Guests accommodation but are still paying Domestic tariff.****Stakeholder's Comment:**

Several tourists are staying in Rent-Back-Apartments in the coastal villages of Goa but pay residential rates instead of commercial, as the Department officials are making no attempt to take any action in the matter, thereby resulting in a revenue loss of crores of rupees.

**Petitioner's Response:**

It is submitted that there is already a provision in the Tariff Order dated 28<sup>th</sup> March 2018 under LT & HT Commercial category for "Houses with Rent back facilities". The consumers having houses with rent back facilities are supposed to take LT/ HT Commercial connection (which has higher tariff than Domestic category).

**Commission's View:**

The Commission has taken note of the Petitioner's submission. The Commission directs the Petitioner to ensure that every consumer is given connection based on the categories they come under to avoid any kind of malpractices. The stakeholder is requested to report specific cases, if any, to nearby EDG office so that necessary action can be taken in this regard. The Petitioner is directed to provide the contact details of the concerned enforcement officers on its website.

### ***2.2.11. Issues related to proposed tariff schedule***

#### **Stakeholder's Comment:**

The stakeholder has raised various objections on the proposed tariff schedule by the Petitioner which are as follows:

- a) Proposed billing at double the normal demand is not acceptable in case demand exceeds contracted demand
- b) More rebate should be provided in bills if paid in advance and should not be limited to 1%
- c) On non-realization of payment through Cheque, a penalty of 5% of the cheque amount in addition to the Delayed Payment Charges (DPC) has been proposed which is not acceptable
- d) The off peak period tariff is proposed to be 90% of normal rate. This is an upward revision from existing 80% to 90%. The intention of off peak rebate is to enable consumers to shift consumption pattern from peak to off peak and any increase in tariff would curb the same.

#### **Petitioner's Response:**

The Petitioner submitted that it has proposed no changes w.r.t the Tariff Order dated 28<sup>th</sup> March 2018 as approved by the Commission. ED-Goa submitted that the tariff conditions and charges w.r.t demand charges, advance payments rebate, DPC, Time of Day (TOD) Tariff remains same as per Tariff Order dated 28<sup>th</sup> March 2018.

ED-Goa further submitted that penalty is only on the excess demand and not the total contracted demand and this provision has been there since past 5 years.

With regards to payment through cheque, penalty is only on non-realization of the cheque because it requires double the efforts of the department as well as the Bank for clearance (In accordance with RBI guidelines). Further, non-realization may lead to delay in payment, which will incur DPC charges.

As for TOD charges, the rebate of 90% of normal rate is there since past 2 years and ED-Goa has not proposed any changes in the current petition.

#### **Commission's View:**

The Commission has taken cognizance of the objection raised by the stakeholder and response of the Petitioner. The Commission has approved the tariff schedule for the FY 2019-20 after considering all the legitimate costs of the Petitioner. The tariff approved for FY 2019-20 has been discussed in detail in Chapter-7 of this Order.

### ***2.2.12. Grant of Seasonal Tariff to Mining industry consumer***

#### **Stakeholder's Comment:**

The Commission may approve and define 'Seasonal Consumer' in Tariff Order and provide methodology for billing of demand and energy charges for seasonal consumers. Further, mining industry may be assigned under seasonal tariff.

#### **Petitioner's Response:**

ED-Goa submits that the consumer has requested to classify its tariff category as a seasonal consumer as they are operating as per mining season and they had to pay huge minimum demand charges during non-mining season. Currently, there is no such category classified under the existing Tariff Order for maintaining multiple contract demand as per seasons. In case, the request of consumer is considered for classification of its tariff category to Seasonal Consumer, it will have following implications:

- Creation of Seasonal Tariff Category will lead to reduction of revenue for the Department from fixed charges to be recovered from consumer, and it will increase the revenue gap for fiscal year.
- The State of Goa does not have its own power generation, hence power has to be procured from Central Generating Stations of NTPC and department has to pay capacity charges for drawing power from Long Term Agreement power stations. As this department has no control over generators / generation to meet the seasonal demand of consumer, the proposal is not viable on commercial basis.
- Further, with regard to the neighbouring States such as Kerala, Karnataka and Maharashtra. These States are having greater total demands and also have their own generation to meet the demand of consumers, which provide a cushion to concerned Discoms to issue financial relaxations to their seasonal consumers. Whereas, ED-Goa is having a demand of 550MW and it will be difficult to provide such financial benefits to consumer being a small State with low demand compared to other neighbouring State utilities.
- In case such benefits are allowed to mining related consumers, other HT Consumers where business depends on their own business seasons, will submit their request for such re-classification, which is not economically viable for ED-Goa.
- In case, the request of the consumers is considered, then separate high Tariff category for 'seasonal consumers has to be formulated in anticipation of receiving many such requests from other Industries in the future.

**Commission's View:**

The Petitioner is required to submit the requisite information of energy sales, connected load and no. of consumers falling under seasonal category of consumers along with the next tariff petition. If the Stakeholder has higher contract demand, the consumer may get its load decreased in accordance with the provisions of Supply Code Regulations notified by JERC.

***2.2.13. Levy of Infrastructure tax for development of Electricity infrastructure in Goa***

**Stakeholder's Comment:**

Infrastructure tax is being levied by the Town and Country Planning Deptt. for development of Electricity Infrastructure in Goa which is not being considered in the ARR of the Petitioner.

**Petitioner's Response:**

No such instance of levy of tax has been brought to the notice of the Petitioner

**Commission's View:**

The Petitioner is directed to clarify the nature and use of this tax levied by the Town and Country Planning Deptt. and submit the details of the same to the Commission on priority basis.

## 3. Chapter 3: True-up of FY 2014-15

### 3.1. Applicable Provisions and Background

The Commission issued the Order on Aggregate Revenue Requirement (ARR) and Retail Tariff for the FY 2014-15 on 15<sup>th</sup> April 2014. Subsequently, the Commission issued the Tariff Order for FY 2015-16, determining the Aggregate Revenue Requirement (ARR) and tariff for FY 2015-16 and Annual Performance Review of FY 2014-15 on 6<sup>th</sup> April 2015 (hereinafter referred to as the “APR Order”).

True-up of the FY 2014-15 is being carried out as per Regulation 8 (2) of the JERC Tariff Regulations, 2009:

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

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

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

*(4) While approving such expenses/revenues 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/revenues. 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 necessary 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 change of consumer mix and additional supply of power and also indicate the manner in which the licensee proposes to meet the cost for such change of consumer mix and additional supply of power.*

*(7) The Commission may consider granting approval to such proposals provided the cost of additional supply is ordinarily met by the beneficiary category.”*

### 3.2. Approach for True-up for FY 2014-15

The Petitioner has requested for True-up of FY 2014-15 on the basis of audited accounts. The Petitioner has submitted details of the expenditure and the revenue for the year based on its audited accounts along with a comparison of the actual revenue and expenditure against the corresponding figures previously approved by the Commission in the APR of FY 2014-15.

The Commission has analysed various elements of the actual revenue and expenses for the FY 2014-15 based on the audited accounts submitted by the Petitioner, and has carried out the True-up exercise in accordance with the principles laid down in the JERC Tariff Regulations, 2009 after due prudence check. The Commission has allowed necessary adjustments in cases where variations are for reasonable and justifiable reasons.

### 3.3. Energy Sales

#### Petitioner’s Submission

The Petitioner has submitted the total quantum of energy sales for FY 2014-15 as 3,439.99 MU as against an approved energy sales quantum of 3,114 MU in the APR Order.

## Commission's Analysis

The Commission, after going through the submissions of the Petitioner including the audited accounts, has considered the energy sales as 3,439.99 MU as submitted by the Petitioner for the purpose of True-up of the FY 2014-15 as shown in the table on the next page:

**Table 6: Energy Sales (MU) trued-up by the Commission**

| S. No                                | Category  | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|--------------------------------------|---|-----------------------|-------------------------|------------------------|
| <b><u>A. LOW TENSION SUPPLY</u></b>  |   |                       |                         |                        |
| 1                                    | LTD/Domestic  | 728                   | 905.20                  | 905.20                 |
| 2                                    | LTD/L.I.G.  | 2                     | 9.40                    | 9.40                   |
| 3                                    | LTD Domestic Mixed  | 7                     | 8.55                    | 8.55                   |
| 4                                    | LTC/Commercial  | 268                   | 311.37                  | 311.37                 |
| 5                                    | LTP/Motive Power  | 179                   | 86.07                   | 86.07                  |
| 6                                    | LTP Mixed (Hotel Industries)  | 5                     | 5.54                    | 5.54                   |
| 7                                    | LTP Ice Manufacturing   | 8                     | 9.16                    | 9.16                   |
| 8                                    | LTAG/Agriculture  | 25                    | 20.05                   | 20.05                  |
| 9                                    | LTPL ( Public lighting )  | 40                    | 35.70                   | 35.70                  |
| 10                                   | LTPWW/Public Water works  | 6                     | 5.19                    | 5.19                   |
| 11                                   | LT Temporary  | 38                    | 17.01                   | 17.01                  |
|                                      | <b>Sub-Total</b>  | <b>1,305</b>          | <b>1,413.24</b>         | <b>1,413.24</b>        |
| <b><u>B. HIGH TENSION SUPPLY</u></b> |   |                       |                         |                        |
| 12                                   | HT ( Mixed )  | 134                   | 143.98                  | 143.98                 |
| 13                                   | HTI (Industrial) Ferro Metallurgical/<br>Steel Melting/Power Intensive. | 565                   | 742.66                  | 742.66                 |
| 14                                   | HTI Industrial  | 607                   | 586.43                  | 586.43                 |
| 15                                   | HTAG ( Agriculture)   | 6                     | 6.48                    | 6.48                   |
| 16                                   | EHTI ( Industrial )   | 175                   | 173.89                  | 173.89                 |
| 17                                   | HT P.W.W. & Sewage system   | 137                   | 138.49                  | 138.49                 |
| 18                                   | HT. M.E.'s Defence Estt.  | 27                    | 26.42                   | 26.42                  |
| 19                                   | HTI ( Steel Rolling )   | 0                     | 61.22                   | 61.22                  |
| 20                                   | HTI / IT High Tech  | 21                    | 32.10                   | 32.10                  |
| 21                                   | HTI/Ice Manufacturing   | 2                     | 1.13                    | 1.13                   |
| 22                                   | Sale from EDG to GSPL (Div. VII)  | 0                     | 7.99                    | 7.99                   |
| 23                                   | HTI Hotel Industry  | 137                   | 105.82                  | 105.82                 |
| 24                                   | HT Temporary  | 0                     | 0.03                    | 0.03                   |
| 25                                   | Hoardings/ Signboards   | 0                     | 0.10                    | 0.10                   |
|                                      | <b>Sub-Total</b>  | <b>1,809</b>          | <b>2,026.75</b>         | <b>2,026.75</b>        |
|                                      | <b>Total</b>  | <b>3,114</b>          | <b>3,439.99</b>         | <b>3,439.99</b>        |

**The Commission approves the energy sales as 3,439.99 MU in the True-up of FY 2014-15.**

### **3.4. Inter-State Transmission loss**

#### **Petitioner's submission**

Petitioner has submitted the Inter-State transmission loss of 7.33% against a loss of 5.28% approved in the APR Order.



### Commission's analysis

The Commission in this regard directed the Petitioner to submit the supporting documentary evidence to verify the loss levels. The Petitioner has submitted the required documents based on which the inter-state loss levels determined as 4.56% for FY 2014-15. The Commission accordingly trues-up the Inter-State Losses as shown in the following table.

**Table 7: Inter-State transmission loss (%)**

| S. No | Particulars                   | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|-------------------------------|-----------------------|-------------------------|------------------------|
| 1     | Inter-State Transmission Loss | 5.28%                 | 7.33%                   | 4.56%                  |

**The Commission trues-up Inter-State Transmission Loss as 4.56% in the True-up of the FY 2014-15.**

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

#### Petitioner's submission

The Petitioner has submitted that it has achieved an Intra-State T&D loss of 12.16% in the FY 2014-15 against an approved loss of 11.50%.

#### Commission's analysis

The Petitioner in its submission has failed to submit the Energy Audit Report of the State for FY 2014-15. In the absence of the Energy Audit Report, the Commission, for verification of the Intra-State T&D loss levels has relied on the information of energy drawal at State periphery, available on the Western and Southern Region Power Committee websites and the energy sales as approved above. Therefore, in accordance with the information available on the websites and the audited accounts, the Commission has determined the Intra-State T&D loss of 8.23% for the FY 2014-15 against an approved loss of 11.50% in the APR Order.

The Petitioner in the Technical Validation Session (TVS) held at the Commission's office submitted that due to change in billing agencies, EDG has witnessed a transitional change in energy accounting and billing in the past few years upto FY 2017-18 which has resulted in distortion in energy sales. The impact of the same can be observed in FY 2014-15 as well. The Intra-State T&D Loss figure determined above seem to be misleading on account of distorted data. The Commission approves the Intra-State T&D Loss as per the information provided but directs the Petitioner to maintain and provide reliable data in the tariff proceedings of next year.

In the absence of reliable sales figures for FY 2014-15, the Commission similar to the approach followed in the previous Tariff Order, has decided not to consider any incentive for the over- achievement of T&D Loss target in the FY 2014-15.

The table below provides the Intra-State T&D loss approved in the APR of FY 2014-15, Petitioner's submission and as approved by the Commission now.

**Table 8: Intra-State distribution loss (%)**

| S. No | Particulars    | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|----------------|-----------------------|-------------------------|------------------------|
| 1     | T&D Losses (%) | 11.50%                | 12.16%                  | 8.23%                  |

**The Commission, while Truing up for FY 2014-15, has considered the actual Intra-State T&D loss of 8.23% for the FY 2014-15.**

### 3.6. Power Purchase Quantum & Cost

#### Petitioner's submission

The Petitioner submitted that it meets its total energy requirement from its allocation from the Central Generating Stations (CGS) and Co-generating Companies like Goa Energy Pvt. Ltd and Goa Sponge & Power Ltd. Energy requirement is also met through NRVNL and IPP (Reliance Infra). The Power Purchase Cost has been submitted as incurred by the Petitioner in FY 2014-15. The Power Purchase cost also includes ED, Cess, Incentive etc. and supplementary charges considered on actual basis.

The transmission charges comprise of transmission charges of Western Region and Southern Region.

The Petitioner has submitted the cost towards compliance of RPO along with the Power Purchase cost.

The power purchase quantum and cost for FY 2014-15, as submitted by the Petitioner has been shown in the following table:

**Table 9: Power Purchase cost submitted by the Petitioner (in INR Cr)**

| S. No      | Source                               | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Other Charges (INR Cr) | Total Charges (INR Cr) |
|------------|--------------------------------------|---------------------|------------------------|---------------------------|------------------------|------------------------|
| <b>A</b>   | <b>Central Sector Power Stations</b> |                     |                        |                           |                        |                        |
| <b>I</b>   | <b>NTPC</b>                          | <b>3,200.69</b>     | <b>239.13</b>          | <b>494.40</b>             | <b>16.70</b>           | <b>750.22</b>          |
|            | KSTPS                                | 1,532.14            | 78.64                  | 159.56                    | (2.93)                 | 235.27                 |
|            | KSTPS - III                          | 42.87               | 6.52                   | 4.45                      | 0.45                   | 11.42                  |
|            | VSTPS - I                            | 212.35              | 16.49                  | 33.32                     | 9.76                   | 59.56                  |
|            | VSTPS - II                           | 97.18               | 6.27                   | 14.41                     | 4.64                   | 25.33                  |
|            | VSTPS -III                           | 86.17               | 9.29                   | 12.67                     | 3.65                   | 25.61                  |
|            | VSTPS-IV                             | 98.04               | 13.61                  | 14.51                     | 0.96                   | 29.08                  |
|            | KGPP                                 | 38.22               | 7.03                   | 10.61                     | 0.05                   | 17.70                  |
|            | JGPS                                 | 36.86               | 9.14                   | 9.60                      | 0.02                   | 18.76                  |
|            | SIPAT- I                             | 180.18              | 24.61                  | 25.55                     | 0.99                   | 51.15                  |
|            | RSTPS                                | 752.39              | 41.98                  | 183.38                    | 2.98                   | 228.34                 |
|            | SIPAT- II                            | 86.75               | 10.62                  | 12.31                     | 2.02                   | 24.95                  |
|            | Mouda I                              | 37.55               | 14.92                  | 14.03                     | (0.75)                 | 28.20                  |
|            | Less: Additional rebate              |                     | -                      | -                         | (5.15)                 | (5.15)                 |
| <b>II</b>  | <b>RGPPL</b>                         | -                   | -                      | -                         | -                      | -                      |
| <b>III</b> | <b>NPCIL</b>                         | <b>202.85</b>       | -                      | <b>52.84</b>              | <b>0.02</b>            | <b>52.85</b>           |
|            | KAPS                                 | 111.83              | -                      | 26.96                     | (0.32)                 | 26.63                  |
|            | TAPS                                 | 91.02               | -                      | 25.88                     | 0.34                   | 26.22                  |
| <b>IV</b>  | <b>Traders</b>                       | <b>272.09</b>       | -                      | <b>94.14</b>              | <b>(4.74)</b>          | <b>89.40</b>           |
|            | NRVN STOA                            | 56.32               | -                      | 18.67                     | (0.33)                 | 18.35                  |
|            | Power Trading Company STOA           | 91.96               | -                      | 35.31                     | (0.15)                 | 35.16                  |

| S. No    | Source   | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Other Charges (INR Cr) | Total Charges (INR Cr) |
|----------|--|---------------------|------------------------|---------------------------|------------------------|------------------------|
|          | Tata Power Trading Company                           | 8.49                | -                      | 2.81                      | (0.05)                 | 2.76                   |
|          | Adani Enterprises                                    | 81.39               | -                      | 28.01                     | (0.31)                 | 27.71                  |
|          | IEX PURCHASE   | 16.89               | -                      | 5.12                      | (3.85)                 | 1.26                   |
|          | PTC  | 17.04               | -                      | 4.21                      | (0.05)                 | 4.16                   |
|          |  |                     |                        |                           |                        |                        |
| <b>V</b> | <b>NET OVER-DRAWAL</b>                               | <b>92.64</b>        | <b>-</b>               | <b>68.48</b>              | <b>-</b>               | <b>68.48</b>           |
|          |  |                     |                        |                           |                        |                        |
| <b>B</b> | <b>Within State Generations</b>                      |                     |                        |                           |                        |                        |
| I        | Co- Generation                                       | 145.98              | -                      | 35.03                     | (0.11)                 | 34.92                  |
|          | Goa Energy Private Limited                           | 105.90              | -                      | 25.48                     | -                      | 25.48                  |
|          | Goa Sponge & Power Limited                           | 6.01                | -                      | 1.37                      | -                      | 1.37                   |
|          | Sesa Goa Limited                                     | 34.08               | -                      | 8.18                      | (0.11)                 | 8.07                   |
|          |  |                     |                        |                           |                        |                        |
| <b>C</b> | <b>RPO Obligation</b>                                | <b>6.58</b>         | <b>-</b>               | <b>18.40</b>              | <b>(11.69)</b>         | <b>6.71</b>            |
|          | NVVNL Non Solar REC Certificates                     | -                   | -                      | 13.03                     | (7.85)                 | 5.18                   |
|          | NVVN Solar   | 6.58                | -                      | 5.37                      | (3.84)                 | 1.53                   |
|          |  |                     |                        |                           |                        |                        |
| <b>D</b> | <b>Transmission Charges</b>                          | <b>-</b>            | <b>-</b>               | <b>132.23</b>             | <b>-</b>               | <b>132.23</b>          |
|          | PGCIL Transmission Charges, Wheeling & Other Charges |                     | -                      | 132.23                    | -                      | 132.23                 |
|          |  |                     |                        |                           |                        |                        |
|          | <b>Total</b>   | <b>3,920.84</b>     | <b>239.13</b>          | <b>895.51</b>             | <b>0.17</b>            | <b>1,134.81</b>        |

### Commission's analysis

The Petitioner procures power mainly from NTPC Stations, NPCIL stations, Co-Generating Plants, IPP's, Exchange etc. The Petitioner has submitted the overall Power Purchase cost as INR 1134.81 Cr inclusive of transmission charges but exclusive of revenue from UI Under-drawal and sale of surplus power.

The Commission has verified the power purchase details as submitted by the Petitioner in its Petition with the publicly available information from the Regional Energy Accounts (REA) maintained by Western Region Power Committee (WRPC) for the Central Generating Stations (CGS). Further, apart from Western Region, the Petitioner also gets supply from the Southern Region from the NTPC's Ramagundam Thermal Power Station. The Commission has validated the power purchase details pertaining to this station from the publicly available information from the Regional Energy Accounts (REA) maintained by Southern Region Power Committee (SRPC). The Commission has verified the power purchase quantum and cost as per the station-wise monthly bills submitted by the Petitioner. The cost has further been reconciled with the audited annual accounts of FY 2014-15.

The Petitioner has accounted for the revenue from UI Under-drawal separately and Income from Trading/Power Exchange as part of the Non- Tariff Income (NTI) and adjusted both these revenues in the Overall ARR. The Commission, for the purpose of finalization of the Power Purchase Cost in the True up of FY 2014-15 has adjusted both the Income from UI Under-drawal and Trading/Power Exchange in the Power Purchase cost approved now.

Transmission Charges and the Other Charges submitted have been considered as Other Expenses as per actuals incurred by the Petitioner.

The Commission has considered the cost incurred towards the compliance of Renewable Purchase Obligation (RPO) in FY 2014-15 along with the Power Purchase cost. The compliance status of RPO has been discussed in detail in the subsequent section. The table below provides the summary of the power purchase quantum and the cost approved by the Commission for FY 2014-15.

**Table 10: Power Purchase Quantum (MU) and cost (INR Cr) approved by the Commission**

| S. No.     | Source                               | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Other Charges (INR Cr) | Total Charges (INR Cr) |
|------------|--------------------------------------|---------------------|------------------------|---------------------------|------------------------|------------------------|
| <b>A</b>   | <b>Central Sector Power Stations</b> |                     |                        |                           |                        |                        |
| <b>I</b>   | <b>NTPC</b>                          | <b>3,200.69</b>     | <b>239.13</b>          | <b>494.40</b>             | <b>16.70</b>           | <b>750.22</b>          |
|            | KSTPS                                | 1,532.14            | 78.64                  | 159.56                    | (2.93)                 | 235.27                 |
|            | KSTPS - III                          | 42.87               | 6.52                   | 4.45                      | 0.45                   | 11.42                  |
|            | VSTPS - I                            | 212.35              | 16.49                  | 33.32                     | 9.76                   | 59.56                  |
|            | VSTPS - II                           | 97.18               | 6.27                   | 14.41                     | 4.64                   | 25.33                  |
|            | VSTPS -III                           | 86.17               | 9.29                   | 12.67                     | 3.65                   | 25.61                  |
|            | VSTPS-IV                             | 98.04               | 13.61                  | 14.51                     | 0.96                   | 29.08                  |
|            | KGPP                                 | 38.22               | 7.03                   | 10.61                     | 0.05                   | 17.70                  |
|            | JGPS                                 | 36.86               | 9.14                   | 9.60                      | 0.02                   | 18.76                  |
|            | SIPAT- I                             | 180.18              | 24.61                  | 25.55                     | 0.99                   | 51.15                  |
|            | RSTPS                                | 752.39              | 41.98                  | 183.38                    | 2.98                   | 228.34                 |
|            | SIPAT- II                            | 86.75               | 10.62                  | 12.31                     | 2.02                   | 24.95                  |
|            | Mouda I                              | 37.55               | 14.92                  | 14.03                     | (0.75)                 | 28.20                  |
|            | Less: Additional rebate              |                     | -                      | -                         | (5.15)                 | (5.15)                 |
| <b>II</b>  | <b>RGPPL</b>                         | -                   | -                      | -                         | -                      | -                      |
| <b>III</b> | <b>NPCIL</b>                         | <b>202.85</b>       | -                      | <b>52.84</b>              | <b>0.02</b>            | <b>52.85</b>           |
|            | KAPS                                 | 111.83              | -                      | 26.96                     | (0.32)                 | 26.63                  |
|            | TAPS                                 | 91.02               | -                      | 25.88                     | 0.34                   | 26.22                  |
| <b>IV</b>  | <b>Traders</b>                       | <b>272.09</b>       | -                      | <b>94.14</b>              | <b>(4.74)</b>          | <b>89.40</b>           |
|            | NVVN STOA                            | 56.32               | -                      | 18.67                     | (0.33)                 | 18.35                  |
|            | Power Trading Company STOA           | 91.96               | -                      | 35.31                     | (0.15)                 | 35.16                  |
|            | Tata Power Trading Company           | 8.49                | -                      | 2.81                      | (0.05)                 | 2.76                   |
|            | Adani Enterprises                    | 81.39               | -                      | 28.01                     | (0.31)                 | 27.71                  |
|            | IEX PURCHASE                         | 16.89               | -                      | 5.12                      | (3.85)                 | 1.26                   |
|            | PTC                                  | 17.04               | -                      | 4.21                      | (0.05)                 | 4.16                   |

| S. No.   | Source   | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Other Charges (INR Cr) | Total Charges (INR Cr) |
|----------|--|---------------------|------------------------|---------------------------|------------------------|------------------------|
| V        | <b>NET OVER-DRAWAL</b>                               | <b>92.64</b>        | -                      | <b>68.48</b>              | -                      | <b>68.48</b>           |
|          |  |                     |                        |                           |                        |                        |
| <b>B</b> | <b>Within State Generations</b>                      |                     |                        |                           |                        |                        |
| <b>I</b> | <b>Co- Generation</b>                                | <b>145.98</b>       | -                      | <b>35.03</b>              | <b>(0.11)</b>          | <b>34.92</b>           |
|          | Goa Energy Private Limited                           | 105.90              | -                      | 25.48                     | -                      | 25.48                  |
|          | Goa Sponge & Power Limited                           | 6.01                | -                      | 1.37                      | -                      | 1.37                   |
|          | Sesa Goa Limited                                     | 34.08               | -                      | 8.18                      | (0.11)                 | 8.07                   |
|          |  |                     |                        |                           |                        |                        |
| <b>C</b> | <b>RPO Obligation</b>                                | <b>6.58</b>         | -                      | <b>18.40</b>              | <b>(11.69)</b>         | <b>6.71</b>            |
|          | NVVNL Non Solar REC Certificates                     | -                   | -                      | 13.03                     | (7.85)                 | 5.18                   |
|          | NVVN Solar   | 6.58                | -                      | 5.37                      | (3.84)                 | 1.53                   |
|          |  |                     |                        |                           |                        |                        |
| <b>D</b> | <b>Less: Revenue from Sale of Power</b>              | -                   | -                      | <b>10.46</b>              | -                      | <b>10.46</b>           |
|          | Revenue from sale under UI                           |                     |                        | 2.31                      | -                      | 2.31                   |
|          | Revenue from sale in exchange                        |                     |                        | 8.14                      | -                      | 8.14                   |
|          | Income from trading                                  |                     |                        | 0.01                      | -                      | 0.01                   |
|          |  |                     |                        |                           |                        |                        |
| <b>E</b> | <b>Transmission Charges</b>                          | -                   | -                      | <b>132.23</b>             | -                      | <b>132.23</b>          |
|          | PGCIL Transmission Charges, Wheeling & Other Charges |                     | -                      | 132.23                    | -                      | 132.23                 |
|          |  |                     |                        |                           |                        |                        |
|          |  |                     |                        |                           |                        |                        |
|          | <b>Total</b>   | <b>3,920.84</b>     | <b>239.13</b>          | <b>885.06</b>             | <b>0.17</b>            | <b>1,124.36</b>        |

The Commission approves power purchase quantum of 3,920.84 MU and cost of INR 1,124.36 Cr in the True-up of the FY 2014-15.

### **3.7. Renewable Purchase Obligation (RPO)**

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

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

The Commission, in its Business Plan Order dated 22<sup>nd</sup> December 2015 issued in the Petition no. 186/2015, had reiterated that all the pending RPOs upto the FY 2015-16 must be fulfilled by the Petitioner by 31<sup>st</sup> March 2016 and no backlog would be allowed to be carried forward to the MYT Control Period from FY 2016-17 to FY 2018-19.

The Petitioner for FY 2014-15 has also incurred certain cost towards compliance of RPO as mentioned in the power purchase cost approved above. The Petitioner in the True-Up of FY 2013-14, in the previous Tariff Order, had submitted that it has completely fulfilled its RPO (both solar and Non-solar) target till FY 2015-16 in FY 2015-16, partly by way of purchase of physical power and partly by RECs.

The Petitioner in FY 2014-15 has incurred a certain cost towards compliance in FY 2014-15, which the Commission, as of now, approves the same in the True-up of FY 2014-15. The following table provides the cost towards compliance of RPO approved in the True-up of FY 2014-15.

**Table 11: Cost towards compliance of Renewable Purchase Obligation (RPO) (In INR Cr)**

| S. No.   | Source                           | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Other Charges (INR Cr) | Total Charges (INR Cr) |
|----------|----------------------------------|---------------------|------------------------|---------------------------|------------------------|------------------------|
| <b>1</b> | <b>RPO Obligation</b>            |                     |                        |                           |                        |                        |
| A        | NVVNL Non Solar REC Certificates | -                   | -                      | 13.03                     | (7.85)                 | 5.18                   |
| b        | NVVN Solar                       | 6.58                | -                      | 5.37                      | (3.84)                 | 1.53                   |
|          |                                  |                     |                        |                           |                        |                        |
|          | <b>Total</b>                     | <b>6.58</b>         | <b>-</b>               | <b>18.40</b>              | <b>(11.69)</b>         | <b>6.71</b>            |

The Commission believes that since the overall compliance towards RPO has been fulfilled only in FY 2015-16, the Commission would be in a position to finalise the overall compliance and any dis-incentive on account of the same only during the True-up of FY 2015-16.

Therefore, in view of the above, the Commission approves the cost towards RPO as INR 6.71 Cr in FY 2014-15 however, the overall compliance status and any dis-incentive on account of the same shall be approved only in the True-up of FY 2015-16.

### **3.8. Energy Balance**

#### **Petitioner's submission**

The Petitioner has submitted the energy balance for FY 2014-15 as shown in the following table.

**Table 12: Energy Balance (MU) submitted by Petitioner**

| S. No | Particulars  | Petitioner's Submission |
|-------|--|-------------------------|
| 1     | <b>Energy Input at Goa Periphery</b>                     | <b>3,770.36</b>         |
| 2     | <b>Total Power Scheduled/ Purchased at Goa Periphery</b> |                         |
|       | Total Schedule Billed Drawal - CGS                       | 3,403.54                |
|       | Add: Over-drawal   | 146.34                  |
|       | Add: Power purchase from Traders/ Open Market            | 272.09                  |
|       | Less: Under-drawal                                       | 53.70                   |
|       | Add: Renewable Power                                     | 6.58                    |
|       | Total  | 3,774.85                |

| S. No | Particulars   | Petitioner's Submission |
|-------|---|-------------------------|
| 3     | <b>PGCIL Losses - MUs</b>                                   | <b>276.59</b>           |
|       | PGCIL Losses - %  | 7.33%                   |
| 4     | <b>Total Power Purchased within Goa State</b>               |                         |
|       | Add: Co-generation  | 145.98                  |
|       | Total   | 145.98                  |
| 5     | <b>Total Power Purchase availability after PGCIL Losses</b> | <b>3,916.34</b>         |
|       | Less: Retail Sales to Consumers                             | 3,439.99                |
|       | Distribution Losses - MUs                                   | 476.35                  |
| 6     | <b>Distribution Losses - %</b>                              | <b>12.16%</b>           |

### Commission's analysis

The information submitted by the Petitioner on power purchase quantum, UI over/ under drawl, IEX/ Bilateral purchase etc. has been examined and accordingly the energy balance for FY 2014-15 has been derived. Some discrepancies were observed in the Petitioner's submission and the same were communicated to them. In accordance with the publicly available information from the Regional Energy Accounts (REA) maintained by WRPC and SRPC and documentary evidence submitted by the Petitioner against the Inter-State Transmission Loss, the Commission has determined the energy balance at the Periphery of the State of Goa. The following table provides the energy balance approved in the APR of FY 2014-15 and now trued-up by the Commission.

**Table 13: Energy Balance (MU) approved by Commission at State Periphery**

| S. No.   | Particulars   | Approved in APR Order | Trued-up by Commission |
|----------|---|-----------------------|------------------------|
| <b>A</b> | <b>ENERGY REQUIREMENT</b>   |                       |                        |
| 1        | Energy sales within the State/UT  | 3,114.00              | 3,439.99               |
| <b>2</b> | <b>Distribution losses</b>  |                       |                        |
|          | %   | 11.50%                | 8.23%                  |
|          | MU  | 404.64                | 308.66                 |
| <b>3</b> | <b>Energy required at State Periphery</b>   | <b>3,518.64</b>       | <b>3,748.65</b>        |
| <b>1</b> | <b>Energy Availability from various sources</b>   | 3,716.00              | 3,920.84               |
| (a)      | Total Availability from sources Outside State   | 3,337.00              | 3,410.12               |
| (b)      | Total Availability from sources within State  | 137.00                | 145.98                 |
| 2        | Net Drawal from Grid under UI   | -                     | 92.64                  |
|          | Power purchase from IEX/ Exchange   | 242.00                | 272.09                 |
|          | PGCIL Losses  |                       |                        |
|          | %   | 5.28%                 | 4.56%                  |
|          | MU  | 188.97                | 172.19                 |
| <b>5</b> | <b>Total Availability at State Periphery (PGCIL Losses not applicable on generation within State)</b> | <b>3,518.64</b>       | <b>3,748.65</b>        |

### 3.9. Operation & Maintenance (O&M) Expenses

The Operation & Maintenance Expenses comprise of the Employee Expenses, Administrative and General Expenses (A&G) and the Repair & Maintenance Expenses (R&M). The O&M Expenses have been approved in

accordance with the Tariff Regulations, 2009 and the audited accounts submitted by the Petitioner for FY 2014-15.

### 3.9.1. Employee Expenses

#### Petitioner's submission

The Petitioner has incurred actual employee expenses of INR 205.70 Cr against the approved expenses of INR 152.42 Cr in the APR of FY 2014-15.

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

**Table 14: Employee Expenses submitted by the Petitioner (In INR Cr)**

| S. No | Particulars                      | Petitioner's Submission |
|-------|----------------------------------|-------------------------|
| 1     | Salary                           | 205.70                  |
| 2     | Wages                            |                         |
| 3     | Stipend                          |                         |
| 4     | Transport Allowance              |                         |
| 5     | Overtime allowance               |                         |
| 6     | Total                            | 205.70                  |
| 7     | Less: Add/Deduct share of others | -                       |
| 8     | Total                            | 205.70                  |
| 9     | Less: Amount capitalized         | -                       |
|       | <b>Total Employee Expenses</b>   | <b>205.70</b>           |

The Petitioner further submitted that the Employee Expenses for FY 2014-15 are on the higher side, on account of increase in Dearness Allowance, HRA and travel allowance, out of which the Dearness Allowance is an uncontrollable factor. The Dearness Allowance accounts to approx. 35% to 40% of the total employee expenses.

#### Commission's analysis

The Commission observes that the employee expenses approved in the past were based on the estimates prepared on cash basis and not on accrual basis. The Petitioner had prepared and submitted the accounts on commercial principles for the first time in the Tariff Order dated 23<sup>rd</sup> May 2017 while undertaking the True-up of FY 2011-12 and FY 2012-13.

Since, the Base Employee Expenses considered while projecting the Employee Expenses for FY 2014-15 in the APR of FY 2014-15 were determined differently, the Commission finds it appropriate to consider the actual employee costs as available in the audited accounts for the purpose of the True-up of the FY 2014-15.

The following table provides the employee expenses approved in the APR Order, submitted by the Petitioner and now approved by the Commission.

**Table 15: Employee Expenses approved by Commission (In INR Cr)**

| S. No | Particulars       | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|-------------------|-----------------------|-------------------------|------------------------|
| 1     | Employee Expenses | 152.42                | 205.70                  | 205.70                 |

**The Commission approves Employee Expenses of INR 205.70 Cr in the True-up of FY 2014-15.**



### 3.9.2. Administrative and General (A&G) Expenses

#### Petitioner's submission

The Petitioner has incurred A&G expenses of INR 22.40 Cr against the approved expenses of INR 9.46 Cr in the APR Order. The following table provides the A&G expenses as submitted by the Petitioner:

**Table 16: A&G Expenses submitted by Petitioner (In INR Cr)**

| S. No. | Particulars                     | Petitioner's Submission |
|--------|---------------------------------|-------------------------|
| 1      | Travelling Expenses             | 0.28                    |
| 2      | Office Expenses                 | 16.34                   |
| 3      | Petrol, Oil, Lubricant (P.O.L)  | 0.00                    |
| 4      | Rent, Rates & Taxes             | 0.47                    |
| 5      | Advertisement & Publicity       | 0.04                    |
| 6      | Professional & Special Services | 0.97                    |
| 7      | Other Charges                   | 1.35                    |
| 8      | Overtime Allowance              | 0.00                    |
| 9      | Minor Works                     | 2.84                    |
|        | <b>Total A&amp;G Expenses</b>   | <b>22.40</b>            |

#### Commission's analysis

Similar to the approach followed while approving the Employee Expenses, the Commission approves the A&G Expenses as per the audited accounts for the purpose of True-up of the FY 2014-15. The table below provides the A&G Expenses approved in the APR of FY 2014-15, the Petitioner's submission and the expenses now trued-up by the Commission.

