



# **Business Plan**

**Approval of Business Plan for Multi-Year Control Period  
from FY 2022-23 to FY 2024-25**

**Petition No. 62/2021**

**For**

**Electricity Department, Government of Goa (EDG)**

**31 March 2022**

**JOINT ELECTRICITY REGULATORY COMMISSION**

**For the State of Goa and Union Territories,**

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# Table of Contents

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|          |   |           |
|----------|---|-----------|
| <b>1</b> | <b>Chapter 1: Introduction</b>  | <b>9</b>  |
| 1.1      | About Joint Electricity Regulatory Commission for the State of Goa and UT's (JERC)  | 9         |
| 1.2      | About Goa   | 9         |
| 1.3      | About Electricity Department, Government of Goa (EDG)   | 9         |
| 1.4      | Multi Year Tariff Regulations, 2021   | 10        |
| 1.5      | Filing and Admission of the Present Petition  | 10        |
| 1.6      | Interaction with the Petitioner   | 10        |
| 1.7      | Notice for Public Hearing   | 10        |
| 1.8      | Public Hearing  | 11        |
| <b>2</b> | <b>Chapter 2: Summary of Suggestions/Objections received, Response from the Petitioner and the Commission's Views</b>                         | <b>12</b> |
| 2.1      | Regulatory Process  | 12        |
| 2.2      | Suggestions/ Objections, Response of the Petitioner and Commission's Views  | 12        |
| 2.2.1    | Methodology for Projection of Power purchase for the 3 <sup>rd</sup> MYT Control Period   | 12        |
| 2.2.2    | Low reliability in Power Supply   | 13        |
| 2.2.3    | Preparation of DPR and Action Plan for RDSS   | 13        |
| 2.2.4    | GIS mapping of 11 kV /33 kV assets  | 14        |
| <b>3</b> | <b>Chapter 3: Approval of the various components of the Business Plan Petition for the Multi-Year Control Period FY 2022-23 to FY 2024-25</b> | <b>15</b> |
| 3.1      | Introduction  | 15        |
| 3.2      | Forecast of Number of Consumers, Connected Load and Sales for the Control Period  | 16        |
| 3.2.1    | Overall Approach  | 16        |
| 3.2.2    | Category-Wise Analysis  | 18        |
| 3.2.3    | Projections of Number of Consumers, Connected Load and Energy Sales approved by the Commission  | 27        |
| 3.3      | Intra-state Transmission & Distribution (T&D) losses  | 29        |
| 3.4      | Power Procurement Plan  | 30        |
| 3.4.1    | Energy Requirement  | 30        |
| 3.4.2    | Power Purchase Quantum  | 31        |
| 3.4.3    | Energy Balance  | 37        |
| 3.4.4    | Renewable Purchase Obligation   | 37        |
| 3.5      | Capital Investment Plan   | 39        |
| 3.5.1    | Details of capital expenditure and capitalisation   | 39        |
| 3.5.2    | Funding Plan  | 57        |
| 3.6      | Reliability Indices   | 60        |

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|  |               |           |
|--|---------------|-----------|
| 3.7  | Manpower Plan | 60        |
| <b>Annexures</b>   |               | <b>62</b> |
| Annexure 1: List of Stakeholders who attended the Public hearing on 24 <sup>th</sup> January 2022 in Goa |               | 62        |

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# List of Tables

|   |    |
|---|----|
| Table 1: Timelines of the interaction with the Petitioner .....   | 10 |
| Table 2: Details of Public Notices published by the Commission.....   | 11 |
| Table 3: Details of Public Notices published by the Petitioner .....  | 11 |
| Table 4: Petitioner’s submission on projection of Number of Consumers for 3 <sup>rd</sup> MYT Control Period .....                                      | 16 |
| Table 5: Petitioner’s submission on projection of Connected Load for 3 <sup>rd</sup> MYT Control Period .....   | 17 |
| Table 6: Petitioner’s submission on projection of Sales for 3 <sup>rd</sup> MYT Control Period .....  | 17 |
| Table 7: Historical data for number of consumers considered by the Commission .....   | 19 |
| Table 8: Historical data for connected load (kW) considered by the Commission .....   | 19 |
| Table 9: Historical data for energy sales (MU) considered by the Commission .....   | 19 |
| Table 10: Historical CAGRs and Year-on-Year (Y-o-Y) growths considered by the Commission for number of consumers .....                                  | 20 |
| Table 11: Historical CAGRs and Year-on-Year (Y-o-Y) growths considered by the Commission for connected load.....  | 20 |
| Table 12: Historical CAGRs and Year-on-Year (Y-o-Y) growths considered by the Commission for energy sales .....   | 21 |
| Table 13: Growth rates approved by the Commission for LTD/Domestic Category .....   | 22 |
| Table 14: Growth rates approved by the Commission for LT-LIG/Low Income Group .....   | 22 |
| Table 15: Growth rates approved by the Commission for LTC/Commercial .....  | 22 |
| Table 16: Growth rates approved by the Commission for LTI/Industrial.....   | 23 |
| Table 17: Growth rates approved by the Commission for LT Mixed/ LT-P Hotel Industries.....  | 23 |
| Table 18: Growth rates approved by the Commission for LTAG/Agriculture .....  | 23 |
| Table 19: Growth rates approved by the Commission for LT-LIG/Low Income Group .....   | 24 |
| Table 20: Growth rates approved by the Commission for HTD/Domestic .....  | 24 |
| Table 21: Growth rates approved by the Commission for HTC/Commercial Category .....   | 25 |
| Table 22: Growth rates approved by the Commission for HTI/Industrial Category .....   | 25 |
| Table 23: Growth rates approved by the Commission for High Tension-Ferro/SM/PI/SR .....   | 25 |
| Table 24: Growth rates approved by the Commission for HTAG/Agriculture .....  | 26 |
| Table 25: Growth rates approved by the Commission for Military Engineering Services/Defense Establishments Category.....                                | 26 |
| Table 26: Growth rates approved by the Commission for Public Lighting category .....  | 26 |
| Table 27: Growth rates approved by the Commission for Hoardings/ Signboards category .....  | 27 |
| Table 28: Growth rates approved by the Commission for Single Point Supply .....   | 27 |
| Table 29: Consumer growth projections approved by the Commission for the 3 <sup>rd</sup> MYT Control Period.....  | 27 |
| Table 30: Connected load growth projections approved by the Commission for the 3 <sup>rd</sup> MYT Control Period..                                     | 28 |
| Table 31: Energy sales growth projections approved by the Commission for the 3 <sup>rd</sup> MYT Control Period.....                                    | 29 |
| Table 32: T&D loss (%) trajectory proposed by the Petitioner for the 3 <sup>rd</sup> MYT Control Period.....  | 29 |
| Table 33: T&D losses approved by the Commission in the 2 <sup>nd</sup> MYT Control Period vis-à-vis T&D losses achieved by the Petitioner .....         | 30 |
| Table 34: T&D loss trajectory approved by the Commission.....   | 30 |
| Table 35: Energy requirement proposed by the Petitioner .....   | 30 |
| Table 36: Energy requirement at UT periphery and total energy input approved by the Commission .....  | 31 |
| Table 37: Purchase of new power from four renewable generating stations for the 3 <sup>rd</sup> MYT Control Period as submitted by the Petitioner ..... | 31 |
| Table 38: Inter-state transmission losses considered by the Petitioner for FY 2021-22 and the 3 <sup>rd</sup> MYT Control Period .....                  | 31 |
| Table 39: Power purchase plan proposed by the Petitioner for the 3 <sup>rd</sup> MYT Control Period.....  | 32 |
| Table 40: Purchase of new power from four renewable generating stations for the 3 <sup>rd</sup> MYT Control Period considered by the Petitioner.....    | 34 |
| Table 41: Inter-state transmission losses considered by the Petitioner for FY 2021-22 and the 3 <sup>rd</sup> MYT Control Period .....                  | 34 |

|  |    |
|--|----|
| Table 42: Power purchase plan approved by the Commission for the upcoming MYT Control Period .....   | 35 |
| Table 43: Energy Balance proposed by the Petitioner (MU) .....   | 37 |
| Table 44: Energy Balance approved by the Commission.....   | 37 |
| Table 45: RPO plan submitted by the Petitioner for the 3 <sup>rd</sup> MYT Control Period .....  | 38 |
| Table 46: Renewable Purchase Obligation (RPO) approved by the Commission for 3 <sup>rd</sup> Control Period .....  | 38 |
| Table 47: Details of projected capital expenditure proposed by the Petitioner for Spillover Schemes for the 3 <sup>rd</sup> MYT Control Period .....                               | 39 |
| Table 48: Details of projected capital expenditure proposed by the Petitioner for new schemes under the head 'Projects with Administrative Approval' (Rs. Cr.).....                | 41 |
| Table 49: Details of projected capital expenditure proposed by the Petitioner for new schemes under the head 'Projects with Expenditure Finance Committee Approval' (Rs. Cr.)..... | 42 |
| Table 50: Details of projected capital expenditure proposed by the Petitioner for new schemes under the head 'Projects Tendered (To Start Next Year)' (Rs. Cr.) .....              | 43 |
| Table 51: Details of projected capital expenditure proposed by the Petitioner for new schemes under the head 'New EHV Works' (Rs. Cr.).....  | 44 |
| Table 52: Details of projected capital expenditure proposed by the Petitioner for new schemes under the head 'Revamped Distribution Sector Scheme (RDSS)' (Rs. Cr.).....           | 44 |
| Table 53: Summary of capital expenditure projected by the Petitioner for the 3 <sup>rd</sup> MYT Control Period (Rs. Cr.) .....  | 45 |
| Table 54: Summary of capitalisation projected by the Petitioner for the 3 <sup>rd</sup> MYT Control Period (Rs. Cr.) .....   | 45 |
| Table 55: Capital expenditure and capitalisation achieved by the Petitioner vis-à-vis the approval of the Commission (INR Cr.) .....   | 49 |
| Table 56: Details of capital expenditure approved by the Commission for new schemes under the head 'Projects with Administrative Approval' (Rs. Cr.).....                          | 52 |
| Table 57: Details of projected capital expenditure approved by the Commission for new schemes under the head 'Projects with Expenditure Finance Committee Approval' (Rs. Cr.)..... | 52 |
| Table 58: Details of capital expenditure approved by the Commission for new schemes under the head 'Projects Tendered (To Start Next Year)' (Rs. Cr.) .....                        | 53 |
| Table 59: Details of capital expenditure approved by the Commission for new schemes under the head 'Revamped Distribution Sector Scheme (RDSS)' (Rs. Cr.).....                     | 55 |
| Table 60: Summary of capital expenditure approved by the Commission for Spillover Schemes for the 3 <sup>rd</sup> MYT Control Period .....   | 55 |
| Table 61: Summary of capital expenditure approved by the Commission for New Schemes for the 3 <sup>rd</sup> MYT Control Period .....   | 56 |
| Table 62: Summary of capitalisation approved by the Commission for the 3 <sup>rd</sup> MYT Control Period.....   | 56 |
| Table 63: Financing Plan projected by the Petitioner for the 3 <sup>rd</sup> MYT Control Period (Rs. Cr.).....   | 57 |
| Table 64: Financing Plan approved by the Commission for FY 2022-23 (Rs. Cr.).....  | 58 |
| Table 65: Financing Plan approved by the Commission for FY 2023-24 (Rs. Cr.) .....   | 58 |
| Table 66: Financing Plan approved by the Commission for FY 2024-25 (Rs. Cr.) .....   | 59 |
| Table 67: Reliability Indices submitted by the Petitioner .....  | 60 |
| Table 68: Trajectory of Reliability Indices approved by the Commission.....  | 60 |
| Table 69: Manpower plan submitted by the Petitioner .....  | 61 |
| Table 70: Manpower plan approved by the Commission .....   | 61 |
| Table 71: List of Stakeholders .....   | 62 |

# List of abbreviations

| Abbreviation            | Full Form  |
|-------------------------|--|
| A&G                     | Administrative and General   |
| ACoS                    | Average Cost of Supply   |
| Act                     | The Electricity Act, 2003  |
| AMR                     | Automatic Meter Reading  |
| APR                     | Annual Performance Review  |
| ARR                     | Aggregate Revenue Requirement  |
| ATE                     | Appellate Tribunal of Electricity  |
| BPL                     | Below Poverty Line   |
| CAGR                    | Compound Annual Growth Rate  |
| Capex                   | Capital Expenditure  |
| CC                      | Current Consumption  |
| CEA                     | Central Electricity Authority  |
| CERC                    | Central Electricity Regulatory Commission  |
| CGRF                    | Consumer Grievance Redressal Forum   |
| CGS                     | Central Generating Stations  |
| COD                     | Commercial Operation Date  |
| Cr                      | Crores   |
| DDUGJY                  | Deen Dayal Upadhyaya Gram Jyoti Yojana   |
| DEEP                    | Discovery of Efficient Electricity Price   |
| Discom                  | Distribution Company   |
| DSM                     | Deviation Settlement Mechanism   |
| ED                      | Electricity Department   |
| EHT                     | Extra High Tension   |
| ERP                     | Enterprise Resource Planning   |
| FPPCA                   | Fuel and Power Purchase Cost Adjustment  |
| FY                      | Financial Year   |
| GFA                     | Gross Fixed Assets   |
| HT                      | High Tension   |
| HTAG                    | HT - Agriculture   |
| HTD                     | HT - Domestic  |
| HTI<br>(Ferro/SM/PI/SR) | HT Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive/ Steel Rolling) |
| HTMES                   | HT - Military Engineering Services   |
| HTTS                    | HT - Temporary Supply  |
| IEX                     | Indian Energy Exchange Limited   |
| IPDS                    | Integrated Power Development Scheme  |
| IPP                     | Independent Power Producer   |
| ISTS                    | Inter State Transmission System  |
| JERC                    | Joint Electricity Regulatory Commission for the state of Goa and Union Territories |
| LT                      | Low Tension  |

| <b>Abbreviation</b> | <b>Full Form</b>   |
|---------------------|--|
| MCLR                | Marginal Cost of funds based Lending Rate                        |
| MU                  | Million Units  |
| MYT                 | Multi Year Tariff  |
| NFA                 | Net Fixed Assets   |
| NTPC                | NTPC Ltd.  |
| NVVNL               | NTPC Vidyut Vyapar Nigam Ltd.                                    |
| O&M                 | Operation and Maintenance  |
| PLF                 | Plant Load Factor  |
| PLR                 | Prime Lending Rate   |
| PSDF                | Power System Development Fund                                    |
| PPA                 | Power Purchase Agreement   |
| R&M                 | Repair and Maintenance   |
| R-APDRP             | Restructured Accelerated Power Development and Reforms Programme |
| REC                 | Renewable Energy Certificate                                     |
| RLDC                | Regional Load Despatch Centre                                    |
| RoE                 | Return on Equity   |
| RPO                 | Renewable Purchase Obligation                                    |
| SBI PLR             | SBI Prime Lending Rate   |
| SECI                | Solar Energy Corporation of India Ltd.                           |
| SERC                | State Electricity Regulatory Commission                          |
| SLDC                | State Load Despatch Center                                       |
| SOP                 | Standard of Performance  |
| SWOT                | Strengths, Weaknesses, Opportunities and Threats                 |
| T&D                 | Transmission & Distribution                                      |
| TVS                 | Technical Validation Session                                     |
| UI                  | Unscheduled Interchange  |
| UT                  | Union Territory  |



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

QUORUM

Ms. Jyoti Prasad, Member

Petition No. 62/2021

**In the matter of**

Approval of business Plan for MYT 3<sup>rd</sup> Control Period from FY 2022-23 to FY 2024-25.

**And in the matter of**

Electricity Department, Government of Goa (ED-Goa) .....Petitioner

**ORDER**

Dated: 31<sup>st</sup> March 2022

- 1) This Order is passed in respect of the Petition filed by the Electricity Department, Government of Goa (ED-Goa) (herein after referred to as “The Petitioner” or “ED-Goa” or “The Licensee”) for Approval of its Business Plan for the 3<sup>rd</sup> MYT Control Period from FY 2022-23 to FY 2024-25 before the Joint Electricity Regulatory Commission (herein after referred to as “The Commission” or “JERC”).
- 2) In exercise of the powers conferred on it by sub-Section (2) of Section 181 read with Section 36, Section 39, Section 40, Section 41, Section 51, Section 61, Section 62, Section 63, Section 64, Section 65 and Section 86 of the Electricity Act, 2003 (36 of 2003) and all other powers enabling it in this behalf, the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (except Delhi), after previous publication, issued the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2021 on 22<sup>nd</sup> March 2021.
- 3) In terms of Regulations 8.1 and 17 of the aforesaid Regulations, the Petitioner has filed a Petition for approval of its Business Plan for the three year Control Period from FY 2022-23 to FY 2024-25 with details for each year of the Control Period before the Commission.
- 4) The Commission scrutinised the said Petition and generally found it in order. The Commission admitted the Petition on 28<sup>th</sup> December 2021. The Commission thereafter requisitioned further information/clarifications on the data gaps observed to take a prudent view of the said Petition. The Commission also held a Technical Validation Session to determine sufficiency of data and the veracity of the information submitted.
- 5) Further, suggestions/ comments/ views and objections were invited from the Stakeholders and Electricity Consumers. Public Hearing through video-conferencing was also held on 24<sup>th</sup> January 2022, and all the Stakeholders/Electricity Consumers present in the Public Hearing were heard.

- 
- 6) The Commission based on the Petitioner's submissions, relevant MYT Regulations, facts of the matter, rules and provisions of the Electricity Act, 2003 and after proper due diligence and prudence check, has approved the Business Plan for 3<sup>rd</sup> MYT Control Period from FY 2022-23 to FY 2024-25, which covers the sales forecast, consumer growth forecast, connected load forecast, fixation of T&D loss trajectory, capital investment plan, power procurement plan etc.
  - 7) This Business Plan order has been released after detailed scrutiny of submissions made by the Petitioner Further, the relevant chapters giving detailed reasons, grounds and conditions are an integral part of this Order.
  - 8) Ordered as above, read with the attached document giving detailed reasons, grounds and conditions.

Sd/-

**(Jyoti Prasad)**

**Member**

Place: Gurugram

Date: 31<sup>st</sup> March 2022

**Certified Copy**



**(Rakesh Kumar)**  
**Secretary, JERC**

# 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 Goa

Goa is a state on the southwestern coast of India within the region known as the Konkan, and geographically separated from the Deccan highlands by the Western Ghats. It is surrounded by the Indian states of Maharashtra to the north and Karnataka to the east and south, with the Arabian Sea forming its western coast. It is India's smallest state by area and the fourth-smallest by population. The state is divided into two districts: North Goa and South Goa. North Goa is divided into three subdivisions — Panaji, Mapusa, and Bicholim and further into five talukas (subdistricts). South Goa is divided into five subdivisions — Ponda, Mormugao-Vasco, Margao, Quepem, and Dharbandora and further into seven talukas (subdistricts).