**Table 17: A&G Expenses approved by Commission (In INR Cr)**

| S. No | Particulars  | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|--|-----------------------|-------------------------|------------------------|
| 1     | <b>Administration &amp; General Expenses (A&amp;G)</b> | <b>9.46</b>           | <b>22.40</b>            | <b>22.40</b>           |

The Commission approves the Administrative & General (A&G) expenses of INR 22.40 Cr in the True-up of FY 2014-15.

### 3.9.3. Repair & Maintenance Expenses (R&M)

#### Petitioner's submission

The Petitioner has incurred R&M expenses of INR 28.96 Cr against the approved expenses of INR 20.73 Cr in the APR Order. The Petitioner submitted that it has been undertaking various R&M activities as a step towards improvement of systems, reduction in breakdowns, and reduction in response time and increasing preventive maintenance. R&M expenses are necessary for maintenance of infrastructure and for ensuring proper Standards of Performance of the Petitioner.

#### Commission's analysis

Similar to the approach followed while approving the Employee expenses and A&G expenses above, the Commission approves the R&M Expenses as per actual audited accounts of FY 2014-15:

**Table 18: R&M Expenses approved by Commission (In INR Cr)**

| S. No | Particulars                         | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|-------------------------------------|-----------------------|-------------------------|------------------------|
| 1     | Repair & Maintenance Expenses (R&M) | 20.73                 | 28.96                   | 28.96                  |

The Commission approves the Repair & Maintenance (R&M) expenses of INR 28.96 Cr in the True-up of FY 2014-15.

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

The following table provides the O&M Expenses approved in the APR of FY 2014-15, Petitioner's submission and O&M now trued-up by the Commission.

**Table 19: O&M Expenses approved by Commission (In INR Cr)**

| S. No | Particulars                                       | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|---|-----------------------|-------------------------|------------------------|
| 1     | Employee Expenses                                 | 152.42                | 205.70                  | 205.70                 |
| 2     | Administrative & General Expenses (A&G)           | 9.46                  | 22.40                   | 22.40                  |
| 3     | Repair & Maintenance Expenses                     | 20.73                 | 28.96                   | 28.96                  |
|       | <b>Total Operation &amp; Maintenance Expenses</b> | <b>182.61</b>         | <b>257.07</b>           | <b>257.07</b>          |

The Commission approves the Operation & Maintenance (O&M) expenses of INR 257.07 Cr in the True-up of FY 2014-15.

## **3.10. Capitalisation**

### **Petitioner's submission**

The Petitioner submitted the actual capitalisation for the FY 2014-15 as INR 76.76 Cr against an approved capitalization of INR 182.63 Cr

### **Commission's analysis:**

The Commission with regards to capitalisation submitted by the Petitioner, sought details of the assets created out of Loan/ Equity/ Govt. Grant/ Consumer Contribution etc. In reply, the Petitioner submitted that majority of capital assets are created out of the equity contribution from Govt. of Goa and the actual borrowing of loan is only to the extent of the R-APDRP scheme. The capitalization is inclusive of assets created out of the Electricity Development Fund which is treated as Government Grant. The Petitioner has further submitted that there is no information on the assets created out of Consumer Contribution.

It is observed that the capital expenditure and capitalisation achieved by the Petitioner is much lower than approved by the Commission in the APR Order. Lower capital expenditure signifies that enough efforts have not been undertaken in enhancing the reliability of supply to consumers. It also signifies that sufficient measures aren't being taken to provide electricity supply to un-electrified areas and equipping the distribution infrastructure with the growing demand. Accordingly, the Commission directs the Petitioner to increase its efforts towards undertaking capital expenditure activities necessary for improving the service quality and targeting 24x7 supply to all consumers.

The Commission has examined the Fixed Asset Register (FAR) for FY 2014-15 as submitted by the Petitioner in detail and accordingly approves the capitalisation as shown in the following table.

**Table 20: Capitalisation approved by Commission (In INR Cr)**

| S. No | Particulars                        | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|------------------------------------|-----------------------|-------------------------|------------------------|
| 1     | RAPDRP Scheme                      | -                     | 8.00                    | 8.00                   |
| 2     | Electricity Development Fund (EDF) | -                     | 20.00                   | 20.00                  |
| 3     | Other Plan Schemes                 | -                     | 48.76                   | 48.76                  |
|       | <b>Total Capitalisation</b>        | <b>182.63</b>         | <b>76.76</b>            | <b>76.76</b>           |

The Commission approves Capitalisation of INR 76.76 Cr in the True-up of FY 2014-15.

### 3.11. Depreciation

#### Petitioner's submission

The Petitioner has submitted the actual depreciation of assets as per the audited annual accounts of FY 2014-15. The depreciation is arrived in annual accounts for FY 2014-15 based on the rates specified by the Commission in the Tariff Regulations, 2009.

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

**Table 21: Depreciation submitted by Petitioner (In INR Cr)**

| S. No | Particulars                         | Petitioner's Submission |
|-------|-------------------------------------|-------------------------|
| 1     | Opening Gross Fixed Assets          | 883.20                  |
| 2     | Addition During the FY              | 76.76                   |
| 3     | Adjustment/Retirement During the FY | 3.14                    |
| 4     | Closing Gross Fixed Assets          | 956.82                  |
| 5     | Rate of Depreciation                | 4.25%                   |
|       | <b>Depreciation</b>                 | <b>39.13</b>            |

#### Commission's analysis

In respect of depreciation, the Commission has followed Regulation 26 of the Tariff Regulations 2009, as under:

##### "26. Depreciation

(1) For the purpose of tariff, depreciation shall be computed in the following manner:

(i) The value base for the purpose of depreciation shall be the historical cost of the assets, that is actual expenses limited to approved capital cost where such capital cost has been approved by the Commission:

Provided that land is not a depreciable asset and its cost shall be excluded from the capital cost while computing depreciation.

(ii) The historical cost of the asset shall include additional capitalization.

(iii) The historical cost shall include foreign currency funding converted into equivalent rupees at the exchange rate prevalent on the date when foreign currency was actually availed but not later than the date of commercial operation.

(iv) Depreciation for generation and transmission assets shall be calculated annually as per straight-line method over the useful life of the asset at the rate of depreciation specified by the Central Electricity Regulatory Commission from time to time."

As per the norms specified in the Tariff Regulations, 2009 the Commission has verified the asset wise capitalisation of the Petitioner and has accordingly derived the weighted average rate of depreciation based on the asset wise depreciation rate prescribed in the CERC Tariff Regulations, 2014, given in the following table:

**Table 22: Depreciation Rate (%)**

| Description          | Rate   | Net Asset Addition/Deletion | Effective Rate |
|----------------------|--------|-----------------------------|----------------|
| Plant & Machinery    | 5.28%  | 73.38                       |                |
| Buildings            | 3.34%  | (0.01)                      |                |
| Vehicles             | 9.50%  | 0.00                        |                |
| Furniture & Fixtures | 6.33%  | 0.25                        |                |
| Computers & Others   | 15.00% | -                           |                |
| Land                 | 0.00%  | -                           |                |
| <b>Total</b>         |        | <b>73.62</b>                | <b>5.27%</b>   |

Based on the above depreciation rates and actual asset addition during the year the weighted average depreciation rate is computed as 5.27% against a rate of 5.28% approved in the APR Order. The Commission has not considered depreciation on assets created from only the Electricity Duty Fund, as the same has been treated as a Grant from the Government of Goa, in line with the approach adopted in the True-up of FY 2013-14, last year. The Commission has calculated the depreciation on average Gross Fixed Assets (GFA) with the opening GFA considered equivalent to the closing GFA as approved in the True-Up of FY 2013-14, in the previous Tariff Order. The following table provides the calculation of depreciation during the FY 2014-15:

**Table 23: Depreciation approved by Commission (In INR Cr)**

| S. No | Particulars                               | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|---|-----------------------|-------------------------|------------------------|
| 1     | Opening Gross Fixed Assets                | 398.74                | 883.20                  | 840.02                 |
| 2     | Addition During the FY                    | 182.63                | 76.76                   | 76.76                  |
| 3     | Less: Capitalisation through EDF          | -                     | -                       | 20.00                  |
| 4     | Net Addition During the FY                | 182.63                | 76.76                   | 56.76                  |
| 5     | Less: Retirement During the FY            | 0.00                  | 3.14                    | 3.14                   |
| 6     | Closing Gross Fixed Assets                | 581.37                | 956.82                  | 893.64                 |
| 7     | Average Gross Fixed Assets                | 490.06                | 920.01                  | 866.83                 |
| 8     | Weighted average Rate of Depreciation (%) | 5.28%                 | 4.25%                   | 5.27%                  |
|       | <b>Depreciation</b>                       | <b>25.87</b>          | <b>39.13</b>            | <b>45.71</b>           |

**The Commission approves depreciation of INR 45.71 Cr in the True-up of FY 2014-15.**

### **3.12. Interest and Finance Charges**

#### **Petitioner's submission**

The Petitioner submitted that majority of capital assets are created out of the equity contribution from the Government of Goa. Interest on Loan has been estimated based on the normative loan calculation whereby 70% of the opening GFA and the capitalization during the year have been considered as normative debt. The Interest expense arrived is based on normative loan considered to the extent of capitalization during the year after deducting the Electricity Duty available as Grant.

Opening balance of normative loan for FY 2014-15 considered as per the approved closing normative loan in trueing up of FY 2013-14. Further, the rate of interest has been considered as State Bank of India Prime Lending Rate (SBI PLR) of 14.75% (rate as on 1<sup>st</sup> April 2014).

In addition to the above, the Petitioner has also claimed certain financial charges related to bank charges, LC charges, etc.

**Commission's analysis:**

Regulation 25 of the Tariff Regulations, 2009 states:

*"1) For existing loan capital interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the rate of interest and schedule of repayment as per the terms and conditions of relevant agreements.*

*2) Interest and finance charges on loan capital for new investments shall be computed on the loans, duly taking into account the rate of interest and the schedule of repayment as per the terms and conditions of relevant agreements. The rate of interest shall, however, be restricted to the prevailing Prime Lending Rate of the State Bank of India." (Read SBI Advance Rate)*

Further as per Regulation 23 of the said Tariff Regulations 2009:

**"23. Debt-Equity Ratio**

*1) For the purpose of determination of tariff, debt-equity ratio in case of existing, ongoing as well as new projects commencing after the date of notification of these Regulations shall be 70:30. Where equity employed is more than 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance amount shall be considered as loan. Where actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff:*

*2) Provided that the Commission may, in appropriate cases, consider equity higher than 30% for the purpose of determination of tariff, where the generating company or the licensee is able to establish to the satisfaction of the Commission that deployment of equity more than 30% is in the interest of the general public: .*

*3) The debt and equity amounts arrived at in accordance with sub-regulation (1) above shall be used for all purposes including for determining interest on loan, return on equity, Advance against Depreciation and Foreign Exchange Rate Variation.*

*4) Provided that in the case of an Integrated Utility, till the time it remains Integrated Utility, it shall be entitled to return on its capital base as per Schedule VI to the repealed Electricity (Supply) Act, 1948."*

Accordingly, the Commission for the purpose of funding of the capitalisation has considered the normative debt-equity ratio of 70:30. The addition in loan has been considered with respect to the total capitalization during the year excluding the assets created out of Grant.

The Commission for the purpose of calculation of Interest on Loan has considered an interest rate equivalent to the SBI PLR @ 14.75%, as on 1<sup>st</sup> April 2014. The interest has been calculated on the average loan during the year with the opening loan considered equivalent to the closing loan approved in the True-Up of FY 2013-14. Repayment of the loan has been considered at 10% of the opening loan amount. Additionally, the Commission allows expenditure towards financing charges as per actuals as reflected in the annual accounts.

The following table provides the Interest and Finance charges as approved by the Commission:

**Table 24: Interest and Finance charges approved by Commission (In INR Cr)**

| S. No | Particulars   | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|---|-----------------------|-------------------------|------------------------|
| 1     | Opening Normative Loan  | 256.67                | 165.71                  | 165.71                 |
| 2     | Add: Normative Loan During the year                                   | 83.87                 | 36.37                   | 39.73                  |
| 3     | Less: Normative Repayment equivalent to 10% of opening normative loan | 25.87                 | 16.57                   | 16.57                  |

| S. No | Particulars                         | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|-------------------------------------|-----------------------|-------------------------|------------------------|
| 4     | Closing Normative Loan              | 314.67                | 185.51                  | 188.87                 |
| 5     | Average Normative Loan              | 285.67                | 175.61                  | 177.29                 |
| 6     | Rate of Interest (%)                | 7.99%                 | 14.75%                  | 14.75%                 |
| 7     | <b>Interest on Loan</b>             | <b>22.83</b>          | <b>25.91</b>            | <b>26.15</b>           |
| 8     | Financing Charges                   | 1.30                  | 5.07                    | 5.07                   |
|       | <b>Interest and Finance Charges</b> | <b>24.12</b>          | <b>30.97</b>            | <b>31.22</b>           |

**The Commission approves Interest and Finance Charges of INR 31.22 Cr in the True-up of the FY 2014-15.**

### **3.13. Return on Capital Base**

#### **Petitioner's submission**

The Petitioner has calculated the return on capital base @ 3%. The return is calculated on the Net Fixed Assets (NFA) considering Gross Block inclusive of Capital Works in Progress (CWIP) and thereby deducting the accumulated depreciation.

#### **Commission's analysis:**

Regulation 24 (1) of the JERC Tariff Regulations, 2009 with regards to Return in Equity specifies the following:

*"Subject to the proviso to Regulation 23(2), Return on Equity shall be computed on the paid up equity capital determined in accordance with Regulation 23 and shall be guided by the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2004 as amended by the CERC from time to time. The same principles will apply for distribution business also as far as possible."*

The Commission, similar to the methodology adopted in the True-up of FY 2013-14, in the previous Tariff Order, has determined the Return on Capital Base based on the Gross Fixed Assets as approved above and the Opening Cumulative Depreciation as on 1<sup>st</sup> April 2014, as reflected in the audited annual accounts. The table below shows the computation of the Return on Capital Base as approved in the APR Order, the Petitioner's submission and the Return now approved by the Commission.

#### **Return on Capital Base approved by Commission (In INR Cr)**

| S. No | Particulars   | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|---|-----------------------|-------------------------|------------------------|
| 1     | Gross Fixed Assets at the beginning of FY                             | 398.74                | 1,389.32                | 840.02                 |
| 2     | Less: Opening accumulated depreciation as per annual audited accounts | 28.12                 | 256.98                  | 256.98                 |
| 3     | Net Fixed Assets  | 370.62                | 1,132.34                | 583.04                 |
|       | <b>Return at 3% of NFA</b>  | <b>11.12</b>          | <b>33.97</b>            | <b>17.49</b>           |

**The Commission approves a Return on Capital Base as INR 17.49 Cr in the True-up of FY 2014-15.**

### 3.14. Interest on Consumer Security Deposits

#### Petitioner's submission

The Petitioner has determined the Interest on Security Deposit on normative basis as shown in the table below:

**Table 25: Interest on Consumer Security Deposits submitted by Petitioner (In INR Cr)**

| S. No | Particulars                         | Petitioner's Submission |
|-------|-------------------------------------|-------------------------|
| 1     | Opening Security Deposit            | 21.09                   |
| 2     | Add: Deposits During the year       | 4.98                    |
| 3     | Less: Deposits refunded             | 2.46                    |
| 4     | Closing Security Deposit            | 23.61                   |
| 5     | Average Security Deposit            | 22.35                   |
| 6     | Rate of Interest (%)                | 10.00%                  |
| 7     | <b>Interest on Security Deposit</b> | <b>2.24</b>             |
| 8     | <b>Interest paid to consumers</b>   | <b>0.00</b>             |

The Petitioner has determined the Interest on Security Deposits on normative basis as per Tariff Regulations, 2009, but has not considered the same in the ARR as no interest has been paid to consumers in the FY 2014-15.

#### Commission's analysis:

As the Petitioner has not paid any Interest on Security Deposit to consumers, the Commission does not approve any Interest on Security Deposit in FY 2014-15. The following table provides the interest on security deposit as approved in the APR of FY 2014-15, the Petitioner's submission and the interest now approved by the Commission:

**Table 26: Interest on Consumer Security Deposits approved by Commission (In INR Cr)**

| S. No | Particulars                  | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|------------------------------|-----------------------|-------------------------|------------------------|
| 1     | Interest on Security Deposit | 6.82                  | 0.00                    | 0.00                   |

**The Commission approves Interest on Security Deposit as nil in the True-up of FY 2014-15.**

### 3.15. Interest on Working Capital

#### Petitioner's submission

The Petitioner has determined the Interest on Working Capital on normative basis considering sum of the following:

- a. Power purchase cost
- b. Employees cost
- c. Administration & general expenses
- d. Repair & Maintenance expenses.
- e. Sum of two months requirement for meeting Fuel cost.

The Interest Rate has been considered as SBI PLR as on 1<sup>st</sup> April, 2014.

**Commission’s analysis:**

As per Regulation 29 of the Tariff Regulations, 2009:

*“(3) Subject to prudence check, the working capital for integrated utility shall be the sum of one month requirement for meeting:*

- a. Power purchase cost*
- b. Employees cost*
- c. Administration & general expenses*
- d. Repair & Maintenance expenses.*
- e. Sum of two month requirement for meeting Fuel cost.*

*5) The rate of interest on working capital shall be equal to the short term Prime Lending Rate of State Bank of India on the 1st April of the relevant financial year. The interest on working capital shall be payable on normative basis notwithstanding that the generating company / licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan amount worked out on the normative figures.”*

The Commission has considered the calculation of the different components of the Working Capital on the basis of the stipulated norms. The Commission has deducted average consumer security deposit from the Working Capital requirement as reflected in the audited annual accounts of FY 2014-15. The Commission has considered the SBI PLR as applicable on 1<sup>st</sup> April 2014. Accordingly, the Interest on Working Capital has been calculated as shown in the table below:

**Table 27: Interest on Working Capital approved by Commission (In INR Cr)**

| <b>S. No</b> | <b>Particulars</b>                           | <b>Approved in APR Order</b> | <b>Petitioner's Submission</b> | <b>Trued-up by Commission</b> |
|--------------|--|------------------------------|--------------------------------|-------------------------------|
| 1            | Power Purchase Cost for one month            | 77.83                        | 94.57                          | 93.70                         |
| 2            | Employee Cost for 1 month                    | 12.70                        | 17.14                          | 17.14                         |
| 3            | A&G Cost for 1 month                         | 0.79                         | 1.87                           | 1.87                          |
| 4            | R&M Cost for 1 month                         | 1.73                         | 2.41                           | 2.41                          |
| 5            | Total Working Capital for 1 month            | 93.05                        | 115.99                         | 115.12                        |
| 6            | Average Security Deposit                     | 80.88                        | 22.35                          | 22.35                         |
| 7            | Total Working Capital considered for 1 month | 12.17                        | 93.64                          | 92.77                         |
| 8            | SBI PLR                                      | 14.75%                       | 14.75%                         | 14.75%                        |
|              | <b>Interest on Working Capital</b>           | <b>1.80</b>                  | <b>13.81</b>                   | <b>13.68</b>                  |

**The Commission approves the Interest on Working Capital as INR 13.68 Cr in the True- up of FY 2014-15.**

### ***3.16. Provision for Bad & Doubtful Debts***

#### **Petitioner’s submission**

The Petitioner submitted that it has created a provision of INR 3.61 Cr towards Bad and Doubtful Debts in the annual accounts of FY 2014-15. However, the same has not been considered in the True-up.

#### **Commission’s analysis:**

As specified in Regulation 28 of the Tariff Regulations, 2009 (to be read with the format):

*“The Commission may, after the generating company/licensee gets the receivables audited, allow a provision for bad debts up to 1% of receivables in the revenue requirement of the generating company/licensee.”*



It is observed that as per the audited accounts, the licensee has not written off any amount in the FY 2014-15. Therefore, the Commission does not approve any amount under the provision for bad and doubtful debts.

**The Commission approves provision of Bad & Doubtful Debts as nil in the True-up of FY 2014-15.**

### **3.17. Non-Tariff Income (NTI)**

#### **Petitioner's submission**

The Petitioner submitted NTI of INR 22.10 Cr in the True-Up of FY 2014-15 against INR 6.74 Cr approved by the Commission in the APR for FY 2014-15. The Non-Tariff Income as submitted by the Petitioner has been shown in the following table:

**Table 28: Non- Tariff Income as submitted by Petitioner (In INR Cr)**

| S. No | Particulars                                    | Petitioner's Submission |
|-------|--|-------------------------|
| 1     | Meter Rent                                     | 3.93                    |
| 2     | Revenue from Power Exchange                    | 8.13                    |
| 3     | Misc./Other Receipts                           | 7.60                    |
| 4     | Income from trading of Power                   | 0.01                    |
| 5     | Deferred Income (Electricity Development fund) | 2.44                    |
|       | <b>Total</b>                                   | <b>22.10</b>            |

#### **Commission's analysis:**

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 Trading of Power and Power Exchange as a part of the Power Purchase Cost. 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.

Accordingly, the Commission approves the Non-Tariff Income as shown in the following table:

**Table 29: Non- Tariff Income approved by Commission (In INR Cr)**

| S. No | Particulars                                    | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|--|-----------------------|-------------------------|------------------------|
| 1     | Meter Rent                                     | -                     | 3.93                    | 3.93                   |
| 2     | Revenue from Power Exchange                    | -                     | 8.13                    | -                      |
| 3     | Misc./Other Receipts                           | -                     | 7.60                    | 7.60                   |
| 4     | Income from trading of Power                   | -                     | 0.01                    | -                      |
| 5     | Deferred Income (Electricity Development fund) | -                     | 2.44                    | -                      |
|       | <b>Total</b>                                   | <b>6.74</b>           | <b>22.10</b>            | <b>11.52</b>           |

**The Commission approves Non-Tariff Income of INR 11.52 Cr in the True-up of FY 2014-15.**

### 3.18. Revenue from Sale of Surplus Power

#### Petitioner's submission

The Petitioner has earned a revenue of INR 2.31 Cr from sale of surplus power/ UI Under-drawal.

#### Commission's analysis:

The Commission, as discussed while approving the Power Purchase Cost has considered the revenue from sale of surplus power/ UI Under-drawal along with the Total Power Purchase Cost due to its inherent nature.

The revenue from sale of surplus power/ UI Under-drawal as approved in the APR Order, Petitioner's submission and now trued-up by the Commission is shown in the following table:

**Table 30: Revenue from Sale of surplus Power approved by Commission (In INR Cr)**

| S. No | Particulars   | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|---|-----------------------|-------------------------|------------------------|
| 1     | Revenue from sale of surplus power/ UI Under-drawal | 0.00                  | 2.31                    | 2.31                   |

The Commission approves INR 2.31 as revenue from sale of surplus power/ UI Under-drawal and has considered the same along with the Total Power Purchase cost approved in the True-up of FY 2014-15.

### 3.19. Aggregate Revenue Requirement (ARR)

#### Petitioner's submission

Based on the expenses as detailed above, the net aggregate revenue requirement of INR 1,485.35 Cr is submitted for approval in the True-up of FY 2014-15.

#### Commission's analysis

The Commission on the basis of the detailed analysis of the cost parameters of the ARR has considered and approved the revenue requirement in the True-up of FY 2014-15 as given in the following table:

**Table 31: Aggregate Revenue Requirement approved by Commission for FY 2014-15 (In INR Cr)**

| S. No | Particulars   | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|---|-----------------------|-------------------------|------------------------|
| 1     | Power Purchase Cost inclusive of cost towards compliance of RPO | 1,114.32              | 1,132.50                | 1,124.36               |
| 2     | Operation & Maintenance Expenses                                | 182.61                | 257.07                  | 257.07                 |
| 3     | Depreciation  | 25.87                 | 39.13                   | 45.71                  |
| 4     | Interest and Finance charges                                    | 24.12                 | 30.97                   | 31.22                  |
| 5     | Return on Capital Base  | 11.12                 | 33.97                   | 17.49                  |
| 6     | Interest on Consumers Security Deposit                          | 6.82                  | 0.00                    | 0.00                   |
| 7     | Interest on Working Capital                                     | 1.80                  | 13.81                   | 13.68                  |
| 8     | Provision for Bad & Doubtful Debt                               | 0.00                  | 0.00                    | 0.00                   |
| 9     | Other Expenses  | 0.00                  | 0.00                    | 0.00                   |
| 10    | <b>Total Revenue Requirement</b>                                | <b>1,366.65</b>       | <b>1,507.44</b>         | <b>1,489.53</b>        |
| 11    | Less: Non-Tariff Income   | 6.74                  | 22.10                   | 11.52                  |
|       | <b>Net Revenue Requirement</b>                                  | <b>1,359.92</b>       | <b>1,485.36</b>         | <b>1,478.02</b>        |

The Commission approves net Aggregate Revenue Requirement of INR 1,478.02 Cr in the True-up of FY 2014-15.

### 3.20. Revenue at existing Retail Tariff

#### Petitioner's submission

The Petitioner has submitted the net actual revenue for the FY 2014-15 as INR 1,221.07 Cr against revenue of 1,147.44 Cr approved by the Commission in the APR Order. The following table provides the revenue at existing tariff as submitted by the Petitioner:

**Table 32: Revenue at existing tariff submitted by the Petitioner for FY 2014-15 (In INR Cr)**

| S. No | Category   | Sales (MU)      | Total Revenue (INR Cr) |
|-------|--|-----------------|------------------------|
|       | <b><u>A. LOW TENSION SUPPLY</u></b>                                  |                 |                        |
| 1     | LTD/Domestic   | 905.20          | 200.95                 |
| 2     | LTD/L.I.G.   | 9.40            | 0.82                   |
| 3     | LTD Domestic Mixed   | 8.55            | 3.16                   |
| 4     | LTC/Commercial   | 311.37          | 132.02                 |
| 5     | LTP/Motive Power   | 86.07           | 32.10                  |
| 6     | LTP Mixed (Hotel Industries)   | 5.54            | 2.46                   |
| 7     | LTP Ice Manufacturing  | 9.16            | 3.19                   |
| 8     | LTAG/Agriculture   | 20.05           | 3.32                   |
| 9     | LTPL ( Public lighting )   | 35.70           | 14.77                  |
| 10    | LTPWW/Public Water works   | 5.19            | 2.08                   |
| 11    | LT Temporary   | 17.01           | 14.27                  |
|       | <b>Sub-Total</b>   | <b>1,413.24</b> | <b>409.14</b>          |
|       | <b><u>B. HIGH TENSION SUPPLY</u></b>                                 |                 |                        |
| 12    | HT ( Mixed )   | 143.98          | 67.28                  |
| 13    | HTI (Industrial) Ferro Metallurgical/ Steel Melting/Power Intensive. | 742.66          | 214.08                 |
| 14    | HTI Industrial   | 586.43          | 261.59                 |
| 15    | HTAG ( Agriculture)  | 6.48            | 1.54                   |
| 16    | EHTI ( Industrial )  | 173.89          | 78.45                  |
| 17    | HT P.W.W. & Sewage system  | 138.49          | 66.59                  |
| 18    | HT. M.E.'s Defence Estt.   | 26.42           | 10.66                  |
| 19    | HTI ( Steel Rolling )  | 61.22           | 33.18                  |
| 20    | HTI / IT High Tech   | 32.10           | 13.88                  |
| 21    | HTI/Ice Manufacturing  | 1.13            | 0.49                   |
| 22    | Sale from EDG to GSPL (Div. VII)                                     | 7.99            | 3.04                   |
| 23    | HTI Hotel Industry   | 105.82          | 44.36                  |
| 24    | HT Temporary   | 0.03            | 0.20                   |
| 25    | Hoardings/ Signboards  | 0.10            | 0.27                   |
|       | <b>Sub-Total</b>   | <b>2,026.75</b> | <b>795.61</b>          |
|       | Arrears Under RRC  |                 | 16.41                  |
|       | <b>Total</b>   | <b>3,439.99</b> | <b>1,221.07</b>        |

#### Commission's analysis

The Commission has verified revenue from the sale of power within the State in the FY 2014-15 from the audited accounts.

The category-wise revenue as approved in the APR Order, the Petitioner's submission and the revenue now Trued-up by the Commission is shown in the following table:

**Table 33: Revenue at existing tariff approved by Commission for FY 2014-15 (In INR Cr)**

| S. No                                | Category   | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|--------------------------------------|--|-----------------------|-------------------------|------------------------|
| <b><u>A. LOW TENSION SUPPLY</u></b>  |  |                       |                         |                        |
| 1                                    | LTD/Domestic   | 136.80                | 200.95                  | 200.95                 |
| 2                                    | LTD/L.I.G.   | 0.57                  | 0.82                    | 0.82                   |
| 3                                    | LTD Domestic Mixed   | 2.38                  | 3.16                    | 3.16                   |
| 4                                    | LTC/Commercial   | 100.95                | 132.02                  | 132.02                 |
| 5                                    | LTP/Motive Power   | 68.34                 | 32.10                   | 32.10                  |
| 6                                    | LTP Mixed (Hotel Industries)   | 2.82                  | 2.46                    | 2.46                   |
| 7                                    | LTP Ice Manufacturing  | 2.95                  | 3.19                    | 3.19                   |
| 8                                    | LTAG/Agriculture   | 4.25                  | 3.32                    | 3.32                   |
| 9                                    | LTPL ( Public lighting )   | 12.43                 | 14.77                   | 14.77                  |
| 10                                   | LTPWW/Public Water works   | 2.02                  | 2.08                    | 2.08                   |
| 11                                   | LT Temporary   | 20.66                 | 14.27                   | 14.27                  |
|                                      | <b>Sub-Total</b>   | <b>354.17</b>         | <b>409.14</b>           | <b>409.14</b>          |
| <b><u>B. HIGH TENSION SUPPLY</u></b> |  |                       |                         |                        |
| 12                                   | HT ( Mixed )   | 58.68                 | 67.28                   | 67.28                  |
| 13                                   | HTI (Industrial) Ferro Metallurgical/ Steel Melting/Power Intensive. | 197.96                | 214.08                  | 214.08                 |
| 14                                   | HTI Industrial   | 251.30                | 261.59                  | 261.59                 |
| 15                                   | HTAG ( Agriculture)  | 1.44                  | 1.54                    | 1.54                   |
| 16                                   | EHTI ( Industrial )  | 74.48                 | 78.45                   | 78.45                  |
| 17                                   | HT P.W.W. & Sewage system  | 52.95                 | 66.59                   | 66.59                  |
| 18                                   | HT. M.E.'s Defence Estt.   | 10.10                 | 10.66                   | 10.66                  |
| 19                                   | HTI ( Steel Rolling )  | 12.57                 | 33.18                   | 33.18                  |
| 20                                   | HTI / IT High Tech   | 8.32                  | 13.88                   | 13.88                  |
| 21                                   | HTI/Ice Manufacturing  | 0.38                  | 0.49                    | 0.49                   |
| 22                                   | Sale from EDG to GSPL (Div. VII)                                     | -                     | 3.04                    | 3.04                   |
| 23                                   | HTI Hotel Industry   | 54.48                 | 44.36                   | 44.36                  |
| 24                                   | HT Temporary   | -                     | 0.20                    | 0.20                   |
| 25                                   | Hoardings/ Signboards  | 0.09                  | 0.27                    | 0.27                   |
|                                      | <b>Sub-Total</b>   | <b>722.75</b>         | <b>795.61</b>           | <b>795.61</b>          |
|                                      | Arrears Under RRC  | -                     | 16.41                   | 16.41                  |
|                                      | FPPCA Charges  | 70.52                 | -                       | -                      |
|                                      | <b>Total</b>   | <b>1,147.44</b>       | <b>1,221.07</b>         | <b>1,221.07</b>        |

The Commission approves the revenue from the sale of power as INR 1,221.07 Cr in the True-up of the FY 2014-15.

### ***3.21. Standalone Revenue Gap/ (Surplus)***

#### **Petitioner's submission**

Based on the ARR submitted and the revenue from retail tariff, the standalone revenue gap of INR 264.28 Cr is arrived at in the True-up of FY 2014-15.

#### **Commission's analysis**

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

**Table 34: Standalone Revenue Gap/ (Surplus) determined by Commission for FY 2014-15 (In INR Cr)**

| S. No | Particulars                | Approved in APR Order | Petitioner's Submission | Trued-up by Commission |
|-------|----------------------------|-----------------------|-------------------------|------------------------|
| 1     | Net Revenue Requirement    | 1,359.92              | 1,485.36                | 1,478.02               |
| 2     | Total Revenue              | 1,147.44              | 1,221.07                | 1,221.07               |
|       | <b>Net Gap / (Surplus)</b> | <b>212.48</b>         | <b>264.28</b>           | <b>256.94</b>          |

The Commission, in the True-up of FY 2014-15 approves a standalone gap of INR 256.94 Cr. The Petitioner has submitted that the entire gap for the FY 2014-15 is committed to be funded by the Government of Goa by way of budgetary support. The Petitioner in this regard had submitted the letter dated 3<sup>rd</sup> February 2014 from the Government of Goa wherein the Govt. had assured that it would provide the requisite budgetary support to meet the deficit at the existing tariff for the FY 2014-15. Accordingly, the revenue gap is not carried forward in the future years.

## 4. Chapter 4: True-up of the FY 2015-16, FY 2016-17 and FY 2017-18

### 4.1. Applicable provisions

The True-up of FY 2015-16 is to be carried out as per Regulation 8 (2) of the Tariff Regulations, 2009:

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

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

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

(4) *While approving such expenses/revenues 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/revenues. 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 necessary 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 change of consumer mix and additional supply of power and also indicate the manner in which the licensee proposes to meet the cost for such change of consumer mix and additional supply of power.*

(7) *The Commission may consider granting approval to such proposals provided the cost of additional supply is ordinarily met by the beneficiary category."*

The True-ups of FY 2016-17 and FY 2017-18 are to be carried out as per Regulation 8 (2) of the MYT Regulations, 2014:

*"8. Annual Review of Performance and True-up*

*(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.*

## **4.2. Approach for the True-up of the FY 2015-16, FY 2016-17 and FY 2017-18**

### **Petitioner's submission:**

The Petitioner submitted that the CAG audit for FY 2015-16 is yet to be completed and it is in the process of finalisation of accounts for FY 2016-17 and FY 2017-18. Based on the current status, the Petitioner has sought to condone the delay in filing the true-up petition for the respective years and has requested the Commission to allow the submission of the True-up Petition for FY 2015-16, FY 2016-17 and FY 2017-18 petition separately.

### **Commission's analysis:**

The Commission notes that the Petitioner has not submitted the audited accounts prepared on commercial principles for the FY 2015-16, FY 2016-17 and FY 2017-18. The Commission in its previous Orders had stressed upon the requirement of the audited accounts to bring in more accuracy in the estimates made by the Commission. The Tariff Regulations, 2009 and MYT Regulations, 2014 also require the licensee to file the True up along with the audited accounts in the filing.

The Commission directs the Petitioner to submit the True-up Petition along with the audited accounts already submitted to the CAG for the FY 2015-16 within two months of issuance of this order.

The Commission further directs the Petitioner to prepare and submit the audited accounts for FY 2016-17 and FY 2017-18 based on commercial principles along with the True-up Petitions by 30<sup>th</sup> November 2019.

The True-up would therefore be taken up only after submission of the audited accounts. Accordingly, the Commission has decided not to consider True-up for the FY 2015-16, FY 2016-17 and FY 2017-18 in the current Order.

# 5. Chapter 5: Annual Performance Review of FY 2018-19

## 5.1. Applicable Provisions and Background

The Tariff Order for the FY 2018-19 was issued by the Commission on 28<sup>th</sup> March 2018 approving the Aggregate Revenue Requirement (ARR) and tariff for the FY 2018-19. The Annual Performance Review for the FY 2018-19 is to be carried out in accordance with the Regulation 8 of the JERC for the State of Goa and Union Territories (except Delhi) (Multi-Year Distribution Tariff) Regulations, 2014:

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

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

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

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

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

## 5.2. Approach for the Review for the FY 2018-19

### Petitioner’s submission:

The Petitioner has submitted the APR of FY 2018-19 based on the actual performance during the H1 (April-September 2018) of the year and the revised estimates for H2 (October 2018- March 2019) of the year. The projections for H2 of FY 2018-19 are arrived at by expected escalation over performance of H1.

### Commission’s analysis:

The Commission for the purpose of estimating the energy demand of the State sought the information of historical sales, number of consumers and connected load of the previous 5 years till FY 2018-19 (till latest month available) from the Petitioner. The Petitioner was also asked to provide month on month information for the last 3 years from FY 2015-16 to FY 2017-18. Various anomalies and gaps are observed in the data provided, which are listed as follows:

- Data on Energy Sales for FY 2015-16 was not submitted.
- Data on Number of Consumers and Connected Load was not submitted for FY 2014-15, FY 2015-16 and FY 2016-17.



- Overall Energy Sales were reducing by almost 12% in FY 2016-17 as compared to FY 2014-15 (2 years hence). Moreover, the Overall Energy sales were increasing by almost 20% in FY 2017-18 vis-à-vis FY 2016-17.
- Energy Sales for Domestic category were increasing by 38% in FY 2017-18 vis-à-vis FY 2016-17. Moreover, energy sales for Domestic category were decreasing by almost 11% on FY 2016-17 as compared to FY 2014-15 (2 years hence).

From the various discrepancies as shown above, it is evident that the base data for projecting the energy sales for FY 2018-19 is not reliable.

In the previous Tariff Order, the issue was discussed in detail wherein the Petitioner had submitted that there were issues related to billing of energy to consumers for a number of months in H2 of FY 2015-16 due to changeover of the billing agencies and the transition period thereof. The primary problem was non-billing in certain months of FY 2015-16 and adjustment of the same in FY 2016-17 resulting in lower billing than what should have been in FY 2015-16 and higher billing in FY 2016-17. The Petitioner had submitted that the meter reading and billing was maintained by different agencies separately in each division, and each agency had its separate logic for bill calculation and bill generation. However, a common agency had taken over post FY 2016-17 and for all the billing and collection data for HT and LT consumers a common process is being followed for all the divisions to avoid any ambiguity. While the process was being streamlined, a lot of errors in the legacy data were discovered and the error rectification is going on.

The Petitioner was further asked to provide the segregated quantum of month on month sales for previous years, however, the Petitioner expressed its inability to provide such segregated information at this stage as the information is present in the form of software dump and the analysis and segregation of the information will take considerable time.

The Commission is of the view that due to this distortion observed in energy sales, it is not possible to project the energy sales for FY 2018-19 as no definite trends can be observed. The Commission, due to these reasons was also not able to revise the Energy sales, Power Purchase quantum etc. in the ARR approved for FY 2018-19 in the Tariff Order for FY 2018-19 and was obligated to approve the same energy sales as approved in the MYT Order.

Therefore, the Commission believes that it is not prudent to approve the revised power purchase requirement and revenue from retail sale on the basis of the unreliable information presently available. Therefore, the Commission shall consider the actual performance at the time of the True-up of the FY 2018-19 once the audited accounts are submitted by the Petitioner.

Accordingly, the Commission has decided not to undertake the Annual Performance Review of the FY 2018-19. The Commission directs the Petitioner to submit the True-up of FY 2018-19 and the APR of FY 2019-20 based on reliable data by 30<sup>th</sup> November 2019.

## 6. Chapter 6: Determination of Aggregate Revenue Requirement for the FY 2019-20, FY 2020-21 and FY 2021-22 (2<sup>nd</sup> MYT Control Period)

### 6.1. Background

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

### 6.2. Approach for determination of ARR for each year of the 2<sup>nd</sup> MYT Control period

The Commission has computed the individual elements constituting the Aggregate Revenue Requirement for each year based on figures approved in the Business Plan Order dated 16<sup>th</sup> November 2018 and Tariff Order for FY 2018-19 dated 28<sup>th</sup> March 2018. The ARR has been determined for each year of the Control Period whereas the revenue at existing tariff is determined only for the FY 2019-20 to arrive at the revenue gap/surplus for the FY 2019-20.

### 6.3. Projection of Number of consumers, Connected Load and Energy Sales

#### Petitioner's Submission

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

**Table 35: Number of consumers submitted by the Petitioner for the MYT Control Period**

| Category                                      | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|---|------------|------------|------------|
| LTD/Domestic                                  | 530,554    | 547,213    | 564,396    |
| LT-LIG/Low Income Group                       | 1,835      | 1,835      | 1,835      |
| LTC/Commercial                                | 99,524     | 101,972    | 104,480    |
| LTI/Industrial                                | 5,963      | 5,963      | 5,963      |
| LT Mixed/ LT-P Hotel Industries               | 147        | 151        | 156        |
| Low Tension-AG/LT-AGP (Pump Sets/Irrigation)  | 11,736     | 11,970     | 12,210     |
| Low Tension-AG/LT-AGA (Allied Activities)     | 192        | 196        | 200        |
| LT Temporary                                  | 5,181      | 5,181      | 5,181      |
| HTD Domestic                                  | 3          | 3          | 3          |
| HTC Commercial                                | 229        | 240        | 251        |
| HTI Industrial                                | 802        | 864        | 930        |
| High Tension-Ferro/SM/PI/SR                   | 29         | 29         | 29         |
| High Tension-AG/HT-AGP (Pump Sets/Irrigation) | 41         | 41         | 41         |
| High Tension-AG/HT-AG (Allied Activities)     | 3          | 3          | 3          |

| Category   | FY 2019-20     | FY 2020-21     | FY 2021-22     |
|--|----------------|----------------|----------------|
| Military Engineering Services/defense Establishments | 12             | 12             | 12             |
| Public Lighting                                      | 215            | 215            | 215            |
| Hoardings/Signboards                                 | 63             | 63             | 63             |
| HT Temporary   | 1              | 1              | 1              |
| Single Point Supply                                  | 1              | 1              | 1              |
| <b>Total</b>   | <b>656,531</b> | <b>675,954</b> | <b>695,970</b> |

**Table 36: Connected load submitted by the Petitioner for the MYT Control Period (kW)**

| Category   | FY 2019-20       | FY 2020-21       | FY 2021-22       |
|--|------------------|------------------|------------------|
| LTD/Domestic   | 1,501,232        | 1,564,434        | 1,630,297        |
| LT-LIG/Low Income Group                              | 231              | 231              | 231              |
| LTC/Commercial                                       | 329,846          | 340,731          | 351,975          |
| LTI/Industrial                                       | 140,551          | 140,551          | 140,551          |
| LT Mixed/ LT-P Hotel Industries                      | 2,868            | 2,868            | 2,868            |
| Low Tension-AG/LT-AGP (Pump Sets/Irrigation)         | 46,043           | 46,964           | 47,903           |
| Low Tension-AG/LT-AGA (Allied Activities)            | 1,597            | 1,629            | 1,662            |
| LT Temporary   | 20,684           | 20,684           | 20,684           |
| HTD Domestic   | 300              | 300              | 300              |
| HTC Commercial                                       | 72,650           | 73,507           | 74,374           |
| HTI Industrial                                       | 520,370          | 551,853          | 585,240          |
| High Tension-Ferro/SM/PI/SR                          | 98,700           | 98,700           | 98,700           |
| High Tension-AG/HT-AGP (Pump Sets/Irrigation)        | 8,240            | 8,240            | 8,240            |
| High Tension-AG/HT-AG (Allied Activities)            | 1,310            | 1,310            | 1,310            |
| Military Engineering Services/defense Establishments | 7,025            | 7,060            | 7,095            |
| Public Lighting                                      | 1,600            | 1,600            | 1,600            |
| Hoardings/Signboards                                 | 619              | 619              | 619              |
| HT Temporary   | 350              | 350              | 350              |
| Single Point Supply                                  | 4,035            | 4,035            | 4,035            |
| <b>Total</b>   | <b>2,758,250</b> | <b>2,865,665</b> | <b>2,978,033</b> |

**Table 37: Energy sales submitted by the Petitioner for the MYT Control Period (MU)**

| Category                                     | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|--|------------|------------|------------|
| LTD/Domestic                                 | 1,206.08   | 1,256.86   | 1,309.77   |
| LT-LIG/Low Income Group                      | 1.76       | 1.76       | 1.76       |
| LTC/Commercial                               | 491.97     | 536.20     | 584.40     |
| LTI/Industrial                               | 101.12     | 104.63     | 108.26     |
| LT Mixed/ LT-P Hotel Industries              | 5.62       | 5.78       | 5.95       |
| Low Tension-AG/LT-AGP (Pump Sets/Irrigation) | 17.03      | 17.37      | 17.71      |
| Low Tension-AG/LT-AGA (Allied Activities)    | 0.89       | 0.91       | 0.93       |
| LT Temporary                                 | 20.51      | 20.51      | 20.51      |
| HTD Domestic                                 | 0.29       | 0.29       | 0.29       |

| Category   | FY 2019-20      | FY 2020-21      | FY 2021-22      |
|--|-----------------|-----------------|-----------------|
| HTC Commercial                                       | 119.05          | 127.11          | 135.72          |
| HTI Industrial                                       | 1,527.76        | 1,620.19        | 1,718.21        |
| High Tension-Ferro/SM/PI/SR                          | 442.64          | 442.64          | 442.64          |
| High Tension-AG/HT-AGP (Pump Sets/Irrigation)        | 4.85            | 4.85            | 4.85            |
| High Tension-AG/HT-AG (Allied Activities)            | 4.52            | 4.52            | 4.52            |
| Military Engineering Services/defense Establishments | 27.01           | 27.07           | 27.13           |
| Public Lighting                                      | 2.66            | 2.66            | 2.66            |
| Hoardings/Signboards                                 | 0.24            | 0.24            | 0.24            |
| HT Temporary   | 0.30            | 0.30            | 0.30            |
| Single Point Supply                                  | 5.46            | 5.46            | 5.46            |
| <b>Total</b>   | <b>3,979.76</b> | <b>4,179.35</b> | <b>4,391.31</b> |

### Commission's Analysis

The Commission in the Business Plan Order had estimated the category wise energy sales, number of consumers and connected load based on the provisional data available and after taking suitable assumptions. The detailed methodology has been discussed in the Business Plan Order. The Commission retains the same number of consumers, connected load and energy sales as approved in the Business Plan Order.

**Table 38: Number of consumers approved by the Commission for the MYT Control Period**

| Category   | FY 2019-20     | FY 2020-21     | FY 2021-22     |
|--|----------------|----------------|----------------|
| LTD/Domestic   | 530,554        | 547,213        | 564,396        |
| LT-LIG/Low Income Group                              | 1,835          | 1,835          | 1,835          |
| LTC/Commercial                                       | 99,524         | 101,972        | 104,480        |
| LTI/Industrial                                       | 5,963          | 5,963          | 5,963          |
| LT Mixed/ LT-P Hotel Industries                      | 147            | 151            | 156            |
| Low Tension-AG/LT-AGP (Pump Sets/Irrigation)         | 11,736         | 11,970         | 12,210         |
| Low Tension-AG/LT-AGA (Allied Activities)            | 192            | 196            | 200            |
| LT Temporary   | 5,181          | 5,181          | 5,181          |
| HTD Domestic   | 3              | 3              | 3              |
| HTC Commercial                                       | 229            | 240            | 251            |
| HTI Industrial                                       | 802            | 864            | 930            |
| High Tension-Ferro/SM/PI/SR                          | 29             | 29             | 29             |
| High Tension-AG/HT-AGP (Pump Sets/Irrigation)        | 41             | 41             | 41             |
| High Tension-AG/HT-AG (Allied Activities)            | 3              | 3              | 3              |
| Military Engineering Services/defense Establishments | 12             | 12             | 12             |
| Public Lighting                                      | 215            | 215            | 215            |
| Hoardings/Signboards                                 | 63             | 63             | 63             |
| HT Temporary   | 1              | 1              | 1              |
| Single Point Supply                                  | 1              | 1              | 1              |
| <b>Total</b>   | <b>656,531</b> | <b>675,954</b> | <b>695,970</b> |

**Table 39: Connected load approved by the Commission for the MYT Control Period (kW)**

| Category   | FY 2019-20       | FY 2020-21       | FY 2021-22       |
|--|------------------|------------------|------------------|
| LTD/Domestic   | 1,501,232        | 1,564,434        | 1,630,297        |
| LT-LIG/Low Income Group                              | 231              | 231              | 231              |
| LTC/Commercial                                       | 329,846          | 340,731          | 351,975          |
| LTI/Industrial                                       | 140,551          | 140,551          | 140,551          |
| LT Mixed/ LT-P Hotel Industries                      | 2,868            | 2,868            | 2,868            |
| Low Tension-AG/LT-AGP (Pump Sets/Irrigation)         | 46,043           | 46,964           | 47,903           |
| Low Tension-AG/LT-AGA (Allied Activities)            | 1,597            | 1,629            | 1,662            |
| LT Temporary   | 20,684           | 20,684           | 20,684           |
| HTD Domestic   | 300              | 300              | 300              |
| HTC Commercial                                       | 72,650           | 73,507           | 74,374           |
| HTI Industrial                                       | 520,370          | 551,853          | 585,240          |
| High Tension-Ferro/SM/PI/SR                          | 98,700           | 98,700           | 98,700           |
| High Tension-AG/HT-AGP (Pump Sets/Irrigation)        | 8,240            | 8,240            | 8,240            |
| High Tension-AG/HT-AG (Allied Activities)            | 1,310            | 1,310            | 1,310            |
| Military Engineering Services/defense Establishments | 7,025            | 7,060            | 7,095            |
| Public Lighting                                      | 1,600            | 1,600            | 1,600            |
| Hoardings/Signboards                                 | 619              | 619              | 619              |
| HT Temporary   | 350              | 350              | 350              |
| Single Point Supply                                  | 4,035            | 4,035            | 4,035            |
| <b>Total</b>   | <b>2,758,250</b> | <b>2,865,665</b> | <b>2,978,033</b> |

**Table 40: Energy sales approved by the Commission for MYT Control Period (MU)**

| Category                                      | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|---|------------|------------|------------|
| LTD/Domestic                                  | 1,206.08   | 1,256.86   | 1,309.77   |
| LT-LIG/Low Income Group                       | 1.76       | 1.76       | 1.76       |
| LTC/Commercial                                | 491.97     | 536.20     | 584.40     |
| LTI/Industrial                                | 101.12     | 104.63     | 108.26     |
| LT Mixed/ LT-P Hotel Industries               | 5.62       | 5.78       | 5.95       |
| Low Tension-AG/LT-AGP (Pump Sets/Irrigation)  | 17.03      | 17.37      | 17.71      |
| Low Tension-AG/LT-AGA (Allied Activities)     | 0.89       | 0.91       | 0.93       |
| LT Temporary                                  | 20.51      | 20.51      | 20.51      |
| HTD Domestic                                  | 0.29       | 0.29       | 0.29       |
| HTC Commercial                                | 119.05     | 127.11     | 135.72     |
| HTI Industrial                                | 1,527.76   | 1,620.19   | 1,718.21   |
| High Tension-Ferro/SM/PI/SR                   | 442.64     | 442.64     | 442.64     |
| High Tension-AG/HT-AGP (Pump Sets/Irrigation) | 4.85       | 4.85       | 4.85       |
| High Tension-AG/HT-AG (Allied Activities)     | 4.52       | 4.52       | 4.52       |

| Category   | FY 2019-20      | FY 2020-21      | FY 2021-22      |
|--|-----------------|-----------------|-----------------|
| Military Engineering Services/defense Establishments | 27.01           | 27.07           | 27.13           |
| Public Lighting                                      | 2.66            | 2.66            | 2.66            |
| Hoardings/Signboards                                 | 0.24            | 0.24            | 0.24            |
| HT Temporary   | 0.30            | 0.30            | 0.30            |
| Single Point Supply                                  | 5.46            | 5.46            | 5.46            |
| <b>Total</b>   | <b>3,979.76</b> | <b>4,179.35</b> | <b>4,391.31</b> |

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

## 6.4. Inter-State Transmission Loss

### Petitioner's Submission

The Petitioner has considered the same Inter- State Transmission Loss as approved by the Commission in the Business Plan Order. The following table provides the Inter-State Transmission loss for western and southern region as considered by the Petitioner

**Table 41: Inter-State Transmission Loss submitted by the Petitioner (%)**

| S. No | Particulars                            | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|--|------------|------------|------------|
| 1     | For Stations in Western Region (WRPC)  | 3.26%      | 3.26%      | 3.26%      |
| 2     | For Stations in Southern Region (SRPC) | 9.87%      | 9.87%      | 9.87%      |

### Commission's analysis

The Commission considers the transmission loss levels for each year of the control period in line with those approved in the Business Plan Order.

**Table 42: Inter-State Transmission Loss approved by the Commission (%)**

| S. No | Particulars                            | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|--|------------|------------|------------|
| 1     | For Stations in Western Region (WRPC)  | 3.26%      | 3.26%      | 3.26%      |
| 2     | For Stations in Southern Region (SRPC) | 9.87%      | 9.87%      | 9.87%      |

The Commission approves Inter–State Transmission Loss of 3.26% for power received from stations of Western Region and 9.87% for power received from stations of Southern Region for each year of MYT Control Period.

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

### Petitioner's Submission

The Petitioner has considered the same Intra-State T&D Loss as approved in the Business Plan Order. The following table provides the Intra-State T&D Loss as submitted by the Petitioner

**Table 43: Intra-State T&D loss submitted by the Petitioner (%)**

| S. No | Particulars                   | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|-------------------------------|------------|------------|------------|
| 1     | Intra-State distribution loss | 10.75%     | 10.50%     | 10.25%     |

### Commission's analysis

The Commission approves the Intra-State T&D loss for the MYT Control Period at the same level as approved in the Business Plan Order. The following table provides the Intra-State T&D loss approved for each year of the MYT Control Period.

**Table 44: Intra-State T&D loss approved by the Commission (%)**

| S. No | Particulars                   | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|-------------------------------|------------|------------|------------|
| 1     | Intra-State distribution loss | 10.75%     | 10.50%     | 10.25%     |

**The Commission approves the Intra-State Distribution Loss of 10.75% for FY 2019-20, 10.50% for FY 2020-21 and 10.25% for FY 2021-22.**

## 6.6. Power Purchase Quantum & Cost

### Petitioner's Submission

The Petitioner has considered the same power purchase quantum as approved by the Commission in the Business Plan Order to be procured from firm sources. Further, the Petitioner has proposed to procure the deficit power required as in the Energy Balance approved in the Business Plan Order from Open Market.

With regards to the Power purchase Cost, the Petitioner has considered the following assumptions:

- The Fixed Cost for each of the NTPC and NPCIL stations in FY 2019-20 has been derived by escalating the fixed cost estimated for FY 2018-19 (extrapolated for the entire year based on actuals of H1 FY 2018-19) by 5%. The Fixed cost for the entire MYT Control Period has been considered at the same level as estimated for FY 2019-20
- The variable charges for NTPC and NPCIL stations have been estimated station wise on per unit basis by escalating the average per unit variable charges achieved for H1 FY 2018-19 by 2% each year.
- Cost of power purchase from Co-generation stations has been estimated based on the actual per unit rate for these stations in H1 FY 2018-19.
- Cost of Power Purchase from NRVNL and SECI Renewable has been considered based on average per unit rate achieved in H1 FY 2018-19.
- Tariff for new stations has been considered based on average power purchase rate of similar stations providing power to the Petitioner
- Flat tariff of INR 4.75/kwh for FY 2019-20 and INR 4.50/kwh for FY 2020-21 and FY 2021-22 has been considered for procurement of renewable power from solar energy sources
- The tariff of power procurement from renewable energy sources other than solar has been considered as per respective PPA's
- Cost of procurement from Open market has been considered at a flat tariff of INR 4.50/kwh.
- Transmission charges have been estimated by escalating the per unit transmission charges derived in H1 of FY 2018-19 by 2% y-o-y.

The projected power purchase quantum and cost for each year is as illustrated in the following tables:

**Table 45: Power Purchase cost submitted by the Petitioner for FY 2019-20 (in INR Cr)**

| S. No.     | Source                               | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Total Charges (INR Cr) |
|------------|--------------------------------------|---------------------|------------------------|---------------------------|------------------------|
| <b>A</b>   | <b>Central Sector Power Stations</b> |                     |                        |                           |                        |
| <b>I</b>   | <b>NTPC</b>                          | <b>3,430.79</b>     | <b>372.19</b>          | <b>625.80</b>             | <b>997.99</b>          |
|            | KSTPS                                | 1,510.99            | 109.09                 | 202.15                    | 311.25                 |
|            | VSTPS - I                            | 250.47              | 25.23                  | 39.71                     | 64.95                  |
|            | VSTPS - II                           | 103.57              | 8.90                   | 15.33                     | 24.23                  |
|            | VSTPS -III                           | 90.71               | 11.86                  | 13.48                     | 25.34                  |
|            | VSTPS-IV                             | 109.36              | 22.34                  | 16.26                     | 38.60                  |
|            | VSTPS-V                              | 52.11               | 11.03                  | 7.91                      | 18.94                  |
|            | KGPP                                 | 39.25               | 7.95                   | 10.01                     | 17.96                  |
|            | GGPP                                 | 48.14               | 9.81                   | 11.97                     | 21.78                  |
|            | SIPAT- I                             | 208.10              | 33.93                  | 27.40                     | 61.33                  |
|            | KSTPS-III                            | 51.74               | 8.64                   | 6.82                      | 15.45                  |
|            | RSTPS                                | 636.09              | 53.05                  | 175.12                    | 228.17                 |
|            | SIPAT- II                            | 91.88               | 13.65                  | 12.51                     | 26.16                  |
|            | Solapur                              | 37.21               | 16.58                  | 14.51                     | 31.10                  |
|            | Mouda I                              | 51.69               | 19.34                  | 16.93                     | 36.26                  |
|            | Mouda II                             | 34.78               | 20.78                  | 10.72                     | 31.51                  |
|            | Lara STPP – I & II                   | 24.95               | -                      | 8.43                      | 8.43                   |
|            | Khargone STPP                        | 40.10               | -                      | 17.91                     | 17.91                  |
|            | Gadarwara STPP                       | 49.65               | -                      | 18.63                     | 18.63                  |
|            |                                      |                     |                        |                           |                        |
| <b>II</b>  | <b>NPCIL</b>                         | <b>80.25</b>        | <b>-</b>               | <b>26.74</b>              | <b>26.74</b>           |
|            | KAPS                                 | -                   | -                      | -                         | -                      |
|            | TAPS                                 | 80.25               | -                      | 26.74                     | 26.74                  |
|            |                                      |                     |                        |                           |                        |
| <b>III</b> | <b>New Hydro Station</b>             | <b>10.88</b>        | <b>-</b>               | <b>4.50</b>               | <b>4.50</b>            |
|            | Kameng HEP                           | 10.88               |                        | 4.50                      | 4.50                   |
|            |                                      |                     |                        |                           |                        |
| <b>IV</b>  | <b>Traders</b>                       | <b>318.09</b>       |                        | <b>143.14</b>             | <b>143.14</b>          |
|            | IEX PURCHASEAND SALES                | 318.09              |                        | 143.14                    | 143.14                 |
|            |                                      |                     |                        |                           | -                      |
| <b>B</b>   | <b>Within State Generations</b>      |                     |                        |                           |                        |
| <b>I</b>   | <b>CO- GENERATION</b>                | <b>168.19</b>       | <b>-</b>               | <b>40.39</b>              | <b>40.39</b>           |
|            | Vedanta Plant-1                      | 92.90               |                        | 22.34                     | 22.34                  |
|            | Vedanta Plant -2                     | 69.89               |                        | 16.75                     | 16.75                  |
|            | Goa Sponge and private limited       | 5.40                |                        | 1.29                      | 1.29                   |
|            |                                      |                     |                        |                           |                        |



| S. No.   | Source   | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Total Charges (INR Cr) |
|----------|--|---------------------|------------------------|---------------------------|------------------------|
| <b>C</b> | <b>RPO Obligation</b>  | <b>450.62</b>       | -                      | <b>180.72</b>             | <b>180.72</b>          |
|          | NVVNL Solar  | 11.22               |                        | 10.19                     | 10.19                  |
|          | SECI Solar   | 49.43               |                        | 29.84                     | 29.84                  |
|          | Short Term Tender DEEP portal - Solar  | 124.35              |                        | 59.07                     | 59.07                  |
|          | SECI Wind (Non Solar)  | 148.30              |                        | 40.16                     | 40.16                  |
|          | Hindustan waste treatment plant Goa  | 2.00                |                        | 1.10                      | 1.10                   |
|          | Short Term Tender DEEP portal - Non Solar  | 115.32              |                        | 40.36                     | 40.36                  |
|          |  |                     |                        |                           |                        |
| <b>D</b> | <b>OTHER CHARGES</b>   | -                   | -                      | <b>180.43</b>             | <b>180.43</b>          |
|          | PGCIL Transmission Charges, Wheeling, Open Access & Trading Margin & Other Charges |                     | -                      | 180.43                    | 180.43                 |
|          | <b>Total</b>   | <b>4,458.82</b>     | <b>372.19</b>          | <b>1,201.73</b>           | <b>1,573.92</b>        |

**Table 46: Power Purchase cost submitted by the Petitioner for FY 2020-21 (in INR Cr)**

| S. No.   | Source                               | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Total Charges (INR Cr) |
|----------|--------------------------------------|---------------------|------------------------|---------------------------|------------------------|
| <b>A</b> | <b>Central Sector Power Stations</b> |                     |                        |                           |                        |
| <b>I</b> | <b>NTPC</b>                          | <b>3,545.48</b>     | <b>372.19</b>          | <b>684.18</b>             | <b>1,056.38</b>        |
|          | KSTPS                                | 1,510.99            | 109.09                 | 206.20                    | 315.29                 |
|          | VSTPS - I                            | 250.47              | 25.23                  | 40.51                     | 65.74                  |
|          | VSTPS - II                           | 103.57              | 8.90                   | 15.64                     | 24.54                  |
|          | VSTPS -III                           | 90.71               | 11.86                  | 13.75                     | 25.61                  |
|          | VSTPS-IV                             | 109.36              | 22.34                  | 16.58                     | 38.92                  |
|          | VSTPS-V                              | 52.11               | 11.03                  | 8.07                      | 19.09                  |
|          | KGPP                                 | 39.25               | 7.95                   | 10.21                     | 18.16                  |
|          | GGPP                                 | 48.14               | 9.81                   | 12.21                     | 22.02                  |
|          | SIPAT- I                             | 208.10              | 33.93                  | 27.95                     | 61.87                  |
|          | KSTPS-III                            | 51.74               | 8.64                   | 6.95                      | 15.59                  |
|          | RSTPS                                | 636.09              | 53.05                  | 178.62                    | 231.68                 |
|          | SIPAT- II                            | 91.88               | 13.65                  | 12.76                     | 26.41                  |
|          | Solapur                              | 37.21               | 16.58                  | 14.81                     | 31.39                  |
|          | Mouda I                              | 51.69               | 19.34                  | 17.26                     | 36.60                  |
|          | Mouda II                             | 34.78               | 20.78                  | 10.94                     | 31.72                  |
|          | Lara STPP – I & II                   | 49.89               | -                      | 17.20                     | 17.20                  |
|          | Khargone STPP                        | 80.19               | -                      | 36.53                     | 36.53                  |
|          | Gadarwara STPP                       | 99.31               | -                      | 38.01                     | 38.01                  |

| S. No.     | Source   | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Total Charges (INR Cr) |
|------------|--|---------------------|------------------------|---------------------------|------------------------|
| <b>II</b>  | <b>NPCIL</b>   | <b>80.25</b>        | <b>-</b>               | <b>27.28</b>              | <b>27.28</b>           |
|            | KAPS   | -                   |                        | -                         | -                      |
|            | TAPS   | 80.25               |                        | 27.28                     | 27.28                  |
| <b>III</b> | <b>New Hydro Station</b>   | <b>10.88</b>        | <b>-</b>               | <b>4.59</b>               | <b>4.59</b>            |
|            | Kameng HEP   | 10.88               |                        | 4.59                      | 4.59                   |
| <b>IV</b>  | <b>Traders</b>   | <b>292.00</b>       |                        | <b>131.40</b>             | <b>131.40</b>          |
|            | IEX PURCHASE AND SALES   | 292.00              |                        | 131.40                    | 131.40                 |
|            |  |                     |                        | -                         | -                      |
| <b>B</b>   | <b>Within State Generations</b>  |                     |                        |                           |                        |
| <b>I</b>   | <b>CO- GENERATION</b>  | <b>168.19</b>       | <b>-</b>               | <b>40.39</b>              | <b>40.39</b>           |
|            | Vedanta Plant-1  | 92.90               |                        | 22.34                     | 22.34                  |
|            | Vedanta Plant -2   | 69.89               |                        | 16.75                     | 16.75                  |
|            | Goa Sponge and private limited   | 5.40                |                        | 1.29                      | 1.29                   |
| <b>C</b>   | <b>RPO Obligation</b>  | <b>480.45</b>       | <b>-</b>               | <b>191.48</b>             | <b>191.48</b>          |
|            | SECI Solar   | 49.43               |                        | 29.84                     | 29.84                  |
|            | NTPC Solar   | 132.42              |                        | 41.06                     | 41.06                  |
|            | Short Term Tender DEEP portal - Solar  |                     |                        | 30.13                     | 30.13                  |
|            | SECI Wind (Non Solar)  | 296.60              |                        | 80.33                     | 80.33                  |
|            | Hindustan waste treatment plant Goa  | 2.00                |                        | 1.10                      | 1.10                   |
|            | Short Term Tender DEEP portal - Non Solar  |                     |                        | 9.01                      | 9.01                   |
| <b>D</b>   | <b>OTHER CHARGES</b>   | <b>-</b>            | <b>-</b>               | <b>184.04</b>             | <b>184.04</b>          |
|            | PGCIL Transmission Charges, Wheeling, Open Access & Trading Margin & Other Charges |                     |                        | 184.04                    | 184.04                 |
|            | <b>Total</b>   | <b>4,577.25</b>     | <b>372.19</b>          | <b>1,263.36</b>           | <b>1,635.55</b>        |

**Table 47: Power Purchase cost submitted by the Petitioner for FY 2021-22 (in INR Cr)**

| S. No.   | Source                               | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Total Charges (INR Cr) |
|----------|--------------------------------------|---------------------|------------------------|---------------------------|------------------------|
| <b>A</b> | <b>Central Sector Power Stations</b> |                     |                        |                           |                        |
| <b>I</b> | <b>NTPC</b>                          | <b>3,545.48</b>     | <b>372.19</b>          | <b>697.87</b>             | <b>1,070.06</b>        |
|          | KSTPS                                | 1,510.99            | 109.09                 | 210.32                    | 319.41                 |
|          | VSTPS - I                            | 250.47              | 25.23                  | 41.32                     | 66.55                  |
|          | VSTPS - II                           | 103.57              | 8.90                   | 15.95                     | 24.85                  |

| S. No.     | Source                                    | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Total Charges (INR Cr) |
|------------|---|---------------------|------------------------|---------------------------|------------------------|
|            | VSTPS -III                                | 90.71               | 11.86                  | 14.02                     | 25.88                  |
|            | VSTPS-IV                                  | 109.36              | 22.34                  | 16.91                     | 39.25                  |
|            | VSTPS-V                                   | 52.11               | 11.03                  | 8.23                      | 19.26                  |
|            | KGPP                                      | 39.25               | 7.95                   | 10.41                     | 18.36                  |
|            | GGPP                                      | 48.14               | 9.81                   | 12.45                     | 22.27                  |
|            | SIPAT- I                                  | 208.10              | 33.93                  | 28.50                     | 62.43                  |
|            | KSTPS-III                                 | 51.74               | 8.64                   | 7.09                      | 15.73                  |
|            | RSTPS                                     | 636.09              | 53.05                  | 182.20                    | 235.25                 |
|            | SIPAT- II                                 | 91.88               | 13.65                  | 13.01                     | 26.66                  |
|            | Solapur                                   | 37.21               | 16.58                  | 15.10                     | 31.68                  |
|            | Mouda I                                   | 51.69               | 19.34                  | 17.61                     | 36.95                  |
|            | Mouda II                                  | 34.78               | 20.78                  | 11.16                     | 31.94                  |
|            | Lara STPP – I & II                        | 49.89               | -                      | 17.54                     | 17.54                  |
|            | Khargone STPP                             | 80.19               | -                      | 37.26                     | 37.26                  |
|            | Gadarwara STPP                            | 99.31               | -                      | 38.77                     | 38.77                  |
|            |   |                     |                        |                           |                        |
| <b>II</b>  | <b>NPCIL</b>                              | <b>80.25</b>        | -                      | <b>27.82</b>              | <b>27.82</b>           |
|            | KAPS                                      | -                   | -                      | -                         | -                      |
|            | TAPS                                      | 80.25               | -                      | 27.82                     | 27.82                  |
|            |   |                     |                        |                           |                        |
| <b>III</b> | <b>New Hydro Station</b>                  | <b>10.88</b>        | -                      | <b>4.68</b>               | <b>4.68</b>            |
|            | Kameng HEP                                | 10.88               | -                      | 4.68                      | 4.68                   |
|            |   |                     |                        |                           |                        |
| <b>IV</b>  | <b>Traders</b>                            | <b>361.96</b>       | -                      | <b>162.88</b>             | <b>162.88</b>          |
|            | IEX PURCHASEAND SALES                     | 361.96              | -                      | 162.88                    | 162.88                 |
|            |   |                     |                        |                           |                        |
| <b>B</b>   | <b>Within State Generations</b>           |                     |                        |                           |                        |
| <b>I</b>   | <b>CO- GENERATION</b>                     | <b>168.19</b>       | -                      | <b>40.39</b>              | <b>40.39</b>           |
|            | Vedanta Plant-1                           | 92.90               | -                      | 22.34                     | 22.34                  |
|            | Vedanta Plant -2                          | 69.89               | -                      | 16.75                     | 16.75                  |
|            | Goa Sponge and private limited            | 5.40                | -                      | 1.29                      | 1.29                   |
|            |   |                     |                        |                           |                        |
| <b>C</b>   | <b>RPO Obligation</b>                     | <b>725.93</b>       | -                      | <b>235.62</b>             | <b>235.62</b>          |
|            | SECI Solar                                | 49.43               | -                      | 29.84                     | 29.84                  |
|            | NTPC Solar                                | 264.83              | -                      | 82.13                     | 82.13                  |
|            | Short Term Tender DEEP portal - Solar     | 26.45               |                        | 11.90                     | 11.90                  |
|            | SECI Wind (Non Solar)                     | 296.60              | -                      | 80.33                     | 80.33                  |
|            | Hindustan waste treatment plant Goa       | 2.00                | -                      | 1.10                      | 1.10                   |
|            | Short Term Tender DEEP portal - Non Solar | 86.62               |                        | 30.32                     | 30.32                  |

| S. No.   | Source   | Power Purchase (MU) | Fixed Charges (INR Cr) | Variable Charges (INR Cr) | Total Charges (INR Cr) |
|----------|--|---------------------|------------------------|---------------------------|------------------------|
| <b>D</b> | <b>OTHER CHARGES</b>   | -                   | -                      | <b>187.72</b>             | <b>187.72</b>          |
|          | PGCIL Transmission Charges, Wheeling, Open Access & Trading Margin & Other Charges |                     |                        | 187.72                    | 187.72                 |
|          | <b>Total</b>   | <b>4,892.70</b>     | <b>372.19</b>          | <b>1,356.98</b>           | <b>1,729.17</b>        |

### Commission's Analysis

The Commission has considered the same power purchase quantum for each year of the MYT Control Period as approved in the Business Plan Order.

The source wise methodology followed for projecting the cost of power procurement has been detailed as follows:

#### 1. Variable Charges:

- The per unit variable costs for various power stations has been computed by taking the average of the actual per unit variable cost during the months of April- September 2018. An y-o-y escalation of 5% has been considered over the actual per unit variable cost to arrive upon the variable per unit cost for FY 2019-20 and thereafter for the subsequent years of the MYT Control Period.
- For procurement of power from the Open Market, the Average Round the Clock (RTC) rate for the Western Region during the calendar year 2018 has been considered for each year.
- For Co-generation and Renewable Energy Stations, the tariff has been considered as per the PPA's and Tariff Orders of respective stations.
- For new stations, since no source specifying the tariff is available in the public domain, the Commission has considered an average rate of INR 5.00/kwh.

#### 2. Fixed Charges:

The fixed costs for CGS have been considered based on the Tariff Orders issued by the CERC for the respective Central Generating Stations. Since the Fixed Cost is available only till FY 2018-19, an y-o-y escalation of 2% has been considered over cost of FY 2018-19 to derive the fixed cost for each year of the Control Period.

#### 3. Other Charges:

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

### 6.6.1. Transmission Charges

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

The transmission charges are determined based on the latest quarterly Point of Connection (PoC) rates approved by the Central Electricity Regulatory Commission (CERC) in accordance with Regulation 17(2) of the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 and the latest Regional Power Committee report stipulating the cumulative weighted average share allocated of CG Stations to the Petitioner.