Goa has the highest GDP per capita among all Indian states, two and a half times that of the country. The state of Goa is famous for its excellent beaches, churches, and temples. Tourism is Goa's primary industry, it gets 12% of foreign tourist arrivals in India. The state is also rich in minerals and ores, and mining forms the second largest industry. Iron, bauxite, manganese, clays, limestone, and silica are mined extensively in Goa.

Goa is often described as a fusion between Eastern and Western culture with Portuguese culture having a dominant position in the state in its architectural, cultural or social settings.

## 1.3 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.

### ***1.4 Multi Year Tariff Regulations, 2021***

The Commission notified the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2021 (hereinafter referred to as MYT Regulations, 2021) on 22<sup>nd</sup> March 2021. These Regulations are applicable in the 3<sup>rd</sup> MYT Control Period comprising of three financial years from FY 2022- 23 to FY 2024-25. These Regulations are applicable to all the generation companies, transmission and distribution licensees in the State of Goa and Union Territories of Andaman & Nicobar Islands, Lakshadweep, Chandigarh, Daman & Diu, Dadra & Nagar Haveli and Puducherry.

### ***1.5 Filing and Admission of the Present Petition***

The present Petition was admitted on 28<sup>th</sup> December 2021 and marked as Petition No. 62 of 2021. The Commission and the Petitioner subsequently uploaded the Petition on their respective websites.

### ***1.6 Interaction with the Petitioner***

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

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

**Table 1: Timelines of the interaction with the Petitioner**

| <b>S. No</b> | <b>Subject</b>                   | <b>Date</b>  |
|--------------|----------------------------------|--|
| 1            | Public Hearing                   | 24 <sup>th</sup> January 2022                                  |
| 2            | Issue of First Deficiency Note   | 28 <sup>th</sup> January 2022                                  |
| 3            | Reply received from Petitioner   | 17 <sup>th</sup> February 2022                                 |
| 4            | Technical Validation Session     | 21 <sup>st</sup> February 2022                                 |
| 5            | Issue of Second Deficiency Note  | 22 <sup>nd</sup> February 2022                                 |
| 6            | Replies received from Petitioner | 28 <sup>th</sup> February 2022<br>& 4 <sup>th</sup> March 2022 |

### ***1.7 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 2: Details of Public Notices published by the Commission**

| Sl. No. | Date   | Name of Newspaper  | Language | Place of Circulation |
|---------|--|--------------------|----------|----------------------|
| 1       | 1 <sup>st</sup> January 2022 & 22 <sup>nd</sup> January 2022 | Gomantak           | Konkani  | Goa                  |
| 2       |  | The Times of India | English  | Goa                  |
| 3       |  | The Navhind times  | English  | Goa                  |
| 4       |  | oHeraldo           | 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 3: Details of Public Notices published by the Petitioner**

| S. No. | Date                          | Name of Newspaper  | Language | Place of Circulation |
|--------|-------------------------------|--------------------|----------|----------------------|
| 1.     | 15 <sup>th</sup> January 2022 | The Navhind times  | English  | Goa                  |
| 2.     |                               | The Times of India | English  | Goa                  |
| 3.     |                               | Gomantak           | Marathi  | Goa                  |
| 4.     |                               | Bhaangar Bhuin     | Konkani  | Goa                  |

## **1.8 Public Hearing**

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

Accordingly, the Virtual Public Hearing was held on 24<sup>th</sup> January 2022 from 11:00 AM to discuss the issues, if any, related to the Petition filed by the Petitioner. The issues and concerns raised by the stakeholders in writing and as voiced by them during the Public Hearing have been examined by the Commission. The names of the stakeholders who attended the Public Hearing are provided in Annexure-I. The major issues discussed, the responses of the Petitioner thereon and the views of the Commission have been summarized in Chapter 2 of this Order.

## ***2 Chapter 2: Summary of Suggestions/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 the website and also publish the same in the newspapers duly inviting comments/objections from the public as per the provisions of the MYT Regulations, 2021.

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

Accordingly, the Virtual Public Hearing was held on 24<sup>th</sup> January 2022 to discuss the issues, if any, related to the Petition filed by the Petitioner. The issues and concerns raised by the stakeholders in writing and as voiced by them during the Public Hearing have been examined by the Commission. The names of the stakeholders who attended the Public Hearing are provided in Annexure-I.

### ***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 Order. The submissions of the stakeholders, response of the Petitioner and views of the Commission are summarized below:

#### ***2.2.1 Methodology for Projection of Power purchase for the 3<sup>rd</sup> MYT Control Period***

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

IEX submitted that the Petitioner, while working out the power purchase in the Business Plan for control period for FY 2022-23 to FY 2024-25, has considered the energy projections on actual PLF. Consequently, this leads to a higher implication of fixed cost if seen on Rs. /kWh basis, as the actual PLF may be less than the normative PLF as may be approved by the Commission. The same fixed cost per unit will drastically reduce if the PLF projections are considered higher up to normative levels. However, since the performance of several plants has not been up to normative levels, the consideration of fixed cost in per kWh (INR/kWh) terms will not be a true reflection of the fixed cost burden. It is requested that the Commission may kindly take note of the above anomaly and rectify it through appropriate changes in the approach and methodology.

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

The ED-Goa submits that the Commission in the Business Plan for the MYT Control Period FY 2019-20 to FY 2021-22 has considered the PLF on actual basis and the same has been considered for projecting the MYT Control Period FY 2022-23 to FY 2024-25.

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

The Commission has considered the PLF based on actual historical trends for projecting the power procurement quantum for the 3<sup>rd</sup> MYT Control Period. The same has been considered in determining the power procurement cost for the 3<sup>rd</sup> MYT Control Period.

### ***2.2.2 Low reliability in Power Supply***

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

The projected load growth is less than 3%. The energy sale is less because of low reliability in power supply. The reliability is poor to the extent that the unreliability of power is affecting Industrial units & also acting as a deterrent for new investments in Goa. In some areas, the power to industry is supplied for 7800 hours in a year. Goa has high consumption of diesel since DG sets are used to generate power. Further, requested to publish the data on quality and reliability.

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

The projected load growth is based on CAGR of sales of past years. Further, EDG is investing and carrying out the conversion of the OH line in many areas to UG line to improve the system reliability and performance. EDG has submitted the reply to the data gaps pertaining to the SAIDI & SAIFI of JERC and the same is available on the EDG website.

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

The Stakeholder may note the Petitioner's response. Further, the Commission has already notified SOP Regulations providing limits/timelines for various individual /overall Standard of Performance. The Commission has also fixed targets of reliability indices at section 3.6 of this Order to monitor the reliability of power supply to consumers.

### ***2.2.3 Preparation of DPR and Action Plan for RDSS***

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

A detailed project report is essential for successful implementation of Rs.930 Crore is the envisaged Capital Expenditure during the Control period by ED-Goa, It may be noted that Central Govt will fund part of the Project & balance funding will have to happened through State Govt. We suggest a PPP mode of funding on DBFOOT (Design, Build Fund, Own Operate and Transfer basis). Further submitted that, the Detailed project reports be carried out by reputed consultants & Local Industrial Bodies like Goa Chamber of Commerce & Industry be included in this exercise.

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

The Petitioner has appointed RECPDCL, a wholly owned subsidiary of Rural Electrification Corporation (REC) Limited for preparation of DPR and Action Plan for the Revamped Distribution Sector Scheme. The draft has already been submitted to RECL, the Nodal agency for implementation of the scheme for the state of Goa.

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

The Petitioner has submitted the DPR and Action Plan for the RDSS scheme along with its Business Plan Petition. The same has been considered by the Commission while approving the said scheme.

#### ***2.2.4 GIS mapping of 11 kV /33 kV assets***

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

The surveyors are already deployed at every Division for GIS mapping of 11 kV /33 kV assets & the exercise will complete by 31st March 2021. We request the Commission to kindly request the petitioner to make it public.

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

The 33KV and 11KV power lines along with the associated assets have been successfully updated in the GIS system and the same can be viewed through GIS software only. As the data is huge, it is not possible to upload the data in any other format in the department's website. However, data related to only major feeders can be uploaded in Department's website. Any person/ organization desires to avail the data can approach EDG separately.

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

The suggestion of the Stakeholder is noted. The Commission directs the Petitioner to make the data of every Division for GIS mapping of 11 kV /33 kV assets publicly available to interested stakeholders.



# **3 Chapter 3: Approval of the various components of the Business Plan Petition for the Multi-Year Control Period FY 2022-23 to FY 2024-25**

## **3.1 Introduction**

Regarding Business Plan, Regulation 8 of the JERC Tariff Regulations, 2021 specifies as follows:

*“8 Business Plan*

*8.1 The Transmission Licensee and Distribution Licensee shall file a petition, duly approved by the competent authority, for approval of Business Plan by the Commission for the entire Control Period, latest by May 15, 2021:*

*Provided that the Generation Company shall not be required to file a Business Plan for the Control Period.*

*8.2 The Business Plan filed by the Distribution Licensee shall contain separate sections on Distribution Wires Business and Retail Supply Business.*

.....

*8.4 The Business Plan filed by Distribution Licensee shall inter-alia contain:*

*a) Capital Investment Plan for each Year of the Control Period commensurate with load growth, distribution loss reduction trajectory and quality improvement measures proposed in the Business Plan in accordance with Regulation 8.5;*

*b) Capital Structure of each scheme proposed and the cost of financing (interest on debt and return on equity), terms of the existing loan agreements, etc.;*

*c) Sales Forecast for each Consumer category and sub-categories for each Year of the Control Period in accordance with Regulation 8.6;*

*d) Power Procurement Plan based on the Sales Forecast and distribution loss trajectory for each Year of the Control Period in accordance with the Regulation 8.7;*

*e) Targets for distribution loss for each Year of the Control Period consistent with the Capital Investment Plan proposed by the Licensee;*

*f) Projections for number of employees during each Year of the Control Period based on proposed recruitments and retirement;*

*g) Proposals in respect of income from Other Business for each Year of the Control Period.”*

This chapter deals with the key aspects of the Business Plan Petition submitted by the Petitioner and is structured as below.

- Forecast of Number of Consumers, Connected Load and Sales for the Control Period
- Transmission and Distribution (T&D) loss

- Power Procurement Plan
- Capital Investment Plan
- Reliability Indices
- Manpower Plan

In the subsequent sections, the Commission has recorded Petitioner's submissions and analysed them. The Commission has subsequently recorded its reasoning while approving each of the components.

## 3.2 Forecast of Number of Consumers, Connected Load and Sales for the Control Period

### 3.2.1 Overall Approach

#### Petitioner's submission

The Petitioner has taken the historical Compounded Annual Growth Rate (CAGR) for each consumer category as per the provisional figures from FY 2017-18 till FY 2021-22 (H1) derived from SAP. It has extrapolated these to arrive at the projections for FY 2021-22 i.e., the base year. For FY 2021-22, as there has been lockdown till September end and lockdowns have been relaxed from October onwards, ED-Goa expects demand to reach back to normal in FY 2021-22 H2, accordingly, ED-Goa has considered the category-wise demand of FY 2019-20 H2 as FY 2021-22 H2. Further, based on the historical CAGR for each consumer category & base year, ED-Goa has forecasted the figures for the control period FY 2022-23 to FY 2024-25 as follows:

Table 4: Petitioner's submission on projection of Number of Consumers for 3<sup>rd</sup> MYT Control Period

| Sl. No. | Consumer Category   | Base Year Projections | CAGR Considered | Projections   |               |               |
|---------|---|-----------------------|-----------------|---------------|---------------|---------------|
|         |   | FY 2021-22            |                 | FY 2022-23    | FY 2023-24    | FY 2024-25    |
| 1(a)    | Tariff LTD/Domestic   | 536227                | 2.16%           | 547790        | 559603        | 571670        |
| 1(b)    | Tariff LTIG/Low Income Group  | 877                   | 0.00%           | 877           | 877           | 877           |
| 2       | Tariff LTC/Commercial   | 101893                | 1.90%           | 103827        | 105798        | 107806        |
| 3       | Tariff LTI/Industry   | 5649                  | 0.00%           | 5649          | 5649          | 5649          |
| 4       | Tariff LTP/Mixed (Hotel Industries)   | 116                   | 0.00%           | 116           | 116           | 116           |
| 5A      | Tariff LTAG/Agriculture (Pump sets / Irrigation)  | 12100                 | 3.15%           | 12481         | 12875         | 13281         |
| 5 B     | Tariff LTAG/Agriculture (Allied Activities)   | 244                   | 5.00%           | 256           | 269           | 282           |
| 6       | Tariff LTPL/ Public Lighting  | 5453                  | 5.00%           | 5726          | 6012          | 6313          |
| 7       | Tariff LTH/ Hoarding and Signboards   | 61                    | 0.00%           | 61            | 61            | 61            |
| 8       | Tariff-LTTS/ Temporary Supply   | 2726                  | 0.00%           | 2726          | 2726          | 2726          |
| 9       | Tariff-HTI/ Industrial  | 782                   | 2.05%           | 798           | 814           | 831           |
| 10      | Tariff HTFS Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive/ Steel Rolling) | 22                    | 0.00%           | 22            | 22            | 22            |
| 11      | Tariff HTC/ Commercial  | 275                   | 5.00%           | 289           | 303           | 318           |
| 12A     | Tariff HTAG/ Agriculture (Pump Sets/ irrigation)  | 42                    | 1.24%           | 43            | 43            | 44            |
| 12 B    | Tariff HTAG/ Agriculture (allied activity)  | 3                     | 0.00%           | 3             | 3             | 3             |
| 13      | Tariff HTD/ Domestic  | 4                     | 5.00%           | 4             | 4             | 5             |
| 14      | Tariff HTMES/ Defence Establishment   | 14                    | 4.08%           | 15            | 15            | 16            |
| 15      | Tariff HTTS/ Temporary Supply   | 15                    | 5.00%           | 16            | 17            | 17            |
| 16      | Single Point Supply   | 1                     | 0.00%           | 1             | 1             | 1             |
|         | <b>Total</b>  | <b>666504</b>         |                 | <b>680699</b> | <b>695208</b> | <b>710037</b> |

Table 5: Petitioner's submission on projection of Connected Load for 3<sup>rd</sup> MYT Control Period

| Sl. No. | Connected Load (kW)   | Base Year Projections | CAGR Considered | Projections    |                |                |
|---------|---|-----------------------|-----------------|----------------|----------------|----------------|
|         | Consumer Category   | FY 2021-22            |                 | FY 2022-23     | FY 2023-24     | FY 2024-25     |
| 1(a)    | Tariff LTD/Domestic   | 1659217               | 3.84%           | 1722919        | 1789067        | 1857755        |
| 1(b)    | Tariff LTIG/Low Income Group  | 85                    | 0.00%           | 85             | 85             | 85             |
| 2       | Tariff LTC/Commercial   | 373956                | 4.29%           | 390009         | 406751         | 424212         |
| 3       | Tariff LTI/Industry   | 145096                | 0.45%           | 145743         | 146392         | 147045         |
| 4       | Tariff LTP/Mixed (Hotel Industries)   | 2295                  | 0.00%           | 2295           | 2295           | 2295           |
| 5A      | Tariff LTAG/Agriculture (Pump sets / Irrigation)  | 46815                 | 3.80%           | 48596          | 50444          | 52363          |
| 5B      | Tariff LTAG/Agriculture (Allied Activities)   | 2199                  | 5.00%           | 2309           | 2424           | 2546           |
| 6       | Tariff LTPL/ Public Lighting  | 11612                 | 5.00%           | 12192          | 12802          | 13442          |
| 7       | Tariff LTH/ Hoarding and Signboards   | 514                   | 0.00%           | 514            | 514            | 514            |
| 8       | Tariff-LTTS/ Temporary Supply   | 9248                  | 0.00%           | 9248           | 9248           | 9248           |
| 9       | Tariff-HTI/ Industrial  | 560918                | 1.79%           | 570982         | 581227         | 591655         |
| 10      | Tariff HTFS Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive/ Steel Rolling) | 93250                 | 0.00%           | 93250          | 93250          | 93250          |
| 11      | Tariff HTC/ Commercial  | 103442                | 5.00%           | 108614         | 114045         | 119747         |
| 12 A    | Tariff HTAG/ Agriculture (Pump Sets/ irrigation)  | 9260                  | 2.34%           | 9476           | 9698           | 9924           |
| 12 B    | Tariff HTAG/ Agriculture (allied activity)  | 2200                  | 0.00%           | 2200           | 2200           | 2200           |
| 13      | Tariff HTD/ Domestic  | 400                   | 5.00%           | 420            | 441            | 463            |
| 14      | Tariff HTMES/ Defence Establishment   | 8295                  | 5.00%           | 8710           | 9145           | 9603           |
| 15      | Tariff HTTS/ Temporary Supply   | 5394                  | 5.00%           | 5664           | 5947           | 6244           |
| 16      | Single Point Supply   | 4035                  | 0.00%           | 4035           | 4035           | 4035           |
|         | <b>Total</b>  | <b>3038231</b>        |                 | <b>3137261</b> | <b>3240011</b> | <b>3346627</b> |