### 6.6.2. Total Power Purchase Quantum and Cost

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

**Table 48: Power Purchase Quantum (MU) and cost (INR Cr) approved for FY 2019-20**

| Details of the stations                    | Power Purchase at State periphery (after adjusting ISTS Losses) (MU) | Variable Charges (INR Cr) | Fixed Charges (INR Cr) | Total Charges (INR Cr) |
|--|--|---------------------------|------------------------|------------------------|
| <b>NTPC</b>                                |  |                           |                        |                        |
| KSTPS                                      | 1,510.99   | 201.93                    | 103.53                 | 305.46                 |
| VSTPS - I                                  | 250.47   | 39.87                     | 22.33                  | 62.20                  |
| VSTPS - II                                 | 103.57   | 15.41                     | 6.97                   | 22.38                  |
| VSTPS -III                                 | 90.71  | 13.52                     | 9.01                   | 22.54                  |
| VSTPS-IV                                   | 109.36   | 16.32                     | 15.78                  | 32.10                  |
| VSTPS-V                                    | 52.11  | 7.90                      | 7.86                   | 15.75                  |
| KGPP                                       | 39.25  | 10.46                     | 7.83                   | 18.29                  |
| GGPP                                       | 48.14  | 11.93                     | 9.93                   | 21.86                  |
| SIPAT- I                                   | 208.10   | 26.84                     | 23.81                  | 50.66                  |
| KSTPS-III                                  | 51.74  | 6.81                      | 6.24                   | 13.04                  |
| RSTPS                                      | 636.09   | 163.93                    | 51.55                  | 215.48                 |
| SIPAT- II                                  | 91.88  | 12.27                     | 10.58                  | 22.85                  |
| Mouda II                                   | 34.78  | 10.63                     | 14.75                  | 25.37                  |
| Mouda                                      | 51.69  | 16.51                     | 18.85                  | 35.36                  |
| Solapur                                    | 37.21  | 15.45                     | 17.82                  | 33.28                  |
| <b>Subtotal - NTPC</b>                     | <b>3,316.10</b>  | <b>569.78</b>             | <b>326.84</b>          | <b>896.62</b>          |
| <b>NPCIL</b>                               |  |                           |                        |                        |
| KAPS                                       | 0.00   | 0.00                      | 0.00                   | 0.00                   |
| TAPS                                       | 80.25  | 26.44                     | 0.00                   | 26.44                  |
| <b>Sub Total NPCIL</b>                     | <b>80.25</b>   | <b>26.44</b>              | <b>0.00</b>            | <b>26.44</b>           |
| <b>Within State Generations</b>            |  |                           |                        |                        |
| Vedanta Plant-1- Co-Gen                    | 92.90  | 22.30                     | 0.00                   | 22.30                  |
| Vedanta Plant -2- Co-Gen                   | 69.89  | 16.77                     | 0.00                   | 16.77                  |
| Goa Sponge and private limited             | 5.40   | 1.30                      | 0.00                   | 1.30                   |
| <b>Sub Total - Within State Generation</b> | <b>168.19</b>  | <b>40.37</b>              | <b>0.00</b>            | <b>40.37</b>           |
| <b>RPO</b>                                 |  |                           |                        |                        |
| NVVNL Solar                                | 11.22  | 9.83                      | 0.00                   | 9.83                   |
| SECI Solar                                 | 49.43  | 28.87                     | 0.00                   | 28.87                  |
| NTPC Solar                                 | 0.00   | 0.00                      | 0.00                   | 0.00                   |
| SECI Wind (Non Solar)                      | 148.30   | 51.91                     | 0.00                   | 51.91                  |
| Hindustan waste treatment plant Goa        | 2.00   | 1.10                      | 0.00                   | 1.10                   |
| Solar-REC                                  | -  | 12.59                     | 0.00                   | 12.59                  |
| Non Solar- REC                             | -  | 11.97                     | 0.00                   | 11.97                  |
| <b>Sub Total - RPO</b>                     | <b>210.96</b>  | <b>116.27</b>             | <b>0.00</b>            | <b>116.27</b>          |
| <b>Open Market</b>                         | <b>558.04</b>  | <b>217.64</b>             | <b>0.00</b>            | <b>217.64</b>          |
| <b>New Stations</b>                        |  |                           |                        |                        |

| Details of the stations         | Power Purchase at State periphery (after adjusting ISTS Losses) (MU) | Variable Charges (INR Cr) | Fixed Charges (INR Cr) | Total Charges (INR Cr) |
|---------------------------------|--|---------------------------|------------------------|------------------------|
| Kameng HEP                      | 10.88  | 5.44                      | 0.00                   | 5.44                   |
| Lara STPP – I & II              | 24.95  | 12.47                     | 0.00                   | 12.47                  |
| Khargone STPP                   | 40.10  | 20.05                     | 0.00                   | 20.05                  |
| Gadarwara STPP                  | 49.65  | 24.83                     | 0.00                   | 24.83                  |
| <b>Sub Total - New Stations</b> | <b>125.58</b>  | <b>62.79</b>              | <b>0.00</b>            | <b>62.79</b>           |
| <b>Total</b>                    | <b>4,459.12</b>  | <b>1,033.28</b>           | <b>326.84</b>          | <b>1,360.12</b>        |
| <b>Transmission Charges</b>     |  |                           |                        |                        |
| PGCIL Charges                   |  |                           |                        | 195.04                 |
| <b>Total</b>                    | <b>4,459.12</b>  | <b>1,033.28</b>           | <b>326.84</b>          | <b>1,555.16</b>        |

The Commission approves the quantum of power purchase as 4,459.12 MU at the State Periphery with a total cost of INR 1,555.16 Cr for the FY 2019-20.

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

**Table 49: Average Power Purchase Cost (APPC) for FY 2019-20**

| Particular   | FY 2019-20      |
|--|-----------------|
| Total Power Purchase Cost (INR Cr)   | 1,555.16        |
| Less: Transmission charges and Power Purchase cost from renewable energy sources (INR Cr)            | 311.31          |
| <b>Net Power Purchase Cost (INR Cr) (A)</b>  | <b>1,243.86</b> |
| Total Power Purchase quantum (MU)  | 4,459.12        |
| Less: Quantum from renewable energy sources (MU)   | 210.96          |
| <b>Quantum of energy at State Periphery excluding quantum from renewable energy sources (MU) (B)</b> | <b>4,248.16</b> |
| <b>APPC (Rs/kWh) (A/B)</b>   | <b>2.93</b>     |

The Commission approves the Average Power Purchase Cost (APPC) as INR 2.93/ kWh for the FY 2019-20.

**Table 50: Power Purchase Quantum (MU) and cost (INR Cr) approved for FY 2020-21**

| Details of the stations | Power Purchase at State periphery (after adjusting ISTS Losses) (MU) | Variable Charges (INR Cr) | Fixed Charges (INR Cr) | Total Charges (INR Cr) |
|-------------------------|--|---------------------------|------------------------|------------------------|
| <b>NTPC</b>             |  |                           |                        |                        |
| KSTPS                   | 1,510.99   | 212.03                    | 105.60                 | 317.63                 |
| VSTPS - I               | 250.47   | 41.86                     | 22.78                  | 64.64                  |
| VSTPS - II              | 103.57   | 16.18                     | 7.11                   | 23.29                  |
| VSTPS -III              | 90.71  | 14.20                     | 9.19                   | 23.39                  |
| VSTPS-IV                | 109.36   | 17.14                     | 16.09                  | 33.23                  |
| VSTPS-V                 | 52.11  | 8.29                      | 8.01                   | 16.30                  |
| KGPP                    | 39.25  | 10.98                     | 7.99                   | 18.97                  |

| Details of the stations                    | Power Purchase at State periphery (after adjusting ISTS Losses) (MU) | Variable Charges (INR Cr) | Fixed Charges (INR Cr) | Total Charges (INR Cr) |
|--|--|---------------------------|------------------------|------------------------|
| GGPP                                       | 48.14  | 12.53                     | 10.13                  | 22.66                  |
| SIPAT- I                                   | 208.10   | 28.18                     | 24.29                  | 52.48                  |
| KSTPS-III                                  | 51.74  | 7.15                      | 6.36                   | 13.51                  |
| RSTPS                                      | 636.09   | 172.13                    | 52.58                  | 224.71                 |
| SIPAT- II                                  | 91.88  | 12.88                     | 10.80                  | 23.68                  |
| Mouda II                                   | 34.78  | 11.16                     | 15.04                  | 26.20                  |
| Mouda                                      | 51.69  | 17.34                     | 19.23                  | 36.57                  |
| Solapur                                    | 37.21  | 16.22                     | 18.18                  | 34.40                  |
| <b>Subtotal - NTPC</b>                     | <b>3,316.10</b>  | <b>598.27</b>             | <b>333.38</b>          | <b>931.65</b>          |
| <b>NPCIL</b>                               |  |                           |                        |                        |
| KAPS                                       | 0.00   | 0.00                      | 0.00                   | 0.00                   |
| TAPS                                       | 80.25  | 27.76                     | 0.00                   | 27.76                  |
| <b>Sub Total NPCIL</b>                     | <b>80.25</b>   | <b>27.76</b>              | <b>0.00</b>            | <b>27.76</b>           |
| <b>Within State Generations</b>            |  |                           |                        |                        |
| Vedanta Plant-1- Co-Gen                    | 92.90  | 22.30                     | 0.00                   | 22.30                  |
| Vedanta Plant -2- Co-Gen                   | 69.89  | 16.77                     | 0.00                   | 16.77                  |
| Goa Sponge and private limited             | 5.40   | 1.30                      | 0.00                   | 1.30                   |
| <b>Sub Total - Within State Generation</b> | <b>168.19</b>  | <b>40.37</b>              | <b>0.00</b>            | <b>40.37</b>           |
| <b>RPO</b>                                 |  |                           |                        |                        |
| NVVNL Solar                                | 0.00   | 0.00                      | 0.00                   | 0.00                   |
| SECI Solar                                 | 49.43  | 28.87                     | 0.00                   | 28.87                  |
| NTPC Solar                                 | 132.42   | 62.90                     | 0.00                   | 62.90                  |
| SECI Wind (Non Solar)                      | 296.60   | 103.81                    | 0.00                   | 103.81                 |
| Hindustan waste treatment plant Goa        | 2.00   | 1.10                      | 0.00                   | 1.10                   |
| Solar-REC                                  |  | 7.25                      | 0.00                   | 7.25                   |
| Non Solar- REC                             |  | 3.50                      | 0.00                   | 3.50                   |
| <b>Sub Total - RPO</b>                     | <b>480.46</b>  | <b>207.43</b>             | <b>0.00</b>            | <b>207.43</b>          |
| <b>Open Market</b>                         | <b>384.39</b>  | <b>149.91</b>             | <b>0.00</b>            | <b>149.91</b>          |
| <b>New Stations</b>                        |  |                           |                        |                        |
| Kameng HEP                                 | 10.88  | 5.44                      | 0.00                   | 5.44                   |
| Lara STPP – I & II                         | 49.89  | 24.95                     | 0.00                   | 24.95                  |
| Khargone STPP                              | 80.19  | 40.10                     | 0.00                   | 40.10                  |
| Gadarwara STPP                             | 99.31  | 49.65                     | 0.00                   | 49.65                  |
| <b>Sub Total - New Stations</b>            | <b>240.28</b>  | <b>120.14</b>             | <b>0.00</b>            | <b>120.14</b>          |
| <b>Total</b>                               | <b>4,669.66</b>  | <b>1,143.87</b>           | <b>333.38</b>          | <b>1,477.25</b>        |
| <b>Transmission Charges</b>                |  |                           |                        |                        |
| PGCIL Charges                              |  |                           |                        | 201.03                 |
| <b>Total</b>                               | <b>4,669.66</b>  | <b>1,143.87</b>           | <b>333.38</b>          | <b>1,678.28</b>        |

**The Commission approves the quantum of power purchase as 4,669.66 MU at the State Periphery with a total cost of INR 1,678.28 Cr for the FY 2020-21.**

**Table 51: Power Purchase Quantum (MU) and cost (INR Cr) approved for FY 2021-22**

| Details of the stations                    | Power Purchase at State periphery (after adjusting ISTS Losses) (MU) | Variable Charges (INR Cr) | Fixed Charges (INR Cr) | Total Charges (INR Cr) |
|--|--|---------------------------|------------------------|------------------------|
| <b>NTPC</b>                                |  |                           |                        |                        |
| KSTPS                                      | 1,510.99   | 222.63                    | 107.71                 | 330.34                 |
| VSTPS - I                                  | 250.47   | 43.95                     | 23.24                  | 67.19                  |
| VSTPS - II                                 | 103.57   | 16.99                     | 7.25                   | 24.25                  |
| VSTPS -III                                 | 90.71  | 14.91                     | 9.38                   | 24.29                  |
| VSTPS-IV                                   | 109.36   | 18.00                     | 16.42                  | 34.41                  |
| VSTPS-V                                    | 52.11  | 8.71                      | 8.17                   | 16.88                  |
| KGPP                                       | 39.25  | 11.53                     | 8.15                   | 19.67                  |
| GGPP                                       | 48.14  | 13.15                     | 10.33                  | 23.49                  |
| SIPAT- I                                   | 208.10   | 29.59                     | 24.78                  | 54.37                  |
| KSTPS-III                                  | 51.74  | 7.50                      | 6.49                   | 13.99                  |
| RSTPS                                      | 636.09   | 180.74                    | 53.63                  | 234.36                 |
| SIPAT- II                                  | 91.88  | 13.52                     | 11.01                  | 24.54                  |
| Mouda II                                   | 34.78  | 11.72                     | 15.34                  | 27.06                  |
| Mouda I                                    | 51.69  | 18.21                     | 19.61                  | 37.82                  |
| Solapur                                    | 37.21  | 17.04                     | 18.54                  | 35.58                  |
| <b>Subtotal - NTPC</b>                     | <b>3,316.10</b>  | <b>628.19</b>             | <b>340.05</b>          | <b>968.23</b>          |
| <b>NPCIL</b>                               |  |                           |                        |                        |
| KAPS                                       | 0.00   | 0.00                      | 0.00                   | 0.00                   |
| TAPS                                       | 80.25  | 29.15                     | 0.00                   | 29.15                  |
| <b>Sub Total NPCIL</b>                     | <b>80.25</b>   | <b>29.15</b>              | <b>0.00</b>            | <b>29.15</b>           |
| <b>Within State Generations</b>            |  |                           |                        |                        |
| Vedanta Plant-1- Co-Gen                    | 92.90  | 22.30                     | 0.00                   | 22.30                  |
| Vedanta Plant -2- Co-Gen                   | 69.89  | 16.77                     | 0.00                   | 16.77                  |
| Goa Sponge and private limited             | 5.40   | 1.30                      | 0.00                   | 1.30                   |
| <b>Sub Total - Within State Generation</b> | <b>168.19</b>  | <b>40.37</b>              | <b>0.00</b>            | <b>40.37</b>           |
| <b>RPO</b>                                 |  |                           |                        |                        |
| NVVNL Solar                                | 0.00   | 0.00                      | 0.00                   | 0.00                   |
| SECI Solar                                 | 49.43  | 28.87                     | 0.00                   | 28.87                  |
| NTPC Solar                                 | 264.83   | 125.79                    | 0.00                   | 125.79                 |
| SECI Wind (Non Solar)                      | 296.60   | 103.81                    | 0.00                   | 103.81                 |
| Hindustan waste treatment plant Goa        | 2.00   | 1.10                      | 0.00                   | 1.10                   |
| Solar-REC                                  |  | 3.63                      | 0.00                   | 3.63                   |
| Non Solar- REC                             |  | 9.57                      | 0.00                   | 9.57                   |
| <b>Sub Total - RPO</b>                     | <b>612.86</b>  | <b>272.77</b>             | <b>0.00</b>            | <b>272.77</b>          |
| <b>Open Market</b>                         | <b>475.15</b>  | <b>185.31</b>             | <b>0.00</b>            | <b>185.31</b>          |
| <b>New Stations</b>                        |  |                           |                        |                        |
| Kameng HEP                                 | 10.88  | 5.44                      | 0.00                   | 5.44                   |
| Lara STPP – I & II                         | 49.89  | 24.95                     | 0.00                   | 24.95                  |
| Khargone STPP                              | 80.19  | 40.10                     | 0.00                   | 40.10                  |
| Gadarwara STPP                             | 99.31  | 49.65                     | 0.00                   | 49.65                  |



| Details of the stations         | Power Purchase at State periphery (after adjusting ISTS Losses) (MU) | Variable Charges (INR Cr) | Fixed Charges (INR Cr) | Total Charges (INR Cr) |
|---------------------------------|--|---------------------------|------------------------|------------------------|
| <b>Sub Total - New Stations</b> | <b>240.28</b>  | <b>120.14</b>             | <b>0.00</b>            | <b>120.14</b>          |
| <b>Total</b>                    | <b>4,892.83</b>  | <b>1,275.92</b>           | <b>340.05</b>          | <b>1,615.97</b>        |
| <b>Transmission Charges</b>     |  |                           |                        |                        |
| PGCIL Charges                   |  |                           |                        | 201.03                 |
| <b>Total</b>                    | <b>4,892.83</b>  | <b>1,275.92</b>           | <b>340.05</b>          | <b>1,816.99</b>        |

The Commission approves the quantum of power purchase as 4,892.83 MU at the State/ UT Periphery with a total cost of INR 1,816.99 Cr for the FY 2021-22.

## 6.7. Renewable Purchase Obligation (RPO)

### Petitioner's Submission

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

**Table 52: RPO and compliance for MYT Control Period as submitted by Petitioner**

| Particulars            | Unit       | FY 2019-20    | FY 2020-21    | FY 2021-22    |
|------------------------|------------|---------------|---------------|---------------|
| Sales Within State (A) | MUs        | 3,979.76      | 4,179.35      | 4,391.31      |
| RPO Obligation         | %          | <b>11.50%</b> | <b>14.10%</b> | <b>17.00%</b> |
| - Solar                | %          | 4.70%         | 6.10%         | 8.00%         |
| - Non Solar            | %          | 6.80%         | 8.00%         | 9.00%         |
| RPO Obligation         | <b>MUs</b> | <b>457.67</b> | <b>589.29</b> | <b>746.52</b> |
| - Solar                | MUs        | 187.05        | 254.94        | 351.30        |
| - Non Solar            | MUs        | 270.62        | 334.35        | 395.22        |
| RPO Purchase / REC     | <b>MUs</b> | <b>457.67</b> | <b>589.29</b> | <b>746.52</b> |
| - Solar                | MUs        | 187.05        | 254.94        | 351.30        |
| - Non Solar            | MUs        | 270.62        | 334.35        | 395.22        |

The Petitioner has proposed to fulfill the RPO for each year by way of procuring physical power from open market and bilateral agreements. The Cost has been considered in the Power purchase cost estimated for each year of the MYT Control Period.

### Commission's analysis:

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

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

The Commission notified the JERC (Procurement of Renewable Energy), (Third Amendment) Regulations, 2016 on 22<sup>nd</sup> August 2016 and approved the revised RPO targets. The quantum as per the revised target has to be determined on the effective energy sales i.e. effective of hydro generation.

The Petitioner is procuring physical power from solar and non-solar plants. However, the physical power is not enough to fulfill the standalone RPO for respective years of the MYT Control Period. Therefore, the Commission has considered the remaining RPO to be fulfilled by the purchase of Renewable Energy Certificate (REC). The Commission has assumed the rate of purchase for both solar and non-solar REC as INR 1.00/ kWh (IEX Floor Price). The total cost towards RPO compliance has been considered in the total power purchase cost approved earlier.

In accordance with the JERC for the State of Goa and UTs (Procurement of Renewable Energy) Regulations, 2010 the Commission has determined the following Renewable Purchase Obligation for the Petitioner for each year of the MYT Control Period:

**Table 53: Summary of Renewable Purchase Obligation (RPO) (MU)**

| Description   | FY 2019-20      | FY 2020-21      | FY 2021-22      |
|---|-----------------|-----------------|-----------------|
| Sales within State (MU) (A)                           | 3,979.76        | 4,179.35        | 4,391.31        |
| Hydro Power available at State Periphery (MU) (B)     | 10.88           | 10.88           | 10.88           |
| T&D Loss (%) (C)                                      | 10.75%          | 10.50%          | 10.25%          |
| T&D Loss (MU) (D = B * C)                             | 1.17            | 1.14            | 1.12            |
| Hydro Power Consumed (E = B - D)                      | 9.71            | 9.74            | 9.77            |
| <b>Conventional Power Consumed (F = A - E)</b>        | <b>3,970.05</b> | <b>4,169.60</b> | <b>4,381.55</b> |
| <b>RPO obligation (%)</b>                             | <b>11.50%</b>   | <b>14.10%</b>   | <b>17.00%</b>   |
| Solar (G)   | 4.70%           | 6.10%           | 8.00%           |
| Non-Solar (H)   | 6.80%           | 8.00%           | 9.00%           |
| <b>RPO obligation for the year (MU)</b>               | <b>456.56</b>   | <b>587.91</b>   | <b>744.86</b>   |
| Solar (F * G)   | 186.59          | 254.35          | 350.52          |
| Non-Solar (F * H)                                     | 269.96          | 333.57          | 394.34          |
| <b>RPO Compliance (Physical Power) (MU)</b>           | <b>210.96</b>   | <b>480.46</b>   | <b>612.86</b>   |
| Solar   | 60.66           | 181.85          | 314.26          |
| Non-Solar   | 150.30          | 298.60          | 298.60          |
| <b>RPO Compliance (REC certificate purchase) (MU)</b> | <b>245.60</b>   | <b>107.46</b>   | <b>132.00</b>   |
| Solar   | 125.94          | 72.49           | 36.26           |
| Non-Solar   | 119.66          | 34.96           | 95.73           |

The cost towards compliance of RPO computed by the Commission has been shown in the following table.

**Table 54: Cost towards compliance of Renewable Purchase Obligation (RPO) (In INR Cr)**

| Description                         | FY 2019-20    |                     | FY 2020-21    |                     | FY 2021-22    |                     |
|-------------------------------------|---------------|---------------------|---------------|---------------------|---------------|---------------------|
|                                     | RPO (MU)      | Total Cost (INR Cr) | RPO (MU)      | Total Cost (INR Cr) | RPO (MU)      | Total Cost (INR Cr) |
| NVVNL Solar                         | 11.22         | 9.83                | 0.00          | 0.00                | 0.00          | 0.00                |
| SECI Solar                          | 49.43         | 28.87               | 49.43         | 28.87               | 49.43         | 28.87               |
| NTPC Solar                          | 0.00          | 0.00                | 132.42        | 62.90               | 264.83        | 125.79              |
| SECI Wind (Non Solar)               | 148.30        | 51.91               | 296.60        | 103.81              | 296.60        | 103.81              |
| Hindustan waste treatment plant Goa | 2.00          | 1.10                | 2.00          | 1.10                | 2.00          | 1.10                |
| Solar-REC                           | 125.94        | 12.59               | 72.49         | 7.25                | 36.26         | 3.63                |
| Non Solar- REC                      | 119.66        | 11.97               | 34.96         | 3.50                | 95.73         | 9.57                |
| <b>Total</b>                        | <b>456.56</b> | <b>116.27</b>       | <b>587.91</b> | <b>207.43</b>       | <b>744.86</b> | <b>272.77</b>       |

The cost towards RPO has been considered in the year wise power purchase cost approved by the Commission in the previous section.

## 6.8. Energy Balance

### Petitioner's submission

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

**Table 55: Energy Balance submitted by Petitioner (MU)**

| Particulars   | FY 2019-20      | FY 2020-21      | FY 2021-22      |
|---|-----------------|-----------------|-----------------|
| <b>Energy Input at Goa Periphery</b>                        | <b>4,290.65</b> | <b>4,501.78</b> | <b>4,724.52</b> |
| <b>Total Power Scheduled/ Purchased at Goa Periphery</b>    |                 |                 |                 |
| Total Schedule Billed Drawal - CGS                          | 3,677.58        | 3,796.13        | 3,796.13        |
| Add: Over-drawal  | -               |                 |                 |
| Add: Power purchase from NVVN / Banking                     |                 |                 |                 |
| Add: Power purchase from Traders/ Open Market               | 318.09          | 292.00          | 361.96          |
| Add : Hydro Power   | 11.25           | 11.25           | 11.25           |
| Less: Under-drawal  |                 |                 |                 |
| Add: Renewable Power  | 457.67          | 589.29          | 746.52          |
| Less: Power diverted to Exchange                            |                 |                 |                 |
| <b>Total</b>  | <b>4,464.59</b> | <b>4,688.67</b> | <b>4,915.87</b> |
| PGCIL Losses - MUs  | 173.94          | 186.89          | 191.35          |
| PGCIL Losses - %  | 3.90%           | 3.99%           | 3.89%           |
| <b>Total Power Purchased within Goa State</b>               |                 |                 |                 |
| Add: Co-generation  | 168.19          | 168.19          | 168.19          |
| Add: Independent Power Producers (IPP)                      |                 |                 |                 |
| <b>Total</b>  | <b>168.19</b>   | <b>168.19</b>   | <b>168.19</b>   |
| <b>Total Power Purchase availability after PGCIL Losses</b> | <b>4,459.11</b> | <b>4,669.66</b> | <b>4,892.82</b> |
| Less: Retail Sales to Consumers                             | 3,979.76        | 4,179.35        | 4,391.31        |
| Distribution Losses - MUs                                   | 479.35          | 490.31          | 501.51          |
| Distribution Losses - %                                     | 10.75%          | 10.50%          | 10.25%          |

### Commission's analysis

Based on the Energy sales, Power Procurement and Intra- State Loss as approved above the Energy Balance for each year of the MYT Control Period has been shown in following table:

**Table 56: Energy Balance approved by Commission at State Periphery (MU)**

| Particulars                      | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|----------------------------------|------------|------------|------------|
| <b>ENERGY REQUIREMENT</b>        |            |            |            |
| Energy sales within the State/UT | 3,979.76   | 4,179.35   | 4,391.31   |
| <b>Distribution losses</b>       |            |            |            |
| %                                | 10.75%     | 10.50%     | 10.25%     |

| Particulars  | FY 2019-20    | FY 2020-21    | FY 2021-22    |
|--|---------------|---------------|---------------|
| MU   | 479.36        | 490.31        | 501.51        |
| Energy required at State Periphery                       | 4,459.12      | 4,669.66      | 4,892.83      |
| <b>Energy Transactions at Periphery</b>                  |               |               |               |
| Availability from firm sources                           | 3,901.08      | 4,285.27      | 4,417.68      |
| <b>Deficit/(Surplus) to be procured from Open Market</b> | <b>558.04</b> | <b>384.39</b> | <b>475.15</b> |

The Commission estimates a deficit of 558.04 MU for FY 2019-20, 384.39 MU for FY 2020-21 and 475.15 for FY 2021-22 to be procured from Open Market by the Petitioner. The cost of procuring deficit power has been included by the Commission in power procurement cost approved in the earlier section.

## 6.9. Operation & Maintenance Expenses

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

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

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

- Employee expenses - salaries, wages, pension contribution and other employee costs;
- Administrative and General expenses including insurance charges if any; and
- Repairs and Maintenance expenses.

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

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

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

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;

$R\&M_n$  – Repair and Maintenance expenses of the Distribution Licensee for the  $n$ th Year;

$GFA_{n-1}$  – Gross Fixed Asset of the transmission Licensee for the  $n-1$ th Year;

$X_n$  is an efficiency factor for  $n$ th Year. Value of  $X_n$  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;

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

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

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

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

### 6.9.1. Employee Expenses

#### Petitioner’s submission

The Petitioner has determined the employee expenses for each year of the Control Period based on the norms specified in the MYT Regulations, 2018. The employee expenses for the FY 2018-19 have been taken as base as audited figures are only available till FY 2014-15. The employee expenses for FY 2018-19 have been extrapolated for the complete year based on the provisional figures for H1 FY 2018-19.

Further, the growth factor ( $G_n$ ) has been considered based on the average increase in number of employees from FY 2014-15 to FY 2016-17. The average increase in Consumer Price Index (CPI) has been calculated based on the average increase in the Consumer Price Index (CPI) for FY 2015-16, FY 2016-17 & FY 2017-18. The table below provides the employee expenses projected for each year of the MYT Control Period along with various parameters considered.

**Table 57: Employee Expenses submitted by Petitioner (In INR Cr)**

| Particular   | Unit            | FY 2018-19    | FY 2019-20    | FY 2020-21    | FY 2021-22    |
|--|-----------------|---------------|---------------|---------------|---------------|
| Employee Cost for $n-1$ year   | INR Cr          |               | 352.69        | 373.03        | 394.55        |
| Growth Factor ( $G_n$ ) (Average increase from FY 2014-15 to FY 2016-17) | In %            |               | 1.42%         | 1.42%         | 1.42%         |
| CPI Inflation  | In %            |               | 4.28%         | 4.28%         | 4.28%         |
| <b>Projected Employee Cost</b>   | <b>INR. Cr.</b> | <b>352.69</b> | <b>373.03</b> | <b>394.55</b> | <b>417.31</b> |

#### Commission’s analysis

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

“6. Values for Base Year

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

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

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

The MYT Regulations, 2018 stipulate that the values for the Base Year of the Control Period have to be determined based on the audited or provisional accounts of last three years. As submitted by the Petitioner, the audited accounts are only available latest till FY 2014-15. Further, the Petitioner in the TVS submitted that the accounts for FY 2016-17 and FY 2017-18 are under preparation and audit for accounts of FY 2015-16 is under process. The Commission believes that use of audited information is important in order to accurately determine the employee expenses for the upcoming control period. The Commission believes that the employee expenses for the Base year have to be sacrosanct and therefore have to be determined on the basis of audited data only. Therefore, in absence of audited or provisional data for preceding three years, the Commission for the purpose of projecting the employee expenses for the MYT Control Period has relied on audited figures available for FY 2012-13, FY 2013-14 and FY 2014-15. The Commission has derived the average employee expenses based on this data. The average employee expenses so determined comes out to be for the median year FY 2013-14, which is then escalated y-o-y with CPI Inflation five times (for 5 years) to arrive at the employee expense for the Base Year of FY 2018-19. To this figure, an impact of 7<sup>th</sup> Pay Commission has also been added based on the information submitted by the Petitioner. Thereafter, the resultant employee expenses have been escalated by Growth Rate determined based on the manpower plan approved in the Business Plan Order and CPI Inflation to arrive upon the employee expenses of each year of the Control Period.

The CPI Inflation has been computed as follows:

**Table 58: Computation of CPI Inflation (%)**

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

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

**Table 59: Employee Expenses approved by Commission (In INR Cr)**

| S. No | Particulars   | Average of FY 2012-13, FY 2013-14 and FY 2014-15 | Base Year     | FY 2019-20    | FY 2020-21    | FY 2021-22    |
|-------|---|--|---------------|---------------|---------------|---------------|
| 1     | Employee Expenses                                     | 176.91   | 218.18        |               |               |               |
| 2     | Impact of 7 <sup>th</sup> Pay Commission in Base Year |  | 69.27         |               |               |               |
| 2     | Growth in number of employees (Gn)                    |  |               | -1.89%        | -2.06%        | -2.35%        |
| 3     | CPI Inflation for preceding three years (CPI)         |  | 4.28%         | 4.28%         | 4.28%         | 4.28%         |
|       | <b>Employee Expenses</b>                              |  | <b>287.45</b> | <b>294.08</b> | <b>300.35</b> | <b>305.87</b> |

**The Commission approves Employee Expenses of INR 294.08 Cr for FY 2019-20, INR 300.35 Cr for FY 2020-21 and INR 305.87 Cr for FY 2021-22.**

### 6.9.2. Administrative and General (A&G) Expenses

#### Petitioner's submission

The Petitioner has determined the A&G expenses for each year of the Control Period based on the norms specified in the MYT Regulations, 2018. The A&G expenses for the FY 2018-19 (Base Year) have been determined based on provisional information available for H1 FY 2018-19. The Base A&G expenses have been escalated by Consumer Price Index (CPI). The table below provides the A&G expenses projected for each year of the MYT Control Period along with various parameters considered.

**Table 60: A&G submitted by Petitioner (In INR Cr)**

| Particular                        | Unit            | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|-----------------------------------|-----------------|--------------|--------------|--------------|
| A&G Expenses of Previous Year     | INR. Cr.        | 27.16        | 28.33        | 29.54        |
| CPI Inflation                     | In %            | 4.28%        | 4.28%        | 4.28%        |
| <b>Projected A&amp;G expenses</b> | <b>INR. Cr.</b> | <b>28.33</b> | <b>29.54</b> | <b>30.81</b> |

#### Commission's analysis

Similar to the methodology followed while estimating the employee expenses, the Commission has determined the A&G expenses for the median year of FY 2013-14 after taking the average of actual A&G expenses of FY 2012-13, FY 2013-14 and FY 2014-15. The resultant A&G expenses have been escalated by CPI Inflation y-o-y to arrive upon the A&G expenses for the base year. Thereafter, the A&G expenses are escalated by CPI Inflation to determine the A&G expenses for each year of the Control Period.

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

**Table 61: A&G Expenses approved by Commission (In INR Cr)**

| S. No    | Particulars             | Average of FY 2012-13, FY 2013-14 and FY 2014-15 | Base Year    | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|----------|-------------------------|--|--------------|--------------|--------------|--------------|
| 1        | A&G Expenses            | 21.07  |              |              |              |              |
| 2        | CPI Inflation           |  | 4.28%        | 4.28%        | 4.28%        | 4.28%        |
| <b>3</b> | <b>A&amp;G Expenses</b> |  | <b>25.99</b> | <b>27.10</b> | <b>28.26</b> | <b>29.47</b> |

**The Commission approves the Administrative & General (A&G) expenses of INR 27.10 Cr for FY 2019-20, INR 28.26 Cr for FY 2020-21 and INR 29.47 Cr for FY 2021-22.**

### 6.9.3. Repair & Maintenance Expenses (R&M)

#### Petitioner's submission

The Petitioner has determined the R&M expenses for each year of the Control Period based on the norms specified in the MYT Regulations, 2018. The 'K' factor has been determined based on the average GFA and R&M expense approved in FY 2017-18. The resultant 'K' factor is then multiplied with average GFA based on approved capitalisation for each year of the MYT Control Period. Thereafter, the resultant value has been escalated by average increase in Wholesale Price Index (WPI) over FY 2015-16, FY 2016-17 & FY 2017-18 to determine the R&M expense for each year of the MYT Control Period.

The table below provides the R&M expenses proposed for each year of the MYT Control Period along with various parameters considered.

**Table 62: R&M expenses submitted by Petitioner (In INR Cr)**

| Particular                        | Unit            | FY 2018-19   | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|-----------------------------------|-----------------|--------------|--------------|--------------|--------------|
| Average GFA                       | INR. Cr.        |              | 1,794.98     | 1,715.25     | 1,648.15     |
| K Factor                          | %               |              | 1.95%        | 1.95%        | 1.95%        |
| WPI Inflation                     | %               |              | 0.33%        | 0.33%        | 0.33%        |
| <b>Projected R&amp;M Expenses</b> | <b>INR. Cr.</b> | <b>50.96</b> | <b>34.93</b> | <b>33.37</b> | <b>32.07</b> |

### Commission's analysis

The 'K' factor has been determined as the ratio of R&M to opening GFA for FY 2012-13, FY 2013-14 and FY 2014-15 as per latest audited accounts, averaged for three years. The 'K' factor has been computed as follows:

**Table 63: Computation of 'K' factor for the MYT Control Period (In INR Cr)**

| S. No | Particulars   | FY 2012-13 | FY 2013-14 | FY 2014-15   |
|-------|---|------------|------------|--------------|
| 1     | R&M Expenses  | 19.16      | 21.45      | 28.96        |
| 2     | Opening GFA   | 693.69     | 816.84     | 863.19       |
| 3     | K Factor  | 2.76%      | 2.63%      | 3.36%        |
|       | <b>K Factor Approved by the Commission (Average of 3 years)</b> |            |            | <b>2.91%</b> |

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

The WPI Inflation has been computed as follows:

**Table 64: Computation of WPI Inflation (%)**

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

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

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

| S. No | Particulars   | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|-------|---|--------------|--------------|--------------|
| 1     | Opening GFA (GFA <sub>n-1</sub> ) of previous year                                | 1,454.96     | 2,014.46     | 2,217.00     |
| 2     | K factor approved (K)   | 2.91%        | 2.91%        | 2.91%        |
| 3     | WPI Inflation   | 0.33%        | 0.33%        | 0.33%        |
|       | <b>R&amp;M Expenses = (K x (GFA<sub>n-1</sub>) x (1+WPI<sub>inflation</sub>))</b> | <b>42.55</b> | <b>58.91</b> | <b>64.83</b> |

**The Commission approves the Repair & Maintenance (R&M) expenses of INR 42.55 Cr for FY 2019-20, INR 58.91 Cr for FY 2020-21 and INR 64.83 Cr for FY 2021-22.**



### 6.9.4. Total Operation and Maintenance Expenses (O&M)

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

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

| S. No | Particulars                                       | FY 2019-20    | FY 2020-21    | FY 2021-22    |
|-------|---|---------------|---------------|---------------|
| 1     | Employee Expenses                                 | 294.08        | 300.35        | 305.87        |
| 2     | Administrative & General Expenses (A&G)           | 27.10         | 28.26         | 29.47         |
| 3     | Repair & Maintenance Expenses                     | 42.55         | 58.91         | 64.83         |
|       | <b>Total Operation &amp; Maintenance Expenses</b> | <b>363.72</b> | <b>387.51</b> | <b>400.16</b> |

The Commission approves Operation & Maintenance (O&M) expenses of INR 363.72 Cr in FY 2019-20, INR 387.51 Cr in FY 2020-21 and INR 400.16 Cr in FY 2021-22.

### 6.10. Gross Fixed Assets (GFA) and Capitalisation

#### Petitioner's Submission

The Petitioner has considered the same capital expenditure and capitalisation as approved in the Business Plan Order. The following table provides the capital expenditure and capitalisation as submitted by the Petitioner for the MYT Control Period

**Table 67: Capital Expenditure and Capitalisation submitted by the Petitioner (In INR Cr)**

| S. No | Particulars         | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|---------------------|------------|------------|------------|
| 1     | Capital Expenditure | 575.28     | 330.43     | 225.00     |
| 1     | Capitalisation      | 442.99     | 303.13     | 345.00     |

#### Commission's analysis:

The Commission has considered the same capital expenditure and capitalisation as approved in the Business Plan Order as shown below:

**Table 68: Capital Expenditure and Capitalisation approved by the Commission (In INR Cr)**

| S. No | Particulars         | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|---------------------|------------|------------|------------|
| 1     | Capital Expenditure | 575.28     | 330.43     | 225.00     |
| 1     | Capitalisation      | 442.99     | 303.13     | 345.00     |

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

### 6.11. Capital Structure

#### Petitioner's Submission

The Petitioner has proposed that the capitalisation during the MYT Control Period shall be funded through Electricity Duty Fund, RAPDRP and through Equity infused by the Government.

#### Commission's analysis

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

“26. Debt to Equity Ratio

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

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

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

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

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

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

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

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

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

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

As approved in the Business Plan Order, the entire capitalisation through the Electricity Duty Fund (EDF) and loans under RAPDRP upto 75% of the capitalisation amount is considered as Grant and no depreciation has been provided on the same, as discussed in the subsequent section. The remaining capitalisation has been proposed to be funded from Petitioner's equity inclusive of the remaining amount under RAPDRP which is provided by the Government of Goa in the form of equity. The equity addition has been considered on normative basis with equity higher than 30% of capitalisation considered as normative loan.

In the previous chapter the Commission has provided the reasons for not carrying out the True-up of FY 2015-16, FY 2016-17 and FY 2017-18 due to non-submission of the audited accounts for the respective years by the Petitioner. Further, the Commission has also not been able to carry out the APR of FY 2018-19 due to reasons as discussed in the Chapter 5 of this Order.

Since the Petitioner has been unable to submit the audited accounts for the FY 2015-16, FY 2016-17 and FY 2017-18 and the provisional accounts till September 2018 for the FY 2018-19, the Commission is forced to consider the same opening GFA for FY 2019-20 as closing GFA approved in the Tariff Order for FY 2018-19, last year. The same approach is followed for opening equity and loan considered for FY 2019-20. The same shall be revised in the True-up of the respective years based on audited accounts.

The funding plan / capital structure for approved capitalization for each year of the MYT Control Period is shown in the following table:

**Table 69: Funding Plan approved by the Commission (In INR Cr)**

| S. No | Particulars                        | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|------------------------------------|------------|------------|------------|
| 1     | Total Capitalisation               | 442.99     | 303.13     | 345.00     |
| 2     | Less: Capitalisation through Grant | 240.45     | 249.77     | 270.00     |
|       | <i>Electricity Duty Fund</i>       | 154.20     | 137.27     | 120.00     |
|       | <i>RAPDRP Grant</i>                | 86.25      | 112.50     | 150.00     |
| 3     | Net Capitalisation excluding grant | 202.54     | 53.36      | 75.00      |
| 4     | Debt (%)                           | 70%        | 70%        | 70%        |
| 5     | Equity (%)                         | 30%        | 30%        | 30%        |
| 6     | Normative Loan                     | 141.78     | 37.35      | 52.50      |
| 7     | Equity                             | 60.76      | 16.01      | 22.50      |

**Table 70: GFA addition approved by the Commission (In INR Cr)**

| S. No | Particulars                         | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|-------------------------------------|------------|------------|------------|
| 1     | Opening Gross Fixed Assets          | 2,014.46   | 2,457.45   | 2,760.58   |
| 2     | Addition During the FY              | 442.99     | 303.13     | 345.00     |
| 3     | Adjustment/Retirement During the FY | -          | -          | -          |
| 4     | Closing Gross Fixed Assets          | 2,457.45   | 2,760.58   | 3,105.58   |

**Table 71: Normative Loan addition approved by the Commission (In INR Cr)**

| S. No | Particulars  | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|--|------------|------------|------------|
| 1     | Opening Normative Loan                               | 1,074.05   | 1,138.90   | 1,094.67   |
| 2     | Add: Normative Loan During the year                  | 141.78     | 37.35      | 52.50      |
| 3     | Less: Normative Repayment equivalent to Depreciation | 76.93      | 81.58      | 83.92      |
| 4     | Closing Normative Loan                               | 1,138.90   | 1,094.67   | 1,063.25   |

**Table 72: Normative Equity addition approved by the Commission (In INR Cr)**

| S. No | Particulars                                | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|--|------------|------------|------------|
| 1     | Opening Equity                             | 604.34     | 665.10     | 681.11     |
| 2     | Additions on account of new capitalisation | 60.76      | 16.01      | 22.50      |
| 3     | Closing Equity                             | 665.10     | 681.11     | 703.61     |

## 6.12. Depreciation

### Petitioner's Submission

The Petitioner has determined the Opening GFA for FY 2019-20 based on the closing GFA as per the audited accounts of FY 2014-15. For each year since then, the addition in assets has been considered based on the provisional data available for capitalisation. The Petitioner has determined the weighted average rate of depreciation based on asset wise rates specified by the Commission in the MYT Regulations, 2018.

The following table provides the depreciation projected by the Petitioner for each year of the MYT Control Period.

**Table 73: Depreciation submitted by the Petitioner (In INR Cr)**

| S. No | Particulars  | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|-------|--|--------------|--------------|--------------|
| 1     | Opening Gross Fixed Assets                                 | 1,360.40     | 1,562.94     | 1,616.30     |
| 2     | Addition During the FY                                     | 442.99       | 303.14       | 345.00       |
| 3     | Less: Capitalization through grants in Business Plan Order | 240.45       | 249.77       | 270.00       |
| 4     | Closing Gross Fixed Assets                                 | 1,562.94     | 1,616.30     | 1,691.30     |
| 5     | Average Gross Fixed Assets                                 | 1,461.67     | 1,589.62     | 1,653.80     |
| 6     | Weighted Average Depreciation rate (%)                     | 2.74%        | 3.68%        | 3.68%        |
|       | <b>Depreciation</b>  | <b>39.99</b> | <b>58.51</b> | <b>60.87</b> |

### Commission's analysis:

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

#### *“30. Depreciation*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**Table 74: Depreciation Rate (%)**

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

The Opening GFA considered for FY 2019-20 has been discussed in the section of Capital Structure above. Further, in accordance with the MYT Regulations, 2018, no depreciation has been considered for assets created out of Grants and EDF. The funding plan has also been provided in detail in the Capital Structure section. The depreciation has been considered on average loan during each year.

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

**Table 75: Depreciation approved by Commission (In INR Cr)**

| S. No | Particulars                         | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|-------|-------------------------------------|--------------|--------------|--------------|
| 1     | Opening Gross Fixed Assets          | 2,014.46     | 2,217.00     | 2,270.36     |
| 2     | Addition During the FY              | 202.54       | 53.36        | 75.00        |
| 3     | Adjustment/Retirement During the FY | 0.00         | 0.00         | 0.00         |
| 4     | Closing Gross Fixed Assets          | 2,217.00     | 2,270.36     | 2,345.36     |
| 5     | Average Gross Fixed Assets          | 2,115.73     | 2,243.68     | 2,307.86     |
| 6     | Rate of Depreciation (%)            | 3.64%        | 3.64%        | 3.64%        |
|       | <b>Depreciation</b>                 | <b>76.93</b> | <b>81.58</b> | <b>83.92</b> |

**The Commission approves a depreciation of INR 76.93 Cr for FY 2019-20, INR 81.58 Cr for FY 2020-21 and INR 83.92 Cr for FY 2021-22.**

## 6.13. Interest on Loan

### Petitioner's Submission

The Petitioner, similar to the methodology followed in determining the opening GFA for FY 2019-20 above has determined the opening loan for FY 2019-20 considering the closing loan of FY 2014-15. The addition in loan for each year has been considered on normative basis assuming the provisional data available for the respective years. The addition in loan for each year of the MYT period has been considered on normative basis with equity greater than 30% considered as normative loan. The Rate of Interest has been considered equivalent to the Rate of Interest charged by Power Finance Corporation (PFC) for the loan given to Govt. of Goa

The following table provides the Interest on Loan as submitted by the Petitioner

**Table 76: Interest on Loan as submitted by the Petitioner (In INR Cr)**

| S. No | Particulars  | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|-------|--|--------------|--------------|--------------|
| 1     | Opening Normative Loan                               | 327.43       | 429.21       | 408.05       |
| 2     | Add: Normative Loan During the year                  | 141.78       | 37.35        | 52.50        |
| 3     | Less: Normative Repayment equivalent to Depreciation | 39.99        | 58.51        | 60.87        |
| 4     | Closing Normative Loan                               | 429.21       | 408.05       | 399.68       |
| 5     | Average Normative Loan                               | 378.32       | 418.63       | 403.87       |
| 6     | Rate of Interest (%)                                 | 11.75%       | 11.75%       | 11.75%       |
|       | <b>Interest and Finance Charges</b>                  | <b>44.45</b> | <b>49.19</b> | <b>47.45</b> |

### Commission's analysis:

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

#### *“28. Interest on Loan*

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Opening Loan and loan addition has been considered as discussed in the section of Capital Structure.

The Petitioner does not have any loan and receives the entire financing in form of equity from Govt. of Goa excluding for schemes capitalized through Grants. In absence of any actual loans, the Commission has considered the SBI MCLR rate plus 100 basis points as Rate of Interest, in accordance with the MYT Regulations, 2018. The Interest on Loan has been calculated on the average loan during the year.

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

**Table 77: Interest on loan approved by Commission (In INR Cr)**

| S. No | Particulars                                     | FY 2019-20    | FY 2020-21    | FY 2021-22    |
|-------|---|---------------|---------------|---------------|
| 1     | Opening Normative Loan                          | 1,074.05      | 1,138.90      | 1,094.67      |
| 2     | Add: Normative Loan During the year             | 141.78        | 37.35         | 52.50         |
| 3     | Less: Normative Repayment equal to Depreciation | 76.93         | 81.58         | 83.92         |
| 4     | Closing Normative Loan                          | 1,138.90      | 1,094.67      | 1,063.25      |
| 5     | Average Normative Loan                          | 1,106.47      | 1,116.78      | 1,078.96      |
| 6     | Rate of Interest (%)                            | 9.55%         | 9.55%         | 9.55%         |
|       | <b>Interest on Loan</b>                         | <b>105.67</b> | <b>106.65</b> | <b>103.04</b> |

**The Commission approves Interest on Loan as INR 105.67 Cr for FY 2019-20, INR 106.65 Cr for FY 2020-21 and INR 103.04 Cr for FY 2021-22.**

## 6.14. Return on Equity (RoE)

### Petitioner's submission

The Return on Equity (RoE) is computed in accordance with the MYT Regulations 2018, wherein RoE is computed on 30% of the capital base. The opening equity for the Control Period has been determined similar to the approach followed in determining the Opening GFA and Opening Loan above. Equity addition is considered to the tune of 30% of assets capitalized during the year excluding assets created out of Grants. Accordingly, the Petitioner has computed the Return on Equity at 16% on post tax basis.

The following table provides the RoE submitted by the Petitioner for the MYT Control Period.

**Table 78: RoE submitted by the Petitioner (In INR Cr)**

| S. No | Particulars                                | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|-------|--|--------------|--------------|--------------|
| 1     | Opening Equity                             | 384.33       | 445.10       | 461.10       |
| 2     | Additions on account of new capitalisation | 60.76        | 16.01        | 22.50        |
| 3     | Closing Equity                             | 445.10       | 461.10       | 483.60       |
| 4     | Average Equity                             | 414.71       | 453.10       | 472.35       |
| 5     | Rate of Return on Equity (%)               | 16.00%       | 16.00%       | 16.00%       |
|       | <b>Return on Equity</b>                    | <b>66.35</b> | <b>72.50</b> | <b>75.58</b> |

### Commission's analysis:

The Regulations 27.2 and 27.3 of the MYT Regulations, 2018 stipulate the following:

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

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



The Commission has segregated the approved average equity (average of opening and closing equity) into average equity for Distribution Wires Business and Retail Supply Business based on the Allocation Statement provided in the MYT Regulations, 2018 i.e. 90% allocation for the Distribution Wires Business and 10% allocation for the Retail Supply Business. The Commission has considered a rate of 15.50% for the Distribution Wires Business (as per the prevalent CERC Regulations) and a rate of 16% for the Retail Supply Business. The equity component has been determined in accordance with capital structure as discussed in the section on capital structure. The rate of return on equity for the Distribution Wires Business shall be true up based on the prevalent CERC Regulations during the True-up of the respective years. The following table provides the total return on equity approved for the MYT Control Period.

**Table 79: RoE approved by Commission (In INR Cr)**

| Particulars                                     | FY 2019-20   | FY 2020-21    | FY 2021-22    |
|---|--------------|---------------|---------------|
| Opening Equity                                  | 604.34       | 665.10        | 681.11        |
| Additions on account of new capitalisation      | 60.76        | 16.01         | 22.50         |
| Closing Equity                                  | 665.10       | 681.11        | 703.61        |
| Average Equity                                  | 634.72       | 673.11        | 692.36        |
| Average Equity (Wires Business)                 | 571.25       | 605.80        | 623.12        |
| Average Equity (Retail Supply Business)         | 63.47        | 67.31         | 69.24         |
| Return on Equity for Wires Business (%)         | 15.50%       | 15.50%        | 15.50%        |
| Return on Equity for Retail Supply Business (%) | 16.00%       | 16.00%        | 16.00%        |
| Return on Equity for Wires Business             | 88.54        | 93.90         | 96.58         |
| Return on Equity for Retail Supply Business     | 10.16        | 10.77         | 11.08         |
| <b>Return on Equity</b>                         | <b>98.70</b> | <b>104.67</b> | <b>107.66</b> |

The Commission approves Return on Equity of INR 98.70 Cr for FY 2019-20, INR 104.67 Cr of FY 2020-21 and INR 107.66 Cr for FY 2021-22. Any Income Tax, paid by the EDG on return on equity, shall be allowed by the Commission at the time of true up based on actual figures.

## 6.15. Interest on Consumer Security Deposits

### Petitioner's submission:

The Petitioner has projected the Interest on Security deposit on normative basis with opening Security Deposit considered equivalent to revised closing of FY 2018-19 derived on the basis of provisional data. Addition/reduction during each year has been considered on lumpsum basis based on new consumers to be added.

The following table provides the calculation of interest on consumer security deposits proposed for each year of the MYT Control Period.

**Table 80: Interest on Consumer Security Deposit submitted by the Petitioner (In INR Cr)**

| Particular                                   | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|--|--------------|--------------|--------------|
| Opening Consumer Security Deposit            | 112.25       | 144.39       | 183.71       |
| Net Addition During the year                 | 32.14        | 39.32        | 51.10        |
| Closing Consumer Security Deposit            | 144.39       | 183.71       | 234.54       |
| Average Security Deposit                     | 128.32       | 164.05       | 209.13       |
| Bank Rate                                    | 8.70%        | 8.70%        | 8.70%        |
| <b>Interest on Consumer Security Deposit</b> | <b>11.16</b> | <b>14.27</b> | <b>18.19</b> |

**Commission’s analysis:**

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

*“ Interest shall be allowed on the amount held as security deposit held in cash from Retail Consumers at the Bank Rate as on 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. “*

The Interest on security deposits has been calculated in accordance with the MYT Regulations 2018, based on the average of the opening and closing consumer security deposits during the year. The Commission has considered the net addition during each year as proposed by the Petitioner. The Opening amount of Security Deposit has been considered equivalent to the closing amount of FY 2018-19 as approved in the Tariff Order of FY 2018-19.

The Petitioner has erroneously considered the SBI Base Rate rather than the RBI Bank Rate as the Rate of Interest applicable. The Commission has considered the RBI Bank Rate as on 1<sup>st</sup> April of the Financial Year in which the Petition is filed.

The Commission will consider the interest paid on consumer security deposits on actual basis as and when paid to consumers. The table below provides the calculation of interest on consumer security deposits approved for each year of the MYT Control Period.

**Table 81: Interest on Security Deposits approved by Commission (In INR Cr)**

| S. No | Particulars                         | FY 2019-20  | FY 2020-21  | FY 2021-22   |
|-------|-------------------------------------|-------------|-------------|--------------|
| 1     | Opening Security Deposit            | 91.73       | 123.87      | 163.19       |
| 2     | Net Additions during the year       | 32.14       | 39.32       | 51.10        |
| 3     | Closing Security Deposit            | 123.87      | 163.19      | 214.29       |
| 4     | Average Security Deposit            | 107.80      | 143.53      | 188.74       |
| 5     | Rate of Interest (%)                | 6.25%       | 6.25%       | 6.25%        |
|       | <b>Interest on Security Deposit</b> | <b>6.74</b> | <b>8.97</b> | <b>11.80</b> |

**The Commission approves Interest on Security Deposit as INR 6.74 Cr for FY 2019-20, INR 8.97 Cr for FY 2020-21 and INR 11.80 Cr for FY 2021-22.**

## **6.16. Interest on Working Capital**

### **Petitioner’s Submission**

The interest on working capital has been calculated based on the normative principles outlined in the MYT Regulations, 2018.

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

- Receivable of two months of billing
- O&M Expenses of one month
- Maintenance Spares at 40% of repair and maintenance expenses for one month
- Less consumer security deposit but excluding Bank Guarantee/Fixed Deposit Receipt

The SBI 1 Year MCLR as on 1<sup>st</sup> April, 2018 plus 200 basis points i.e. 10.15% has been considered for computation of interest on working capital. The following table provides the Interest on working Capital proposed for each year of the Control Period.

**Table 82: Interest on Working Capital submitted by the Petitioner (In INR Cr)**

| Particular  | FY 2019-20    | FY 2020-21    | FY 2021-22    |
|---|---------------|---------------|---------------|
| Two months receivables                                    | 364.72        | 377.01        | 400.22        |
| Add: One Month O&M Expenses                               | 36.36         | 38.12         | 40.02         |
| Add: 40% of repair and maintenance expenses for one month | 14.54         | 15.25         | 16.01         |
| <b>Total Working Capital Requirement</b>                  | <b>415.62</b> | <b>430.38</b> | <b>456.25</b> |
| Less: Consumer Security Deposit excl. BG/FDR              | 128.32        | 164.05        | 209.13        |
| <b>Net working after deduction of Security Deposit</b>    | <b>287.30</b> | <b>266.33</b> | <b>247.12</b> |
| Interest Rate (%)   | 10.15%        | 10.15%        | 10.15%        |
| <b>Interest on Working Capital</b>                        | <b>29.16</b>  | <b>27.03</b>  | <b>25.08</b>  |

**Commission's analysis:**

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

*"52. Norms of Working Capital for Distribution Wires Business*

*52.1 The Distribution Licensee shall be allowed interest on the estimated level of working capital for the Distribution Wires Business for the Financial Year, computed as follows:*

*(a) O&M Expenses for one (1) month; plus*

*(b) Maintenance spares at 40% of repair and maintenance expenses for one (1) month; plus*

*(c) Receivables equivalent to two (2) months of the expected revenue from charges for use of distribution wires at the prevailing tariff;*

*Less:*

*(d) Amount, if any, held as security deposits under clause (b) of sub-section (1) of Section 47 of the Act from distribution system users except the security deposits held in the form of Bank Guarantees:*

*Provided that at the time of truing up for any Year, the working capital requirement shall be re-calculated on the basis of the values of components of working capital approved by the Commission in the truing up."*

Further, Regulation 31.3 of the MYT Regulation, 2018 stipulates the following:

*"31.3 The interest on working capital shall be a payable on normative basis notwithstanding that the Licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures.*

*31.4 The rate of interest on working capital shall be equal one (1)Year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for one (1)Year period, as may be applicable as on 1<sup>st</sup> April of the Financial Year in which the Petition is filed plus 200 basis points."*

In accordance with the MYT Regulation, 2018, the Commission has computed the Interest on Working Capital for each year of the Control Period. The following table provides the Interest on Working Capital approved for each year of the MYT Control Period.

**Table 83: Interest on Working Capital approved by the Commission (In INR Cr)**

| S. No | Particulars  | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|-------|--|--------------|--------------|--------------|
| 1     | O&M Expense for 1 month  | 30.31        | 32.29        | 33.35        |
| 2     | Maintenance spares at 40% of R&M expenses for one (1) month;   | 1.42         | 1.96         | 2.16         |
| 3     | Receivables equivalent to two (2) months of the expected revenue from charges at the prevailing tariff | 368.70       | 395.22       | 420.73       |
| 4     | Less: Amount, held as security deposits  | 107.80       | 143.53       | 188.74       |
| 5     | Net Working Capital  | 292.63       | 285.95       | 267.50       |
| 6     | Rate of Interest (%)   | 10.15%       | 10.15%       | 10.15%       |
|       | <b>Interest on Working Capital</b>   | <b>29.70</b> | <b>29.02</b> | <b>27.15</b> |

The Commission approves the Interest on Working Capital as INR 29.70 Cr for FY 2019-20, INR 29.02 Cr for FY 2020-21 and INR 27.15 Cr for FY 2021-22.

### 6.17. Non-Tariff Income (NTI)

#### Petitioner's submission

The Petitioner has considered the NTI as shown in the table below:

**Table 84: Non -tariff Income submitted by the Petitioner (In INR Cr)**

| S. No | Particulars              | FY 2019-20   | FY 2020-21   | FY 2021-22   |
|-------|--------------------------|--------------|--------------|--------------|
| 1     | <b>Non-Tariff Income</b> | <b>24.40</b> | <b>25.34</b> | <b>26.32</b> |

#### Commission's analysis:

The Regulation 64 of the MYT Regulations, 2018 stipulates the following:

##### *"64. Non-Tariff Income*

*64.1 The amount of Non-Tariff Income relating to the retail supply of electricity as approved by the Commission shall be deducted from the Aggregate Revenue Requirement in calculating the tariff for retail supply of electricity by the Distribution Licensee:*

*Provided that the Distribution Licensee shall submit full details of its forecast of Non-Tariff Income to the Commission along with its application for determination of tariff.*

*64.2 The Non-Tariff Income shall inter-alia include:*

- (a) Income from rent of land or buildings;*
- (b) Income from sale of scrap;*
- (c) Income from statutory investments;*
- (d) Interest on advances to suppliers/contractors;*
- (e) Rental from staff quarters;*
- (f) Rental from contractors;*

- (g) Income from hire charges from contactors and others;
- (h) Income from advertisements, etc.;
- (i) Meter/metering equipment/service line rentals;
- (j) Service charges;
- (k) Consumer charges;
- (l) Recovery for theft and pilferage of energy;
- (m) Rebate availed on account of timely payment of bills;
- (n) Miscellaneous receipts;
- (o) Deferred Income from grant, subsidy, etc., as per Annual Accounts;
- (p) Prior period income, etc.:

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

*Provided further that any income earned by a Distribution Licensee by sale of power to other Distribution Licensees or to Consumers as per Section 49 of the Act using the existing power purchase agreements or bulk supply capacity allocated to the Distribution Licensee's Area of Supply shall be reduced from the Aggregate Revenue Requirement of the Distribution Licensee for the purpose of determination of tariff. Such reduction shall be carried out in accordance with Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Connectivity and Open Access in Intra-State Transmission and Distribution) Regulations, 2017, as amended from time to time."*

The Commission considers the same NTI as considered by the Petitioner for each year of the Control Period. The same shall be considered on actual basis during True-up/ APR of respective years.

The NTI approved for each year of the MYT Control Period has been shown in the following table:

**Table 85: Non -tariff Income approved by Commission (In INR Cr)**

| S. No | Particulars        | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|--------------------|------------|------------|------------|
| 1     | Non- Tariff Income | 24.40      | 25.34      | 26.32      |

**The Commission approves the Non-Tariff Income as INR 24.40 Cr for FY 2019-20, INR 25.34 Cr for FY 2020-21 and INR 26.32 Cr for FY 2021-22.**

## **6.18. Provision for DSM Expense**

### **Petitioner's submission**

The Petitioner has considered a provision for DSM expense same as approved for FY 2018-19 in the previous Tariff Order for each year of the Control Period:

**Table 86: Provision for DSM Expense submitted by the Petitioner (In INR Cr)**

| S. No | Particulars               | FY 2019-20 | FY 2020-21 | FY 2021-22 |
|-------|---------------------------|------------|------------|------------|
| 1     | Provision for DSM Expense | 3.03       | 3.03       | 3.03       |

**Commission's analysis:**

The Petitioner has not provided the nature of this expense in the current petition. Moreover, no details and supporting documents have been provided pertaining to this expense. Since no submission was made in this regard during the Business Plan the same cannot be approved at this stage. The same shall be considered, if any, as per actuals in during the True-up/ APR of respective years.

**6.19. Aggregate Revenue Requirement (ARR)****Petitioner's submission**

Based on the expenses as detailed above, the Petitioner submitted the net aggregate revenue requirement for each year as shown in the following table:

**Table 87: Aggregate Revenue Requirement (ARR) submitted by the Petitioner (In INR Cr)**

| S. No. | Particular                            | FY 2019-20      | FY 2020-21      | FY 2021-22      |
|--------|---------------------------------------|-----------------|-----------------|-----------------|
| 1      | Cost of power purchase                | 1,573.92        | 1,605.42        | 1,717.27        |
| 2      | Employee costs                        | 373.03          | 394.55          | 417.31          |
| 3      | R&M expenses                          | 34.93           | 33.37           | 32.07           |
| 4      | A&G expenses                          | 28.33           | 29.54           | 30.81           |
| 5      | Depreciation                          | 39.99           | 58.51           | 60.87           |
| 6      | Interest on Loan                      | 44.45           | 49.19           | 47.45           |
| 7      | Interest on Working Capital           | 29.16           | 27.55           | 25.29           |
| 8      | Return on NFA /Equity                 | 66.35           | 72.50           | 75.58           |
| 9      | Provision for DSM Expenses            | 3.03            | 3.03            | 3.03            |
| 10     | Interest on Consumer Security Deposit | 19.53           | 14.27           | 18.19           |
| 11     | <b>Total Revenue Requirement</b>      | <b>2,212.73</b> | <b>2,287.42</b> | <b>2,427.67</b> |
| 12     | Less: Non-Tariff Income               | 24.40           | 25.34           | 26.32           |
|        | <b>Net Revenue Requirement</b>        | <b>2,188.33</b> | <b>2,262.08</b> | <b>2,401.35</b> |

**Commission's analysis**

On the basis of the detailed analysis of the cost parameters of the ARR the net revenue requirement for each year of the MYT Control Period is approved as provided in the following table:

**Table 88: Aggregate Revenue Requirement approved by Commission (In INR Cr)**

| S. No | Particulars                           | FY 2019-20      | FY 2020-21      | FY 2021-22      |
|-------|---------------------------------------|-----------------|-----------------|-----------------|
| 1     | Power Purchase Cost                   | 1,555.16        | 1,678.28        | 1,816.99        |
| 2     | Operation & Maintenance Expenses      | 363.72          | 387.51          | 400.16          |
| 3     | Depreciation                          | 76.93           | 81.58           | 83.92           |
| 4     | Interest and Loan                     | 105.67          | 106.65          | 103.04          |
| 5     | Return on Equity                      | 98.70           | 104.67          | 107.66          |
| 6     | Interest on Consumer Security Deposit | 6.74            | 8.97            | 11.80           |
| 7     | Interest on Working Capital           | 29.70           | 29.02           | 27.15           |
| 8     | Provision for DSM Expense             | 0.00            | 0.00            | 0.00            |
| 9     | Income Tax                            | 0.00            | 0.00            | 0.00            |
| 10    | <b>Total Revenue Requirement</b>      | <b>2,236.63</b> | <b>2,396.69</b> | <b>2,550.72</b> |
| 11    | Less: Non-Tariff Income               | 24.40           | 25.34           | 26.32           |
|       | <b>Net Revenue Requirement</b>        | <b>2,212.23</b> | <b>2,371.35</b> | <b>2,524.40</b> |

**The Commission approves net ARR of INR 2,212.23 Cr for FY 2019-20, INR 2,371.35 Cr for FY 2020-21 and INR 2,524.40 Cr for FY 2021-22.**

## 6.20. Revenue at existing Retail Tariff

### Petitioner's submission

The Petitioner has estimated revenue from sale of power at existing tariff as INR 1880.00 Cr for FY 2019-20 based on the projected energy sales, connected load and number of consumers. The table below provides the category wise revenue computed by the Petitioner for FY 2019-20.

**Table 89: Revenue submitted by Petitioner for FY 2019-20 (In INR Cr)**

| S. No.   | Category  | Energy Sales (MU) | Fixed Charges (INR Cr) | Energy Charges (INR Cr) | Total Charges (INR Cr) |
|----------|---|-------------------|------------------------|-------------------------|------------------------|
| <b>A</b> | <b>Low Tension Supply</b>   |                   |                        |                         |                        |
| 1        | LTD/Domestic  | 1,206.08          | 21.89                  | 369.30                  | 391.19                 |
| (a)      | 0-100 units   | 109               | 7.06                   | 15.31                   | 22.37                  |
| (b)      | 101-200 units   | 251               | 4.59                   | 52.80                   | 57.39                  |
| (c)      | 201 to 300 units  | 214               | 5.28                   | 56.65                   | 61.92                  |
| (d)      | 301 to 400 units  | 147               | 2.26                   | 50.63                   | 52.89                  |
| (e)      | Above 400 units   | 485               | 2.70                   | 193.91                  | 196.61                 |
| 2        | LTD/Low Income Group  | 1.76              | 0.09                   | -                       | 0.09                   |
| 3        | LTC/Commercial  | 491.97            | 11.78                  | 225.05                  | 236.83                 |
| (a)      | 0-20 KW/Commercial Consumers  |                   |                        |                         |                        |
| (i)      | 1-100 Units   | 84                | 3.31                   | 28.40                   | 31.70                  |
| (ii)     | 101-200 units   | 48                | 0.91                   | 19.60                   | 20.51                  |
| (iii)    | 201-400 Units   | 57                | 0.74                   | 26.04                   | 26.77                  |
| (iv)     | Above 400 units   | 183               | 0.86                   | 91.46                   | 92.33                  |
| (b)      | >20-90Kw Commercial Consumers   |                   |                        |                         |                        |
| (i)      | 1-100 Units   | 3                 | 0.50                   | 1.08                    | 1.57                   |
| (ii)     | 101-200 units   | 3                 | 0.15                   | 1.25                    | 1.40                   |
| (iii)    | 201-400 Units   | 6                 | 0.26                   | 2.57                    | 2.83                   |
| (iv)     | Above 400 units   | 109               | 5.05                   | 54.66                   | 59.71                  |
| 4        | LTI-Industry  | 101.12            | 5.90                   | 37.47                   | 43.38                  |
| (a)      | 0-500 Units   | 19                | 2.58                   | 6.28                    | 8.86                   |
| (b)      | Above 500 units   | 82                | 3.32                   | 31.20                   | 34.52                  |
| 5        | LTP/Mixed (Hotel Industries)  | 5.62              | 0.14                   | 2.64                    | 2.78                   |
| 6        | LT-Agriculture  | 17.92             | 0.87                   | 2.54                    | 3.40                   |
| (a)      | LTAG/Agriculture (Pump Sets/Irrigation) (A)                           | 17.03             | 0.83                   | 2.38                    | 3.21                   |
| (b)      | LTAG/Agriculture Allied (B)   | 0.89              | 0.04                   | 0.15                    | 0.19                   |
| 7        | LTPL/Public Lighting  | 2.66              | 0.10                   | 1.09                    | 1.19                   |
| 8        | LT Hoarding and Signboard   | 0.24              | 0.04                   | 0.24                    | 0.28                   |
|          |   |                   |                        |                         | -                      |
| <b>B</b> | <b>High Tension Supply</b>  |                   |                        |                         | -                      |
| 9        | HTD/Domestic  | 0.29              | 0.04                   | 0.10                    | 0.14                   |
| 10       | HT-Commercial   | 119.05            | 21.80                  | 65.48                   | 87.27                  |
| 11       | HTI/Industrial  | 1,527.76          | 156.11                 | 684.81                  | 840.92                 |
| (a)      | Connected at 11/33 kV   | 1,260             | 142.44                 | 566.80                  | 709.24                 |
| (b)      | Connected at 110 kV   | 268               | 13.67                  | 118.01                  | 131.68                 |
| 12       | H.T. Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive) | 442.64            | 29.61                  | 199.19                  | 228.80                 |
| 13       | HT-Agriculture  | 9.37              | 0.44                   | 1.59                    | 2.03                   |
| (a)      | HTAG/Agriculture (Pump Sets/Irrigation) (A)                           | 4.85              | 0.35                   | 0.73                    | 1.07                   |
| (b)      | HTAG/Agriculture (Allied Activities) (B)                              | 4.52              | 0.09                   | 0.86                    | 0.95                   |

| S. No.   | Category                        | Energy Sales (MU) | Fixed Charges (INR Cr) | Energy Charges (INR Cr) | Total Charges (INR Cr) |
|----------|---------------------------------|-------------------|------------------------|-------------------------|------------------------|
| 14       | H.T. MES/Defence Establishments | 27.01             | 1.48                   | 13.51                   | 14.98                  |
|          |                                 |                   |                        |                         | -                      |
| <b>C</b> | <b>Temporary Supply</b>         |                   |                        |                         | -                      |
| 15       | LT/Temporary Domestic           | 1.00              | 0.11                   | 0.72                    | 0.83                   |
| 16       | LT/Temporary Commercial         | 19.51             | 2.76                   | 19.32                   | 22.08                  |
| 17       | HTTS/Temporary Supply           | 0.30              | 0.05                   | 0.30                    | 0.35                   |
|          |                                 |                   |                        |                         | -                      |
| <b>D</b> | <b>Single Point Supply</b>      |                   |                        |                         | -                      |
| 18       | Residential Complexes           |                   | -                      | -                       | -                      |
| 19       | Commercial Complexes            | 5.46              | 0.97                   | 2.51                    | 3.48                   |
| 20       | Industrial Complexes            |                   | -                      | -                       | -                      |
|          |                                 |                   |                        |                         | -                      |
|          | <b>Total</b>                    | <b>3,979.76</b>   | <b>254.16</b>          | <b>1,625.84</b>         | <b>1,880.00</b>        |

### Commission's analysis

The category wise/ sub-category wise and slab-wise revenue at existing retail tariff is calculated as per the tariff rates applicable tariff rates. The revenue from demand charges and the energy charges have been projected for each category/ sub-category and slab. As discussed in the earlier section, Revenue at retail tariff has only been determined for FY 2019-20. The same has been considered while approving the revenue gap/ surplus for FY 2019-20. The Commission has considered suitable assumptions wherever necessary. The revenue from category/ sub-category/ slab-wise revenue as computed by the Commission for FY 2019-20 has been shown in the following table

**Table 90: Revenue at existing tariff computed by Commission for FY 2019-20 (In INR Cr)**

| S. No.   | Category                                  | Energy Sales (MU) | Fixed Charges (INR Cr) | Energy Charges (INR Cr) | Total Charges (INR Cr) |
|----------|---|-------------------|------------------------|-------------------------|------------------------|
| <b>1</b> | <b>Domestic</b>                           | <b>1,208.14</b>   | <b>21.80</b>           | <b>381.79</b>           | <b>403.59</b>          |
| (i)      | LT-D Domestic                             | 1,206.08          | 21.68                  | 381.69                  | 403.37                 |
|          | 0-100 units                               | 85.48             | 7.12                   | 11.97                   | 19.09                  |
|          | 101-200 units                             | 243.17            | 4.68                   | 51.06                   | 55.74                  |
|          | 201-300 units                             | 191.99            | 5.24                   | 50.88                   | 56.11                  |
|          | 301-400 units                             | 116.37            | 2.18                   | 40.15                   | 42.33                  |
|          | Above 400 units                           | 569.07            | 2.46                   | 227.63                  | 230.09                 |
| (ii)     | Low Income Group                          | 1.76              | 0.09                   | -                       | 0.09                   |
| (iii)    | HT-D Domestic                             | 0.29              | 0.04                   | 0.10                    | 0.14                   |
|          |   |                   |                        |                         |                        |
| <b>2</b> | <b>Commercial</b>                         | <b>611.02</b>     | <b>39.78</b>           | <b>302.79</b>           | <b>342.56</b>          |
| (i)      | LT-C Commercial                           | 491.97            | 17.98                  | 237.31                  | 255.29                 |
|          | 0-100 units                               | 33.95             | 3.40                   | 11.54                   | 14.94                  |
|          | 101-200 units                             | 21.95             | 0.91                   | 9.00                    | 9.91                   |
|          | 201-400 units                             | 31.76             | 2.22                   | 14.61                   | 16.83                  |
|          | Above 400 units                           | 404.32            | 11.45                  | 202.16                  | 213.61                 |
| (ii)     | HT-C Commercial                           | 119.05            | 21.79                  | 65.48                   | 87.27                  |
|          |   |                   |                        |                         |                        |
| <b>3</b> | <b>Industrial</b>                         | <b>2,077.14</b>   | <b>163.90</b>          | <b>924.27</b>           | <b>1,088.18</b>        |
| (i)      | LT-I Industrial                           | 101.12            | 5.90                   | 37.47                   | 43.38                  |
|          | 0-500 units                               | 19.03             | 2.60                   | 6.28                    | 8.88                   |
|          | Above 500 units                           | 82.09             | 3.31                   | 31.19                   | 34.50                  |
| (ii)     | Low Tension-Mixed/LT-P (Hotel Industries) | 5.62              | 0.14                   | 2.64                    | 2.78                   |



| S. No.   | Category  | Energy Sales (MU) | Fixed Charges (INR Cr) | Energy Charges (INR Cr) | Total Charges (INR Cr) |
|----------|---|-------------------|------------------------|-------------------------|------------------------|
| (iii)    | High Tension-I/HT-I   | 1,527.76          | 132.69                 | 684.97                  | 817.66                 |
|          | Connected at 11/33 kV                                       | 1,275.63          | 120.65                 | 574.03                  | 694.69                 |
|          | Connected at 110 kV   | 252.13            | 12.04                  | 110.94                  | 122.98                 |
| (iv)     | High Tension-Ferro/SM/PI/SR                                 | 442.64            | 25.17                  | 199.19                  | 224.36                 |
| <b>4</b> | <b>Agriculture</b>  | <b>27.29</b>      | <b>1.31</b>            | <b>4.12</b>             | <b>5.43</b>            |
| (i)      | Low Tension-AG/LT-AGP (Pump Sets/Irrigation)                | 17.03             | 0.83                   | 2.38                    | 3.21                   |
| (ii)     | Low Tension-AG/LT-AGA (Allied Activities)                   | 0.89              | 0.04                   | 0.15                    | 0.19                   |
| (iii)    | High Tension-AG/HT-AGP (Pump Sets/Irrigation)               | 4.85              | 0.35                   | 0.73                    | 1.07                   |
| (iv)     | High Tension-AG/HT-AG (Allied Activities)                   | 4.52              | 0.09                   | 0.86                    | 0.95                   |
| <b>5</b> | <b>Military Engineering Services/defense Establishments</b> | <b>27.01</b>      | <b>1.48</b>            | <b>13.50</b>            | <b>14.98</b>           |
| <b>6</b> | <b>Public Lighting</b>                                      | <b>2.66</b>       | <b>0.10</b>            | <b>1.09</b>             | <b>1.18</b>            |
| <b>7</b> | <b>Hoardings/Signboards</b>                                 | <b>0.24</b>       | <b>0.04</b>            | <b>0.24</b>             | <b>0.29</b>            |
| <b>8</b> | <b>Temporary</b>  | <b>20.81</b>      | <b>2.95</b>            | <b>20.33</b>            | <b>23.28</b>           |
| (i)      | LT  | 20.51             | 2.90                   | 20.03                   | 22.93                  |
|          | LT Domestic   | 1.00              | 0.08                   | 0.72                    | 0.80                   |
|          | LT Commercial   | 19.51             | 2.82                   | 19.31                   | 22.13                  |
| (ii)     | HT  | 0.30              | 0.05                   | 0.29                    | 0.34                   |
| <b>9</b> | <b>Single Point Supply</b>                                  | <b>5.46</b>       | <b>0.97</b>            | <b>2.51</b>             | <b>3.48</b>            |
| (i)      | Residential Complexes                                       | 0.00              | 0.00                   | 0.00                    | 0.00                   |
| (ii)     | Commercial Complexes  | 5.46              | 0.97                   | 2.51                    | 3.48                   |
| (iii)    | Industrial Complexes  | 0.00              | 0.00                   | 0.00                    | 0.00                   |
|          | <b>TOTAL</b>  | <b>3,979.76</b>   | <b>232.33</b>          | <b>1,650.64</b>         | <b>1,882.97</b>        |

The Commission has determined revenue from sale of power at existing tariff as INR 1,882.97 Cr in the FY 2019-20.