Table 6: Petitioner's submission on projection of Sales for 3<sup>rd</sup> MYT Control Period

| Sl. No. | Energy Sales (MU)   | Base Year Projections | CAGR Considered | Projections |            |            |
|---------|---|-----------------------|-----------------|-------------|------------|------------|
|         |   | FY 2021-22            |                 | FY 2022-23  | FY 2023-24 | FY 2024-25 |
| 1(a)    | Tariff LTD/Domestic   | 1,273.99              | 4.05%           | 1,325.53    | 1,379.16   | 1,434.96   |
| 1(b)    | Tariff LTIG/Low Income Group  | 1.27                  | 0.00%           | 1.27        | 1.27       | 1.27       |
| 2       | Tariff LTC/Commercial   | 406.99                | 2.67%           | 436.59      | 448.26     | 460.24     |
| 3       | Tariff LTI/Industry   | 78.23                 | 0.00%           | 80.91       | 80.91      | 80.91      |
| 4       | Tariff LTP/Mixed (Hotel Industries)   | 3.67                  | 0.00%           | 4.48        | 4.48       | 4.48       |
| 5A      | Tariff LTAG/Agriculture (Pump sets / Irrigation)  | 15.19                 | 2.67%           | 17.25       | 17.71      | 18.18      |
| 5 B     | Tariff LTAG/Agriculture (Allied Activities)   | 0.99                  | 0.00%           | 0.99        | 0.99       | 0.99       |
| 6       | Tariff LTPL/ Public Lighting  | 48.01                 | 5.00%           | 50.41       | 52.93      | 55.58      |
| 7       | Tariff LTH/ Hoarding and Signboards   | 0.16                  | 0.00%           | 0.16        | 0.16       | 0.16       |
| 8       | Tariff-LTTS/ Temporary Supply   | 3.18                  | 0.00%           | 9.77        | 9.77       | 9.77       |
| 9       | Tariff-HTI/ Industrial  | 1,454.39              | 1.99%           | 1,483.35    | 1,512.88   | 1,543.01   |
| 10      | Tariff HTFS Industrial (Ferro Metallurgical/ Steel Melting/ Power Intensive/ Steel Rolling) | 484.34                | 4.64%           | 506.83      | 530.35     | 554.97     |
| 11      | Tariff HTC/ Commercial  | 111.19                | 5.00%           | 116.74      | 122.58     | 128.71     |

| Sl. No. | Energy Sales (MU)                                | Base Year Projections | CAGR Considered | Projections     |                 |                 |
|---------|--|-----------------------|-----------------|-----------------|-----------------|-----------------|
|         |  | FY 2021-22            |                 | FY 2022-23      | FY 2023-24      | FY 2024-25      |
| 12A     | Tariff HTAG/ Agriculture (Pump Sets/ irrigation) | 5.30                  | 0.00%           | 5.30            | 5.30            | 5.30            |
| 12 B    | Tariff HTAG/ Agriculture (allied activity)       | 8.91                  | 5.00%           | 9.36            | 9.82            | 10.32           |
| 13      | Tariff HTD/ Domestic                             | 0.41                  | 5.00%           | 0.43            | 0.45            | 0.47            |
| 14      | Tariff HTMES/ Defence Establishment              | 27.86                 | 0.00%           | 27.86           | 27.86           | 27.86           |
| 15      | Tariff HTTS/ Temporary Supply                    | 3.34                  | 5.00%           | 3.51            | 3.69            | 3.87            |
| 16      | Single Point Supply                              | 4.27                  | 0.84%           | 5.55            | 5.60            | 5.65            |
|         | <b>Total</b>                                     | <b>3,931.70</b>       |                 | <b>4,086.29</b> | <b>4,214.18</b> | <b>4,346.69</b> |

### Commission's Analysis

With regards to Sales forecast, Regulation 8.6 of the JERC MYT Regulations, 2021 specifies as follows:

#### "8.6 Sales Forecast

- a) *The Distribution Licensee shall forecast sales for each Consumer category and subcategories, at different voltage levels, for each Year of the Control Period in their Business Plan filings, for the Commission's review and approval;*
- b) *The forecast shall be based on the actual demand of electricity in previous Years, anticipated growth in demand in coming Years, expected growth in the number of Consumers, load growth, changes in the pattern of consumption, target distribution losses and other relevant factors;*
- c) *The Licensee shall indicate separately the sale of electricity to traders or another Licensee and category wise sales to Open Access Consumers."*

The Commission here would like to bring to notice the fact that the Petitioner was not able to submit audited actual data in respect of number of consumers, connected load and energy sales from FY 2017-18 to FY 2020-21. Further, upon analyzing the data submitted by the Petitioner, various discrepancies were observed even in the billing information forwarded by the Petitioner stating that it has been extracted from the SAP system. The Commission directs the Petitioner to submit audited data in respect of number of consumers, connected load and energy sales from FY 2017-18 to FY 2020-21 at the time of filing of Tariff Petition for the FY 2023-24.

For the purpose of projections in this Order, the Commission has considered the data submitted by the Petitioner vide its reply to the Deficiency Note dated 17.02.2022. Further, the Commission has considered the energy sales for FY 2015-16 and FY 2016-17 approved during the True-up of the respective years. The Commission has accordingly determined the CAGRs for each consumer category based on historical trends. However, the number of consumers, connected load and energy sales for FY 2020-21 has not been considered as the same was impacted by the Covid-19 pandemic and considering the information from FY 2020-21 would not provide accurate projections for the 3<sup>rd</sup> MYT Control Period. The Commission has therefore considered the CAGRs over the number of consumers, connected load and energy sales for FY 2019-20 to arrive at the base year figures of FY 2021-22. After analysis of the historical growth in sales, number of consumers and connected load, the Commission has considered the 3-year, 4-year or 5-year CAGR for projections in each category based on the observed historical trends. If the growth rates observed is negative for a consumer category, the Commission has considered the figures observed in FY 2019-20 for each year of the 3<sup>rd</sup> MYT Control Period.

### 3.2.2 Category-Wise Analysis

The historical data considered by the Commission for analysis is provided below:

Table 7: Historical data for number of consumers considered by the Commission

| Sl. No. | Consumer Category                                    | No. of Consumers |                |                |                |                |
|---------|--|------------------|----------------|----------------|----------------|----------------|
|         |  | FY 15-16         | FY 16-17       | FY 17-18       | FY 18-19       | FY 19-20       |
| 1       | LTD/Domestic   | 468,864          | 463,272        | 498,606        | 503,319        | 522,090        |
| 2       | LT-LIG/Low Income Group                              | 2,177            | 1,125          | 1,845          | 1,522          | 1,314          |
| 3       | LTC/Commercial                                       | 91,923           | 89,328         | 94,788         | 96,599         | 99,918         |
| 4       | LTI/Industrial                                       | 6,050            | 6,010          | 5,961          | 5,728          | 5,799          |
| 5       | LT Mixed/ LT-P Hotel Industries                      | 190              | 109            | 138            | 126            | 125            |
| 6       | LTAG/Agriculture                                     | 10,904           | 11,306         | 11,433         | 11,277         | 11,951         |
| 7       | LT Temporary   | 4,452            | 4,224          | 5,151          | 5,446          | 2,609          |
| 8       | HTD Domestic   | -                | -              | 3              | 3              | 3              |
| 9       | HTC Commercial                                       | 96               | 191            | 209            | 225            | 252            |
| 10      | HTI Industrial                                       | 557              | 657            | 692            | 724            | 748            |
| 11      | High Tension-Ferro/SM/PI/SR                          | 37               | 32             | 29             | 27             | 26             |
| 12      | HTAG/Agriculture                                     | 43               | 41             | 43             | 43             | 44             |
| 13      | Military Engineering Services/Defense Establishments | 11               | 12             | 12             | 12             | 13             |
| 14      | Public Lighting                                      | 112              | 3,042          | 215            | 254            | 1,097          |
| 15      | Hoardings/Signboards                                 | 64               | 62             | 63             | 49             | 47             |
| 16      | HT Temporary   | -                | 1              | 1              | 4              | 11             |
| 17      | Single Point Supply                                  | -                | 1              | 1              | 1              | 1              |
|         | <b>Total</b>   | <b>585,480</b>   | <b>579,412</b> | <b>619,190</b> | <b>625,359</b> | <b>646,048</b> |

Table 8: Historical data for connected load (kW) considered by the Commission

| Sl. No. | Consumer Category                                    | Connected Load (kW) |                  |                  |                  |                  |
|---------|--|---------------------|------------------|------------------|------------------|------------------|
|         |  | FY 15-16            | FY 16-17         | FY 17-18         | FY 18-19         | FY 19-20         |
| 1       | LTD/Domestic   | 1,642,607           | 1,152,770        | 1,381,714        | 1,450,471        | 1,538,770        |
| 2       | LT-LIG/Low Income Group                              | 2,046               | 106              | 232              | 138              | 117              |
| 3       | LTC/Commercial                                       | 281,843             | 296,465          | 308,960          | 331,101          | 354,176          |
| 4       | LTI/Industrial                                       | 168,091             | 109,195          | 140,451          | 137,991          | 140,170          |
| 5       | LT Mixed/ LT-P Hotel Industries                      | 4,569               | 2,075            | 2,868            | 2,522            | 2,757            |
| 6       | LTAG/Agriculture                                     | 66,926              | 43,021           | 45,693           | 44,058           | 47,470           |
| 7       | LT Temporary   | 7,502               | 15,327           | 20,748           | 33,440           | 9,107            |
| 8       | HTD Domestic   |                     |                  | 300              | 300              | 300              |
| 9       | HTC Commercial                                       | 74,767              | 65,210           | 70,821           | 76,660           | 83,425           |
| 10      | HTI Industrial                                       | 340,788             | 460,234          | 471,764          | 509,633          | 533,850          |
| 11      | High Tension-Ferro/SM/PI/SR                          | 111,840             | 109,050          | 98,700           | 104,550          | 95,340           |
| 12      | HTAG/Agriculture                                     | 39,054              | 8,660            | 9,310            | 10,875           | 11,285           |
| 13      | Military Engineering Services/Defense Establishments | 7,080               | 6,955            | 6,955            | 6,825            | 7,675            |
| 14      | Public Lighting                                      | 9,598               | 11,840           | 1,600            | 1,777            | 3,212            |
| 15      | Hoardings/Signboards                                 | 523                 | 599              | 619              | 576              | 567              |
| 16      | HT Temporary   |                     | 350              | 350              | 1,348            | 2,468            |
| 17      | Single Point Supply                                  |                     | 4,035            | 4,035            | 4,035            | 4,035            |
|         | <b>Total</b>   | <b>2,757,234</b>    | <b>2,285,892</b> | <b>2,565,120</b> | <b>2,716,300</b> | <b>2,834,724</b> |

Table 9: Historical data for energy sales (MU) considered by the Commission

| Sl. No. | Consumer Category               | Energy Sales (MU) |          |          |          |          |
|---------|---------------------------------|-------------------|----------|----------|----------|----------|
|         |                                 | FY 15-16          | FY 16-17 | FY 17-18 | FY 18-19 | FY 19-20 |
| 1       | LTD/Domestic                    | 1,071.00          | 1,044.07 | 1,110.60 | 1,089.92 | 1,202.28 |
| 2       | LT-LIG/Low Income Group         | 3.61              | 2.86     | 1.76     | 1.51     | 1.37     |
| 3       | LTC/Commercial                  | 332.11            | 382.00   | 414.16   | 400.86   | 436.59   |
| 4       | LTI/Industrial                  | 94.55             | 106.58   | 94.45    | 90.48    | 80.91    |
| 5       | LT Mixed/ LT-P Hotel Industries | 7.46              | 4.23     | 5.31     | 4.54     | 4.48     |
| 6       | LTAG/Agriculture                | 18.79             | 26.52    | 17.22    | 16.36    | 18.08    |
| 7       | LT Temporary                    | 19.13             | 36.88    | 20.51    | 22.11    | 9.77     |
| 8       | HTD Domestic                    |                   |          | 0.29     | 0.28     | 0.38     |

| Sl. No. | Consumer Category                                    | Energy Sales (MU) |                |                |                 |                 |
|---------|--|-------------------|----------------|----------------|-----------------|-----------------|
|         |  | FY 15-16          | FY 16-17       | FY 17-18       | FY 18-19        | FY 19-20        |
| 9       | HTC Commercial                                       | 121.86            | 161.62         | 104.43         | 107.86          | 115.74          |
| 10      | HTI Industrial                                       | 909.30            | 963.76         | 1,358.42       | 1,407.94        | 1,413.05        |
| 11      | High Tension-Ferro/SM/PI/SR                          | 757.13            | 294.56         | 442.64         | 514.69          | 484.69          |
| 12      | HTAG/Agriculture                                     | 5.13              | 8.79           | 9.37           | 10.30           | 11.69           |
| 13      | Military Engineering Services/Defense Establishments | 25.84             | 25.19          | 26.89          | 0.28            | 26.06           |
| 14      | Public Lighting                                      | 28.89             | 30.27          | 2.66           | 41.18           | 29.61           |
| 15      | Hoardings/Signboards                                 | 0.18              | 0.29           | 0.24           | 0.14            | 0.16            |
| 16      | HT Temporary   | -                 | 0.93           | 0.29           | 0.94            | 2.33            |
| 17      | Single Point Supply                                  |                   |                | 5.46           | 5.78            | 5.55            |
|         | <b>Total</b>   | <b>3,395.0</b>    | <b>3,088.6</b> | <b>3,614.7</b> | <b>3,715.15</b> | <b>3,842.74</b> |

Based on the analysis of historical data, the historical CAGRs and Year-on-Year (Y-o-Y) growths assessed by the Commission for number of consumers, connected load and energy sales are as follows:

*Table 10: Historical CAGRs and Year-on-Year (Y-o-Y) growths considered by the Commission for number of consumers*

| Sl. No. | Consumer Category                                    | Y-o-Y Growth |          |          |          | CAGR     |          |          |          |
|---------|--|--------------|----------|----------|----------|----------|----------|----------|----------|
|         |  | FY 16-17     | FY 17-18 | FY 18-19 | FY 19-20 | 6-yr     | 5-yr     | 4-yr     | 3-yr     |
| 1       | LTD/Domestic   | (1.19%)      | 7.63%    | 0.95%    | 3.73%    | 2.42%    | 2.72%    | 4.06%    | 2.33%    |
| 2       | LT-LIG/Low Income Group                              | (48.32%)     | 64.00%   | (17.51%) | (13.67%) | (27.97%) | (11.86%) | 5.31%    | (15.61%) |
| 3       | LTC/Commercial                                       | (2.82%)      | 6.11%    | 1.91%    | 3.44%    | 0.94%    | 2.11%    | 3.81%    | 2.67%    |
| 4       | LTI/Industrial                                       | (0.66%)      | (0.82%)  | (3.91%)  | 1.24%    | (13.03%) | (1.05%)  | (1.18%)  | (1.37%)  |
| 5       | LT Mixed/ LT-P Hotel Industries                      | (42.74%)     | 26.84%   | (8.70%)  | (0.79%)  | 10.76%   | (9.94%)  | 4.74%    | (4.83%)  |
| 6       | LTAG/Agriculture                                     | 3.68%        | 1.13%    | (1.36%)  | 5.98%    | 0.55%    | 2.32%    | 1.87%    | 2.24%    |
| 7       | LT Temporary   | (5.13%)      | 21.96%   | 5.73%    | (52.09%) | (13.39%) | (12.51%) | (14.83%) | (28.83%) |
| 8       | HTD Domestic   |              |          | 0.00%    | 0.00%    |          |          |          | 0.00%    |
| 9       | HTC Commercial                                       | 98.96%       | 9.42%    | 7.66%    | 12.00%   | 6.26%    | 27.29%   | 9.68%    | 9.81%    |
| 10      | HTI Industrial                                       | 17.95%       | 5.33%    | 4.62%    | 3.31%    | 6.93%    | 7.65%    | 4.42%    | 3.97%    |
| 11      | High Tension-Ferro/SM/PI/SR                          | (13.51%)     | (9.38%)  | (6.90%)  | (3.70%)  | (6.81%)  | (8.44%)  | (6.69%)  | (5.31%)  |
| 12      | HTAG/Agriculture                                     | (4.65%)      | 4.88%    | 0.00%    | 2.33%    | (10.35%) | 0.58%    | 2.38%    | 1.16%    |
| 13      | Military Engineering Services/Defense Establishments | 9.09%        | 0.00%    | 0.00%    | 8.33%    | 1.61%    | 4.26%    | 2.70%    | 4.08%    |
| 14      | Public Lighting                                      | 2615.71%     | (92.93%) | 18.14%   | 331.89%  | (8.00%)  | 76.91%   | (28.82%) | 125.88%  |
| 15      | Hoardings/Signboards                                 | (3.13%)      | 1.61%    | (22.22%) | (4.08%)  | 5.48%    | (7.43%)  | (8.82%)  | (13.63%) |
| 16      | HT Temporary   |              | 0.00%    | 300.00%  | 175.00%  | (66.73%) |          | 122.40%  | 231.66%  |
| 17      | Single Point Supply                                  |              | 0.00%    | 0.00%    | 0.00%    |          |          | 0.00%    | 0.00%    |

*Table 11: Historical CAGRs and Year-on-Year (Y-o-Y) growths considered by the Commission for connected load*

| Sl. No. | Consumer Category               | Y-o-Y Growth |          |          |          | CAGR     |          |          |          |
|---------|---------------------------------|--------------|----------|----------|----------|----------|----------|----------|----------|
|         |                                 | FY 16-17     | FY 17-18 | FY 18-19 | FY 19-20 | 6-yr     | 5-yr     | 4-yr     | 3-yr     |
| 1       | LTD/Domestic                    | (29.82%)     | 19.86%   | 4.98%    | 6.09%    | (1.20%)  | (1.62%)  | 10.11%   | 5.53%    |
| 2       | LT-LIG/Low Income Group         | (94.82%)     | 118.87%  | (40.52%) | (15.22%) | (43.58%) | (51.10%) | 3.35%    | (28.99%) |
| 3       | LTC/Commercial                  | 5.19%        | 4.21%    | 7.17%    | 6.97%    | 4.78%    | 5.88%    | 6.11%    | 7.07%    |
| 4       | LTI/Industrial                  | (35.04%)     | 28.62%   | (1.75%)  | 1.58%    | (3.57%)  | (4.44%)  | 8.68%    | (0.10%)  |
| 5       | LT Mixed/ LT-P Hotel Industries | (54.58%)     | 38.20%   | (12.06%) | 9.32%    | (9.61%)  | (11.86%) | 9.93%    | (1.95%)  |
| 6       | LTAG/Agriculture                | (35.72%)     | 6.21%    | (3.58%)  | 7.74%    | (6.64%)  | (8.23%)  | 3.34%    | 1.93%    |
| 7       | LT Temporary                    | 104.31%      | 35.37%   | 61.17%   | (72.77%) | 3.95%    | 4.97%    | (15.93%) | (33.75%) |

| Sl. No. | Consumer Category                                    | Y-o-Y Growth |          |          |          | CAGR     |          |          |         |
|---------|--|--------------|----------|----------|----------|----------|----------|----------|---------|
|         |  | FY 16-17     | FY 17-18 | FY 18-19 | FY 19-20 | 6-yr     | 5-yr     | 4-yr     | 3-yr    |
| 8       | HTD Domestic   |              |          | 0.00%    | 0.00%    |          |          |          | 0.00%   |
| 9       | HTC Commercial                                       | (12.78%)     | 8.60%    | 8.24%    | 8.82%    | 2.22%    | 2.78%    | 8.56%    | 8.53%   |
| 10      | HTI Industrial                                       | 35.05%       | 2.51%    | 8.03%    | 4.75%    | 9.39%    | 11.88%   | 5.07%    | 6.38%   |
| 11      | High Tension-Ferro/SM/PI/SR                          | (2.49%)      | (9.49%)  | 5.93%    | (8.81%)  | (3.14%)  | (3.91%)  | (4.38%)  | (1.72%) |
| 12      | HTAG/Agriculture                                     | (77.83%)     | 7.51%    | 16.81%   | 3.77%    | (35.24%) | (26.68%) | 9.23%    | 10.10%  |
| 13      | Military Engineering Services/Defense Establishments | (1.77%)      | 0.00%    | (1.87%)  | 12.45%   | 1.63%    | 2.04%    | 3.34%    | 5.05%   |
| 14      | Public Lighting                                      | 23.36%       | (86.49%) | 11.06%   | 80.75%   | (19.66%) | (23.94%) | (35.26%) | 41.69%  |
| 15      | Hoardings/Signboards                                 | 14.53%       | 3.34%    | (6.95%)  | (1.56%)  | 1.63%    | 2.04%    | (1.81%)  | (4.29%) |
| 16      | HT Temporary   |              | 0.00%    | 285.14%  | 83.09%   |          |          | 91.76%   | 165.55% |
| 17      | Single Point Supply                                  |              | 0.00%    | 0.00%    | 0.00%    |          |          | 0.00%    | 0.00%   |

Table 12: Historical CAGRs and Year-on-Year (Y-o-Y) growths considered by the Commission for energy sales

| Sl. No. | Consumer Category                                    | Y-o-Y Growth |          |          |          | CAGR     |          |          |          |
|---------|--|--------------|----------|----------|----------|----------|----------|----------|----------|
|         |  | FY 16-17     | FY 17-18 | FY 18-19 | FY 19-20 | 6-yr     | 5-yr     | 4-yr     | 3-yr     |
| 1       | LTD/Domestic   | (2.51%)      | 6.37%    | (1.86%)  | 10.31%   | 5.64%    | 2.93%    | 4.82%    | 4.05%    |
| 2       | LT-LIG/Low Income Group                              | (20.77%)     | (38.43%) | (14.43%) | (9.09%)  | (31.96%) | (21.51%) | (21.76%) | (11.80%) |
| 3       | LTC/Commercial                                       | 15.02%       | 8.42%    | (3.21%)  | 8.91%    | 6.99%    | 7.08%    | 4.55%    | 2.67%    |
| 4       | LTI/Industrial                                       | 12.73%       | (11.38%) | (4.20%)  | (10.58%) | (4.23%)  | (3.82%)  | (8.78%)  | (7.45%)  |
| 5       | LT Mixed/ LT-P Hotel Industries                      | (43.25%)     | 25.37%   | (14.48%) | (1.35%)  | (4.17%)  | (11.98%) | 1.88%    | (8.15%)  |
| 6       | LTAG/Agriculture                                     | 41.12%       | (35.05%) | (5.02%)  | 10.51%   | (2.05%)  | (0.96%)  | (11.99%) | 2.45%    |
| 7       | LT Temporary   | 92.82%       | (44.38%) | 7.79%    | (55.81%) | (10.50%) | (15.46%) | (35.78%) | (30.98%) |
| 8       | HTD Domestic   |              |          | (4.93%)  | 35.79%   |          |          |          | 13.62%   |
| 9       | HTC Commercial                                       | 32.63%       | (35.38%) | 3.28%    | 7.30%    | (14.26%) | (1.28%)  | (10.53%) | 5.27%    |
| 10      | HTI Industrial                                       | 5.99%        | 40.95%   | 3.65%    | 0.36%    | 7.30%    | 11.65%   | 13.60%   | 1.99%    |
| 11      | High Tension-Ferro/SM/PI/SR                          | (61.09%)     | 50.27%   | 16.28%   | (5.83%)  | (8.18%)  | (10.55%) | 18.06%   | 4.64%    |
| 12      | HTAG/Agriculture                                     | 71.51%       | 6.56%    | 9.89%    | 13.52%   | 12.52%   | 22.88%   | 9.95%    | 11.69%   |
| 13      | Military Engineering Services/Defense Establishments | (2.53%)      | 6.74%    | (98.96%) | 9245.85% | (0.28%)  | 0.21%    | 1.14%    | (1.55%)  |
| 14      | Public Lighting                                      | 4.78%        | (91.23%) | 1450.32% | (28.09%) | (3.67%)  | 0.62%    | (0.74%)  | 233.89%  |
| 15      | Hoardings/Signboards                                 | 64.19%       | (16.06%) | (42.26%) | 16.08%   | 9.97%    | (1.96%)  | (17.45%) | (18.13%) |
| 16      | HT Temporary   |              | (68.47%) | 219.43%  | 148.80%  | 144.22%  |          | 35.82%   | 181.91%  |
| 17      | Single Point Supply                                  |              |          | 5.84%    | (3.93%)  |          |          |          | 0.84%    |

**LTD/Domestic****Petitioner's submission**

The Petitioner has considered the CAGR of 3 years up to FY 2020-21 for projecting the number of consumers, connected load and energy sales.

**Commission's analysis**

The Commission has considered the CAGR of 4 years up to FY 2019-20 for projecting number of consumers and energy sales, and the CAGR of 3 years up to FY 2019-20 for projecting connected load.

The growth rates approved by the Commission are as below:

*Table 13: Growth rates approved by the Commission for LTD/Domestic Category*

| Consumer Category | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                   | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| LTD/Domestic      | 2.16%                         | 4.06%         | 3.84%                 | 5.53%         | 4.05%                 | 4.82%         |

**LT-LIG/Low Income Group****Petitioner's submission**

The Petitioner has not considered any growth in the number of consumers, connected load and energy sales over the respective figures observed in FY 2020-21.

**Commission's analysis**

Based on the analysis of the historical trends, the Commission has not considered any growth in the number of consumers, connected load and energy sales over the respective figures observed in FY 2019-20.

The growth rates approved by the Commission are as below:

*Table 14: Growth rates approved by the Commission for LT-LIG/Low Income Group*

| Consumer Category       | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-------------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                         | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| LT-LIG/Low Income Group | 0.00%                         | 0.00%         | 0.00%                 | 0.00%         | 0.00%                 | 0.00%         |

**LTC/Commercial****Petitioner's submission**

The Petitioner has considered the CAGR of 3 years up to FY 2020-21 for projecting the number of consumers, connected load and energy sales.

**Commission's analysis**

The Commission has considered the CAGR of 3 years up to FY 2019-20 for projecting number of consumers and energy sales, and the CAGR of 6 years up to FY 2019-20 for projecting connected load.

The growth rates approved by the Commission are as below:

*Table 15: Growth rates approved by the Commission for LTC/Commercial*

| Consumer Category | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                   | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| LTC/Commercial    | 1.90%                         | 2.67%         | 4.29%                 | 4.78%         | 2.67%                 | 2.67%         |

**LTI/Industrial****Petitioner's submission**

The Petitioner has not considered any growth in the number of consumers and energy sales over the respective figures observed in FY 2020-21, and the CAGR of 3 years up to FY 2020-21 for projecting connected load.



**Commission's analysis**

The Commission has not considered any growth in the number of consumers and energy sales over the respective figures observed in FY 2019-20, and the Y-o-Y growth observed in FY 2019-20 for projecting connected load.

The growth rates approved by the Commission are as below:

*Table 16: Growth rates approved by the Commission for LTI/Industrial*

| Consumer Category | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                   | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| LTI/Industrial    | 0.00%                         | 0.00%         | 0.45%                 | 1.58%         | 0.00%                 | 0.00%         |

**LT Mixed/ LT-P Hotel Industries****Petitioner's submission**

The Petitioner has not considered any growth in the number of consumers, connected load and energy sales over the respective figures observed in FY 2020-21.

**Commission's analysis**

Based on the analysis of the historical trends, the Commission has not considered any growth in the number of consumers, connected load and energy sales over the respective figures observed in FY 2019-20.

The growth rates approved by the Commission are as below:

*Table 17: Growth rates approved by the Commission for LT Mixed/ LT-P Hotel Industries*

| Consumer Category               | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|---------------------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                                 | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| LT Mixed/ LT-P Hotel Industries | 0.00%                         | 0.00%         | 0.00%                 | 0.00%         | 0.00%                 | 0.00%         |

**LTAG/Agriculture****Petitioner's submission**

The Petitioner has considered the growth rates separately for LTAG/Agriculture (Pump sets/ Irrigation) and LTAG/Agriculture (Allied Activities), as shown in Table 18.

**Commission's analysis**

The Commission has considered the combined growth rates for LTAG/Agriculture as shown in table below:

*Table 18: Growth rates approved by the Commission for LTAG/Agriculture*

| Consumer Category                        | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|--|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|  | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| LTAG/Agriculture (Pump sets/ Irrigation) | 3.15%                         | 1.87%         | 3.80%                 | 3.34%         | 2.67%                 | 0.00%         |
| LTAG/Agriculture (Allied Activities)     | 5.00%                         |               | 5.00%                 |               | 0.00%                 |               |

**LT Temporary and HT Temporary****Petitioner's submission**

The Petitioner has considered the growth rates for LT Temporary and HT Temporary as shown in Table 19.

**Commission's analysis**

Based on the analysis of the historical trends, the Commission has not considered any growth in the number of consumers, connected load and energy sales over the respective figures observed in FY 2019-20.

The growth rates approved by the Commission are as below:

*Table 19: Growth rates approved by the Commission for LT-LIG/Low Income Group*

| Consumer Category | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                   | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| LT Temporary      | 0.00%                         | 0.00%         | 0.00%                 | 0.00%         | 0.00%                 | 0.00%         |
| HT Temporary      | 5.00%                         | 0.00%         | 5.00%                 | 0.00%         | 5.00%                 | 0.00%         |

**HTD/Domestic****Petitioner's submission**

The Petitioner has considered the CAGR of 3 years up to FY 2020-21 for projecting the number of consumers, connected load and energy sales.

**Commission's analysis**

Based on the analysis of the historical trends, the Commission has not considered any growth in the number of consumers, connected load and energy sales over the respective figures observed in FY 2019-20.

The growth rates approved by the Commission are as below:

*Table 20: Growth rates approved by the Commission for HTD/Domestic*

| Consumer Category | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                   | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| HTD/Domestic      | 5.00%                         | 0.00%         | 5.00%                 | 0.00%         | 5.00%                 | 0.00%         |

**HTC/Commercial****Petitioner's submission**

The Petitioner has considered the CAGR of 3 years up to FY 2020-21 for projecting the number of consumers, connected load and energy sales.

**Commission's analysis**

The Commission has considered the CAGR of 6 years, 5 years and 3 years up to FY 2019-20 for projecting number of consumers and energy sales respectively.

The growth rates approved by the Commission are as below:

*Table 21: Growth rates approved by the Commission for HTC/Commercial Category*

| Consumer Category | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                   | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| HTC/Commercial    | 5.00%                         | 6.26%         | 5.00%                 | 2.78%         | 5.00%                 | 5.27%         |

**HTI/Industrial****Petitioner's submission**

The Petitioner has considered the CAGR of 3 years up to FY 2020-21 for projecting the number of consumers, connected load and energy sales.

**Commission's analysis**

The Commission has considered the CAGR of 6 years, 4 years and 3 years up to FY 2019-20 for projecting number of consumers and energy sales respectively.

The growth rates approved by the Commission are as below:

*Table 22: Growth rates approved by the Commission for HTI/Industrial Category*

| Consumer Category | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                   | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| HTI/Industrial    | 2.05%                         | 6.93%         | 1.79%                 | 5.07%         | 1.99%                 | 1.99%         |

**High Tension-Ferro/SM/PI/SR****Petitioner's submission**

The Petitioner has not considered any growth in the number of consumers and connected load over the respective figures observed in FY 2020-21, and the CAGR of 3 years up to FY 2020-21 for projecting energy sales.

**Commission's analysis**

The Commission has not considered any growth in the number of consumers and connected load over the respective figures observed in FY 2019-20. Further, the Commission has considered a CAGR of 3 years up to FY 2019-20 for projecting energy sales.

The growth rates approved by the Commission are as below:

*Table 23: Growth rates approved by the Commission for High Tension-Ferro/SM/PI/SR*

| Consumer Category           | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-----------------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                             | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| High Tension-Ferro/SM/PI/SR | 0.00%                         | 0.00%         | 0.00%                 | 0.00%         | 4.64%                 | 4.64%         |

**HTAG/Agriculture****Petitioner's submission**

The Petitioner has considered the growth rates separately for HTAG/Agriculture (Pump sets/ Irrigation) and HTAG/Agriculture (Allied Activities), as shown in Table 24.

### Commission's analysis

The Commission has considered the combined growth rates for HTAG/Agriculture as shown in table below:

*Table 24: Growth rates approved by the Commission for HTAG/Agriculture*

| Consumer Category                       | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|---|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|   | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| HTAG/Agriculture (Pump sets/Irrigation) | 1.24%                         | 2.38%         | 2.34%                 | 3.77%         | 0.00%                 | 9.95%         |
| HTAG/Agriculture (Allied Activities)    | 0.00%                         |               | 0.00%                 |               | 5.00%                 |               |

### Military Engineering Services/Defense Establishments

#### Petitioner's submission

The Petitioner has not considered any growth in energy sales over the energy sales observed in FY 2020-21, and the CAGR of 3 years up to FY 2020-21 for projecting number of consumers and connected load.

#### Commission's analysis

The Commission has considered the CAGR of 4 years up to FY 2019-20 for projecting number of consumers and energy sales and connected load.

The growth rates approved by the Commission are as below:

*Table 25: Growth rates approved by the Commission for Military Engineering Services/Defense Establishments Category*

| Consumer Category                                    | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|--|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|  | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| Military Engineering Services/Defense Establishments | 4.08%                         | 2.70%         | 5.00%                 | 3.34%         | 0.00%                 | 1.14%         |

### Public Lighting

#### Petitioner's submission

The Petitioner has considered the CAGR of 3 years up to FY 2020-21 for projecting the number of consumers, connected load and energy sales.

#### Commission's analysis

Based on the analysis of the historical trends, the Commission has not considered any growth in the number of consumers, connected load and energy sales over the respective figures observed in FY 2019-20.

The growth rates approved by the Commission are as below:

*Table 26: Growth rates approved by the Commission for Public Lighting category*

| Consumer Category | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                   | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| Public Lighting   | 5.00%                         | 0.00%         | 5.00%                 | 0.00%         | 5.00%                 | 0.00%         |

**Hoardings/ Signboards****Petitioner's submission**

The Petitioner has not considered any growth in the number of consumers, connected load and energy sales over the respective figures observed in FY 2020-21.

**Commission's analysis**

Based on the analysis of the historical trends, the Commission has not considered any growth in the number of consumers, connected load and energy sales over the respective figures observed in FY 2019-20.

The growth rates approved by the Commission are as below:

*Table 27: Growth rates approved by the Commission for Hoardings/ Signboards category*

| Consumer Category     | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|-----------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                       | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| Hoardings/ Signboards | 0.00%                         | 0.00%         | 0.00%                 | 0.00%         | 0.00%                 | 0.00%         |

**Single Point Supply****Petitioner's submission**

The Petitioner has not considered any growth in the number of consumers and connected load over the respective figures observed in FY 2020-21, and the CAGR of 3 years up to FY 2020-21 for projecting energy sales.

**Commission's analysis**

The Commission has not considered any growth in the number of consumers and connected load over the respective figures observed in FY 2019-20. Further, the Commission has considered a CAGR of 3 years up to FY 2019-20 for projecting energy sales.

The growth rates approved by the Commission are as below:

*Table 28: Growth rates approved by the Commission for Single Point Supply*

| Consumer Category   | Growth in number of consumers |               | Load Growth           |               | Sales Growth          |               |
|---------------------|-------------------------------|---------------|-----------------------|---------------|-----------------------|---------------|
|                     | Growth Rate Submitted         | CAGR Approved | Growth Rate Submitted | CAGR Approved | Growth Rate Submitted | CAGR Approved |
| Single Point Supply | 0.00%                         | 0.00%         | 0.00%                 | 0.00%         | 0.84%                 | 0.84%         |

***3.2.3 Projections of Number of Consumers, Connected Load and Energy Sales approved by the Commission***

Accordingly, the projections of number of consumers, connected load and energy sales for the Base Year and the 3<sup>rd</sup> MYT Control Period based on CAGRs approved by the Commission are as follows:

*Table 29: Consumer growth projections approved by the Commission for the 3<sup>rd</sup> MYT Control Period*

| Sl. No. | Consumer Category       | Consumer growth projections |            |                           |            |
|---------|-------------------------|-----------------------------|------------|---------------------------|------------|
|         |                         | Base Year (Estimated)       |            | Control Period (Approved) |            |
|         |                         | FY 2021-22                  | FY 2022-23 | FY 2023-24                | FY 2024-25 |
| 1       | LTD/Domestic            | 565,369                     | 588,323    | 612,209                   | 637,065    |
| 2       | LT-LIG/Low Income Group | 1,314                       | 1,314      | 1,314                     | 1,314      |

| Sl. No. | Consumer Category                                    | Consumer growth projections |                           |                |                |
|---------|--|-----------------------------|---------------------------|----------------|----------------|
|         |  | Base Year (Estimated)       | Control Period (Approved) |                |                |
|         |  | FY 2021-22                  | FY 2022-23                | FY 2023-24     | FY 2024-25     |
| 3       | LTC/Commercial                                       | 105,325                     | 108,137                   | 111,025        | 113,989        |
| 4       | LTI/Industrial                                       | 5,799                       | 5,799                     | 5,799          | 5,799          |
| 5       | LT Mixed/ LT-P Hotel Industries                      | 125                         | 125                       | 125            | 125            |
| 6       | LTAG/Agriculture                                     | 12,402                      | 12,634                    | 12,870         | 13,111         |
| 7       | LT Temporary   | 2,609                       | 2,609                     | 2,609          | 2,609          |
| 8       | HTD Domestic   | 3                           | 3                         | 3              | 3              |
| 9       | HTC Commercial                                       | 285                         | 302                       | 321            | 341            |
| 10      | HTI Industrial                                       | 855                         | 915                       | 978            | 1,046          |
| 11      | High Tension-Ferro/SM/PI/SR                          | 26                          | 26                        | 26             | 26             |
| 12      | HTAG/Agriculture                                     | 46                          | 47                        | 48             | 49             |
| 13      | Military Engineering Services/Defense Establishments | 14                          | 14                        | 14             | 15             |
| 14      | Public Lighting                                      | 1,097                       | 1,097                     | 1,097          | 1,097          |
| 15      | Hoardings/Signboards                                 | 47                          | 47                        | 47             | 47             |
| 16      | HT Temporary   | 11                          | 11                        | 11             | 11             |
| 17      | Single Point Supply                                  | 1                           | 1                         | 1              | 1              |
|         | <b>Total</b>   | <b>695,328</b>              | <b>721,405</b>            | <b>748,498</b> | <b>776,648</b> |