### **6.21. Standalone Revenue Gap/ (Surplus)**

#### **Petitioner's submission**

Based on the ARR submitted and the revenue from retail tariff, a standalone revenue gap of INR 308.33 Cr has been determined by the Petitioner for FY 2019-20.

**Commission analysis**

Based on the approved ARR and existing retail tariff, the following Revenue Gap/Surplus is arrived at for the FY 2019-20:

**Table 91: Standalone Revenue Gap/ (Surplus) approved by Commission for FY 2019-20 (In INR Cr)**

| S. No | Particulars                                  | Petitioners submission | Now Approved  |
|-------|--|------------------------|---------------|
| 1     | Net Revenue Requirement                      | 2,188.33               | 2,212.23      |
| 2     | Revenue from Retail Sales at Existing Tariff | 1,880.00               | 1,882.97      |
|       | <b>Net Gap / (Surplus)</b>                   | <b>308.33</b>          | <b>329.25</b> |

**The standalone gap at existing retail tariff is INR 329.25 Cr for FY 2019-20. The estimated gap is considered while determining the retail tariff for FY 2019-20, as discussed in the subsequent Chapter.**

# 7. Chapter 7: Tariff Principles and Design

## 7.1. Overall Approach

The Commission while designing retail tariffs for the FY 2019-20 has kept in view the principles of determination of tariff set out in the Electricity Act, 2003 (EA 2003), Tariff Policy, 2016 and the MYT Regulations, 2018.

The Commission, with this Tariff Order, has tried to meet the objectives of the EA 2003, as set out in its Preamble, including the protection of the interest of consumers, the supply of electricity to all areas and the rationalisation of tariffs. The EA, 2003 also directs to maintain a healthy balance between the interests of the Utilities and the reasonableness of the cost of power being supplied to consumers. The Commission has also taken into consideration the EDG's submissions as well as the public responses in these proceedings.

The provision of supply of electricity to all the people is an essential driver for development, and also influences social and economic change.

## 7.2. Applicable Regulations

Regulation 19 of MYT Regulations, 2018 states the following:

### **“19. Annual determination of tariff**

*19.1 The Commission shall determine the tariff of a Generating Company, Transmission Licensee and Distribution Licensee covered under a Multi Year Tariff framework for each Year during the Control Period, in accordance with timelines specified in Regulation 17, having regard to the following:*

- a) The approved forecast of Aggregate Revenue Requirement and Expected Revenue from Tariff and Charges of the Generating Company, Transmission Licensee and Distribution Licensee for such Financial Year, including modifications approved at the time of Mid-term Review, if any; and*
- b) Approved gains and losses, including the incentive available, to be passed through in tariff, following the truing up of previous Year.*

“

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

“

### *67. Determination of Tariff*

*67.1 The Commission may categorize Consumers on the basis of their load factor, power factor, voltage, total consumption of electricity during any specified period or the time at which the supply is required or the geographical position of any area, the nature of supply and the purpose for which the supply is required and any other factor as considered appropriate by the Commission.*

*67.2 The Commission shall endeavour to determine cost of supply for each category/ sub-category of Consumers.*

*67.3 The Commission shall endeavour to reduce gradually the cross-subsidy between Consumer categories with respect to the cost of supply in accordance with the provisions of the Act.*

*67.4 The tariff proposal by Licensee and the tariff determination by the Commission shall be based on the following principles:*

- (a) The tariff for all categories shall preferably be two part, consisting of fixed and variable charges.
- (b) The fixed charges in tariff shall progressively reflect actual fixed cost incurred by Distribution Licensee;
- (c) The overall retail supply tariff for different Consumer categories shall progressively reflect the cost of supply for respective categories of Consumers;
- (d) The tariff for residential Consumers shall be set considering the affordability of tariff for various class of Consumers;
- (e) The tariff shall be set in such a manner that it may not present a tariff shock to any category of Consumers.”

### 7.3. Revenue Gap/ (Surplus) at Existing Tariff

#### Petitioner’s Submission

The Petitioner has proposed a standalone revenue gap at existing tariff for each year of the MYT Control Period as shown in the table below. The Petitioner has submitted that the cumulative revenue gap for previous years from FY 2015-16 is not being claimed, the same shall be submitted once the audited annual accounts are prepared for respective years. The standalone revenue gap as submitted by the Petitioner has been tabulated below:

**Table 92: Standalone Revenue Gap/ (Surplus) submitted by Petitioner (In INR Cr)**

| Particulars                                    | FY 2019-20    | FY 2020-21    | FY 2021-22    |
|--|---------------|---------------|---------------|
| Net Revenue Requirement                        | 2,188.33      | 2,262.08      | 2,401.35      |
| Revenue from Retail Sales at Existing Tariff   | 1,880.00      | 1,973.86      | 2,073.64      |
| <b>Standalone Gap / (Surplus) for the year</b> | <b>308.33</b> | <b>288.22</b> | <b>327.70</b> |

#### Commission’s analysis

The Commission in the True-up of FY 2014-15 approved the revenue gap/surplus as nil. Further, the Commission has not approved any revenue gap for FY 2015-16 to FY 2017-18 due to non –availability of audited annual accounts and for FY 2018-19 due to unreliable data. The Commission has determined the tariff for FY 2019-20 as part of this Order. Therefore, the Commission approves the standalone revenue gap for FY 2019-20 as follows:

**Table 93: Standalone Revenue Gap/ (Surplus) determined by Commission (In INR Cr)**

| Particulars                                    | FY 2019-20    |
|--|---------------|
| Net Revenue Requirement                        | 2,212.23      |
| Revenue from Retail Sales at Existing Tariff   | 1,882.97      |
| <b>Standalone Gap / (Surplus) for the year</b> | <b>329.25</b> |

**The Commission has computed a standalone revenue gap of INR 329.25 Cr in the FY 2019-20 at the existing tariff.**

### 7.4. Treatment of the Revenue Gap/ (Surplus) and Tariff Design

The revenue gap of INR 329.25 Cr, signifies that the revenue from the existing tariff is not commensurate with the costs incurred by the Petitioner. The Commission has accordingly dealt with this gap in the following section.

## 7.4.1. Designing of Tariff

### Petitioner's Submission

The Petitioner has not proposed any tariff hike in FY 2019-20 and proposes to recover the revenue gap of INR 308.33 Cr by way of budgetary support from the Govt. of Goa. The category wise existing and proposed tariff submitted by the Petitioner is as under:

**Table 94: Retail Tariff proposed by Petitioner**

| S. No    | Category   | Existing Tariff   |                          | Proposed Tariff   |                          |
|----------|--|---|--------------------------|---|--------------------------|
|          |  | Fixed Charges   | Energy Charges (INR/kWh) | Fixed Charges   | Energy Charges (INR/kWh) |
| <b>1</b> | <b>Domestic</b>                                  |   |                          |   |                          |
| <b>A</b> | <b>Low Tension-D/LT-D</b>                        |   |                          |   |                          |
|          | 0-100 units                                      | Single Phase INR<br>25/Connection/Month<br>Three Phase INR<br>60/Connection/Month | 1.40                     | Single Phase INR<br>25/Connection/Month<br>Three Phase INR<br>60/Connection/Month | 1.40                     |
|          | 101-200 units                                    |   | 2.10                     |   | 2.10                     |
|          | 201 to 300 units                                 |   | 2.65                     |   | 2.65                     |
|          | 301 to 400 units                                 |   | 3.45                     |   | 3.45                     |
|          | Above 400 units                                  |   | 4.00                     |   | 4.00                     |
| <b>B</b> | <b>Low Tension-LIG/LT-LIG</b>                    | INR<br>40/Connection/Month  |                          | INR<br>40/Connection/Month  |                          |
| <b>C</b> | <b>High Tension-D/HT-D</b>                       |   |                          |   |                          |
|          | All Units  | INR 100/kVA/Month   | 3.45                     | INR 100/kVA/Month   | 3.45                     |
| <b>2</b> | <b>Commercial</b>                                |   |                          |   |                          |
| <b>A</b> | <b>Low Tension-C/LT-C</b>                        |   |                          |   |                          |
|          | 0-100 units                                      | 0-20 kW - INR<br>50/Conn/Month<br>Above 20kW-90 kW<br>INR 55/kW/month             | 3.40                     | 0-20 kW - INR<br>50/Conn/Month<br>Above 20kW-90 kW<br>INR 55/kW/month             | 3.40                     |
|          | 101-200 units                                    |   | 4.10                     |   | 4.10                     |
|          | 201 units- 400 units                             |   | 4.60                     |   | 4.60                     |
|          | Above 400 units                                  |   | 5.00                     |   | 5.00                     |
| <b>B</b> | <b>High Tension-C/HT-C</b>                       |   |                          |   |                          |
|          | All Units  | INR 250/kVA/month   | 5.50                     | INR 250/kVA/month   | 5.50                     |
| <b>3</b> | <b>Industrial</b>                                |   |                          |   |                          |
| <b>A</b> | <b>Low Tension-I/LT-I</b>                        |   |                          |   |                          |
|          | 0-500 units                                      | INR 35/HP/Month   | 3.30                     | INR 35/HP/Month   | 3.30                     |
|          | Above 500 units                                  | INR 35/HP/Month   | 3.80                     | INR 35/HP/Month   | 3.80                     |
| <b>B</b> | <b>Low Tension-Mixed/LT-P (Hotel Industries)</b> |   |                          |   |                          |
|          | All Units  | INR 40/kW/Month   | 4.70                     | INR 40/kW/Month   | 4.70                     |
| <b>C</b> | <b>High Tension-I/HT-I</b>                       |   |                          |   |                          |
|          | Connected at 11/33 kV                            | INR 250/kVA/Month   | 4.50                     | INR 250/kVA/Month   | 4.50                     |
|          | Connected at 110 kV                              | INR 250/kVA/Month   | 4.40                     | INR 250/kVA/Month   | 4.40                     |
| <b>D</b> | <b>High Tension-Ferro/SM/PI/SR</b>               |   |                          |   |                          |
|          | All Units  | INR 250/kVA/Month   | 4.50                     | INR 250/kVA/Month   | 4.50                     |
| <b>4</b> | <b>Agricultural</b>                              |   |                          |   |                          |

| S. No    | Category  | Existing Tariff  |                          | Proposed Tariff  |                          |
|----------|---|--|--------------------------|--|--------------------------|
|          |   | Fixed Charges  | Energy Charges (INR/kWh) | Fixed Charges  | Energy Charges (INR/kWh) |
| <b>A</b> | <b>Low Tension-AG/LT-AGP (Pump Sets/Irrigation)</b>         |  |                          |  |                          |
|          | All Units   | INR 15/HP/Month  | 1.40                     | INR 15/HP/Month  | 1.40                     |
| <b>B</b> | <b>Low Tension-AG/LT-AGA (Allied Activities)</b>            |  |                          |  |                          |
|          | All Units   | INR 20/HP/Month  | 1.70                     | INR 20/HP/Month  | 1.70                     |
| <b>C</b> | <b>High Tension-AG/HT-AGP (Pump Sets/Irrigation)</b>        |  |                          |  |                          |
|          | All Units   | INR 35/kVA/Month   | 1.50                     | INR 35/kVA/Month   | 1.50                     |
| <b>D</b> | <b>High Tension-AG/HT-AG (Allied Activities)</b>            |  |                          |  |                          |
|          | All Units   | INR 60/kVA/Month   | 1.90                     | INR 60/kVA/Month   | 1.90                     |
| <b>5</b> | <b>Military Engineering Services/defense Establishments</b> |  |                          |  |                          |
|          | All Units   | INR 175/kVA/Month  | 5.00                     | INR 175/kVA/Month  | 5.00                     |
| <b>6</b> | <b>Public Lighting</b>                                      |  |                          |  |                          |
|          | All Units   | INR 50/kW/Month  | 4.10                     | INR 50/kW/Month  | 4.10                     |
| <b>7</b> | <b>Hoardings/Signboards</b>                                 |  |                          |  |                          |
|          | All Units   | INR 60/kVA/Month   | 9.90                     | INR 60/kVA/Month   | 9.90                     |
| <b>8</b> | <b>Temporary Supply</b>                                     |  |                          |  |                          |
| A        | LT Temporary Domestic                                       | INR 60 per kW per month or part thereof subject to a minimum of INR 300/- per connection per month or part thereof   | 7.20                     | INR 60 per kW per month or part thereof subject to a minimum of INR 300/- per connection per month or part thereof   | 7.20                     |
| B        | LT Temporary Commercial                                     | INR 120 per kVA per month or part thereof subject to a minimum of INR 600/- per connection per month or part thereof | 9.90                     | INR 120 per kVA per month or part thereof subject to a minimum of INR 600/- per connection per month or part thereof | 9.90                     |
| C        | HT Temporary  | INR 120 per kVA per month or part thereof  | 9.90                     | INR 120 per kVA per month or part thereof  | 9.90                     |
| <b>9</b> | <b>Single Point Supply</b>                                  |  |                          |  |                          |
| A        | Residential Complexes                                       | INR 100 per kVA per month or part thereof  | 3.45                     | INR 100 per kVA per month or part thereof  | 3.45                     |
| B        | Commercial Complexes  | INR 200 per kVA per month or part thereof  | 4.60                     | INR 200 per kVA per month or part thereof  | 4.60                     |
| C        | Industrial Complexes  | INR 200 per kVA per month or part thereof  | 4.20                     | INR 200 per kVA per month or part thereof  | 4.20                     |

## Commission's analysis

As discussed above, the Commission has determined the retail tariff for the FY 2019-20 in accordance with the principles stated in the Electricity Act, 2003 Tariff Policy, 2016, and the MYT Regulations, 2018. The Tariff design in general is guided by the following principles:

1. **Cost reflective:** The tariffs determined should efficiently reflect the cost of supply for each consumer category.
2. **Progressive tariffs:** Ensuring progressivity among tariffs by having telescopic tariff slabs which encourages efficient consumption and at the same time promotes intra-category cross-subsidy by way of charging higher tariff for higher consumption to subsidise the lower consumption consumers
3. **Revenue neutrality:** There should be no impact on the utility's yearly revenue due to rationalization of tariffs i.e. the overall status quo should be maintained.
4. **Affordability:** Assessing affordability of electricity for Domestic & Commercial consumers for defining slab ranges and setting tariffs
5. **Revenue stability:** Utilities should ensure adequate fixed cost recovery from fixed/demand charges
6. **Avoiding tariff shocks:** Tariff shocks should be prevented and consumers should be kept informed about the future trends in tariffs
7. **Demand management and grid stability:** Demand management and grid stability should be ensured with demand-based tariffs
8. **Simplified tariff structure:** Tariff structure should be simplified to make it easily administrable by the utility and easy to understand for the consumer.
9. **Smart tariff design:** Tariff rate design should take into consideration trends in electric power such as small scale renewable generation by consumers, energy efficiency, electric vehicle charging, etc.

While all the above parameters contribute significantly in developing a sustainable tariff framework, there are certain parameters namely Cost of Supply and Tariff Affordability which are of importance and constitute the building blocks in achieving the overall objective. The context and the approach for these parameters have been discussed as follows:

### **1. Cost of Supply**

#### **a) Context**

Due to electricity being a crucial utility item for all consumers, over the period of time, various socio-economic issues have been factored in to determine the end user's tariffs. This has unfortunately led to severe imbalance between the tariffs levied vis-a-vis the cost of supply of the electricity, causing distress to the Discom. For example, in order to ensure that tariffs are kept in check for residential consumers, while still allowing cost recovery for Discoms, cross subsidy is built in between categories. The tariffs so determined, are skewed, with tariff for industrial and commercial consumers being higher and for other categories being lower than their respective costs of supply. The implications of this imbalance in tariffs is twofold – uncompetitive industries owing to higher input costs and inability of Discoms to recover sufficient tariffs from domestic consumers, resulting in financial distress. The issue is more pronounced for rural supply where tariffs are highly subsidized, actual cost of supply is higher and revenue recovery is poor.

It is thus essential that tariffs reflect the true cost to service a category of consumer. As a crucial first step towards cost-reflective tariffs, it is important for distribution utilities to determine the costs of supply (which

cascade from generation to transmission and finally to distribution and retail supply of power) that should be prudently recovered from each consumer category. These costs should correspond to the actual costs being imposed by each consumer category on the Discom. By determining consumer category wise costs of supply, the Discom would be in a better position to allocate costs where relevant and determine how tariffs can be levied fairly on each category.

The overall approach that can be followed for accurately determining the Cost of Supply has been discussed as follows

### **b) Approach:**

Presently, the most commonly used approach for determining the cost of supply of electricity for tariff determination is the Average Cost of Supply (ACoS) method. The ACoS is computed by dividing the Annual Revenue Requirement (ARR) determined by the Commission for recovery through tariffs by the total energy sales for the year. However, this methodology doesn't indicate the costs incurred by consumers at different voltage levels using different assets of the network. Therefore, it doesn't help in determining accurate tariffs for particular consumers, eventually resulting in insufficient cost coverage.

As a next logical step, the Voltage wise cost of supply (VCoS) method provides a better reflection of cost to supply to consumers at different voltage levels. A simplified version of the same was suggested by Hon'ble ATE in 2010, to determine VCoS in the absence of all necessary data. In this method, the power purchase costs and other costs (such as network costs, wheeling costs etc.) are allocated to various consumer categories based on energy input or energy sales (as considered appropriate by the State Commission). This approach factors in the voltage level differentiation based on losses, however, it does not factor in asset utilization at different voltage levels.

A more refined version of determination of VCoS uses three parameters for allocating various costs to voltage levels – energy input at each voltage level, energy sales and asset allocation to voltage levels. The losses segregated voltage wise (as percentage of input energy) are to be allocated to different voltage levels based on energy input to each voltage level (as explained in subsequent sections). Subsequently, the cost elements such as power procurement costs, employee expenses, administrative and general expenses and income tax can be allocated to each voltage levels based on total sales at each voltage level. The cost elements, which are dependent on assets such as depreciation, interest costs, return allowed to utility etc. are allocated in ratio of assets allocated to each voltage level. The sum of all the cost components at each voltage level is the cost to supply the particular voltage (EHT/HT/LT).

The Commission is of the opinion that while VCoS differentiates cost allocation based on voltage levels, it does not factor in consumer category level differentiation. For instance, at the same LT level, cost of supplying electricity to a Commercial consumer may be different from that of a Residential consumer. Thus, it believes that the most progressive way forward for EDG is to accurately determine the cost of supply is to attempt to determine Cost of Supply at various category level. The Commission notes that States like Andhra Pradesh and Telangana have determined Category wise Cost of Supply albeit with several assumptions and EDG must also attempt to determine the same.

On studying the existing methodologies followed internationally, among developing nations with energy access situations like India's, the Commission is of the opinion that the Category wise Cost of Supply methodology is an appropriate starting point. The embedded cost method identifies and appropriately assigns the historical or accounting costs that make up a Discom's revenue requirement to all categories and sub-categories of consumers.

This method involves three steps:

- Cost Functionalization
- Cost Classification



- **Cost Allocation**

Cost functionalization separates cost data into the functional activities performed in the operation of a utility system - power generation/supply, transmission, distribution and retail supply. Classification determines the portion of the cost that is related to specific cost-causal factors, such as those that are demand-related, energy-related, or customer-related. Finally, the cost allocation step assigns the costs to specific customer categories based on the customer's contribution to the specific classifier selected.

The Commission as part of this Order has determined the tariff according to the Average Cost of Supply (ACoS) due to lack of requisite data. The Commission strongly believes that determination of Category wise Cost of Supply is essential to ensure cost reflectivity in tariffs fixed for different categories. However, the Commission feels that to carry out this exercise a lot of field level information would be required such as Category wise co-incident and non- co-incident demand, Voltage wise value of assets (Voltage wise asset ratio), Voltage wise losses, Category wise break-up of costs related to Metering, Billing and Collection etc. which currently the Petitioner doesn't maintain. Therefore, in absence of the same the Commission is unable to determine the Category wise CoS in this Order but directs the Petitioner to start maintaining this data and submit the same in the tariff proceedings of next year.

## **2. Tariff Affordability**

### **a) Context**

The Commission understands that the consumer base of EDG is varied and covers a wide spectrum of socio-economic backgrounds, specially the domestic category consumers. It is aware that most low income households spend a substantial share of their income on utility services such as electricity, heating and water. However, any envisaged tariff reforms is often objected to avoid further burdening of these consumers. But to improve the quality of service of electricity, the Discom has to undergo significant capital expenditure which eventually deteriorates the affordability of tariffs. Thus to tackle this problem and in the spirit of economic wellbeing of all consumer classes, the concept of cross-subsidies has been built into the current tariff structure.

However, the Commission believes that a more scientific and logical approach can be adopted to identify the right categories of consumers and the right cross-subsidy/subsidy requirement that will benefit the end consumers at the same time. Hence, the Commission believes that there is a strong need to develop a scientific methodology to assess the social impact of electricity tariffs.

The overall approach that can be followed for determining the tariff affordability has been discussed as follows.

### **b) Approach**

On reviewing methodologies adopted globally for social impact assessment of electricity tariffs by studying international research reports and studying model practices internationally, the Commission found that Tariff Affordability Ratio (TAR) is a reliable parameter to measure affordability of electricity in households.

TAR is defined by obtaining the burden incurred by a household for electricity as compared to the overall household expenditure. The rationale behind this concept is that the electricity is basic utility and is unavoidable in today's scenario, however, this does not ensure that the expenditure level is in line with the overall household expenditure. Hence, this concept helps to understand the affordability level of electricity on households with different economic levels.

The electricity expenditure can be determined initially for domestic consumers by computing the average consumption levels across each slab and the household expenditure can be estimated from national surveys of household expenditure across economic levels conducted by organizations like NSSO. Thereafter the distribution of consumers of the Discom across tariff slabs can be mapped across the established economic levels to develop the final affordability ratio matrix for the Discom's domestic consumer base.

Following the identification of the current ratio of Tariff Affordability, the Commission in consultation with the stakeholder's will develop benchmarks for acceptable affordability levels by studying trends across countries with a demography and energy scenario similar to that of India and propose appropriate tariffs. The final output shall help understand the Commission to modify tariffs in cases where there is more room for tariff increase or a need to correct tariffs. The exercise would also help the Commission in setting tariff slabs as per the paying capacity of the consumers which would be beneficial especially for Domestic category consumers. Additionally this shall also help the Government to formulate better schemes to effectively channelize its intended benefits.

The Commission in these tariff proceedings is not carrying out this exercise due to unavailability of accurate data. The Petitioner is directed to ensure the sanctity of the data maintained pertaining to various categories.

Keeping in view the above principles and based on the category wise information submitted by the Petitioner, the Commission has approved the retail tariff for FY 2019-20 as follows:

1. No increase has been made in retail tariff for FY 2019-20 from previous year as the Govt. of Goa has given an upfront commitment for the budgetary allocation needed to recover the approved revenue gap in FY 2019-20, as has been done in the previous years.
2. The Commission believes that the demand for charging infrastructure for electric vehicles will increase in the near future due to increased commercialization. Furthermore, the Commission is of the opinion that to impart the necessary impetus for the adoption of E-Vehicles in the Territory a sustainable framework has to be developed and having a designated electricity tariff is the first step towards achieving it. Therefore, keeping in view the anticipated demand and need, the Commission introduces a new category namely Electric Vehicle Charging Stations for consumers setting up infrastructure for charging of Electric vehicles/ Electric rickshaws etc. and has fixed the tariff as per the guidelines of Ministry of Power, Govt. of India.

### 7.4.2. Tariff Adjustment and Schedule:

The existing retail tariff and tariff now approved by the Commission for each consumer category has been shown in the table below:

**Table 95: Existing and approved tariff**

|          | Category                      | Existing Tariff     |                          | Approved Tariff     |                          |
|----------|-------------------------------|---------------------|--------------------------|---------------------|--------------------------|
|          |                               | Fixed Charges       | Energy Charges (INR/kWh) | Fixed Charges       | Energy Charges (INR/kWh) |
| <b>1</b> | <b>Domestic</b>               |                     |                          |                     |                          |
| <b>A</b> | <b>Low Tension-D/LT-D</b>     |                     |                          |                     |                          |
|          | 0-100 units                   | Single Phase INR    | 1.40                     | Single Phase INR    | 1.40                     |
|          | 101-200 units                 | 25/Con/Month        | 2.10                     | 25/Con/Month        | 2.10                     |
|          | 201 to 300 units              |                     | 2.65                     |                     | 2.65                     |
|          | 301 to 400 units              | Three Phase INR     | 3.45                     | Three Phase INR     | 3.45                     |
|          | Above 400 units               | 60/Con/Month        | 4.00                     | 60/Con/Month        | 4.00                     |
| <b>B</b> | <b>Low Tension-LIG/LT-LIG</b> | <b>INR</b>          |                          | <b>INR</b>          |                          |
|          |                               | <b>40/Con/Month</b> |                          | <b>40/Con/Month</b> |                          |
| <b>C</b> | <b>High Tension-D/HT-D</b>    |                     |                          |                     |                          |
|          | All Units                     | INR                 | 3.45                     | INR                 | 3.45                     |
|          |                               | 100/kVA/Month       |                          | 100/kVA/Month       |                          |
| <b>2</b> | <b>Commercial</b>             |                     |                          |                     |                          |
| <b>A</b> | <b>Low Tension-C/LT-C</b>     |                     |                          |                     |                          |
|          | 0-100 units                   | For consumers with  | 3.40                     | For consumers with  | 3.40                     |
|          | 101-200 units                 | Load upto – INR     | 4.10                     | Load upto – INR     | 4.10                     |

|          | Category  | Existing Tariff   |                          | Approved Tariff   |                          |
|----------|---|---|--------------------------|---|--------------------------|
|          |   | Fixed Charges   | Energy Charges (INR/kWh) | Fixed Charges   | Energy Charges (INR/kWh) |
|          | 201 units- 400 units  | 50/Con/Month  | 4.60                     | 50/Con/Month  | 4.60                     |
|          | Above 400 units   | For consumers with Load more than 20 kW and upto 90 kW- INR 55/kW/Month | 5.00                     | For consumers with Load more than 20 kW and upto 90 kW- INR 55/kW/Month | 5.00                     |
| <b>B</b> | <b>High Tension-C/HT-C</b>                                  |   |                          |   |                          |
|          | All Units   | INR 250/kVA/month   | 5.50                     | INR 250/kVA/month   | 5.50                     |
| <b>3</b> | <b>Industrial</b>   |   |                          |   |                          |
| <b>A</b> | <b>Low Tension-I/LT-I</b>                                   |   |                          |   |                          |
|          | 0-500 units   | INR 35/HP/Month   | 3.30                     | INR 35/HP/Month   | 3.30                     |
|          | Above 500 units   | INR 35/HP/Month   | 3.80                     | INR 35/HP/Month   | 3.80                     |
| <b>B</b> | <b>Low Tension-Mixed/LT-P (Hotel Industries)</b>            |   |                          |   |                          |
|          | All Units   | INR 40/kW/Month   | 4.70                     | INR 40/kW/Month   | 4.70                     |
| <b>C</b> | <b>High Tension-I/HT-I</b>                                  |   |                          |   |                          |
|          | Connected at 11/33 kV                                       | INR 250/kVA/Month   | 4.50                     | INR 250/kVA/Month   | 4.50                     |
|          | Connected at 110 kV   | INR 250/kVA/Month   | 4.40                     | INR 250/kVA/Month   | 4.40                     |
| <b>D</b> | <b>High Tension- Ferro/SM/PI/ SR</b>                        |   |                          |   |                          |
|          | All Units   | INR 250/kVA/Month   | 4.50                     | INR 250/kVA/Month   | 4.50                     |
| <b>4</b> | <b>Agricultural</b>   |   |                          |   |                          |
| <b>A</b> | <b>Low Tension-AG/LT-AGP (Pump Sets/Irrigation)</b>         |   |                          |   |                          |
|          | All Units   | INR 15/HP/Month   | 1.40                     | INR 15/HP/Month   | 1.40                     |
| <b>B</b> | <b>Low Tension-AG/LT-AGA (Allied Activities)</b>            |   |                          |   |                          |
|          | All Units   | INR 20/HP/Month   | 1.70                     | INR 20/HP/Month   | 1.70                     |
| <b>C</b> | <b>High Tension-AG/HT-AGP (Pump Sets/Irrigation)</b>        |   |                          |   |                          |
|          | All Units   | INR 35/kVA/Month  | 1.50                     | INR 35/kVA/Month  | 1.50                     |
| <b>D</b> | <b>High Tension-AG/HT-AG (Allied Activities)</b>            |   |                          |   |                          |
|          | All Units   | INR 60/kVA/Month  | 1.90                     | INR 60/kVA/Month  | 1.90                     |
| <b>5</b> | <b>Military Engineering Services/defense Establishments</b> |   |                          |   |                          |
|          | All Units   | INR 175/kVA/Month   | 5.00                     | INR 175/kVA/Month   | 5.00                     |
| <b>6</b> | <b>Public Lighting</b>                                      |   |                          |   |                          |
|          | All Units   | INR 50/kW/Month   | 4.10                     | INR 50/kW/Month   | 4.10                     |
| <b>7</b> | <b>Hoardings/Signboards</b>                                 |   |                          |   |                          |
|          | All Units   | INR 60/kVA/Month  | 9.90                     | INR 60/kVA/Month  | 9.90                     |

|           | Category                                 | Existing Tariff  |                          | Approved Tariff   |                          |
|-----------|--|--|--------------------------|---|--------------------------|
|           |  | Fixed Charges  | Energy Charges (INR/kWh) | Fixed Charges   | Energy Charges (INR/kWh) |
| <b>8</b>  | <b>Temporary Supply</b>                  |  |                          |   |                          |
| A         | LT Temporary Domestic                    | INR 60 per kW per month or part thereof subject to a minimum of INR 300/- per connection per month or part thereof   | 7.20                     | 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.<br><br>For multi activity pursuit, applicable Tariff for temporary connection shall be with reference to that of commercial category for permanent supply. |                          |
| B         | LT Temporary Commercial                  | INR 120 per kVA per month or part thereof subject to a minimum of INR 600/- per connection per month or part thereof | 9.90                     |   |                          |
| C         | HT Temporary                             | INR 120 per kVA per month or part thereof  | 9.90                     |   |                          |
| <b>9</b>  | <b>Single Point Supply</b>               |  |                          |   |                          |
| A         | Residential Complexes                    | INR 100 per kVA per month or part thereof  | 3.45                     | INR 100 per kVA per month or part thereof   | 3.45                     |
| B         | Commercial Complexes                     | INR 200 per kVA per month or part thereof  | 4.60                     | INR 200 per kVA per month or part thereof   | 4.60                     |
| C         | Industrial Complexes                     | INR 200 per kVA per month or part thereof  | 4.20                     | INR 200 per kVA per month or part thereof   | 4.20                     |
| <b>10</b> | <b>Electric Vehicle Charging Station</b> | -  | -                        | <b>INR 100/kVA/Month</b>  | <b>4.20</b>              |

### 7.4.3. Revenue from Approved Retail Tariff for FY 2019-20

Based on the retail tariff approved above, the Revenue from approved tariff is shown in the following table. The Commission has not estimated any revenue for Electric Vehicle Charging Station, Residential Complexes and Industrial Complexes categories due to unavailability of requisite data. The Commission as of now approves the k factor for the category as shown in the table, however, directs the Petitioner to submit the requisite data for energy sales, no. of consumers and connected load in case any consumers are identified under these categories.

**Table 96: Revenue from approved retail tariff determined by Commission for FY 2019-20 (In INR Cr)**

| S. No.   | Category        | Sales (MUs)     | Fixed Charges (INR Cr.) | Energy charges (INR Cr.) | Total Charges (INR. Cr.) | ABR (INR./unit) | K Factor    |
|----------|-----------------|-----------------|-------------------------|--------------------------|--------------------------|-----------------|-------------|
| <b>1</b> | <b>DOMESTIC</b> | <b>1,208.14</b> | <b>21.80</b>            | <b>381.79</b>            | <b>403.59</b>            | <b>3.34</b>     | <b>0.71</b> |
| A        | LT-D Domestic   | <b>1,206.08</b> | <b>21.68</b>            | <b>381.69</b>            | <b>403.37</b>            | <b>3.34</b>     | <b>0.71</b> |
|          | 0-100 units     | 85.48           | 7.12                    | 11.97                    | 19.09                    | 2.23            | 0.47        |
|          | 101-200 units   | 243.17          | 4.68                    | 51.06                    | 55.74                    | 2.29            | 0.48        |
|          | 201-300 units   | 191.99          | 5.24                    | 50.88                    | 56.11                    | 2.92            | 0.62        |

| S. No.   | Category   | Sales (MUs)     | Fixed Charges (INR Cr.) | Energy charges (INR Cr.) | Total Charges (INR. Cr.) | ABR (INR./unit) | K Factor    |
|----------|--|-----------------|-------------------------|--------------------------|--------------------------|-----------------|-------------|
|          | 301-400 units  | 116.37          | 2.18                    | 40.15                    | 42.33                    | 3.64            | 0.77        |
|          | Above 400 units  | 569.07          | 2.46                    | 227.63                   | 230.09                   | 4.04            | 0.85        |
| B        | Low Income Group LIG                                       | 1.76            | 0.09                    | -                        | 0.09                     | 0.50            | -           |
| C        | HT-D Domestic  | 0.29            | 0.04                    | 0.10                     | 0.14                     | 4.68            | 0.99        |
| <b>2</b> | <b>COMMERCIAL</b>  | <b>611.02</b>   | <b>39.78</b>            | <b>302.79</b>            | <b>342.56</b>            | <b>5.61</b>     | <b>1.18</b> |
| A        | LT-C Commercial  | <b>491.97</b>   | <b>17.98</b>            | <b>237.31</b>            | <b>255.29</b>            | <b>5.19</b>     | <b>1.10</b> |
|          | 0-100 units  | 33.95           | 3.40                    | 11.54                    | 14.94                    | 4.40            | 0.93        |
|          | 101-200 units  | 21.95           | 0.91                    | 9.00                     | 9.91                     | 4.52            | 0.95        |
|          | 201-400 units  | 31.76           | 2.22                    | 14.61                    | 16.83                    | 5.30            | 1.12        |
|          | Above 400 units  | 404.32          | 11.45                   | 202.16                   | 213.61                   | 5.28            | 1.12        |
| B        | HT-C Commercial  | 119.05          | 21.79                   | 65.48                    | 87.27                    | 7.33            | 1.55        |
| <b>3</b> | <b>INDUSTRIAL</b>  | <b>2,077.14</b> | <b>163.90</b>           | <b>924.27</b>            | <b>1,088.18</b>          | <b>5.24</b>     | <b>1.11</b> |
| A        | LT-I Industrial  | <b>101.12</b>   | <b>5.90</b>             | <b>37.47</b>             | <b>43.38</b>             | <b>4.29</b>     | <b>0.91</b> |
|          | 0-500 units  | 19.03           | 2.60                    | 6.28                     | 8.88                     | 4.66            | 0.99        |
|          | Above 500 units  | 82.09           | 3.31                    | 31.19                    | 34.50                    | 4.20            | 0.89        |
| B        | Low Tension-Mixed/LT-P (Hotel Industries)                  | 5.62            | 0.14                    | 2.64                     | 2.78                     | 4.94            | 1.05        |
| C        | High Tension-I/HT-I  | 1,527.76        | 132.69                  | 684.97                   | 817.66                   | 5.35            | 1.13        |
|          | Connected at 11/33 kV                                      | 1,275.63        | 120.65                  | 574.03                   | 694.69                   | 5.45            | 1.15        |
|          | Connected at 110 kV  | 252.13          | 12.04                   | 110.94                   | 122.98                   | 4.88            | 1.03        |
| D        | High Tension-Ferro/SM/PI/SR                                | 442.64          | 25.17                   | 199.19                   | 224.36                   | 5.07            | 1.07        |
| <b>4</b> | <b>AGRICULTURE</b>   | <b>27.29</b>    | <b>1.31</b>             | <b>4.12</b>              | <b>5.43</b>              | <b>1.99</b>     | <b>-</b>    |
| A        | Low Tension-AG/LT-AGP (Pump Sets/Irrigation)               | 17.03           | 0.83                    | 2.38                     | 3.21                     | 1.89            | -           |
| B        | Low Tension-AG/LT-AGA (Allied Activities)                  | 0.89            | 0.04                    | 0.15                     | 0.19                     | 2.13            | -           |
| C        | High Tension-AG/HT-AGP (Pump Sets/Irrigation)              | 4.85            | 0.35                    | 0.73                     | 1.07                     | 2.21            | -           |
| D        | High Tension-AG/HT-AG (Allied Activities)                  | 4.52            | 0.09                    | 0.86                     | 0.95                     | 2.11            | -           |
| <b>5</b> | <b>Military Engineering Services/defense Establishment</b> | <b>27.01</b>    | <b>1.48</b>             | <b>13.50</b>             | <b>14.98</b>             | <b>5.55</b>     | <b>1.17</b> |
| <b>6</b> | <b>PUBLIC LIGHTING</b>                                     | <b>2.66</b>     | <b>0.10</b>             | <b>1.09</b>              | <b>1.18</b>              | <b>4.46</b>     | <b>0.94</b> |

| S. No. | Category   | Sales (MUs)     | Fixed Charges (INR Cr.) | Energy charges (INR Cr.) | Total Charges (INR. Cr.) | ABR (INR./unit) | K Factor     |
|--------|--|-----------------|-------------------------|--------------------------|--------------------------|-----------------|--------------|
| 7      | <b>HOARDINGS/<br/>SIGNBOARDS</b>                     | <b>0.24</b>     | <b>0.04</b>             | <b>0.24</b>              | <b>0.29</b>              | <b>11.73</b>    | <b>2.48</b>  |
| 8      | <b>TEMPORARY</b>                                     | <b>20.81</b>    | <b>2.95</b>             | <b>20.33</b>             | <b>23.28</b>             | <b>11.19</b>    | <b>1.50*</b> |
| A      | <b>LT</b>  | <b>20.51</b>    | <b>2.90</b>             | <b>20.03</b>             | <b>22.93</b>             | <b>11.18</b>    | 1.50*        |
|        | LT Domestic  | 1.00            | 0.08                    | 0.72                     | 0.80                     | 7.98            |              |
|        | LT Commercial  | 19.51           | 2.82                    | 19.31                    | 22.13                    | 11.35           |              |
| B      | <b>HT</b>  | <b>0.30</b>     | <b>0.05</b>             | <b>0.29</b>              | <b>0.34</b>              | <b>11.61</b>    |              |
| 9      | <b>Single Point<br/>Supply</b>                       | <b>5.46</b>     | <b>0.97</b>             | <b>2.51</b>              | <b>3.48</b>              | <b>6.37</b>     | <b>1.35</b>  |
| A      | Residential<br>Complexes                             | -               | -                       | -                        | -                        | -               | 1.00         |
| B      | Commercial<br>Complexes                              | <b>5.46</b>     | 0.97                    | 2.51                     | 3.48                     | 6.37            | 1.35         |
| C      | Industrial<br>Complexes                              | -               | -                       | -                        | -                        | -               | 1.00         |
| 10     | <b>Electric<br/>Vehicle<br/>Charging<br/>Station</b> | -               | -                       | -                        | -                        | -               | <b>1.00</b>  |
|        | <b>TOTAL</b>   | <b>3,979.76</b> | <b>232.33</b>           | <b>1,650.64</b>          | <b>1,882.97</b>          | <b>4.73</b>     | <b>1.00</b>  |

\*1.50 times the k factor of the relevant category in which the connection falls

The Commission approves revenue from approved Retail Tariff of INR 1,882.97 Cr for the FY 2019-20

#### 7.4.4. Revenue Gap/ (Surplus) at Approved Tariff

The Govt. of Goa through its letter No. 1/16/2018-Fin/(Bud)/ Government of Goa dated 29<sup>th</sup> November 2018 has conveyed its consent for providing the required budgetary support to meet the revenue gap for the year as may be approved by the Commission.