Table 30: Connected load growth projections approved by the Commission for the 3<sup>rd</sup> MYT Control Period

| Sl. No. | Consumer Category                                    | Connected load growth projections (kW) |                           |                  |                  |
|---------|--|--|---------------------------|------------------|------------------|
|         |  | Base Year (Estimated)                  | Control Period (Approved) |                  |                  |
|         |  | FY 2021-22                             | FY 2022-23                | FY 2023-24       | FY 2024-25       |
| 1       | LTD/Domestic   | 1,713,671                              | 1,808,437                 | 1,908,443        | 2,013,980        |
| 2       | LT-LIG/Low Income Group                              | 117                                    | 117                       | 117              | 117              |
| 3       | LTC/Commercial                                       | 388,838                                | 407,424                   | 426,899          | 447,305          |
| 4       | LTI/Industrial                                       | 144,633                                | 146,918                   | 149,240          | 151,598          |
| 5       | LT Mixed/ LT-P Hotel Industries                      | 2,757                                  | 2,757                     | 2,757            | 2,757            |
| 6       | LTAG/Agriculture                                     | 50,692                                 | 52,385                    | 54,134           | 55,942           |
| 7       | LT Temporary   | 9,107                                  | 9,107                     | 9,107            | 9,107            |
| 8       | HTD Domestic   | 300                                    | 300                       | 300              | 300              |
| 9       | HTC Commercial                                       | 88,125                                 | 90,575                    | 93,093           | 95,681           |
| 10      | HTI Industrial                                       | 589,357                                | 619,237                   | 650,632          | 683,619          |
| 11      | High Tension-Ferro/SM/PI/SR                          | 95,340                                 | 95,340                    | 95,340           | 95,340           |
| 12      | HTAG/Agriculture                                     | 12,152                                 | 12,610                    | 13,085           | 13,579           |
| 13      | Military Engineering Services/Defense Establishments | 8,196                                  | 8,470                     | 8,753            | 9,045            |
| 14      | Public Lighting                                      | 3,212                                  | 3,212                     | 3,212            | 3,212            |
| 15      | Hoardings/Signboards                                 | 567                                    | 567                       | 567              | 567              |
| 16      | HT Temporary   | 2,468                                  | 2,468                     | 2,468            | 2,468            |
| 17      | Single Point Supply                                  | 4,035                                  | 4,035                     | 4,035            | 4,035            |
|         | <b>Total</b>   | <b>3,113,566</b>                       | <b>3,263,959</b>          | <b>3,422,183</b> | <b>3,588,653</b> |

**Table 31: Energy sales growth projections approved by the Commission for the 3<sup>rd</sup> MYT Control Period**

| Sl. No. | Consumer Category                                    | Energy sales growth projections (MU) |                           |                 |                 |
|---------|--|--------------------------------------|---------------------------|-----------------|-----------------|
|         |  | Base Year (Estimated)                | Control Period (Approved) |                 |                 |
|         |  | FY 2021-22                           | FY 2022-23                | FY 2023-24      | FY 2024-25      |
| 1       | LTD/Domestic   | 1,320.92                             | 1,384.58                  | 1,451.32        | 1,521.28        |
| 2       | LT-LIG/Low Income Group                              | 1.37                                 | 1.37                      | 1.37            | 1.37            |
| 3       | LTC/Commercial                                       | 460.23                               | 472.52                    | 485.13          | 498.09          |
| 4       | LTI/Industrial                                       | 80.91                                | 80.91                     | 80.91           | 80.91           |
| 5       | LT Mixed/ LT-P Hotel Industries                      | 4.48                                 | 4.48                      | 4.48            | 4.48            |
| 6       | LTAG/Agriculture                                     | 18.08                                | 18.08                     | 18.08           | 18.08           |
| 7       | LT Temporary   | 9.77                                 | 9.77                      | 9.77            | 9.77            |
| 8       | HTD Domestic   | 0.38                                 | 0.38                      | 0.38            | 0.38            |
| 9       | HTC Commercial                                       | 128.26                               | 135.02                    | 142.13          | 149.62          |
| 10      | HTI Industrial                                       | 1,469.87                             | 1,499.12                  | 1,528.95        | 1,559.37        |
| 11      | High Tension-Ferro/SM/PI/SR                          | 530.72                               | 555.35                    | 581.12          | 608.08          |
| 12      | HTAG/Agriculture                                     | 14.13                                | 15.54                     | 17.09           | 18.79           |
| 13      | Military Engineering Services/Defense Establishments | 26.66                                | 26.96                     | 27.27           | 27.58           |
| 14      | Public Lighting                                      | 29.61                                | 29.61                     | 29.61           | 29.61           |
| 15      | Hoardings/Signboards                                 | 0.16                                 | 0.16                      | 0.16            | 0.16            |
| 16      | HT Temporary   | 2.33                                 | 2.33                      | 2.33            | 2.33            |
| 17      | Single Point Supply                                  | 5.65                                 | 5.69                      | 5.74            | 5.79            |
|         | <b>Total</b>   | <b>4,103.52</b>                      | <b>4,241.87</b>           | <b>4,385.84</b> | <b>4,535.68</b> |

### 3.3 Intra-state Transmission & Distribution (T&D) losses

#### Petitioner's submission

The Petitioner has submitted that it has been working hard to reduce its distribution losses to the targets approved by the Commission in the 2<sup>nd</sup> MYT Control Period. The Petitioner has reduced some of its distribution loss due to implementation of SAP and R-APDRP Part A schemes, by resolving the billing issues, transition of billing and collection agencies and infusion of funds to strengthen and improve the distribution network. As the issues were resolved and data billing etc. was done through SAP, the provisional actual distribution losses observed for FY 2020-21 were 11.90%. Further, the Petitioner has considered the distribution loss target approved by the Commission for FY 2021-22 i.e., 10.25%.

The Petitioner would further invest in the capital expenditure during the upcoming Control Period to further reduce the technical losses and commercial losses. However, even if commercial losses are reduced to NIL, as the Petitioner has a vastly spread area along with coastal belts, it is very difficult to reduce the technical losses, and after a certain level it requires huge technological and capital expenditure. Accordingly, considering the above constraints, ED-Goa has proposed the distribution loss trajectory for the 3<sup>rd</sup> MYT Control Period as follows:

**Table 32: T&D loss (%) trajectory proposed by the Petitioner for the 3<sup>rd</sup> MYT Control Period**

| Base Year  | Projections |            |            |
|------------|-------------|------------|------------|
| FY 2021-22 | FY 2022-23  | FY 2023-24 | FY 2024-25 |
| 10.25%     | 10.15%      | 10.00%     | 9.85%      |

#### Commission's analysis

The Petitioner has only submitted the details of actual T&D losses achieved in the 2<sup>nd</sup> MYT Control Period for FY 2020-21. The Commission cannot finalize the T&D loss trajectory without the provisional/actual losses for the period from FY 2019-20 to FY 2021-22. The Commission therefore directs the Petitioner to submit the details of actual annual T&D losses from FY 2017-18 to FY 2021-22 within 3 months of the issuance of this order. The Commission shall reconsider the T&D loss trajectory for the 3<sup>rd</sup> MYT Control Period based on the actual data.

The T&D losses approved by the Commission in the current Control Period vis-à-vis T&D losses achieved by the Petitioner during the same period is given in the following table:

*Table 33: T&D losses approved by the Commission in the 2<sup>nd</sup> MYT Control Period vis-à-vis T&D losses achieved by the Petitioner*

|                   | T&D loss (%)          |                          |
|-------------------|-----------------------|--------------------------|
|                   | Approved <sup>1</sup> | Actual (A)/ Estimate (E) |
| <b>FY 2019-20</b> | 10.75%                | Not Submitted            |
| <b>FY 2020-21</b> | 10.50%                | 11.90% (E)               |
| <b>FY 2021-22</b> | 10.25%                | Not Submitted            |

If the Petitioner fails to meet the T&D loss targets in the existing Control Period, it will be penalized for failing to do so during true-up for respective financial years. Further, Clause 6.1 of the JERC MYT Regulations, 2021 states the following:

*“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.”*

Accordingly, the Commission shall set the T&D loss trajectory for the 3<sup>rd</sup> MYT Control Period based on the actual T&D losses observed from FY 2019-20 to FY 2021-22. The Commission would like to point out that approx. 53% of the total sales is towards HT industries, where losses are very low. In view of the capital expenditure proposed by the Petitioner and nature of schemes planned to be carried out, the Commission opines that the Petitioner should be able to further reduce T&D losses by 0.25% annually in the 3<sup>rd</sup> MYT Control Period. The Commission has considered the T&D losses for FY 2022-23 as 10.25% i.e., the same as that approved in FY 2021-22 in this order. The T&D loss trajectory approved by the Commission is given in the following table:

*Table 34: T&D loss trajectory approved by the Commission*

|                                    | FY 2022-23              |                        | FY 2023-24              |                        | FY 2024-25              |                        |
|------------------------------------|-------------------------|------------------------|-------------------------|------------------------|-------------------------|------------------------|
|                                    | Petitioner's submission | Approved by Commission | Petitioner's submission | Approved by Commission | Petitioner's submission | Approved by Commission |
| <b>T&amp;D loss trajectory (%)</b> | 10.15%                  | 10.25%                 | 10.00%                  | 10.00%                 | 9.85%                   | 9.75%                  |

## 3.4 Power Procurement Plan

### 3.4.1 Energy Requirement

#### Petitioner's submission

The Petitioner has submitted the projection of energy requirement at periphery by grossing up the sales projections with distribution loss trajectory as proposed. The summary of the energy requirement as estimated by the Petitioner is provided in the following below:

*Table 35: Energy requirement proposed by the Petitioner*

| Particulars                      | Projections |            |            |            |
|----------------------------------|-------------|------------|------------|------------|
|                                  | FY 2021-22  | FY 2022-23 | FY 2023-24 | FY 2024-25 |
| <b>ENERGY REQUIREMENT (MU)</b>   |             |            |            |            |
| Energy sales within the State/UT | 3,931.70    | 4,086.29   | 4,214.18   | 4,346.69   |

<sup>1</sup> Business Plan Order dated 16 November 2018



| Particulars                               | Projections     |                 |                 |                 |
|---|-----------------|-----------------|-----------------|-----------------|
|   | FY 2021-22      | FY 2022-23      | FY 2023-24      | FY 2024-25      |
| <b>Distribution losses</b>                |                 |                 |                 |                 |
| %   | 10.25%          | 10.15%          | 10.00%          | 9.85%           |
| MU  | 449.02          | 461.61          | 468.24          | 474.93          |
| <b>Energy required at State Periphery</b> | <b>4,380.72</b> | <b>4,547.90</b> | <b>4,682.42</b> | <b>4,821.62</b> |

### Commission's analysis

Based on the sales projections and T&D losses approved by the Commission above, the energy requirement at State periphery and the total energy input estimated by the Commission for the 3<sup>rd</sup> MYT Control Period is provided in the following table:

*Table 36: Energy requirement at UT periphery and total energy input approved by the Commission*

| Particulars   | Approved Energy Requirement (MU) |                 |                 |
|---|----------------------------------|-----------------|-----------------|
|   | FY 2022-23                       | FY 2023-24      | FY 2024-25      |
| Energy sales within the State (A)                         | 4,241.87                         | 4,385.84        | 4,535.68        |
| T&D Loss (%) (B)  | 10.25%                           | 10.00%          | 9.75%           |
| <b>Energy required at State Periphery (C = A/(1-B))</b>   | <b>4,726.31</b>                  | <b>4,873.15</b> | <b>5,025.69</b> |
| Within State Generation (Co-Gen) (D)                      | 149.79                           | 149.79          | 149.79          |
| <b>Net energy required at State Periphery (E = C - D)</b> | <b>4,576.53</b>                  | <b>4,723.37</b> | <b>4,875.90</b> |

## 3.4.2 Power Purchase Quantum

### Petitioner's submission

The Petitioner has made the following assumptions for projecting the quantum of power purchase for the 3<sup>rd</sup> MYT Control Period:

- **Allocation to the Petitioner:** Plant-wise share allocation from Central Generating Stations as per WRPC Allocation Circular No: WRPC/Comml.-I/6/Alloc/2021/7279 dated 13.07.2021 and SRPC Allocation Circular No: SRPC/SE(O)/54/UA/2021-22/ dated 28.06.2021
- **Power purchase from new stations:** The Petitioner has envisaged purchase of new power from four renewable generating stations for the 3<sup>rd</sup> MYT Control Period as follows:

*Table 37: Purchase of new power from four renewable generating stations for the 3<sup>rd</sup> MYT Control Period as submitted by the Petitioner*

| Sl. No. | Power Projects                                | Capacity for Goa (MW) | Estimated date of Start of Power Supply |
|---------|---|-----------------------|---|
| 1       | Convergence Solar (110 MW)                    | 110                   | FY 2023-24                              |
| 2       | SECI 50 MW (Wind)                             | 50                    | FY 2022-23                              |
| 3       | SECI 150 MW (Peak power Solar, Wind and BESS) | 150                   | FY 2023-24                              |
| 4       | PM KUSUM                                      | 10                    | FY 2023-24                              |

- **Plant Load Factor (PLF):** The Petitioner has considered the provisional actual PLF figures of FY 2020-21 for each plant and has considered the same for FY 2021-22 and for the projection of Power Purchase for the Control Period from FY 2022-23 to FY 2024-25.
- **Auxiliary consumption:** The Petitioner has considered the auxiliary consumption parameters as prescribed by the CERC Tariff Regulations 2019-24.
- **Inter-state transmission losses:** The Petitioner has considered inter-state transmission losses as follows:

*Table 38: Inter-state transmission losses considered by the Petitioner for FY 2021-22 and the 3<sup>rd</sup> MYT Control Period*

| Particulars     | Projections             |            |            |            |
|-----------------|-------------------------|------------|------------|------------|
|                 | Base Year<br>FY 2021-22 | FY 2022-23 | FY 2023-24 | FY 2024-25 |
| Western Region  | 3.35%                   | 3.34%      | 3.31%      | 3.29%      |
| Southern Region | 7.95%                   | 7.92%      | 7.85%      | 7.80%      |

Based on the above inputs and assumptions, the Petitioner has projected the availability of power from tie-up sources as given in the following table:

*Table 39: Power purchase plan proposed by the Petitioner for the 3<sup>rd</sup> MYT Control Period*

| Sl. No.    | Source                               | Capacity (MW) | Firm allocation to Licensee |               | Base Year Projections recorded by Licensee (MU) | Projections of Energy recorded by Licensee (MU) |                 |                 |         |
|------------|--------------------------------------|---------------|-----------------------------|---------------|---|---|-----------------|-----------------|---------|
|            |                                      |               | %                           | MW            |   | 2021-22   | 2022-23         | 2023-24         | 2024-25 |
| <b>A</b>   | <b>Central Sector Power Stations</b> |               |                             |               |   |   |                 |                 |         |
| <b>I</b>   | <b>NTPC</b>                          | <b>21,914</b> |                             | <b>596.14</b> | <b>3,482.62</b>                                 | <b>3,483.08</b>                                 | <b>3,484.48</b> | <b>3,485.41</b> |         |
| 1          | KSTPS                                | 2,100         | 10.25%                      | 215.23        | 1,572.72  | 1,572.89  | 1,573.40        | 1,573.74        |         |
| 2          | VSTPS - I                            | 1,260         | 3.14%                       | 39.60         | 252.83  | 252.86  | 252.94          | 252.99          |         |
| 3          | VSTPS - II                           | 1,000         | 1.55%                       | 15.49         | 106.61  | 106.62  | 106.66          | 106.68          |         |
| 4          | VSTPS -III                           | 1,000         | 1.35%                       | 13.49         | 100.82  | 100.83  | 100.87          | 100.89          |         |
| 5          | VSTPS-IV                             | 1,000         | 1.60%                       | 16.04         | 108.42  | 108.44  | 108.47          | 108.49          |         |
| 6          | VSTPS-V                              | 500           | 1.52%                       | 7.60          | 54.50   | 54.50   | 54.52           | 54.53           |         |
| 7          | KGPP                                 | 656           | 1.89%                       | 12.40         | 17.14   | 17.15   | 17.15           | 17.16           |         |
| 8          | GGPP                                 | 657           | 1.93%                       | 12.66         | 13.00   | 13.00   | 13.01           | 13.01           |         |
| 9          | SIPAT- I                             | 1,980         | 1.49%                       | 29.58         | 215.56  | 215.58  | 215.65          | 215.70          |         |
| 11         | KSTPS-VII                            | 500           | 1.38%                       | 6.92          | 55.33   | 55.33   | 55.35           | 55.36           |         |
| 14         | RSTPS                                | 2,100         | 4.76%                       | 100.00        | 563.58  | 563.73  | 564.19          | 564.49          |         |
| 15         | SIPAT- II                            | 1,000         | 1.33%                       | 13.32         | 91.42   | 91.43   | 91.46           | 91.48           |         |
| 16         | Solapur                              | 1,320         | 1.63%                       | 21.47         | 57.61   | 57.61   | 57.63           | 57.64           |         |
| 17         | Gadarwara                            | 1,600         | 1.39%                       | 22.29         | 59.25   | 59.25   | 59.27           | 59.28           |         |
| 18         | Lara                                 | 1,600         | 0.94%                       | 15.02         | 51.81   | 51.82   | 51.84           | 51.85           |         |
| 19         | Khargone                             | 1,320         | 1.37%                       | 18.13         | 63.71   | 63.71   | 63.73           | 63.75           |         |
| 20         | Mouda I                              | 1,000         | 1.60%                       | 16.04         | 53.01   | 53.01   | 53.03           | 53.04           |         |
| 21         | Mouda II                             | 1,320         | 1.58%                       | 20.88         | 45.29   | 45.30   | 45.31           | 45.32           |         |
|            | <i>Add/ Less: Other Adjustments</i>  |               |                             |               |   | -   |                 |                 |         |
| <b>III</b> | <b>NPCIL</b>                         | <b>1,520</b>  |                             | <b>31</b>     | <b>215</b>                                      | <b>215</b>                                      | <b>215</b>      | <b>215</b>      |         |
|            | KAPS                                 | 440           | 3.69%                       | 16.23         | 119.34  | 119.36  | 119.39          | 119.42          |         |
|            | TAPS                                 | 1,080         | 1.40%                       | 15.16         | 95.83   | 95.84   | 95.87           | 95.89           |         |
| <b>IV</b>  | <b>Short-Term Purchase</b>           |               |                             | -             | <b>(149)</b>                                    | <b>(77)</b>                                     | <b>(401)</b>    | <b>(207)</b>    |         |
|            | <i>a) IEX PURCHASE AND SALES</i>     |               |                             |               | <i>(148.98)</i>                                 | <i>(76.55)</i>                                  | <i>(400.90)</i> | <i>(207.39)</i> |         |
|            | <i>A1)IEX PURCHASE</i>               |               |                             |               | 101.01  |   |                 |                 |         |
|            | <i>A2)IEX SALES</i>                  |               |                             |               | 249.99  | 76.55   | 400.90          | 207.39          |         |
|            | <i>b) Traders</i>                    |               |                             |               |   | -   | -               | -               |         |
| <b>V</b>   | <b>OVER/ UNDER DRAWAL</b>            |               |                             |               | <b>(3.82)</b>                                   |   |                 |                 |         |
|            | <i>OVER DRAWAL</i>                   |               |                             |               | 27.74   |   |                 |                 |         |
|            | <i>UNDER DRAWAL</i>                  |               |                             |               | 31.44   |   |                 |                 |         |

| Sl. No. | Source  | Capacity (MW) | Firm allocation to Licensee |               | Base Year Projections recorded by Licensee (MU) | Projections of Energy recorded by Licensee (MU) |               |               |
|---------|---|---------------|-----------------------------|---------------|---|---|---------------|---------------|
|         |   |               | %                           | MW            |   | 2021-22   | 2022-23       | 2023-24       |
| VI      | <b>Banking of Power</b>   |               |                             |               | 17.56   |   |               |               |
| B       | <b>Within State Generations</b>   |               |                             |               |   |   |               |               |
| I       | <b>CO- GENERATION</b>   | <b>26.00</b>  |                             | <b>26.00</b>  | <b>150</b>                                      | <b>150</b>                                      | <b>150</b>    | <b>150</b>    |
|         | <i>Vedanta Plant-1</i>  | <i>14.00</i>  | <i>100.00%</i>              | <i>14.00</i>  | <i>90.88</i>                                    | <i>90.88</i>                                    | <i>90.88</i>  | <i>90.88</i>  |
|         | <i>Vedanta Plant -2</i>   | <i>2.00</i>   | <i>100.00%</i>              | <i>2.00</i>   | <i>53.10</i>                                    | <i>53.10</i>                                    | <i>53.10</i>  | <i>53.10</i>  |
|         | <i>Goa Sponge and private limited</i>   | <i>10.00</i>  | <i>100.00%</i>              | <i>10.00</i>  | <i>5.81</i>                                     | <i>5.81</i>                                     | <i>5.81</i>   | <i>5.81</i>   |
| C       | <b>RPO Obligation</b>   |               |                             |               | <b>668</b>                                      | <b>776</b>                                      | <b>1,134</b>  | <b>1,191</b>  |
|         | <b>Solar</b>  |               |                             | <b>301</b>    | <b>314.54</b>                                   | <b>367.77</b>                                   | <b>421.42</b> | <b>478.14</b> |
|         | <i>NVVNL Solar</i>  |               |                             | <i>6</i>      | <i>12.00</i>                                    | <i>12.00</i>                                    |               |               |
|         | <i>Solar STOA</i>   |               |                             |               | <i>238.74</i>                                   | <i>244.64</i>                                   | <i>117.53</i> | <i>48.00</i>  |
|         | <i>SECI Solar</i>   |               |                             | <i>25.00</i>  | <i>48.00</i>                                    | <i>48.00</i>                                    | <i>48.00</i>  | <i>48.00</i>  |
|         | <i>CONVERGENCE SOLAR</i>  |               |                             | <i>110.00</i> | <i>3.15</i>                                     | <i>43.36</i>                                    | <i>86.72</i>  | <i>173.45</i> |
|         | <i>Net Metering</i>   |               |                             |               | <i>12.65</i>                                    | <i>19.76</i>                                    | <i>39.52</i>  | <i>79.04</i>  |
|         | <i>PM KUSUM</i>   |               |                             | <i>10.00</i>  |   |   | <i>16.64</i>  | <i>16.64</i>  |
|         | <i>SECI Hybrid (Solar)</i>  |               |                             | <i>150.00</i> |   |   | <i>113.00</i> | <i>113.00</i> |
|         | <b>Non-Solar</b>  |               |                             | <b>100.00</b> | <b>353.85</b>                                   | <b>408.63</b>                                   | <b>712.38</b> | <b>712.38</b> |
|         | <i>Non Solar - SECI Wind Tranche II LTOA</i>  |               |                             | <i>50.00</i>  | <i>112.42</i>                                   | <i>112.42</i>                                   | <i>112.42</i> | <i>112.42</i> |
|         | <i>STOA (Non Solar)</i>   |               |                             |               | <i>240.47</i>                                   | <i>220.25</i>                                   | <i>-</i>      | <i>-</i>      |
|         | <i>SECI Tranche-VI</i>  |               |                             | <i>50.00</i>  |   | <i>75.00</i>                                    | <i>112.00</i> | <i>112.00</i> |
|         | <i>Hindustan waste treatment plant Goa</i>  |               |                             |               | <i>0.96</i>                                     | <i>0.96</i>                                     | <i>0.96</i>   | <i>0.96</i>   |
|         | <i>SECI Hybrid (Non-Solar)</i>  |               |                             |               |   |   | <i>487.00</i> | <i>487.00</i> |
| D       | <b>REC Certificates</b>   |               |                             |               |   |   |               |               |
| E       | <b>OTHER CHARGES</b>  |               |                             |               |   |   |               |               |
|         | <i>PGCIL Transmission Charges, Wheeling, Oen Access &amp; Trading Marrgin &amp; Other Charges</i> |               |                             |               |   |   |               |               |
| F       | <b>Total</b>  | <b>23,460</b> |                             | <b>1,055</b>  | <b>4,381</b>                                    | <b>4,548</b>                                    | <b>4,582</b>  | <b>4,834</b>  |

### Commission's Analysis

The Commission has employed the following approach and assumptions to forecast the power purchase from tied-up sources for the 3rd MYT Control Period:

- **Allocation from CGS:** The Commission has considered firm allocation and allocation from the unallocated quota from the central generating stations based on the allocation obtained from Regional Energy Account of western region prepared by WRPC vide letter number WRPC/Comml.-I/ABTREA/2022/2.0/02508 dated 02.03.2022. Further, for Ramagundam Super Thermal Power Station (RSTPS), the Commission has considered the Regional Energy Account of southern region

prepared by SRPC vide letter number SRPC/SE-1/4(REA)/2022/ dated 02.03.2022. The same share of allocation has been assumed for all the years of the 3<sup>rd</sup> MYT Control Period.

- **Power purchase from renewable and co-generation plants:** The Commission has considered the projections submitted by the Petitioner. The Commission directs the Petitioner to ensure that the approval of all PPAs must be obtained from the Commission prior to any new procurement. The same is as follows:

*Table 40: Purchase of new power from four renewable generating stations for the 3rd MYT Control Period considered by the Petitioner*

| Sl. No. | Power Projects                                | Capacity for Goa (MW) | Estimated date of Start of Power Supply |
|---------|---|-----------------------|---|
| 1       | Convergence Solar (110 MW)                    | 110                   | FY 2023-24                              |
| 2       | SECI 50 MW (Wind)                             | 50                    | FY 2022-23                              |
| 3       | SECI 150 MW (Peak power Solar, Wind and BESS) | 150                   | FY 2023-24                              |
| 4       | PM KUSUM                                      | 10                    | FY 2023-24                              |

- **Plant Load Factor (PLF):** The Commission has perused the plant-wise PLF data submitted by the Petitioner and has considered the same for its projections.
- **Auxiliary consumption:** The Commission has considered the Auxiliary consumption based on normative auxiliary consumption allowed in Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for thermal power plants. Accordingly, auxiliary consumption of 7.75% and 2.50% is considered for coal and gas-based plants. However, for nuclear generation power plants, the auxiliary consumption has been assumed as 10%.
- **Inter-state transmission losses:** The Commission has considered the projections submitted by the Petitioner. The same is as follows:

*Table 41: Inter-state transmission losses considered by the Petitioner for FY 2021-22 and the 3<sup>rd</sup> MYT Control Period*

| Particulars     | FY 2022-23 | FY 2023-24 | FY 2024-25 |
|-----------------|------------|------------|------------|
| Western Region  | 3.34%      | 3.31%      | 3.29%      |
| Southern Region | 7.92%      | 7.85%      | 7.80%      |

The quantum of power procurement projected by the Commission for the 3<sup>rd</sup> MYT Control Period is given in the following table:

Table 42: Power purchase plan approved by the Commission for the upcoming MYT Control Period

| Sr. No.    | Source                               | Capacity (MW) | Firm allocation to Licensee |               | PLF (in %) | Gross Generation (MU) | Aux consumption (%) | Net Ex-bus Power Purchase for CGSs (MU) | External Losses (%) |         |         | Power Purchase at State Periphery (MUs) |                 |                 |
|------------|--------------------------------------|---------------|-----------------------------|---------------|------------|-----------------------|---------------------|---|---------------------|---------|---------|---|-----------------|-----------------|
|            |                                      |               | %                           | MW            |            |                       |                     |   | 2022-23             | 2023-24 | 2024-25 | 2022-23                                 | 2023-24         | 2024-25         |
| <b>A</b>   | <b>Central Sector Power Stations</b> |               |                             |               |            |                       |                     |   |                     |         |         |   |                 |                 |
| <b>I</b>   | <b>NTPC</b>                          | <b>21,914</b> |                             | <b>588.72</b> |            | <b>3,890.24</b>       |                     | <b>3,592.04</b>                         |                     |         |         | <b>3,445.35</b>                         | <b>3,446.72</b> | <b>3,447.63</b> |
| 1          | KSTPS                                | 2,100         | 10.25%                      | 215.24        | 93.56%     | 1,764.03              | 7.75%               | 1,627.31                                | 3.34%               | 3.31%   | 3.29%   | 1,572.93                                | 1,573.44        | 1,573.77        |
| 2          | VSTPS - I                            | 1,260         | 3.14%                       | 39.58         | 81.74%     | 283.39                | 7.75%               | 261.43                                  | 3.34%               | 3.31%   | 3.29%   | 252.69                                  | 252.77          | 252.83          |
| 3          | VSTPS - II                           | 1,000         | 1.55%                       | 15.49         | 88.13%     | 119.57                | 7.75%               | 110.30                                  | 3.34%               | 3.31%   | 3.29%   | 106.61                                  | 106.65          | 106.67          |
| 4          | VSTPS - III                          | 1,000         | 1.35%                       | 13.49         | 95.71%     | 113.07                | 7.75%               | 104.30                                  | 3.34%               | 3.31%   | 3.29%   | 100.82                                  | 100.85          | 100.87          |
| 5          | VSTPS-IV                             | 1,000         | 1.60%                       | 16.04         | 86.57%     | 121.63                | 7.75%               | 112.20                                  | 3.34%               | 3.31%   | 3.29%   | 108.45                                  | 108.49          | 108.51          |
| 6          | VSTPS-V                              | 500           | 1.52%                       | 7.60          | 91.83%     | 61.14                 | 7.75%               | 56.40                                   | 3.34%               | 3.31%   | 3.29%   | 54.51                                   | 54.53           | 54.54           |
| 7          | KGPP                                 | 656           | 1.89%                       | 12.40         | 16.75%     | 18.19                 | 2.50%               | 17.74                                   | 3.34%               | 3.31%   | 3.29%   | 17.14                                   | 17.15           | 17.15           |
| 8          | GGPP                                 | 657           | 1.93%                       | 12.66         | 12.44%     | 13.80                 | 2.50%               | 13.46                                   | 3.34%               | 3.31%   | 3.29%   | 13.01                                   | 13.01           | 13.01           |
| 9          | SIPAT- I                             | 1,980         | 1.49%                       | 29.58         | 93.32%     | 241.84                | 7.75%               | 223.10                                  | 3.34%               | 3.31%   | 3.29%   | 215.64                                  | 215.71          | 215.76          |
| 10         | KSTPS-VII                            | 500           | 1.38%                       | 6.92          | 95.66%     | 57.97                 | 7.75%               | 53.48                                   | 3.34%               | 3.31%   | 3.29%   | 51.69                                   | 51.71           | 51.72           |
| 11         | RSTPS                                | 2,100         | 4.53%                       | 95.07         | 75.76%     | 630.92                | 7.75%               | 582.02                                  | 7.92%               | 7.85%   | 7.80%   | 535.92                                  | 536.36          | 536.64          |
| 12         | SIPAT- II                            | 1,000         | 1.33%                       | 13.32         | 87.87%     | 102.54                | 7.75%               | 94.59                                   | 3.34%               | 3.31%   | 3.29%   | 91.43                                   | 91.46           | 91.48           |
| 13         | Solapur                              | 1,320         | 1.57%                       | 20.67         | 34.35%     | 62.20                 | 7.75%               | 57.38                                   | 3.34%               | 3.31%   | 3.29%   | 55.46                                   | 55.48           | 55.49           |
| 14         | Gadarwara                            | 1,600         | 1.39%                       | 22.27         | 33.14%     | 64.64                 | 5.25%               | 61.25                                   | 3.34%               | 3.31%   | 3.29%   | 59.20                                   | 59.22           | 59.23           |
| 15         | Lara                                 | 1,600         | 0.94%                       | 15.02         | 44.17%     | 58.14                 | 7.75%               | 53.63                                   | 3.34%               | 3.31%   | 3.29%   | 51.84                                   | 51.86           | 51.87           |
| 16         | Khargone                             | 1,320         | 1.38%                       | 18.26         | 44.99%     | 71.95                 | 7.75%               | 66.37                                   | 3.34%               | 3.31%   | 3.29%   | 64.15                                   | 64.17           | 64.19           |
| 17         | Mouda I                              | 1,000         | 1.55%                       | 15.51         | 42.32%     | 57.50                 | 7.75%               | 53.05                                   | 3.34%               | 3.31%   | 3.29%   | 51.27                                   | 51.29           | 51.30           |
| 18         | Mouda II                             | 1,320         | 1.49%                       | 19.62         | 27.77%     | 47.74                 | 7.75%               | 44.04                                   | 3.34%               | 3.31%   | 3.29%   | 42.56                                   | 42.58           | 42.59           |
|            | Add/ Less: Other Adjustments         |               |                             |               |            |                       |                     |   |                     |         |         | -                                       |                 |                 |
| <b>III</b> | <b>NPCIL</b>                         | <b>1,520</b>  |                             | <b>31.39</b>  |            | <b>247.37</b>         |                     | <b>222.63</b>                           |                     |         |         | <b>215.19</b>                           | <b>215.26</b>   | <b>215.31</b>   |
|            | KAPS                                 | 440           | 3.69%                       | 16.23         | 96.51%     | 137.20                | 10.00%              | 123.48                                  | 3.34%               | 3.31%   | 3.29%   | 119.36                                  | 119.39          | 119.42          |
|            | TAPS                                 | 1,080         | 1.40%                       | 15.16         | 82.96%     | 110.17                | 10.00%              | 99.15                                   | 3.34%               | 3.31%   | 3.29%   | 95.84                                   | 95.87           | 95.89           |
| <b>IV</b>  | <b>Traders</b>                       |               |                             | -             |            |                       |                     |   |                     |         |         | <b>139.59</b>                           | <b>(72.42)</b>  | <b>22.44</b>    |
|            | a) IEX PURCHASE AND SALES            |               |                             |               |            |                       |                     |   |                     |         |         | 139.59                                  | (72.42)         | 22.44           |
|            | a) IEX PURCHASE                      |               |                             |               |            |                       |                     |   |                     |         |         |   |                 |                 |
|            | a) IEX SALES                         |               |                             |               |            |                       |                     |   |                     |         |         | (139.59)                                | 72.42           | (22.44)         |
|            | b) Traders                           |               |                             |               |            |                       |                     |   |                     |         |         | -                                       | -               | -               |
| <b>V</b>   | <b>OVER/ UNDER DRAWAL</b>            |               |                             |               |            |                       |                     |   |                     |         |         |   |                 |                 |
|            | OVER DRAWAL                          |               |                             |               |            |                       |                     |   |                     |         |         |   |                 |                 |

Approval of the various components of the Business Plan Petition

| Sr. No.   | Source  | Capacity (MW) | Firm allocation to Licensee |              | PLF (in %) | Gross Generation (MU) | Aux consumption (%) | Net Ex-bus Power Purchase for CGSs (MU) | External Losses (%) |         |         | Power Purchase at State Periphery (MUs) |                 |                 |
|-----------|---|---------------|-----------------------------|--------------|------------|-----------------------|---------------------|---|---------------------|---------|---------|---|-----------------|-----------------|
|           |   |               | %                           | MW           |            |                       |                     |   | 2022-23             | 2023-24 | 2024-25 | 2022-23                                 | 2023-24         | 2024-25         |
|           | UNDER DRAWAL  |               |                             |              |            |                       |                     |   |                     |         |         |   |                 |                 |
| <b>VI</b> | <b>Banking of Power</b>   |               |                             |              |            |                       |                     |   |                     |         |         |   |                 |                 |
| <b>B</b>  | <b>Within State Generations</b>   |               |                             |              |            |                       |                     |   |                     |         |         |   |                 |                 |
| <b>I</b>  | <b>CO- GENERATION</b>   | <b>26.00</b>  |                             | <b>26.00</b> |            | <b>227.76</b>         |                     |   |                     |         |         | <b>149.79</b>                           | <b>149.79</b>   | <b>149.79</b>   |
|           | Vedanta Plant-1   | 14.00         | 100.00%                     | 14.00        |            | 122.64                |                     |   |                     |         |         | 90.88                                   | 90.88           | 90.88           |
|           | Vedanta Plant -2  | 2.00          | 100.00%                     | 2.00         |            | 17.52                 |                     |   |                     |         |         | 53.10                                   | 53.10           | 53.10           |
|           | Goa Sponge and private limited  | 10.00         | 100.00%                     | 10.00        |            | 87.60                 |                     |   |                     |         |         | 5.81                                    | 5.81            | 5.81            |
| <b>C</b>  | <b>RPO Obligation</b>   |               |                             |              |            |                       |                     |   |                     |         |         | <b>776.40</b>                           | <b>1,133.80</b> | <b>1,190.52</b> |
|           | <b>Solar</b>  |               |                             | <b>301</b>   |            |                       |                     |   |                     |         |         | <b>367.77</b>                           | <b>421.42</b>   | <b>478.14</b>   |
|           | NVVNL Solar   |               |                             | 6            |            |                       |                     |   |                     |         |         | 12.00                                   |                 |                 |
|           | Solar STOA  |               |                             |              |            |                       |                     |   |                     |         |         | 244.64                                  | 117.53          | 48.00           |
|           | SECI Solar  |               |                             | 25.00        |            |                       |                     |   |                     |         |         | 48.00                                   | 48.00           | 48.00           |
|           | CONVERGENCE SOLAR   |               |                             | 110.00       |            |                       |                     |   |                     |         |         | 43.36                                   | 86.72           | 173.45          |
|           | Net Metering  |               |                             |              |            |                       |                     |   |                     |         |         | 19.76                                   | 39.52           | 79.04           |
|           | PM KUSUM  |               |                             | 10.00        |            |                       |                     |   |                     |         |         |   | 16.64           | 16.64           |
|           | SECI Hybrid (Solar)   |               |                             | 150.00       |            |                       |                     |   |                     |         |         |   | 113.00          | 113.00          |
|           | <b>Non-Solar</b>  |               |                             | 100.00       |            |                       |                     |   |                     |         |         | <b>408.63</b>                           | <b>712.38</b>   | <b>712.38</b>   |
|           | Non-Solar - SECI Wind Tranche II LTOA   |               |                             | 50.00        |            |                       |                     |   |                     |         |         | 112.42                                  | 112.42          | 112.42          |
|           | STOA (Non Solar)  |               |                             |              |            |                       |                     |   |                     |         |         | 220.25                                  | -               | -               |
|           | SECI Tranche-VI   |               |                             | 50.00        |            |                       |                     |   |                     |         |         | 75.00                                   | 112.00          | 112.00          |
|           | Hindustan waste treatment plant Goa   |               |                             |              |            |                       |                     |   |                     |         |         | 0.96                                    | 0.96            | 0.96            |
|           | SECI Hybrid (Non-Solar)   |               |                             |              |            |                       |                     |   |                     |         |         |   | 487.00          | 487.00          |
| <b>D</b>  | <b>REC Certificates</b>   |               |                             |              |            |                       |                     |   |                     |         |         |   |                 |                 |
| <b>E</b>  | <b>OTHER CHARGES</b>  |               |                             |              |            |                       |                     |   |                     |         |         |   |                 |                 |
|           | PGCIL Transmission Charges, Wheeling, Oen Access & Trading Margin & Other Charges |               |                             |              |            |                       |                     |   |                     |         |         |   |                 |                 |
| <b>F</b>  | <b>Total</b>  | <b>23,460</b> |                             | <b>1,047</b> |            |                       |                     |   |                     |         |         | <b>4,726.31</b>                         | <b>4,873.15</b> | <b>5,025.69</b> |