In view of above the Commission approves the revenue gap as follows:

**Table 97: Revenue Gap/ (Surplus) approved by Commission for FY 2019-20 (In INR Cr)**

| S. No. | Particulars                                   | FY 2019-20  |
|--------|---|-------------|
| 1      | Net Revenue Requirement                       | 2,212.23    |
| 2      | Revenue from sale of power at Approved Tariff | 1,882.97    |
| 3      | Revenue Gap/ (Surplus) at Approved Tariff     | 329.25      |
| 4      | Revenue Gap/ (Surplus) in previous year       | 0.00        |
| 5      | Total Gap/ (Surplus)                          | 329.25      |
| 6      | Upfront Budgetary support from Govt. of Goa   | 329.25      |
|        | <b>Final Gap/ (Surplus) for FY 2019-20</b>    | <b>0.00</b> |

The Govt. of Goa has given an upfront commitment to bridge the revenue gap by way of budgetary support, in line with the practice followed in previous years.

#### 7.4.5. Government Budgetary Support

The Commission has approved an overall revenue gap of INR 329.25 Cr at approved tariff in FY 2019-20. This gap is recovered by way of budgetary support from Govt. of Goa.

It is observed that the Govt. of Goa has been providing budgetary assistance to the Petitioner during the past few years. The Commission in this matter would like to point out the over reliance of the Petitioner on Govt.'s budgetary support. The Petitioner should prepare itself of the repercussions in case the Govt. withdraws the budgetary support in the future.

The ABR without the Government Budgetary support has been calculated considering the same per unit Gap of INR 0.83/kWh (Difference between ACoS and ABR at Approved Tariff with Govt. Budgetary Support) loaded equally among all consumer categories. The table below provides the average tariff increase and ABR with and without Govt. budgetary support.

**Table 98: Cost of Supply and tariff increase with and without Govt. Budgetary support**

| Category                      | ACoS (INR/kwh) | ABR at Approved Tariff with Govt. Budgetary Support (INR/kwh) | ABR without Govt. Budgetary Support (INR/kwh) | Tariff increase required in case Govt. budgetary support would not have been provided (%) |
|-------------------------------|----------------|---|---|---|
| Domestic                      | 5.56           | 3.34  | 4.17  | 24.77%  |
| Commercial                    | 5.56           | 5.61  | 6.43  | 14.76%  |
| Industrial                    | 5.56           | 5.24  | 6.07  | 15.79%  |
| Agriculture                   | 5.56           | 1.99  | 2.82  | 41.58%  |
| Military Engineering Services | 5.56           | 5.55  | 6.37  | 14.92%  |
| Public Lighting               | 5.56           | 4.46  | 5.29  | 18.54%  |
| Hoardings/ Signboards         | 5.56           | 11.73   | 12.56   | 7.05%   |
| Temporary                     | 5.56           | 11.19   | 12.02   | 7.39%   |
| Single Point Supply           | 5.56           | 6.37  | 7.20  | 12.98%  |
| <b>Total</b>                  | <b>5.56</b>    | <b>4.73</b>   | <b>5.56</b>                                   | <b>17.49%</b>   |

**In case this gap had to be entirely fulfilled by revenue from consumers then it would have demanded an overall average tariff increase of 17.49%.**

#### **7.4.6. Highlights of the Tariff Structure**

The highlights of the tariff structure approved by the Commission for FY 2019-20 are as follows:

1. No increase has been made in retail tariff for existing categories.
2. The Commission has introduced a new category namely Electric Vehicle Charging Stations for consumers setting up infrastructure for charging of Electric vehicles/ Electric rickshaws etc. and has fixed the tariff as per the guidelines of Ministry of Power, Govt. of India.

# 8. Chapter 8. Open Access Charges for the FY 2019-20

## 8.1. Wheeling Charges

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

#### Petitioner's submission:

The Petitioner has adopted similar methodology as followed by the Commission in the Tariff Order of FY 2018-19. The Petitioner submitted that segregated accounts for Distribution Wires Business and Retail Supply Business have not been prepared yet. The Petitioner has submitted the Wheeling Charges as shown in the table below:

**Table 99: Wheeling Charge calculation as submitted by Petitioner**

| Category   | O&M (INR Cr)  | Others (INR Cr) | Total (INR Cr) | Sales (MU)      | Wheeling Charges (INR/kWh) |
|--|---------------|-----------------|----------------|-----------------|----------------------------|
| Low Tension (LT) Level                                 | 194.48        | 82.89           | 277.37         | 1,847.88        | 1.50                       |
| High Tension (HT)/<br>Extra High Tension(EHT)<br>Level | 0.33          | 55.26           | 55.59          | 2,131.88        | 0.26                       |
| <b>Total</b>   | <b>194.81</b> | <b>138.15</b>   | <b>332.96</b>  | <b>3,979.76</b> |                            |

#### Commission's analysis:

The Commission has a firm view that there has to be a proper bifurcation of all the expenses pertaining to the Petitioner between the functions of the wheeling business (wire business) and the retail supply business. The Regulation 48 of the MYT Regulations, 2018 stipulates the following:

*“48. Separation of Accounts of Distribution Licensee*

*48.1 Every Distribution Licensee shall segregate accounts for Distribution Wires Business and Retail Supply Business and shall prepare an Allocation Statement. The wheeling charges pertaining to Distribution Wires Business of the Distribution Licensee shall be determined by the Commission on the basis of these segregated accounts:*

*Provided that in case complete accounting segregation has not been done, the following Allocation Statement shall be applicable:*

**Table 1: Allocation Statement for segregation of Distribution Wires Business and Retail Supply Business**

| Particulars                                  | Wires Business (%) | Retail Supply Business (%) |
|--|--------------------|----------------------------|
| <i>Power Purchase Expenses</i>               | 0%                 | 100%                       |
| <i>Inter-State Transmission Charges</i>      | 0%                 | 100%                       |
| <i>Intra-State Transmission Charges</i>      | 0%                 | 100%                       |
| <i>Employee Expenses</i>                     | 40%                | 60%                        |
| <i>Administration &amp; General Expenses</i> | 50%                | 50%                        |
| <i>Repair &amp; Maintenance Expenses</i>     | 90%                | 10%                        |
| <i>Capital Cost</i>                          | 90%                | 10%                        |
| <i>Depreciation</i>                          | 90%                | 10%                        |
| <i>Interest on Long-term Loan Capital</i>    | 90%                | 10%                        |



| <b>Particulars</b>   | <b>Wires Business (%)</b> | <b>Retail Supply Business (%)</b> |
|--|---------------------------|-----------------------------------|
| <i>Interest on working capital and on consumer security deposits</i> | 10%                       | 90%                               |
| <i>Bad Debts Written off</i>   | 0%                        | 100%                              |
| <i>Income Tax</i>  | 90%                       | 10%                               |
| <i>Non-Tariff Income</i>   | 10%                       | 90%                               |
| <i>Income from Other Business</i>                                    | 50%                       | 50%                               |

“

Therefore, in absence of segregated accounts, the Commission has considered the allocation matrix as provided in the MYT Regulations, 2018

The allocation between wheeling and retail supply business for the FY 2019-20 as per the ARR approved in this Order is provided in the following table:

**Table 100: Allocation matrix approved by Commission**

| <b>Particulars</b>   | <b>Allocation (%)</b>     |                                   | <b>FY 2019-20</b>              |  |                           |
|--|---------------------------|-----------------------------------|--------------------------------|--|---------------------------|
|  | <b>Wires Business (%)</b> | <b>Retail Supply Business (%)</b> | <b>Wires Business (INR Cr)</b> | <b>Retail Supply Business (INR Cr)</b> | <b>Total ARR (INR Cr)</b> |
| Power purchase expenses inclusive of Inter-State Transmission expenses | 0%                        | 100%                              | 0.00                           | 1555.16                                | 1555.16                   |
| Employee costs   | 40%                       | 60%                               | 117.63                         | 176.45                                 | 294.08                    |
| Administration and General Expenses                                    | 50%                       | 50%                               | 13.55                          | 13.55                                  | 27.10                     |
| Repair and Maintenance Expenses  | 90%                       | 10%                               | 38.29                          | 4.25                                   | 42.55                     |
| Depreciation   | 90%                       | 10%                               | 69.24                          | 7.69                                   | 76.93                     |
| Interest on Loan   | 90%                       | 10%                               | 95.10                          | 10.57                                  | 105.67                    |
| Interest on Working Capital  | 10%                       | 90%                               | 2.97                           | 26.73                                  | 29.70                     |
| Interest on consumer security deposit                                  | 10%                       | 90%                               | 0.67                           | 6.06                                   | 6.74                      |
| Return on Equity   | 90%                       | 10%                               | 88.83                          | 9.87                                   | 98.70                     |
| Bad & Doubtful Debt written off  | 0%                        | 100%                              | 0.00                           | 0.00                                   | 0.00                      |
| Income Tax   | 90%                       | 10%                               | 0.00                           | 0.00                                   | 0.00                      |
| <b>Total Revenue Requirement</b>                                       |                           |                                   | <b>426.28</b>                  | <b>1,810.34</b>                        | <b>2,236.63</b>           |
| Less: Non-Tariff Income  | 10%                       | 90%                               | 2.44                           | 21.96                                  | 24.40                     |
| <b>Net Revenue Requirement</b>   |                           |                                   | <b>423.84</b>                  | <b>1,788.38</b>                        | <b>2,212.23</b>           |

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

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

- O&M Expenses consisting of Employee, A&G and R&M expenses are allocated to each voltage level on the basis of number of consumers
- All expenses other than the O&M expenses are allocated to each voltage level on the basis of voltage wise asset allocation. The Petitioner in this regard was directed to submit the voltage wise asset allocation but

has failed to submit the desired information and in the absence of such information, the Commission has assumed the voltage wise asset allocation.

- 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.

The energy input has been determined assuming the cumulative loss level of HT/EHT voltage as 3.64%, which is the same as approved in the Tariff Order of FY 2018-19. The Petitioner in this regard has failed to submit the voltage wise losses. The resultant losses have been loaded to the LT voltage level in order to maintain the overall Intra-State T&D loss at 10.75% as approved in the ARR of FY 2019-20.

**Table 101: Parameters assumed for voltage wise allocation of wheeling costs**

| Category   | No. of Consumers | Asset Allocation (%) | Sales (MU)      | Cumulative Voltage wise Losses (%) |
|--|------------------|----------------------|-----------------|------------------------------------|
| Low Tension (LT) Level                           | 655,409          | 60.00%               | 1,847.88        | 17.75%                             |
| High Tension (HT)/ Extra High Tension(EHT) Level | 1,122            | 40.00%               | 2,131.88        | 3.64%                              |
| <b>Total</b>                                     | <b>656,531</b>   | <b>100.00%</b>       | <b>3,979.76</b> | <b>10.75%</b>                      |

Accordingly, the Commission approves the Wheeling Charges as shown in the table below:

**Table 102: Allocation of costs based on voltage level**

| Category   | O&M (INR Cr)  | Others (INR Cr) | Total (INR Cr) | Sales (MU)      |
|--|---------------|-----------------|----------------|-----------------|
| Low Tension (LT) Level                           | 169.18        | 152.62          | 321.81         | 1,847.88        |
| High Tension (HT)/ Extra High Tension(EHT) Level | 0.29          | 101.75          | 102.04         | 2,131.88        |
| <b>Total</b>                                     | <b>169.47</b> | <b>254.37</b>   | <b>423.84</b>  | <b>3,979.76</b> |

**Table 103: Wheeling Charges approved by Commission**

| Category  | O&M (INR Cr)  | Others (INR Cr) | Total (INR Cr) | Sales (MU)      | Wheeling Charges (INR/kWh) |
|---|---------------|-----------------|----------------|-----------------|----------------------------|
| Low Tension (LT) Level                            | 169.33        | 203.89          | 373.22         | 1,847.88        | 2.02                       |
| High Tension (HT)/ Extra High Tension (EHT) Level | 0.14          | 50.48           | 50.63          | 2,131.88        | 0.24                       |
| <b>Total</b>                                      | <b>169.47</b> | <b>254.37</b>   | <b>423.84</b>  | <b>3,979.76</b> |                            |

**The Commission approves wheeling charge of INR 2.02/ kWh at LT voltage level and INR 0.24/kWh at HT/EHT voltage level**

## 8.2. Additional Surcharge

### Petitioner's submission:

The Petitioner has computed the additional surcharge based on the methodology followed by the Commission in Tariff Order of FY 2018-19. The additional surcharge determined by the Petitioner for FY 2019-20 has been provided in the table as follows:

**Table 104: Additional Surcharge calculation as submitted by Petitioner**

| Particulars  | FY 2019-20  |
|--|-------------|
| Total Power Purchase cost approved   | 1,573.92    |
| Fixed Cost component in Power Purchase Cost (excluding Transmission Charges) | 372.19      |
| Energy Sales (MU)  | 3,979.76    |
| <b>Additional Surcharge (INR/kWh)</b>  | <b>0.94</b> |

**Commission's analysis:**

The Commission has notified the Joint Electricity Regulatory Commission for the State of Goa And Union Territories (Connectivity and Open Access in Intra-State Transmission and Distribution) Regulations, 2017. 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.*

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 Drawal 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 Drawal of Electricity from the Distribution Licensee during any Time Block shall be 4 MW for any Day during a period of 3 Months.]”*

Therefore, in accordance with the above Regulations, the Commission has determined the Additional Surcharge as per the following:

**Table 105: Additional Surcharge approved by Commission**

| Particulars  | 2019-20     |
|--|-------------|
| Total Power Purchase cost approved   | 1,555.16    |
| Fixed Cost component in Power Purchase Cost (excluding Transmission Charges) | 326.84      |
| Energy Sales (MU)  | 3,979.76    |
| <b>Additional Surcharge (INR/kWh)</b>  | <b>0.82</b> |

As per the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Open Access in Transmission and Distribution) Regulations, 2009, a consumer availing Open Access was required to pay fixed charges on contracted load even when the load was drawn partially from the Distribution Licensee. In addition, the consumer was also required to pay wheeling charges, additional surcharge and the cross-subsidy surcharge.

As per the new “Open Access Regulations, 2017”, a consumer is now required to pay fixed charges on reduced demand after adjusting for demand drawn through Open Access in accordance with the regulation.

The Commission approves an Additional Surcharge of INR 0.82/kwh for FY 2019-20.

The Commission directs the Petitioner to submit quarterly details of the power stranded on account of consumers opting for open access alongwith the Additional Surcharge recovered from these consumers The Commission will analyse the information and change the applicable Additional Surcharge, if required.

### 8.3. Cross-Subsidy Surcharge

#### Petitioner’s submission:

The Petitioner has adopted the same methodology for computation of Cross- Subsidy Surcharge as approved by the Commission in the Tariff Order of FY 2018-19. The cross-subsidy surcharge determined by the Petitioner for FY 2019-20 has been provided in the table as follows:

**Table 106: Cross-Subsidy Surcharge as proposed by the Petitioner**

| Category   | VCoS (INR/kWh) | ABR (INR/kWh) | Cross- Subsidy (INR/kWh) |
|--|----------------|---------------|--------------------------|
| Low Tension (LT) Level                           | 7.17           | 3.82          | (3.34)                   |
| High Tension (HT)/ Extra High Tension(EHT) Level | 4.05           | 5.53          | 1.47                     |

#### Commission’s analysis:

The Commission in this Order has calculated the cross-subsidy surcharge with respect to voltage wise cost of supply. The following approach has been adopted to determine the voltage wise cost of supply:

- Voltage Wise losses are assumed for HT/EHT voltage level. The remaining losses are adjusted in the LT voltage level in order to maintain the Intra-State T&D losses at 10.75%, as approved in the ARR for FY 2019-20. Voltage wise losses assumed at each level have been shown in the table below:

**Table 107: Voltage wise losses assumed by Commission**

| Category   | Voltage Level Loss (%) | Cumulative Losses upto that voltage level (%) |
|--|------------------------|---|
| Low Tension (LT) Level                           | 14.64%                 | 17.75%  |
| High Tension (HT)/ Extra High Tension(EHT) Level | 3.64%                  | 3.64%   |
| <b>Total</b>                                     | <b>10.75%</b>          | <b>10.75%</b>                                 |

Using these losses the energy input at each voltage level is determined based on the energy sales. The following table shows the energy input at each voltage level

**Table 108: Energy Input at each voltage level (MU)**

| Category   | Energy Sales (MU) | Cumulative Losses (%) | Energy Input (MU) |
|--|-------------------|-----------------------|-------------------|
| Low Tension (LT) Level                           | 1,847.88          | 17.75%                | 2,246.70          |
| High Tension (HT)/ Extra High Tension(EHT) Level | 2,131.88          | 3.64%                 | 2,212.41          |
| <b>Total</b>                                     | <b>3,979.76</b>   | <b>10.75%</b>         | <b>4,459.12</b>   |

Now the overall ARR approved for FY 2019-20 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.

The fixed component comprising of fixed cost of power purchase, O&M etc. is further allocated to each voltage category as per the following principles:

- The fixed cost of power purchase is assigned to each voltage level on the basis of energy input at respective voltage levels.
- The O&M expenses are allocated to each voltage level on the basis of the number of consumers. The resultant cost allocated to HT/EHT level is then further allocated between HT/EHT and LT level on the basis of input energy, as the HT/EHT network is utilized by both LT and HT/EHT network consumers.
- The remaining fixed costs are allocated on the basis of voltage wise asset allocation assumed earlier and further allocated to respective voltage levels on the basis of input energy.

**Table 109: Parameters used for allocation of fixed costs**

| Category   | Energy Input (MU) | Voltage wise Asset Allocation (%) | Number of Consumers |
|--|-------------------|-----------------------------------|---------------------|
| Low Tension (LT) Level                           | 2,246.70          | 60.00%                            | 655,409             |
| High Tension (HT)/ Extra High Tension(EHT) Level | 2,212.41          | 40.00%                            | 1,122               |
| <b>Total</b>                                     | <b>4,459.12</b>   | <b>100.00%</b>                    | <b>656,531</b>      |

The Variable component of the Power purchase cost is allocated on the basis of energy input.

The Voltage wise cost of supply (VCoS) is then determined on the basis of energy sales of respective categories.

Accordingly, the VCoS is determined as shown in the table below:

**Table 110: Voltage Wise Cost of Supply (VCoS)**

| Category   | Allocated Fixed Cost (INR Cr) | Allocated Variable Cost (INR Cr) | Total Cost (INR Cr) | Energy Sales (MU) | VCoS (INR/kwh) |
|--|-------------------------------|----------------------------------|---------------------|-------------------|----------------|
| Low Tension (LT) Level                           | 861.49                        | 520.61                           | 1,382.10            | 1,847.88          | 7.49           |
| High Tension (HT)/ Extra High Tension(EHT) Level | 317.46                        | 512.67                           | 830.13              | 2,131.88          | 3.89           |
| <b>Total</b>                                     | <b>1,178.94</b>               | <b>1,033.28</b>                  | <b>2,212.23</b>     | <b>3,979.76</b>   |                |

This, VCoS is then used to determine the Cross-Subsidy Surcharge at each voltage level.

**Table 111: Cross-Subsidy Surcharge approved by Commission (INR/kWh)**

| Category   | VCoS (INR/kWh) | ABR (INR/kWh) | Cross- Subsidy (INR/kWh) |
|--|----------------|---------------|--------------------------|
| Low Tension (LT) Level                           | 7.48           | 4.18          | -                        |
| High Tension (HT)/ Extra High Tension(EHT) Level | 3.89           | 5.48          | 1.58                     |

**The Commission approves nil Cross-Subsidy Surcharge at LT Voltage level and INR 1.58/kWh at HT/EHT Voltage level, in FY 2019-20.**

## 9. Chapter 9. Fuel and Power Purchase Adjustment Mechanism

The State of Goa and Union Territories of Andaman & Nicobar Islands, Lakshadweep, Chandigarh, Daman & Diu, Dadra & Nagar Haveli and Puducherry receive power from the Central Generating Stations, State Generating Stations, Independent Power Producer's (IPP's) through the long-term power purchase agreements and short-term purchases – through exchange, bilateral purchases etc. The distribution licensees procure power from various available sources and supply power to the consumers at retail tariffs determined by the Commission. Power purchase cost accounts for more than 80% of the Annual Revenue Requirements (ARR) of the distribution licensees and includes the cost paid for procurement of power, transmission charges, Deviation Settlement Mechanism (DSM) charges, State Load Dispatch Center (SLDC)/ Regional Load Dispatch Center (RLDC) charges and is netted off with revenue earned from the sale of surplus power.

The cost of the long term power being procured by the distribution licensees is fixed by the Central Electricity Regulatory Commission (CERC) for plants supplying power to more than one State/UT (for example NTPC, NHPC etc.) and by the JERC for plants located within its territory/state (for IPP's, licensees own generation and other State generating sources). Charges for the Over-drawl/Under-drawl from the Grid and the Inter State Transmission charges, RLDC charges are fixed by the CERC, while Intra-State Transmission charges and SLDC charges are fixed by the JERC. Short-term purchase/ sale of power is done through traders, bilateral contracts, banking and power exchanges at market determined prices.

While determining retail tariff for any year, the Commission first determines the ARR based on the projection of various cost elements including power purchase cost. Power purchase cost of the distribution licensee is derived from the power purchase quantum and per unit power purchase cost. Quantum of power purchase depends upon the energy sales to the retail consumer and distribution losses, out of which energy sales is not under the control of the distribution licensee. There is also variation in actual per unit power purchase cost vis-a-vis projected per unit power purchase cost due to change in fuel cost, change in power purchase mix i.e. thermal /hydel/renewable mix, long term/short term power mix etc. This makes power purchase cost uncontrollable in nature.

The Commission undertakes the trueing up exercise for the variation in the cost and revenue once the audited accounts of the distribution licensee are available. For example, True-up of the FY 2017-18 will be undertaken by the Commission once the audited accounts of the FY 2017-18 are available. If the audited accounts for the FY 2017-18 are prepared timely, the impact of True-up of various cost and revenue items is allowed in the tariff of the FY 2019-20, along with the carrying cost for 2 years. As the power purchase cost is the major cost element of the ARR of the distribution licensee, adjustment due to change in power purchase cost at regular intervals is important in order to avoid the burden of carrying cost on the additional power purchase cost incurred during the year.

### 9.1. Legal Provisions

The relevant provisions of the Electricity Act, Regulations, Policy document and the ATE judgments, which enable the Commission to devise, adopt and implement a power purchase/ fuel price adjustment mechanism are as follows:-

#### (a) Indian Electricity Act, 2003- Section 62 (4)

*“No tariff or part of any tariff may ordinarily be amended more frequently than once in any financial year, except in respect of any changes expressly permitted under the terms of any fuel surcharge formula as may be specified.”*

**(b) Tariff Policy, 2016, clause 5.11 – sub clause (h-4)**

*“Uncontrollable costs should be recovered speedily to ensure that future consumers are not burdened with past costs. Uncontrollable costs would include (but not limited to) fuel costs, costs on account of inflation, taxes and cess, variations in power purchase unit costs including on account of adverse natural events.”*

**(c) Tariff Policy, 2016, clause 8.2– sub clause 8.2.1-(1)**

*“8.2 Framework for revenue requirements and costs*

*Actual level of retail sales should be grossed up by normative level of T&D losses as indicated in MYT trajectory for allowing power purchase cost subject to justifiable power purchase mix variation (for example, more energy may be purchased from thermal generation in the event of poor rainfall) and fuel surcharge adjustment as per regulations of the SERC.”*

**(d) Hon’ble ATE judgement in OP1 of 2011 dated 11 November, 2011**

The Hon’ble ATE directed the SERCs to develop a power purchase cost adjustment mechanism within six months of the date of the Order. The relevant excerpt of the Order is shown as follows:

*“(vi) Fuel and Power Purchase cost is a major expense of the distribution Company which is uncontrollable. Every State Commission must have in place a mechanism for Fuel and Power Purchase cost in terms of Section 62 (4) of the Act. The Fuel and Power Purchase cost adjustment should preferably be on monthly basis on the lines of the Central Commission’s Regulations for the generating companies but in no case exceeding a quarter. Any State Commission which does not already have such formula/mechanism in place must within 6 months of the date of this Order must put in place such formula/mechanism.”*

## 9.2. Formula

The following mechanism shall be followed for calculation and passing on of variations in the Fuel and Power Purchase Cost Adjustment (FPPCA) in the end consumer tariff, which shall come into force w.e.f. 1<sup>st</sup> April 2019 (i.e. Power Purchased by the Licensee from 1<sup>st</sup> April 2019 onwards).

### 1. Periodicity for recovery (Cycle)

The licensee shall compute the fuel and power procurement cost variations on a quarterly basis. The adjustment shall be made in the consumers bills starting after a month following the end of the quarter on the units billed in the months following the quarter.

For example, FPPCA for the quarter April- June shall be done in the month of July and shall be reflected in the consumer bills raised in the months of August, September and October on the units billed for the months of July, August and September respectively.

### 2. Chargeability

FPPCA charges shall be levied on all consumer categories excluding Below Poverty Line (BPL) and Agriculture category consumers on per unit basis on consumption depending on the billing cycle.

### 3. Formula

The FPPCA formula shall contain the following three components:

1. Power Purchase Cost adjustments which shall contain the following elements:
  - Variation in the Power Purchased from long term/ firm sources viz. CGS, IPP’s, State, Own generation etc. This may consist of fixed cost, variable costs, arrears, other charges but excluding any kind of penalties

- Variation in Short term power purchase cost through IEX, Bilateral etc. (shall be allowed upto a certain ceiling rate as may be fixed in the Tariff Order by the Commission).
  - Variation on account of Deviation Settlement Mechanism – Shall be allowed, but the incentive/penalty shall be excluded
2. Transmission cost adjustments which shall contain the following elements:
    - Variation on account of Central Transmission Charges including arrears/ revisions.
    - Variation on account of State Transmission charges including arrears/revisions
  3. Other Charges which shall contain all the other elements not forming part of the above two components for example:
    - Any adjustments /reversals due to over recovery of charges
    - Any adjustments due to under recovery of charges in case the Commission decides to limit the FPPCA charges in previous quarters to avoid tariff shock or other reasons
    - Any other adjustments on account of factors not envisaged at the time of tariff fixation
  4. Less any revenue from Additional Surcharge collected from Open Access consumer towards the stranded power purchase cost.

Based on the components as defined above, the new FPPCA formula can be represented as follows:

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

Where:

- *Pact* (in Rs. Cr.): Actual Power purchase cost inclusive of fixed cost, variable costs, arrears, and other charges excluding any kind of penalties incurred in the quarter. This shall include:
  - Cost of procurement from sources outside the State,
  - Cost of procurement from sources within the State,
  - Cost of DSM excluding any penal charges,
  - Cost of procurement from the Bilateral/ exchange etc.
  - Less: Revenue from sale of surplus power/ DSM
- *Tact* (in Rs. Cr.): Actual Transmission cost inclusive of any kind of arrears, other charges etc. and excluding any kind of penalties incurred in the quarter. This shall include:
  - Inter-State transmission cost (PGCIL charges),
  - Intra-State transmission cost
- *Oact* (in Rs. Cr.): Adjustments from the previous FPPCA quarter on account of over/ under recovery and any other incidental costs not accounted for at the time of retail tariff fixation
- *ASact* (in Rs. Cr.): Revenue from Additional Surcharge collected from Open Access consumer towards the stranded power purchase cost
- *PPOact* (in MU): Quantum of power purchased in the quarter from sources outside State/ Union Territory
- *TLapp* (in %): Approved Inter- State transmission losses for the year in consideration as provided in the relevant Tariff Order



- *PPIact (in MU)*: Quantum of power purchased in the quarter from sources within State/Union Territory, Bilateral/ Exchange and Over-drawal under the DSM
- *PSOact (in MU)*: Actual quantum of sale of surplus power/ under-drawal under the DSM in the quarter
- *DLapp (in %)*: Approved T&D losses for the year in consideration as provided in the relevant Tariff Order
- *Zact (in MU)*: Actual energy sales for agriculture and BPL category consumers in the quarter

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

- *Papp (in Rs. Cr.)*: Total power purchase cost approved in the Tariff Order for a quarter inclusive of fixed costs, variable costs etc. and containing the following elements:
  - Cost of procurement from sources outside the State,
  - Cost of procurement from sources within the State,
  - Cost of procurement from the Bilateral/ exchange etc.
  - Less: Revenue from sale of surplus power
- *Tapp (in Rs. Cr.)*: Total transmission charges approved in the Tariff Order for a quarter consisting of the following elements:
  - Inter-State transmission charges (PGCIL charges),
  - Intra-State transmission charges
- *PPOapp (in MU)*: Quantum of power to be procured from sources outside State/ Union Territory in a quarter as approved in the Tariff Order
- *TLapp (in %)*: Approved Inter- State transmission losses for the year in consideration as provided in the relevant Tariff Order
- *PPIapp (in MU)*: Quantum of power to be procured from sources within the State, bilateral/ exchange in a quarter as approved in the Tariff Order
- *DLapp (in %)*: Approved T&D losses for the year in consideration as provided in the Tariff Order
- *PSOapp (in MU)*: Quantum of sale of surplus power approved in the Tariff Order for a quarter
- *Zapp (in MU)*: Sales for agriculture and BPL category consumers for a quarter as approved in the relevant Tariff Order

#### 4. Other Terms and conditions

1. For the purpose of the Fuel and Power Purchase Cost Adjustment, all the bills admitted and credits, if any, received by the distribution licensee during the period in consideration, irrespective of the period to which they pertain, may be considered.
2. The FPPCA charges determined as per the formula above may be recovered from the consumers of all categories based on their billed units excluding the BPL and the agriculture category consumers.
3. The FPPCA charges for a quarter shall be limited to a  $\pm 10\%$  of the ABR of the consumer category. The distribution licensee shall be allowed to collect the FPPCA without obtaining approval from the Commission. However, the distribution licensee shall be required to submit the FPPCA calculation to the Commission at least one week before levying the same on the consumers.

4. The per unit FPPCA so worked out is charged differentially as per the approved retail tariff of the consumers. The determination of differential per unit FPPCA is mentioned below:

- Step 1: Determination of Value of K

$$K = \frac{\text{Approved Retail Tariff for a category or sub category } \left(\frac{\text{Rs.}}{\text{unit}}\right)}{\text{Weighted Average Retail Tariff (WART)} \left(\frac{\text{Rs.}}{\text{unit}}\right)}$$

The value of K for different consumer category or sub category for the year in consideration is considered as approved in this Tariff Order.

- Step 2: Determination of proportionate FPPCA (INR/unit) consumer category/sub-category wise

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

5. The Petitioner shall compute the fuel and power procurement cost variations, and adjustments shall be made in the consumer bills based on the FPPCA formula as approved by the Commission in this Order.

For the purpose of calculation, the approved per unit cost of power purchase ( $R_{\text{approved}}$ ) shall be taken as INR 3.93/kWh for the FY 2019-20.

**Table 112:  $R_{\text{approved}}$  determined by Commission for FY 2019-20**

| Particulars  | Amount      |
|--|-------------|
| Total Power Purchase Cost (INR Cr ), $P_{\text{app}}$  | 1,360.12    |
| Transmission Charges (INR Cr), $T_{\text{app}}$  | 195.04      |
| Power Purchase Quantum from CGS Stations at Ex-Bus Periphery (NTPC, NPCIL, NEEPCO) (MU), $PPO_{\text{app}}$      | 3,904.83    |
| Approved Weighted Average Inter-State Transmission Loss (%), $TL_{\text{app}}$                                   | 4.30%       |
| Power Purchase Quantum from sources within State/ Open Market (Own Gen and Open Market) (MU), $PPI_{\text{app}}$ | 728.23      |
| Quantum of Sale of Surplus Power (MU), $PSO_{\text{app}}$  | -           |
| Approved Intra-State T&D Loss (%), $DL_{\text{app}}$   | 10.75%      |
| Energy Sales for LIG/BPL and Agriculture consumer category (MU), $Z_{\text{app}}$ (MU)                           | 29.05       |
| <b><math>R_{\text{app}}</math> (INR/kWh)</b>   | <b>3.93</b> |

# 10. Chapter 10: Directives

**Over the years, the Commission has issued various directives to the Petitioner for necessary action at its end. It has been observed that the Petitioner is not fully complying with many of the directives issued by the Commission. In order to strengthen the effective monitoring and ensure timely implementation of all the directives in true spirit, the Commission hereby directs that the Petitioner shall now submit:**

- **The detailed action plan for compliance of all the directives within 1 month of the issuance of this Order.**
- **The quarterly progress report as per the detailed action plan for all the directives issued in the subsequent sections within 10 days of the end of each quarter of the calendar year.**

## 10.1. Directives continued in this Order

While examining the compliance note and supporting documents submitted by the Petitioner in the present Petition, it is observed that some of the directives issued in the previous Tariff Orders have not been fully complied with by the Petitioner.

The Commission is of the view that substantial time has already been given to the utility for compliance with these directions. Thus, the Commission hereby directs the utility to comply with the directions mentioned below in the given timeframe, failing which the Commission shall be constrained to initiate necessary action under Section 142 of the Electricity Act 2003 read with other provisions of the Act, and Regulations made there under.