### 3.4.3 Energy Balance

#### Petitioner's submission

The energy balance proposed for FY 2021-22 and the 3rd MYT Control Period as estimated by the Petitioner is as given below:

Table 43: Energy Balance proposed by the Petitioner (MU)

| Particulars                                      | Energy Balance  |                 |                 |                 |
|--|-----------------|-----------------|-----------------|-----------------|
|  | FY 2021-22      | FY 2022-23      | FY 2023-24      | FY 2024-25      |
| Energy sales within the State/UT                 | 3,931.70        | 4,086.29        | 4,214.18        | 4,346.69        |
| Distribution losses                              |                 |                 |                 |                 |
| %  | 10.25%          | 10.15%          | 10.00%          | 9.85%           |
| MU   | 449.02          | 461.61          | 468.24          | 474.93          |
| <b>Energy required at State Periphery</b>        | <b>4,380.72</b> | <b>4,547.90</b> | <b>4,682.42</b> | <b>4,821.62</b> |
|  |                 |                 |                 |                 |
| <b>Total Energy available at State Periphery</b> | <b>4,380.72</b> | <b>4,547.90</b> | <b>4,682.42</b> | <b>4,821.62</b> |

#### Commission's Analysis

Based on the energy sales, power procurement plan, Intra-state T&D losses and Inter-state transmission losses approved by the Commission in the preceding sections, the Energy Balance for the 3<sup>rd</sup> MYT Control Period has been shown in following table:

Table 44: Energy Balance approved by the Commission

| Particulars   | Energy Balance (MU) |                 |                 |
|---|---------------------|-----------------|-----------------|
|   | FY 2022-23          | FY 2023-24      | FY 2024-25      |
| <b>Energy Required</b>  |                     |                 |                 |
| Energy sales within the State (A)                             | 4,241.87            | 4,385.84        | 4,535.68        |
| T&D Loss (%) (B)  | 10.25%              | 10.00%          | 9.75%           |
| <b>Energy required at State Periphery (C = A/(1-B))</b>       | <b>4,726.31</b>     | <b>4,873.15</b> | <b>5,025.69</b> |
| Within State Generation (Co-Gen) (D)                          | 149.79              | 149.79          | 149.79          |
| <b>Net energy required at State Periphery (E = C - D)</b>     | <b>4,576.53</b>     | <b>4,723.37</b> | <b>4,875.90</b> |
| <b>Energy Available</b>                                       |                     |                 |                 |
| Central Generating Stations including UI over/under drawl (F) | 3,660.55            | 3,661.99        | 3,662.94        |
| Renewable Power (G)   | 776.40              | 1,133.80        | 1,190.52        |
| <b>Energy available at State Periphery (H = F + G)</b>        | <b>4,436.94</b>     | <b>4,795.78</b> | <b>4,853.46</b> |
| (Sale)/ Purchase in Open Market (I = E - H)                   | 139.59              | (72.42)         | 22.44           |
| <b>Net energy available at State Periphery (J = H + I)</b>    | <b>4,576.53</b>     | <b>4,723.37</b> | <b>4,875.90</b> |

### 3.4.4 Renewable Purchase Obligation

#### Petitioner's Submission:

The Petitioner has submitted it envisages to meet its RPO obligation through purchase of physical renewable power and may even exceed the RPO obligations as cheap power is available in the market, in comparison to the conventional sources. Further, for the upcoming Control Period, since the Commission has not yet approved any trajectory, ED-Goa has assumed a 1% increase in Solar and Non-Solar RPO every year and has accordingly considered the projections for RPO fulfilment. Further, after considering all the proposed tied-up renewable energy, ED-Goa proposes to meet any shortfall to fulfil the RPO obligation, through purchase from short term

(Traders) through DEEP portal and GTAM. For projection of ED-Goa does not plan to buy any REC during the upcoming MYT Control Period. Accordingly, the Petitioner has submitted its RPO plan for FY 2021-22 and the upcoming Control Period as follows:

**Table 45: RPO plan submitted by the Petitioner for the 3<sup>rd</sup> MYT Control Period**

| Sl. No. | Description        | Unit | Revised Projections |            |            |            |
|---------|--------------------|------|---------------------|------------|------------|------------|
|         |                    |      | FY 2021-22          | FY 2022-23 | FY 2023-24 | FY 2024-25 |
| 1       | Sales Within State | MUs  | 3,931.70            | 4,086.29   | 4,214.18   | 4,346.69   |
| 2       | RPO Obligation     | %    |                     |            |            |            |
|         | - Solar            | %    | 8.00%               | 9.00%      | 10.00%     | 11.00%     |
|         | - Non Solar        | %    | 9.00%               | 10.00%     | 11.00%     | 12.00%     |
| 3       | RPO Obligation     | MUs  |                     |            |            |            |
|         | - Solar            | MUs  | 314.54              | 367.77     | 421.42     | 478.14     |
|         | - Non Solar        | MUs  | 353.85              | 408.63     | 463.56     | 521.60     |
| 4       | Power Purchase     | MUs  |                     |            |            |            |
|         | - Solar            | MUs  | 314.54              | 367.77     | 421.42     | 478.14     |
|         | - Non Solar        | Mus  | 353.85              | 408.63     | 463.56     | 521.60     |

### Commission's analysis:

The Commission has approved the Renewable Purchase Obligation (RPO) for the 3<sup>rd</sup> Control Period considering the JERC (Procurement of Renewable Energy) Regulations, 2010, as amended from time to time. The cumulative backlog of solar and non-solar compliance up to FY 2020-21 has been considered as per the Commission's Order on the Suo Moto Petition No. 61/2012 dated 5<sup>th</sup> July 2021. The solar and non-solar compliance for FY 2021-22 is considered as per the RPO compliance approved in the Tariff Order for FY 2021-22 dated 30<sup>th</sup> March 2021. Accordingly, the RPO approved by the Commission for the 3<sup>rd</sup> MYT Control Period is as follows:

**Table 46: Renewable Purchase Obligation (RPO) approved by the Commission for 3<sup>rd</sup> Control Period**

| Particulars                                       | FY 2022-23     | FY 2023-24     | FY 2024-25     |
|---|----------------|----------------|----------------|
| Sales within State (MU) (A)                       | 4241.87        | 4385.84        | 4535.68        |
| Hydro Power available at State Periphery (MU) (B) | -              | -              | -              |
| T&D Loss (%) (C)                                  | 10.25%         | 10.00%         | 9.75%          |
| T&D Loss (MU) (D = B * C)                         | 0.00           | 0.00           | 0.00           |
| Hydro Power Consumed (E = B - D)                  | 0.00           | 0.00           | 0.00           |
| <b>Conventional Power Consumed (F = A - E)</b>    | <b>4241.87</b> | <b>4385.84</b> | <b>4535.68</b> |
| <b>RPO obligation (%)</b>                         | <b>18.35%</b>  | <b>19.91%</b>  | <b>21.58%</b>  |
| Solar (G)   | 9.00%          | 10.00%         | 11.00%         |
| Non-Solar (H)                                     | 9.35%          | 9.91%          | 10.58%         |
| <b>RPO obligation for the year (MU)</b>           | <b>778.38</b>  | <b>873.22</b>  | <b>978.80</b>  |
| Solar (F * G)                                     | 381.77         | 438.58         | 498.93         |
| Non-Solar (F * H)                                 | 396.61         | 434.64         | 479.88         |
| <b>RPO Compliance from Physical Power (MU)</b>    | <b>776.40</b>  | <b>1133.80</b> | <b>1190.52</b> |
| Solar   | 367.77         | 421.42         | 478.14         |
| Non-Solar   | 408.63         | 712.38         | 712.38         |
| <b>Standalone RPO Compliance Backlog (MU)</b>     | <b>14.00</b>   | <b>17.17</b>   | <b>20.79</b>   |
| Solar   | 14.00          | 17.17          | 20.79          |
| Non-Solar   | -              | -              | -              |
| <b>Cumulative RPO Compliance Backlog (MU)</b>     | <b>391.41</b>  | <b>361.47</b>  | <b>382.26</b>  |
| Solar   | 344.30         | 361.47         | 382.26         |



| Particulars | FY 2022-23 | FY 2023-24 | FY 2024-25 |
|-------------|------------|------------|------------|
| Non-Solar   | 47.10      | -          | -          |

## 3.5 Capital Investment Plan

### 3.5.1 Details of capital expenditure and capitalisation

#### Petitioner's submission

#### Spillover Schemes

The Petitioner has proposed various ongoing and new schemes for the 3rd MYT Control Period. The details of capital expenditure proposed for spillover schemes by the Petitioner for the 3rd MYT Control Period is as given in the following table:

*Table 47: Details of projected capital expenditure proposed by the Petitioner for Spillover Schemes for the 3<sup>rd</sup> MYT Control Period*

| Sl. No. | Name of scheme   | Spillover Schemes (INR Cr.) |              |            |
|---------|--|-----------------------------|--------------|------------|
|         |  | FY 2022-23                  | FY 2023-24   | FY 2024-25 |
| A1      | <b>Schedule Tribe Development Scheme (P)</b>   | <b>55.86</b>                | <b>28.83</b> | -          |
| A2      | <b>Infrastructure development through Electricity Duty (Plan)</b>  | <b>107.78</b>               | <b>39.01</b> | -          |
|         | Conversion of overhead 11 KV HT network to Aerial Bunched Cabling in North and South Goa   | -                           | -            | -          |
|         | Work of New 50 MVA, 220/33 KV transformer & associated works at 220KV receiving station at Ponda and erection of 220/33/11KV GIS Substation at Tuem & 220KV double circuit transmission line from PGCIL Colvale to Tuem Goa  | -                           | -            | -          |
|         | Work of 2x10 MVA, 33/11KV (indoor type) sub-station at Badem & Mandrem   | -                           | -            | -          |
|         | Design, Supply, installation, Testing and Commissioning of 33/11KV Gas insulated Substation 2x16/20MVA along with associated equipment at Patto Plaza Panaji   | 4.00                        | -            | -          |
|         | Work of 2x10 MVA, 33/11KV Indoor type substation along with associated equipment at Karaswado Mapusa.  | -                           | -            | -          |
|         | Work of laying of underground 33KV double circuit 3Cx400 sq mm cable from Porvorim Substation to Saligao Substation.   | -                           | -            | -          |
|         | Work of 2x10 MVA, 33/11KV Indoor type substation along with associated equipment's at Sal in the jurisdiction of V.P Sal in Bicholim   | -                           | -            | -          |
|         | Work of conversion of existing O/H 11KV & LT line to U/G cabling system at Cacora Curchorem Municipal area in Curchorem constituency   | -                           | -            | -          |
|         | Work for conversion of 11KV and LT overhead lines to underground network in the left out parts of Margao Municipal areas in Margao & Fatorda   | -                           | -            | -          |
|         | Work of erection of 33 kV O/H line tapping from Mapusa II Circuit at Verla Canca to Nagoa Substation.  | -                           | -            | -          |
|         | Work of S.E.T & C for replacement of 5 Nos of 110 KV SF6 Circuit breakers (MOCB) on the existing foundations with new gang operated spring.  | -                           | -            | -          |
|         | Work of Development of V.P Ibrambur as Model Village under Sansad Adarsh Gram Yojana (SAGY)  | -                           | -            | -          |
|         | Work of laying of 11 KV XLPE underground cable from Candolim church to Saipem village  | -                           | -            | -          |
|         | Work of conversion of existing overhead 11 KV line to underground system of feeders namely 11 KV Torda, 11KV Housing Board, 11 KV Pundalik Nagar feeder and associated LT network on transformer of said feeders and bifurcation of 11KV Torda feeder and Chogum road feeder emanating from 33/11KV Porvorim Sub-Station covering major portion of Porvorim Plateau area in Porvorim constituency. | -                           | -            | -          |
|         | Work of laying of 33KV S/C 3 core 400 Sq mm. XLPE underground cable from Naveli Amona 220/33KV Sub-substation to Marcel for a distance of 8.4 kms  | -                           | -            | -          |
|         | Work of linking of 33KV Velim, Canacona & MES DC feeder to 220/33KV Cuncolim Sub-Station.  | -                           | -            | -          |
|         | Work of conversion of HT/LT overhead network to underground HT & LT network in Cuncolim Industrial Estate  | -                           | -            | -          |

| Sl. No. | Name of scheme  | Spillover Schemes (INR Cr.) |               |              |
|---------|---|-----------------------------|---------------|--------------|
|         |   | FY 2022-23                  | FY 2023-24    | FY 2024-25   |
|         | Work of survey, design, supply, erection and commissioning of 3x63 MVA, 220/33 KV GIS Sub-Station at Saligao along with associated interconnecting 220 KV D/C line from 400/220 KV PGCIL Colvale Sub-Station to Saligao Sub-Station.  | -                           | -             | -            |
|         | Work of conversion of existing overhead 11 KV feeders to underground system, erection of new DTCs, augmentation of DTC, erection of additional feeders, conversion single phase to three phase, replacement of conductor, providing guarding, DP renovation etc. under Section Office Saligao and Britona | -                           | -             | -            |
|         | Work of providing 33 KV underground feeder from 110/33 KV Sub-Station to 33/11 KV Sub-Station at Nachinola  | -                           | -             | -            |
|         | Change of conductor of 110 KV Ponda -Verna and Ponda -Xeldem with higher current capacity HTLS conductor.   | -                           | -             | -            |
|         | Change of conductor of 33 KV Verna Sancoale line with higher current carrying capacity HTLS conductor.  | -                           | -             | -            |
|         | Work of conversion of overhead network to Underground cabling in the balance areas of Porvorim constituency (Phase II)  | -                           | -             | -            |
|         | Conversion of the overhead HT/LT network to underground cabling in the important town of Vasco, Navelim etc.  | -                           | -             | -            |
|         | Erection of 33/11 KV Sub-Stations at Navelim, Calangute, Colva.   | -                           | -             | -            |
|         | Conversion of overhead HT network to Aerial Bunched Cabling (Phase II)  | -                           | -             | -            |
|         | Street Light EESL Payment   | 41.34                       | 31.01         | -            |
|         | Other than approved works undertaken  | 62.44                       | 8.00          | -            |
| A3      | Erection and Augmentation of 33/11 KV S/S line (Plan)   | 5.00                        | 5.00          | 5.00         |
| A4      | Normal Development Schemes (Plan)   | 6.00                        | 6.00          | 6.00         |
| A5      | System Improvement Schemes (Plan)   | 17.23                       | 3.00          | 3.00         |
| A6      | Construction of staff quarters and office buildings (Plan)  | 21.00                       | 26.00         | 15.00        |
| A7      | Strengthening of 220 KV Transmission Network  | 15.00                       | -             | -            |
| A8      | Erection of 220/110/33/11 KV Sub-Station at Verna (New)   | -                           | -             | -            |
| A9      | Restructured Accelerated Power Development and Reforms Programme Part A   | 18.00                       | 18.00         | 18.00        |
| A10     | Underground Cabling   | 141.50                      | 57.00         | -            |
| A11     | R-APDRP Part B / IPDS   | 15.00                       | -             | -            |
| A12     | EHV new Transmission / Sub-Station / Capacitor banks schemes  | -                           | -             | -            |
| B1      | Smartgrid Development of existing network   | -                           | -             | -            |
| B2      | Sub-transmission and distribution improvement scheme  | 57.00                       | 2.00          | -            |
|         | Public Lighting Scheme  | 0.10                        | -             | -            |
|         | <b>Total</b>  | <b>459.47</b>               | <b>184.84</b> | <b>47.00</b> |

### New Schemes

The Petitioner has submitted that it has segregated the classification of new schemes/projects based on the following:

1. All New Projects are forwarded to the Government for obtaining administrative approval.
2. For any project with estimated cost of tender more than INR 22.5 Cr., approvals from the Expenditure Finance Committee (EFC), Govt. of Goa is required.
3. After obtaining administrative sanctions and approval from EFC (for projects cost above INR 22.5 Cr.), a project can be tendered.
4. After opening of the financial bid, the proposal is sent for expenditure sanction to the finance department of Govt. of Goa, in case the project cost is less than INR 12.5 Cr.
5. In case the project cost is more than INR 12.5 Cr., an approval is needed from Goa State Works Board (GSWB), after which it is sent to finance department for expenditure sanction.
6. Once the expenditure sanction is granted by the finance dept. work order/LOI can be placed to the agency/contractor.