### 10.1.1. Annual Statement of Accounts

|   |
|---|
| <p><b>Originally Issued in Tariff Order dated 27<sup>th</sup> June 2012</b></p>   |
| <p><b>Commission's Latest Directive in Tariff Order dated 23<sup>rd</sup> May 2017</b></p> <p><i>The Commission appreciates the effort undertaken by the Petitioner for the preparation of audited accounts on commercial principles. However, the Commission is of the view that while the Commission has undertaken the True-up for the FY 2011-12 and FY 2012-13 in this Order, in normal course and as per the provisions of Tariff Regulations 2009, the True-up upto FY 2015-16 should have been done in this Order.</i></p> <p><i>The Commission has taken a serious note of this and directs the Petitioner to undertake necessary actions on priority so as to ensure that all the True-ups of FY 2013-14 to FY 2016-17 (along with audited accounts) are submitted with the Tariff Petition of FY 2018-19.</i></p> <p><i>The Commission shall be constrained to take appropriate action against the Petitioner in case of further non-compliance.</i></p> |
| <p><b>Petitioner's Response in the Present Tariff Petition</b></p> <p><i>CAG audit for FY 2014-15 is completed and CAG certificate is awaited and it is expected that the CAG certificate for the same will be submitted prior to the date of Public Hearing.</i></p> <p><i>The draft Accounts for FY 2015-16 are prepared &amp; the same is submitted to CAG. Audit for the same shall start shortly. With respect to FY 2016-17 and FY 2017-18, data collection and account preparation are in progress.</i></p>  |
| <p><b>Commission's Response</b></p> <p><i>The Commission has undertaken the True-up for the FY 2014-15 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 2017-18 should have been done in this Order.</i></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 2015-16 within two months of issuance of this order and from FY 2016-17 onwards by 30<sup>th</sup> November 2019.*

*The Electricity Wing of Engineering Department, Chandigarh where commercial accounts were got audited from CAG for multiple years together to clear the back log and now their true up is done timely. Similar approach may be followed by the Petitioner.*

### **10.1.2. Preparation of Fixed Asset Register**

#### **Originally Issued in Tariff Order dated 27<sup>th</sup> June 2012**

#### **Commission's Latest Directive in Tariff Order dated 23<sup>rd</sup> May 2017**

*The Commission has noted with serious concern that the Petitioner is yet to submit the Fixed Asset and Depreciation Register. In previous year's submission also, the Petitioner had communicated the following: "GIS mapping of the assets will be completed as the part of RAPDRP Part A by 31st March 2016".*

*Further, the Petitioner has not given any reason for delay in completion of GIS Mapping. The Commission would like the Petitioner to take note of the fact that such submissions without any justifications are not appreciated by the Commission.*

*The Commission now direct the Petitioner to submit action plan along with timelines for preparation of Fixed Assets and Depreciation Register for previous years within 1 month of issuance of this Order. The Commission will be constrained to take appropriate action in case of further non-compliance by the Petitioner.*

#### **Petitioner's Response in the Present Tariff Petition**

*FAR for FY 2015-16 & FY 2016-17 are prepared and finalized and the same have been provided as part of the Petition. Data collection for FAR for FY 2017-18 is in progress.*

#### **Commission's Response**

*The Commission has noted with serious concern that the Petitioner is yet to submit the Fixed Asset Register upto FY 2017-18. The Petitioner is directed expedite the process and submit the FAR upto FY 2018-19 along with the next tariff petition. The Petitioner is required to ensure that the FAR submitted in the next petition should provide the details (nature and value) of assets depreciated upto 90% in the relevant year.*

### **10.1.3. Energy Audit Reports**

#### **Originally Issued in Tariff Order dated 27<sup>th</sup> June 2012**

#### **Commission's Latest Directive in Tariff Order dated 23<sup>rd</sup> May 2017**

*The Commission has noted with serious concern that the Petitioner is yet to submit the Energy Audit Reports for previous years*

*The Commission now direct the Petitioner to submit action plan along with timelines for preparation of Energy Audit Report within 1 month of issuance of this Order. The Commission will be constrained to take appropriate action in case of further non-compliance by the Petitioner*

#### **Petitioner's Response in the Present Tariff Petition**

*It is submitted that ED-Goa has implemented SAP and AMR modules to track real time data. Certain communication / modem issues are there, as soon as they are resolved, ED-Goa shall submit the Energy Audit report to the Commission at least till Feeder level.*

#### **Commission's Response**

*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 to resolve the long pending communication/modem issues and complete the Energy Audit of the State on priority.*

### 10.1.4. Employee Cost / Manpower study

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| <p><b>Originally Issued in Tariff Order dated 27<sup>th</sup> June 2012</b></p>   |
| <p><b>Commission's Latest Directive in Tariff Order dated 23<sup>rd</sup> May 2017</b></p> <p><i>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.</i></p> <p><i>The Commission now direct the Petitioner to submit action plan along with timelines for preparation of a systematic manpower study report with a specific focus on manpower rationalization within 2 months of issuance of this Order. The Commission will be constrained to take appropriate action in case of further non-compliance by the Petitioner.</i></p> |
| <p><b>Petitioner's Response in the Present Tariff Petition</b></p> <p><i>The draft report has been prepared and finalization of the same is in progress. The same shall be submitted along with the next quarterly progress report of the directives.</i></p>   |
| <p><b>Commission's Response</b></p> <p><i>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.</i></p> <p><i>The Commission directs the Petitioner to finalise the draft report and submit the same for the decision of the State Govt. with the next quarterly progress report</i></p>   |

### 10.1.5. Interest on Consumer Security Deposit

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|--|
| <p><b>Originally Issued in Tariff Order dated 31<sup>st</sup> March 2013</b></p>   |
| <p><b>Commission's Latest Directive in Tariff Order dated 23<sup>rd</sup> May 2017</b></p> <p><i>The Commission directs the Petitioner to pay the interest on consumer security deposit in the bills of as per the provisions of JERC supply code regulations 2009.</i></p> <p><i>The Commission observes that while the Petitioner has undertaken some efforts towards compliance of this directive, still substantial payment is yet to be done by the Petitioner. The Commission is of the view that substantial time has already been given to the Petitioner. The Commission now directs the Petitioner to compute the quantum of backlog and ensure payment of balance security deposit pertaining to previous years before 31<sup>st</sup> August 2017. No further extension will be entertained by the Commission in this matter and in case of further non-compliance, the Commission will be constrained to take appropriate action under Section 142 of the Electricity Act 2003.</i></p> |
| <p><b>Petitioner's Response in the Present Tariff Petition</b></p> <p><i>The backlog of interest on security deposit from FY 2015-16 to FY 2016-17 is cleared and for FY 2017-18 is being streamlined and payment to consumers is being done.</i></p>  |
| <p><b>Commission's Response</b></p> <p><i>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 2018-19 latest by 31<sup>st</sup> August 2019 in accordance with the MYT Regulations, 2018.</i></p>   |

### 10.1.6. Sub Divisions as Strategic Business Units

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|--|
| <b>Originally Issued in Tariff Order dated 06<sup>th</sup> April 2015</b>  |
| <p><b>Commission's Latest Directive in Tariff Order dated 23<sup>rd</sup> May 2017</b></p> <p><i>The Commission directs the Petitioner to submit the sub-division wise status report of readiness of all the sub-divisions towards introduction of the system of Cost-Revenue Centre Oriented Sub Divisions within 2 months of issuance of this Order.</i></p>   |
| <p><b>Petitioner's Response in the Present Tariff Petition</b></p> <p><i>EDG has identified Division III and is in the process of implementation of the system, the report of the same shall be provided to the Commission in due course of time.</i></p>  |
| <p><b>Commission's Response</b></p> <p><i>The Commission has noted the submission of the Petitioner. The Commission directs the Petitioner to submit the report of this pilot project along with the sub-division wise status report of readiness of all the sub-divisions towards introduction of the system of Cost-Revenue Centre Oriented Sub Divisions within 3 months of issuance of this Order.</i></p> |

### 10.1.7. Installation of Pre Paid Meters

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|---|
| <b>Originally Issued in Tariff Order dated 06<sup>th</sup> April 2015</b>   |
| <p><b>Commission's Latest Directive in Tariff Order dated 23<sup>rd</sup> May 2017</b></p> <p><i>The Commission would like to highlight the Petitioner has long history of issues related to billing and collection. The pre-paid meters, though being costly as compared to conventional meters, will be cost effective in longer run. Further, GoI is already focusing on installation of smart meters.</i></p> <p><i>Thus, the Commission now directs the Petitioner to finalize and submit a proposal for installation of smart meters for following consumers:</i></p> <ol style="list-style-type: none"> <li><i>1. All HT and EHT Consumers</i></li> <li><i>2. LT Industries and Hotel Industries</i></li> <li><i>3. All Government Connections</i></li> <li><i>4. All connections whose premises remain locked for 3 or more months in a year.</i></li> </ol> <p><i>The Petitioner is directed to submit this proposal within 4 months of issuance of this Order failing which the Commission will be constrained to take appropriate action against the Petitioner.</i></p> |
| <p><b>Petitioner's Response in the Present Tariff Petition</b></p> <p><i>Further to Commission's direction, EDG has decided to install prepaid meters for all the temporary connections (approx. 12000 consumers), the report on the same shall be submitted by next tariff petition.</i></p>   |
| <p><b>Commission's Response</b></p> <p><i>The Commission directs the Petitioner to expedite the process of installation of prepaid meters and submit a compliance report along with the filing of the next tariff petition.</i></p>   |

### 10.1.8. Unbundling of Electricity Department

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| <b>Originally Issued in Tariff Order dated 06<sup>th</sup> April 2015</b>   |
| <p><b>Commission's Latest Directive in Tariff Order dated 23<sup>rd</sup> May 2017</b></p> <p><i>The Commission has noted the submission of the Petitioner. The Commission directs the Petitioner to actively pursue the unbundling of the Department with the Government of Goa and submit quarterly progress reports in this regard.</i></p>  |
| <p><b>Petitioner's Response in the Present Tariff Petition</b></p> <p><i>EDG reiterates its stand in last tariff petition and requests the Hon `ble Commission to drop the said directive as there is no specific directive for unbundling of EDG from the State Government.</i></p>  |
| <p><b>Commission's Response</b></p> <p><i>The Commission directs the Petitioner to submit the proposal to the State Govt. by June 30<sup>th</sup> 2019. Till such time a decision is taken by the State Govt. ring fencing of the transmission functions should be initiated. Further, it is directed that the Petitioner should increase its efforts towards making the State Load Dispatch Center (SLDC) fully operational.</i></p> |

### 10.1.9. Renewable Purchase Obligation

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| <b>Originally Issued in Tariff Order dated 06<sup>th</sup> April 2015</b>   |
| <p><b>Commission's Latest Directive in Tariff Order dated 23<sup>rd</sup> May 2017</b></p> <p><i>The Commission directs the Petitioner to submit the status of finalization of Solar Policy within 1 month of issuance of this Order.</i></p>   |
| <p><b>Petitioner's Response in the Present Tariff Petition</b></p> <p><i>EDG has already tied up for entire quantum of RPO obligation (both solar &amp; non-solar) for FY 2018-19. For the H1 upto 30<sup>th</sup> September 18. ED-Goa has already procured 45.72 MUs of Solar and 44 MUs Non-Solar power.</i></p> <p><i>Besides this, ED-Goa also invites tenders through DEEP portal to procure Solar &amp; Non-Solar deficit quantum power to fulfil its RPO obligation (if required). Projection in this petition for FY 2018-19 is considered accordingly to meet full RPO.</i></p> |
| <p><b>Commission's Response</b></p> <p><i>The Commission has noted the submission of the Petitioner. The Solar policy may be utilized for increasing the solar installations in the State. More efforts should be made to purchase physical power instead of REC's.</i></p>   |

### 10.1.10. Billing and Collection Efficiency

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|---|
| <b>Originally Issued in Tariff Order dated 06<sup>th</sup> April 2015</b>   |
| <p><b>Commission's Latest Directive in Tariff Order dated 23<sup>rd</sup> May 2017</b></p> <p><i>The Commission notes with serious concern the state of affairs of operation of the department. The Commission directs the Petitioner to take all necessary actions on priority so as to resolve all the issues pertaining to billing and collection and report the status along with next Tariff Filing.</i></p> |
| <p><b>Petitioner's Response in the Present Tariff Petition</b></p> <p><i>ED-Goa has transitioned from normal billing to SAP system and the billing and collection process is being streamlined to resolve all billing and collection issues.</i></p> <p><i>The Billing and Collection Efficiency shall be submitted to the Commission in the next quarter progress report.</i></p>                                |

**Commission's Response**

*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 2018-19 and T&D loss level of 10.75%. The Commission directs the Petitioner to take all necessary actions on priority so as to resolve all the issues pertaining to billing and collection and report the status along with next Tariff Filing.*

**10.1.11. Creation of SLDC****Originally issued in Tariff Order dated 28<sup>th</sup> March 2018****Commission's Directive in Tariff Order dated 28<sup>th</sup> March 2018**

*Currently, the functions of scheduling of power is being performed by the EDG itself. The Commission directs the Petitioner to fully operationalize a separate SLDC which is ring fenced from the EDG. The Petitioner is directed to deploy suitable employees dedicated for the SLDC functions.*

**Petitioner's Response in the Present Tariff Petition**

*Further, ED-Goa is in process of strengthening more manpower in SLDC to streamline the continuous working of SLDC.*

**Commission's Response**

*A time bound Action Plan for fully operationalizing the SLDC may be drawn up. This shall facilitate the efficient power procurement. Further it shall also help in safeguarding the interests of ED, Goa once Open access is operationalized besides facilitating the open access. The Petitioner is directed to streamline the SLDC operations and strengthen the manpower.*

**10.1.12. kVAh based tariff****Issued in Tariff Order dated 23<sup>rd</sup> May 2017****Commission's Directive in Tariff Order dated 23<sup>rd</sup> May 2017**

*The Petitioner in the proceedings of this Tariff Order failed to submit the requisite data such as Power factor, kVAh readings etc. to implement kVAh based energy charges for HT/EHT consumers. The Petitioner is hereby directed to submit the status of technological readiness of these high voltage consumers and the requisite information of incentive/disincentive on account of power factor rebate/ penalty, power factor for different categories and kVAh based readings of FY 2017-18 along with the filing of the next tariff petition.*

**Petitioner's Response in the Present Tariff Petition**

*All the HT/EHT consumers have CT/PT and maximum demand meters installations and their kWh and KVAh reading is recorded on monthly basis. EDG also submits that recently SAP system has been implemented for billing and collection purpose. Accordingly all the HT/EHT consumers and EDG are technologically ready to implement KVAh base energy charges. Requisite data such as power factor, kVAh readings etc. for HT/EHT consumers is attached as Annexure - 7 to the tariff petition of FY 2019-20*

**Commission's Response**

*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 along with the next tariff petition.*



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## ***10.2. New Directives issued in this Order***

### ***10.2.1. Determination of Category wise/ Voltage wise Cost of supply***

The Petitioner is hereby directed to submit a proposal for category wise cost of supply along with the Tariff Petition for the next year. The Petitioner in this regard is directed to start collecting category wise and voltage wise data on losses, connected load, asset allocation etc. for prudent determination of the cost of supply.

### ***10.2.2. 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***

The Petitioner is hereby directed to submit the true-up petition along with the audited accounts for FY 2015-16 within two months of issuance of this order. Further the Petitioner is directed to submit the petition on true-up from FY 2016-17 to FY 2018-19 along with the APR of FY 2019-20 based on reliable data by 30<sup>th</sup> November 2019.

# 11. Chapter 11: Tariff Schedule

## 11.1. Tariff Schedule

**Table 113: Tariff Schedule**

| S. No.   | Category   | Approved Tariff  |                          |
|----------|--|--|--------------------------|
|          |  | Fixed Charges  | Energy Charges (INR/kWh) |
| <b>1</b> | <b>DOMESTIC</b>                                      |  |                          |
| <b>A</b> | <b>Low Tension-D/LT-D</b>                            |  |                          |
|          | 0-100 units  | Single Phase<br>INR 25/Con/Month   | 1.40                     |
|          | 101-200 units  |  | 2.10                     |
|          | 201 to 300 units                                     | Three Phase<br>INR 60/Con/Month  | 2.65                     |
|          | 301 to 400 units                                     |  | 3.45                     |
|          | Above 400 units                                      |  | 4.00                     |
| <b>B</b> | <b>Low Tension-LIG/LT-LIG</b>                        | INR 40/Con/Month   |                          |
| <b>C</b> | <b>High Tension-D/HT-D</b>                           | INR 100/kVA/Month  | 3.45                     |
|          |  |  |                          |
| <b>2</b> | <b>COMMERCIAL</b>                                    |  |                          |
| <b>A</b> | <b>Low Tension-C/LT-C</b>                            |  |                          |
|          | 0-100 units  | For consumers with Load upto<br>20 kW<br>INR 50/Con/Month                    | 3.40                     |
|          | 101-200 units  |  | 4.10                     |
|          | 201 units- 400 units                                 | For consumers with Load more<br>than 20 kW and upto 90 kW<br>INR 55/kW/Month | 4.60                     |
|          | Above 400 units                                      |  | 5.00                     |
| <b>B</b> | <b>High Tension-C/HT-C</b>                           | INR 250/kVA/month  | 5.50                     |
|          |  |  |                          |
| <b>3</b> | <b>INDUSTRIAL</b>                                    |  |                          |
| <b>A</b> | <b>Low Tension-I/LT-I</b>                            |  |                          |
|          | 0-500 units  | INR 35/HP/Month  | 3.30                     |
|          | Above 500 units                                      | INR 35/HP/Month  | 3.80                     |
| <b>B</b> | <b>Low Tension-Mixed/LT-P (Hotel Industries)</b>     | INR 40/kW/Month  | 4.70                     |
| <b>C</b> | <b>High Tension-I/HT-I</b>                           |  |                          |
|          | Connected at 11/33 kV                                | INR 250/kVA/Month  | 4.50                     |
|          | Connected at 110 kV                                  | INR 250/kVA/Month  | 4.40                     |
| <b>D</b> | <b>High Tension-Ferro/SM/PI/SR</b>                   | INR 250/kVA/Month  | 4.50                     |
|          |  |  |                          |
| <b>4</b> | <b>AGRICULTURAL</b>                                  |  |                          |
| <b>A</b> | <b>Low Tension-AG/LT-AGP (Pump Sets/Irrigation)</b>  | INR 15/HP/Month  | 1.40                     |
| <b>B</b> | <b>Low Tension-AG/LT-AGA (Allied Activities)</b>     | INR 20/HP/Month  | 1.70                     |
| <b>C</b> | <b>High Tension-AG/HT-AGP (Pump Sets/Irrigation)</b> | INR 35/kVA/Month   | 1.50                     |

| S. No. | Category   | Approved Tariff  |                          |
|--------|--|--|--------------------------|
|        |  | Fixed Charges  | Energy Charges (INR/kWh) |
| D      | High Tension-AG/HT-AG (Allied Activities)            | INR 60/kVA/Month   | 1.90                     |
| 5      | MILITARY ENGINEERING SERVICES/DEFENSE ESTABLISHMENTS | INR 175/kVA/Month  | 5.00                     |
| 6      | PUBLIC LIGHTING                                      | INR 50/kW/Month  | 4.10                     |
| 7      | HOARDINGS/SIGNBOARDS                                 | INR 60/kVA/Month   | 9.90                     |
| 8      | TEMPORARY SUPPLY                                     | <p>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.</p> <p>For multi activity pursuit, applicable Tariff for temporary connection shall be with reference to that of commercial category for permanent supply.</p> |                          |
| 9      | SINGLE POINT SUPPLY                                  |  |                          |
| A      | Residential Complexes                                | INR 100 per kVA per month or part thereof  | 3.45                     |
| B      | Commercial Complexes                                 | INR 200 per kVA per month or part thereof  | 4.60                     |
| C      | Industrial Complexes                                 | INR 200 per kVA per month or part thereof  | 4.20                     |
| 10     | ELECTRIC VEHICLE CHARGING STATION                    | INR 100/kVA/Month  | 4.20                     |

## 11.2. Applicability

**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.

**High Tension/ Extra High Tension Category** - Applicable to Power Supply of Voltages at 11KV/ 33KV/ 110KV and above 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.

**Table 114: Applicability of Tariff Schedule**

| Category       | Applicability  | Point of Supply/Notes  |
|----------------|--|--|
| 1. LT Domestic | This schedule shall apply to private residential houses, government residential quarters, charitable institutions or educational institutions aided by State / Central Board, colleges aided by Goa University and religious | a. 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 Rs1000/-. |

| Category                         | Applicability  | Point of Supply/Notes   |
|----------------------------------|--|---|
|                                  | <p>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>   |   |
| <b>2. HT Domestic</b>            | <p>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.</p>  |   |
| <b>3. Low Income Group</b>       | <p>This schedule shall apply to consumers of Low Income Group who have a sanctioned load of up to 0.1 kW (primarily 2 points with 2 x 40 watts) and who consume up to 30 units per month only.</p>   | <p>The applicability of the Low Income Group category will be assessed at the end of each month and in case the consumption exceeds 30 units per month, the entire consumption would be billed at the rate of LTD-/Domestic for that particular month.</p>                            |
| <b>4. Commercial – LT and HT</b> | <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 educational institutions, private hospitals, private messes, Internet /</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> |

| Category                       | Applicability  | Point of Supply/Notes  |
|--------------------------------|--|--|
|                                | <p>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</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, Micro Wave 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> </ul> |  |
| <p><b>5. LT Industrial</b></p> | <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</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> |

| Category   | Applicability  | Point of Supply/Notes   |
|--|--|---|
|  | <p>owned, operated and managed by Industrial Associations and situated within industrial area.</p> <ul style="list-style-type: none"> <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 Industry.</li> <li>• IT Industry, IT parks etc.</li> </ul>  |   |
| <p><b>6. LT Mixed – Hotel Industries</b></p>                 | <p>This schedule shall apply to Hotels/ restaurants with lodging and boarding facilities.</p>  | <p>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.</p> |
| <p><b>7. HT Industrial</b></p>                               | <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> |   |
| <p><b>8. HT Ferro Metallurgical /Steel Rolling/Steel</b></p> | <p>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,</p>   |   |

| Category   | Applicability  | Point of Supply/Notes   |
|--|--|---|
| <b>Melting/Power Intensive</b>                     | Ferro Alloy, and Ferro metallurgical industries where melting is involved using electric power.  |   |
| <b>9. LT and HT Agriculture Pump sets</b>          | 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.   | 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. 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. |
| <b>10. LT and HT Agriculture Allied Activities</b> | This schedule shall apply to establishments for other allied activities related to Agriculture and shall include but not limited to: <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>   |   |
| <b>11. MES/Defense Establishments</b>              | This schedule shall apply to supply of power for defense installation establishments, having mixed load with predominantly lighting or non-industrial load of more than 50% of connected load.   |   |
| <b>12. LT Public Lighting</b>                      | This schedule shall apply to public lighting systems. It would include the following categories but not limited to: <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> |   |

| Category                              | Applicability   | Point of Supply/Notes  |
|---------------------------------------|---|--|
| <b>13. LT Hoardings/ Sign Boards</b>  | 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. |  |
| <b>14. Temporary Supply</b>           | This schedule shall apply to usage of electricity for all temporary purposes.   | <ul style="list-style-type: none"> <li>i. The temporary connection shall be released through a proper meter</li> <li>ii. 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>  |
| <b>15. HT SPS Single Point Supply</b> | 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 Areas; Commercial Complexes, including Malls; Industrial Complexes, including IT Parks, Bio-Parks or other entities classified as industries by the Government of Goa.   | <p>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.</p> <p>The following shall be the different combinations for SPS in a defined area:</p> <ul style="list-style-type: none"> <li>i. All LT consumer mix area</li> <li>ii. All HT consumer mix area</li> <li>iii. HT+LT consumer mix area <ul style="list-style-type: none"> <li>a. The General Conditions, Miscellaneous and General Charges would also be applicable for all SPS categories.</li> <li>b. 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>c. 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>d. 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> </ul> </li> </ul> |



| Category | Applicability | Point of Supply/Notes  |
|----------|---------------|--|
|          |               | <p>e. 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.</p> <p>f. 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.</p> <p>g. 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 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>h. Individual Domestic HT consumers in a residential complex that opt for SPS shall need to apply separately under HT Domestic category.</p> <p>i. The SPS applicant shall not charge tariff to the downstream consumers higher than stipulated.</p> <p>j. The applicant shall be obliged to pay the total tariff (total billed amount) due to ED-Goa, as</p> |

| Category   | Applicability   | Point of Supply/Notes   |
|--|---|---|
|  |   | <p>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> <ul style="list-style-type: none"> <li>i. 5% on the overall billed amount in all cases of LT and HT consumers</li> <li>ii. Any other loss would be to the account of the applicant.</li> </ul> <p>k. 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>l. 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> |
| <p><b>16. ELECTRIC VEHICLE CHARGING STATIONS</b></p> | <p>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.</p> <p>The tariff for domestic consumption shall be applicable for domestic charging (LT/HT)</p> |   |

### **11.3. General Terms and Conditions**

- 1) 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.
- 2) Unless otherwise agreed to, these tariffs for power supply are applicable for supply at one point only.
- 3) Unless specifically stated to the contrary the figures of energy charges relate to rupee per unit (kWh) charge for energy consumed and fixed charge relates to a month.
- 4) 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 notified by the JERC.

- 5) 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.
- 6) 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.
- 7) The 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.

#### 8) **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 Supply Code Regulations notified by JERC. If such over-drawal 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, excess demand and consumption will be billed at the rate of INR 500 per kVA per month and INR 9.00/kWh respectively. Connections drawing more than 120 kVA shall be disconnected immediately.

- 9) The adjustment because of Fuel and Power Purchase Cost variation shall be calculated in accordance with the FPPCA formula separately notified by the Commission under the Regulation. Such charges shall be recovered / refunded in accordance with the terms and conditions specified in the FPPCA formula.
- 10) The values of the 'K' factor applicable for the different consumer categories for use in the FPPCA formula shall be as specified in Chapter 9 of this Tariff Order.

#### 11) **Power Factor Charges for HT and EHT**

- a) **'Power Factor'** means, the average monthly power factor and shall be the ratio expressed as a percentage of the total kilowatt hours to the total kilovolt ampere hours supplied during the month; the ratio being rounded off to two decimal figures.
- b) The consumer shall maintain the monthly average power factor of the supply not less than 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).
- c) In case the monthly average power factor of the consumer is more than 95% (95% lagging), a power factor incentive @ 1% on demand and energy charges shall be given for each increase of 1% in power factor above 95% (lagging)
- d) The conditions for disconnection of a consumer supply in case of non-achievement of minimum level of power factor as prescribed in the Supply Code Regulations notified by JERC, shall apply.

12) For staff quarters, rest/guest houses, street lighting in the colony of a factory which is situated separately from the main factory and for distribution lines, service lines, etc. permitted to be owned and maintained by the HT consumer owning the factory, there shall be a separate connection and such energy consumed shall be charged under Single Point Supply.

13) **Advance Payment Rebate:** If payment is made in advance well before commencement of the consumption period for which the bill is prepared, a rebate @ 1% per month shall be given on the amount (excluding security deposit, 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.

14) **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 in case of cash payment and . 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.

15) **Delayed Payment Charges (DPC):** 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 a daily basis on the outstanding bill from the due date till the 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.

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 the next rupee.

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 as per provision of the Electricity Act 2003 and Supply Code Regulations notified by JERC as amended from time to time.

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

16) **Time of Day Tariff (ToD ):**

- i. 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.
- ii. The maximum demand and consumption recorded in different periods shall be billed at the following rates on the tariff applicable to the consumer.

**Table 115: Applicability of ToD Tariff**

| 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    | 120% of normal rate of energy charges |
| Off-peak load period (11:00 p.m to 7:00 a.m)     | Normal Rate    | 90% of normal rate of energy charges  |

- iii. Applicability and Terms and Conditions of TOD tariff:
- TOD tariff is mandatory for HT/EHT consumers and shall be optional for LT industrial and commercial consumers
  - 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 ED-Goa through wheeling of power.
  - The HT/EHT industrial consumers who have installed standby generating plants shall also be eligible for the aforesaid TOD tariff
  - In the event of applicability of TOD tariff to a consumer, all other terms and conditions of the applicable tariff shall continue to apply.

## 11.4. Schedule of Miscellaneous Charges

**Table 116: Schedule of Miscellaneous Charges**

| Description  | Approved Charges                                  |
|--|---|
| <b>Monthly Meter Rental Charges(as per provisions of Supply Code Regulations notified by JERC)</b>                               |   |
| Single Phase LT meter  | INR 15/month                                      |
| Three Phase LT meter   | INR 25/month                                      |
| Three Phase LT meter with CTs  | INR 75/month                                      |
| LT Meter with MD Indicator   | INR 30/month                                      |
| LT Tri-vector meter with CT's  | INR 75/month                                      |
| Tri-vector Meter   | INR 1200/month                                    |
| Bi- directional meter  | INR 1,500/month                                   |
| 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 Supply Code Regulations notified by JERC)</b>                                      |   |
| LT Services – At Cut outs  |   |
| • Single Phase   | INR 25/-  |
| • Three Phase  | INR 50/-  |
| LT Services – At Overhead Mains  |   |
| • Single Phase   | INR 30/-  |
| • Three Phase  | INR 50/-  |
| LT Services – At Underground Mains   |   |
| • Single Phase   | INR 75/-  |
| • Three Phase  | INR 125/-   |

| Description  | Approved Charges                        |
|--|---|
| HT Services  | INR 200/-                               |
| <b>Note:</b> If the same consumer seeks reconnection within 12 months from the date of reconnection or disconnection, 50% will be added to above charges |   |
| <b>Re-Rating of Installations</b>  |   |
| Lighting Installation  | INR 50/-                                |
| Motive Power Installation  | INR 100/-                               |
| High Tension   | INR 500/-                               |
| <b>Testing Fee for Various Metering Equipments (as per provisions of Supply Code Regulations notified by JERC)</b>                                       |   |
| Single phase LT  | INR 25/energy meter                     |
| Poly Phase LT without CT   | INR 50/energy meter                     |
| L.T. meter with CTs/Demand or Special Type Meters  | INR 150/energy meter                    |
| H.T and E.H.T. metering equipment  | INR 10,000/- at site                    |
| Transformer Oil  | INR 200/- per sample                    |
| LT Current Transformer at Lab  | INR 50/- per sample                     |
| 3 – Ø Phase Tri-vector Meter Industrial LT Consumer  | INR 1000/- for laboratory testing       |
| 3 – Ø Phase Tri-vector Meter 11 KV and 33kV HT Consumer  | INR 5,000/- at site                     |
| Three Phase Tri-Vector Meter 110 KV EHT Consumers  | INR 1,000/-at site                      |
| Combined CTPT Unit for 11kV and 33kV Consumer  | INR 2,500/-                             |
| 110KV CT / PT Unit   | INR 10,000/-                            |
| Single Phase CT  | INR 150/ unit                           |
| Three Phase TT Block   | INR 500/unit                            |
| Distribution Transformer Testing (HT con.)   | INR 6,000                               |
| Power Transformer Testing ( EHT consumer)  | INR 20,000                              |
| <b>Service Connection Charges(as per provisions of Supply Code Regulations notified by JERC)</b>   |   |
| Single Phase 1 $\phi$  | INR 250                                 |
| Three Phase 3 $\phi$   |   |
| <i>Up to 5 HP</i>  | INR 500                                 |
| <i>5 HP to 20 HP</i>   | INR 800                                 |
| <i>Above 20 HP</i>   | INR 1,200                               |
| HT (First 500 KVA)   | INR 10,000                              |
| HT (Beyond 500 KVA)  | INR 20,000                              |
| HT Additional Load   | INR 500/- for every addition of 100 KVA |
| Extra Length for 1 $\phi$ (beyond 30 meters)   | INR 50 /meter                           |
| Extra Length for 1 $\phi$ for agricultural consumers (beyond 300 meters)   | INR 25 /meter                           |

| Description   | Approved Charges     |
|---|----------------------|
| Extra Length for 3 $\phi$ (beyond 30 meters)  | INR 100 /meter       |
| Extra Length for 3 $\phi$ for agricultural consumers (beyond 300 meters)  | INR 50 /meter        |
| Underground Service Cable   | Actual Charges + 15% |
| Shunt Capacitor- 20 kW to 50 kW   | INR 2,000            |
| Shunt Capacitor- above 50 kW  | INR 5,000            |
| <b>Testing Consumer's installation (as per provisions of Supply Code Regulations notified by JERC)</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                  |
| For Subsequent test of the new installation or of an existing installation if the installation is found to be defective   |                      |
| • Single phase LT   | INR 100/-            |
| • Three phase   | INR 200/-            |
| • MS/BS loads upto 70kW   | INR 4,000 + GST      |
| • LS/BS/RT (loads Above 70kW)   | INR 8,000 + GST      |
| • Shunt Capacitor- 20 kW to 50 kW   | INR 1,000 + GST      |
| • Shunt Capacitor- above 50 kW  | INR 4,000 + GST      |
| <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 Supply Code Regulations notified by JERC)</b> |                      |
| Single phase  | INR 100/-            |
| 3-phase without C.Ts  | INR 200/-            |
| L.T. meter with C.T.s   | INR 500/-            |
| H.T and E.H.T. metering equipment   | INR 8,000 + 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  | INR 50/-             |
| Where cut-out is independently sealed   | INR 50/-             |
| Meter cover or Meter Terminal cover   | INR 50/-             |
| Meter cover of Meter Terminal cover (3 phase).  | INR 50/-             |
| Maximum demand Indicator or C.T.s chamber   | INR 50/-             |
| <b>Service Charges</b>  |                      |
| General Supply  |                      |
| • Single Phase  | INR 10/-             |
| • Three phase below 70kW  | INR 20/-             |
| • Three phase above 70kW  | INR 50/-             |
| Industrial/bulk/ agriculture /Street Lightning Supply   |                      |
| • Upto 70kW   | INR 25/-             |

| Description  | Approved Charges                                |
|--|---|
| • Above 70kW   | INR 50/-  |
| <b>Replacement of broken glass</b>   |   |
| Replacement of broken glass of meter cupboard (When there is default on Consumer Side)                 | INR 50/-  |
| Replacement of broken Glass of single phase meter if the consumer has broken or tamper and with meter. | INR 50/-  |
| Replacement of broken Glass of three phase meter if the consumer has broken or tamper and with meter   | INR 50/-  |
| <b>Supply of duplicate copies of electricity bills</b>   |   |
| Domestic Consumers   | INR 5 per bill                                  |
| Non Domestic consumers   | INR 10 per bill                                 |
| LT Industrial upto 20kW and AP Consumer  | INR 5 per bill                                  |
| H.T Industrial and Bulk supply consumer  | INR 10 per bill                                 |
| <b>Stand by Meter</b>  |   |
| HT   | INR 10,000/-                                    |
| EHT  | INR 20,000/-                                    |
| <b>Check Meter</b>   |   |
| HT   | INR 10,000/-                                    |
| EHT  | INR 20,000/-                                    |
| Load Enhancement   | Actual Cost + 15% Supervision Charges           |
| System Strengthening charges or capacity building charges,   | Actual Cost + 15% Supervision Charges           |
| <b>Advance for Temporary Connections (Except for Prepaid meters)</b>                                   |   |
| • Single phase LT  | INR 2,000/-                                     |
| • Three phase  | INR 5,000/-                                     |
| • HT   | INR 20,000/-                                    |
| • EHT  | INR 20,000/-                                    |
| <i>Note : this shall be adjusted in bills</i>  |   |
| Non-Refundable Registration-cum-processing fees  | As per Supply Code Regulations notified by JERC |

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 INR 25 / metre for single phase and INR.50/ meter for Three phase as approved under Schedule of General and Miscellaneous Charges.



# Annexures

## Annexure 1: List of Stakeholders who attended the Public hearing on 14<sup>th</sup> January 2019 in Goa

**Table 117: List of Stakeholders**

| S.No. | Name of Person (Mr/Ms) | Designation                            | Address  |
|-------|------------------------|--|--|
| 1     | R.M. Pai Angle         | AGM                                    | Chowgule Co.Pvt.Ltd.                           |
| 2     | S.C. Naik              | Sr. Manager                            | -do-   |
| 3     | R.M. Koli              | CE(E)                                  | ONGC Goa                                       |
| 4     | Lorua Fernandes        | Secretary                              | CONCOWM  |
| 5     | Roland Martins         | Co-ordinator                           | MAPUSA   |
| 6     | Martin Rodrigues       | Secretary                              | RAIA   |
| 7     | Eudes Desuza           | Convenor                               | Calangute Residents & Consumer Form, Calangute |
| 8     | Francisco DE Souza     | Member                                 | Calangute Residents & Consumer Form, Calangute |
| 9     | Manoj Sai              | Manager                                | Agrawal Renewable Energy Pvt.Ltd.              |
| 10    | Philippa Dicosta       | Volunteer                              | Consumer of Residents Forum of Maira           |
| 11    | A.K. Banerjee          | Director                               | Goa Chamber of Commerce & Industry, Goa        |
| 12    | A.K. Patil             | Estate                                 | BITS PILANI                                    |
| 13    | Arjun Halarankar       | PRO                                    | BITS PILANI                                    |
| 14    | Joseph Poul            | Volunteer                              | Thivim   |
| 15    | Ramona Almeida         | Conuenoe Civic & Consumer Forum, Velim | Velim Goa                                      |
| 16    | Ciprian Fernandes      | Paroda & Avedem Civics Consumer Forum  | Parda  |
| 17    | Camil Pinto            | Volunteer                              | Civic & Consumer Forum, Thivim                 |
| 18    | Durairaj M             |  | GCCI, Panaji, Goa                              |
| 19    | Genard D'Mello         |  | -do-   |
| 20    | Vilas Ohal             | Roporte                                | Gomntak  |
| 21    | Karc P. Desouza        | Secretary                              | Maira Residents Consumer Forum, Maira          |
| 22    | Owen G. Braganza       | Secretary                              | Assagao Civic & Consumer Forum, Assagao        |
| 23    | Nelson Carvalho        | Asstt. Manager                         | Chowqvic P.Co.                                 |
| 24    | Ashley Do Rosorio      | Sr. Reporter                           | The Goan                                       |
| 25    | Lisa Montew            | Reporter                               |  |
| 26    | Pramod Thakur          | Reporter                               |  |
| 27    | A.S.Despande           | Convenor                               |  |
| 28    | Rajesh Sethi           |  | Managing Committee CREDAI, PATTO,              |
| 29    | Deepak A. Ghatge       | Manager,                               | JSW  |
| 30    | Inacio S.Antem         | Raia Consumer Forum                    | Raia Salceta, Goa                              |
| 31    | Celis Fernandes        | Rotax                                  |  |
| 32    | Arturo C. D'souza      |  | Santa  |
| 33    | Sanjeev Malik          | Vice President                         | Solar Power Association of Goa                 |
| 34    | Sandeep Naik           | Vice President                         | -do-   |
| 35    | Vasant Katkar          | Chief Reporter                         | Pudhani  |