Projects with Administrative Approval

The Petitioner has submitted the following capital expenditure for schemes under the head 'Projects with Administrative Approval':

*Table 48: Details of projected capital expenditure proposed by the Petitioner for new schemes under the head 'Projects with Administrative Approval' (Rs. Cr.)*

| Sl. No.                                      | Name of scheme   | FY 2022-23   | FY 2023-24   | FY 2024-25   |
|--|--|--------------|--------------|--------------|
| <b>Projects with Administrative Approval</b> |  |              |              |              |
| 1  | Estimate for the work of providing U/G cabling network for ring feeding 11KV Barazan feeder emanating from 1 x 6.3MVA Xelpem S/S under the jurisdiction of S/D-III, Sanguem, Div-VII, Curchorem in Sanguem Constituency.   | 11.09        | 11.09        | 5.55         |
| 2  | Estimate for the work of Design, Supply, Erection, Testing and Commissioning of new Outdoor Gas Insulated Hybrid Switchgears of 220KV Incomer line bays KP-I and TP-II at 220/110/33KV Ponda Sub-Station.  | 0.94         | 3.78         | -            |
| 3  | Estimate for the work of conversion of existing 11 KV overhead lines to underground system, coming under the jurisdiction of Sub Division-III, Division XIV Verna of areas under Cortalim Constituency and Nuvem Constituency.   | 13.41        | 13.41        | 6.70         |
| 4  | Estimate for the work of S.E.T.C. of 1 no. of 50MVA, 110KV/ 33KV Power transformer at 110KV/ 33KV Verna S/S.   | 4.43         | 1.90         | -            |
| 5  | Estimate for the work of conversion of existing 11 KV O/H network to U/G cabling network of 11KV Bhati feeder emanating from 1 x 3.15 MVA, 33/11KV Waddem S/S under the jurisdiction of S/D-III Sanguem, Div-VII, Curchorem in Sanguem Constituency.   | 5.20         | 2.23         | -            |
| 6  | Estimate for the work of conversion of existing 11 KV O/H network to U/G cabling network of 11KV Sanguem feeder emanating from 1 x 6.3MVA, 33/11KV Xelpem S/S under the jurisdiction of S/D-III, Div-VII, Curchorem in Sanguem Constituency.   | 6.87         | 2.94         | -            |
| 7  | Estimate for the work of conversion of existing 11KV overhead network to underground cabling network of 11KV Ponsamol feeder emanating from 1x6.3MVA, Xelpem Sub-Station under the jurisdiction of Sub Division-III, Sanguem, Division-VII, Curchorem in Sanguem Constituency.   | 14.00        | 14.00        | 7.00         |
| 8  | Estimate for the work of supply, erection, testing & commissioning of 11KV, 3Core XLPE armoured cable of size 300sq.mm. for conversion of existing O/H 11KV Mandrem feeder emanating from 33/11KV Tuem S/S to U/G System under the jurisdiction of S/D-III, Agarwada, Pernem, Div-XVII, Mapusa in Mandrem Constituency.  | 10.54        | 10.54        | -            |
| 9  | Estimate for the work of supply, erection, testing & commissioning of 11KV, 3Core XLPE armoured cable of size 300sq.mm. for conversion of existing O/H 11KV Sodiem feeder emanating from 33/11KV Mapusa S/S to U/G System under the jurisdiction of S/D-III, Agarwada, Pernem, Div-XVII, Mapusa.                         | 6.95         | 2.98         | -            |
| 10   | Estimate for the work of improvement of 11KV HT network of Udir & Durbhat feeder in Village Wadi Talaulim, Durbhat, Bandora, part of Curti & part of Borim inhabited by the Scheduled Tribes population under Tribal Sub-Plan by converting 11KV HT O/H lines to U/G cable under the jurisdiction of S/D-I, Div-X, Ponda | 8.88         | 3.80         | -            |
| 11   | Estimate for the work of conversion of 11KV HT electrical network of Khadpabandh, Ponda-I, Bazar and part of Durbhat, Farmagudi & Curti feeders by converting 11KV HT O/H lines to U/G cable, under the jurisdiction of S/D-I, Div-X, Curti-Ponda.   | 11.06        | 11.06        | -            |
| <b>Total</b>                                 |  | <b>93.37</b> | <b>77.73</b> | <b>19.25</b> |

Projects with Expenditure Finance Committee Approval

The Petitioner has submitted the following capital expenditure for schemes under the head 'Projects with Expenditure Finance Committee Approval':

*Table 49: Details of projected capital expenditure proposed by the Petitioner for new schemes under the head 'Projects with Expenditure Finance Committee Approval' (Rs. Cr.)*

| Sl. No.                         | Name of scheme  | FY 2022-23 | FY 2023-24 | FY 2024-25 |
|---------------------------------|---|------------|------------|------------|
| <b>Projects Approved by EFC</b> |   |            |            |            |
| 1                               | Conversion of existing O/H 11KV HT network to underground (U/G) cabling for Vasco Town under the Jurisdiction of Sub Division-I(U), Vasco,  | 37.64      | 9.41       | -          |
| 2                               | Work of conversion of O/H HT network to underground HT network of 33KV Xeldem - Xelpem feeder in order to provide uninterrupted m power supply to Salaulim water works and Domestic consumers of Bhati, Uguem, Kalay V.P. areas and Sanguem Municipal areas in Sanguem Constituency.  | 29.71      | 7.43       | -          |
| 3                               | Work of conversion of existing overhead ACSR Racocon conductor to HTLS conductor of 33 KV Nessai-1 and Nessai-11 feeder from 220/33 KV Xeldem Sub-Station to 33/11KV KRC Sub-Station and Benaulim Sub-Station.  | 23.07      | 5.77       | -          |
| 4                               | Work of conversion of existing overhead ACSR Racocon conductor to HTLS conductor of 33 KV Nessai-111 and Nessai-IV feeder from 220/33 KV Xeldem Sub-Station to 33/11KV KRC Sub-Station and Benaulim Sub-Station.  | 22.92      | 5.73       | -          |
| 5                               | Work of supply, erection, testing and commissioning of 33/11kV, 2x 10 MVA, Indoor type Sub-Station (Electrical and Civil Works) at Mandrem under Sub Division-III Agarwada, Div XVII Mapusa.  | 36.62      | 9.16       | -          |
| 6                               | Conversion of existing O/H 11 kV Balli feeder into underground cabling system emerging from 33/11 kV Cuncolim Substation under the jurisdiction of Elect. O&M Sub. Div-IV, Div-XVI, Cuncolim.   | 44.49      | 11.12      | -          |
| 7                               | Work of conversion of O/H HT network to underground HT network in Chinchinim, Dharmapur & Sarzora area of Velim Contintuency under the jurisdiction of Subdivision-II Chinchinim, Division-XVI Margao, in South Goa District.   | 26.73      | 6.68       | -          |
| 8                               | Worth of Design, Supply, Erection & Commissioning of 33 kV, 2x3 Core, 400 Sq.mm XLPE Cable from Cable from Ponda Sub-Station to Banastarim for a distance of 18.5 kms and 1x3 Core 185 Sq.mm XLPE Cable for a distance of 1.95 kms for providing reliable supply to kundaim, Marcel area and Industries of Kundaim Industrial Estate.                 | 20.12      | 5.03       | -          |
| 9                               | Work of conversion of Existing 11 KV (HT) overhead lines to underground cabling network for 11 KV Mandop feeder, 11 KV MES feeder, 11 KV Navelim feeder, emanating from 33/11 KRC Substation and provision for additional 11 KV Navelim Express feeder under Subdivision III, Navelim, Division IV, Margao Goa under Infrastructure Development Fund. | 52.26      | 13.07      | -          |
| 10                              | Work of upgrading of 220 KV PXR line by replacement of existing ACSR Drake Conductor with HTLS ACCC DRAKE Conductor from Ponda 220KV Ponda Sub-Station to 220KV Xeldem Sub-Station and replacement of polymer suspension insulator of 220KV AP-II Circuit from Ponda S/S to Kardi point.  | 38.74      | 9.69       | -          |
| 11                              | Work of conversion of the existing overhead 11 KV line of Bicholim City, Assonora, Bordem and Bicholim IDC feeder emanating from 33/11 kV Bicholim Sub-station to underground cable system in the jurisdiction of Sub Division-I(U), Bicholim-Goa.  | 23.22      | 5.80       | -          |
| 12                              | Work of conversion of existing LT O/H line of 11KV Kakoda Feeder & 11 KV Town-II feeder into underground cabling system in Curchorem Constituency.  | 31.82      | 7.95       | -          |

| Sl. No. | Name of scheme   | FY 2022-23    | FY 2023-24    | FY 2024-25 |
|---------|--|---------------|---------------|------------|
| 13      | Work of conversion of existing 33KV SC overhead Virdi II feeder to Double Circuit line with HTLS Conductor from 220 KV Amona Sub Station, under Sub Division – I(U), Bicholim. | 27.38         | 6.85          | -          |
|         | <b>Total</b>   | <b>414.72</b> | <b>103.68</b> | <b>-</b>   |

### Projects Tendered (To Start Next Year)

The Petitioner has submitted the following capital expenditure for schemes under the head ‘Projects Tendered (To Start Next Year)’:

*Table 50: Details of projected capital expenditure proposed by the Petitioner for new schemes under the head ‘Projects Tendered (To Start Next Year)’ (Rs. Cr.)*

| Sl. No.                                       | Name of scheme  | FY 2022-23 | FY 2023-24 | FY 2024-25 |
|---|---|------------|------------|------------|
| <b>Projects tendered (To start next year)</b> |   |            |            |            |
| 1   | Tender No. 19(2020-21)/CSC: Tender for the Work of conversion of 11KV overhead network of Torla feeder to 11KV underground system along the road side from 33/11KV Shiroda substation under Sub Division II, Div. X, Ponda in Shiroda constituency                      | 3.00       | 1.00       | -          |
| 2   | Tender No. 22(2020-21)/CSC: Work of conversion of 11KV S/C OH St. Cruz feeder to UG network by laying 11KV, 3 Core 300sq.mm. aluminium armoured XLPE cable for a distance of 14.5 Kms along with associated equipments.   | 6.00       | 2.00       | -          |
| 3   | Tender No. 23(2020-21)/CSC: Work for conversion of 11KV SC OH Diwar feeder, Diwar and Chorao section in the jurisdiction of Sub Division-I, Division-I, Panaji.   | 12.00      | 7.00       | -          |
| 4   | Tender No. 24(2020-21)/CSC: Work of Supply, Laying, Testing & Commissioning of 33KV Core 400 sq.mm. XLPE U/G cable from 220/33KV Amona S/S for providing alternate power supply to 33/11KV Sankhali S/S.  | 8.00       | 2.00       | -          |
| 5   | Tender No. 25(2020-21)/CSC: Work of Supply and Laying of 33KV, 3C X 400sq.mm. XLPE Aluminium cable from Sonshi to Amona S/S.  | 2.00       | -          | -          |
| 6   | Tender No. 26 (2020-21)/CSC: Work of conversion of 11KV S/C O/H Mercedes feeder to UG network by laying 11KV, 3Core 300sq.mm. Aluminium Armoured XLPE cable for a distance of 13Kms along with associated equipments.   | 6.00       | 1.50       | -          |
| 7   | Tender No. 27(2020-21)/CSC: Work of conversion of existing 11KV overhead Industry feeder, 11KV cable Industry feeder and 33KV Unichem feeder to underground system and providing new 11KV feeder at Pilerne Industrial Estate, Pilerne under Sub Division-II, Porvorim. | 5.00       | 2.50       | -          |
| 8   | Tender No. 29(2020-21)/CSC: Work of conversion of overhead 11KV Industry-IV feeder to 11KV underground system along the road from 33/11KV Kundai Sub-Station in Priol Constituency under Sub Division-III, Division-X, Ponda.   | 2.30       | -          | -          |
| 9   | Tender No. 30(2020-21)/CSC: Work of conversion of overhead 11KV of Shiroda feeder to 11KV underground system along the road side from 33/11KV Bethora Sub-Station in Shiroda Constituency under Sub Division-II, Division-X, Ponda.                                     | 2.74       | -          | -          |
| 10  | Tender No. 33(20-21)/CSC: Tender for the work of conversion of 11KV Industry-I/II/III feeder to 11KV underground system along the road from 33/11KV Kundai Sub-Station in Priol Constituency under Sub Division-III, Division-X, Ponda.                                 | 4.00       | 1.00       | -          |
| 11  | Tender No. 37(20-21)/CSC: Tender for the work of conversion of overhead 11KV Sulcorna feeder to underground network from 33/11KVQuinamol, Rivona Sub-Station to Devrem transformer center under the jurisdiction of Sub Division-II, Division-VII, Curchorem.           | 8.00       | 4.00       | -          |
| 12  | Tender No. 38(20-21)/CSC: Tender for the work of conversion of overhead 11KV Mollem feeder to underground network under the jurisdiction of Sub Division-IV, Division-VII, Curchorem.   | 8.00       | 5.00       | -          |

| Sl. No. | Name of scheme  | FY 2022-23    | FY 2023-24   | FY 2024-25  |
|---------|---|---------------|--------------|-------------|
| 13      | Tender No. 39(20-21)/CSC: Tender for the work of conversion of overhead 11KV Dhat feeder to underground network under the jurisdiction of Sub Division-IV, Division-VII, Curchorem.   | 7.00          | 4.00         | -           |
| 14      | Tender No. 40(20-21)/CSC: Tender for the work of conversion of overhead 11KV Panchawadi feeder to underground network under the jurisdiction of Sub Division-IV, Division-VII, Curchorem.   | 6.00          | 4.00         | -           |
| 15      | Tender No. 07(2021-22)/CSC: Tender for the Work of conversion of existing 33KV MES single circuit line to double circuit line emanating from 220/33KV Cuncolim substation to 33/11KV KRC substation under Div. IV, Margao   | 3.40          | -            | -           |
| 16      | Tender No. 10(2021-22)/CSC: Work of Supply, Erection, Testing and Commissioning 11KV 3Core, XLPE armoured Cable of size 300 Sq. mm. for conversion of existing overhead 11KV Morjim Feeder to underground system under the jurisdiction of Sub-Division-III, Agarwada, Div XVII - Mapusa. | 8.00          | 8.00         | -           |
| 17      | Tender No. 12(2021-22)/CSC: Supply, Laying, Testing and Commissioning of 33KV, 3 Core, 400 Sq.mm. XLPE cable double circuits (Velim-I & Velim-II) from 220/33KV Cuncolim substation to 33/11KV Velim substation   | 5.00          | 15.00        | 6.00        |
| 18      | Tender No. 34(20-21)/CSC: Tender for the work of conversion of 11KV overhead network of Borim feeder to 11KV underground system along the road side from 33/11KV Shiroda Sub-Station in Shiroda Constituency under Sub Division-II, Division-X, Ponda.                                    | 5.00          | 5.00         | -           |
| 19      | Tender No. 35(20-21)/CSC: Tender for the work of conversion of 11KV overhead network of Nirankal feeder to 11KV underground system along the road side from 33/11KV Bethora Sub-Station in Shiroda Constituency under Sub Division-II, Division-X, Ponda.                                 | 2.50          | -            | -           |
|         | <b>TOTAL</b>  | <b>103.94</b> | <b>62.00</b> | <b>6.00</b> |

#### New EHV Works

The Petitioner has submitted the following capital expenditure for schemes under the head 'New EHV Works':

*Table 51: Details of projected capital expenditure proposed by the Petitioner for new schemes under the head 'New EHV Works' (Rs. Cr.)*

| Sl. No.            | Name of scheme   | FY 2022-23   | FY 2023-24    | FY 2024-25    |
|--------------------|--|--------------|---------------|---------------|
| <b>EHV Schemes</b> |  |              |               |               |
| 1                  | Saligao 3/63 MVA 2X33 kV S/s at Saligao & Associated D/C Lines | 25.00        | 75.00         | 150.00        |
| 2                  | Verna 2 x 63 MVA 220/33 KV S/s and associated D/C Lines.       | 20.00        | 60.00         | 120.00        |
| 3                  | Upgradation of PONDA EHV S/s project                           | 23.36        | 5.84          | -             |
| 4                  | Tuem Project   | 22.50        | 22.50         | -             |
|                    | <b>Total</b>   | <b>90.86</b> | <b>163.34</b> | <b>270.00</b> |

#### Revamped Distribution Sector Scheme (RDSS)

The Petitioner has submitted the following capital expenditure for schemes under the head 'Revamped Distribution Sector Scheme (RDSS)':

*Table 52: Details of projected capital expenditure proposed by the Petitioner for new schemes under the head 'Revamped Distribution Sector Scheme (RDSS)' (Rs. Cr.)*

| Sl. No.     | Name of scheme  | FY 2022-23 | FY 2023-24 | FY 2024-25 |
|-------------|---|------------|------------|------------|
| <b>RDSS</b> |   |            |            |            |
| 1           | Smart Meter and AMI   | 10.00      | 35.00      | 35.00      |
| 2           | SCADA upgradation, cabling connection, infra development, modernization | 225.00     | 375.00     | 150.00     |

| Sl. No. | Name of scheme         | FY 2022-23    | FY 2023-24    | FY 2024-25    |
|---------|------------------------|---------------|---------------|---------------|
| 3       | Training and Placement | 20.00         | 40.00         | 40.00         |
|         | <b>Total</b>           | <b>255.00</b> | <b>450.00</b> | <b>225.00</b> |

### Deposit Works

The Petitioner has also proposed Deposit Works of INR 35.37 Cr.in FY 2022-23.

### **Summary of capital expenditure and capitalisation submitted by the Petitioner**

The summary of capital expenditure projected by the Petitioner for the 3<sup>rd</sup> MYT Control Period is as follows:

*Table 53: Summary of capital expenditure projected by the Petitioner for the 3<sup>rd</sup> MYT Control Period (Rs. Cr.)*

| Sl. No.                 | Name of scheme  | FY 2022-23      | FY 2022-23      | FY 2022-23    |
|-------------------------|---|-----------------|-----------------|---------------|
| <b>Existing Schemes</b> |   |                 |                 |               |
| A1                      | Schedule Tribe Development Scheme (P)                                   | 55.86           | 28.83           | -             |
| A2                      | Infrastructure development through Electricity Duty (Plan)              | 107.78          | 39.01           | -             |
| A3                      | Erection and Augmentation of 33/11 KV S/S line (Plan)                   | 5.00            | 5.00            | 5.00          |
| A4                      | Normal Development Schemes (Plan)                                       | 6.00            | 6.00            | 6.00          |
| A5                      | System Improvement Schemes (Plan)                                       | 17.23           | 3.00            | 3.00          |
| A6                      | Construction of staff quarters and office buildings (Plan)              | 21.00           | 26.00           | 15.00         |
| A7                      | Strengthening of 220 KV Transmission Network                            | 15.00           | -               | -             |
| A8                      | Erection of 220/110/33/11 KV Sub-Station at Verna (New)                 | -               | -               | -             |
| A9                      | Restructured Accelerated Power Development and Reforms Programme Part A | 18.00           | 18.00           | 18.00         |
| A10                     | Underground Cabling   | 141.50          | 57.00           | -             |
| A11                     | R-APDRP Part B / IPDS   | 15.00           | -               | -             |
| A12                     | EHV new Transmission / Sub-Station / Capacitor banks schemes            | -               | -               | -             |
| B1                      | Smart grid Development of existing network                              | -               | -               | -             |
| B2                      | Sub-transmission and distribution improvement scheme                    | 57.00           | 2.00            | -             |
|                         |   |                 |                 |               |
| <b>Other Schemes</b>    |   |                 |                 |               |
|                         | Public Lighting Scheme  | 0.10            | -               | -             |
|                         | <b>Sub- Total (Existing Schemes)</b>                                    | <b>459.47</b>   | <b>184.84</b>   | <b>47.00</b>  |
| <b>New Schemes</b>      |   |                 |                 |               |
| A                       | Projects with Administrative approval                                   | 93.37           | 77.73           | 19.25         |
| B                       | Projects Approved by EFC  | 414.72          | 103.68          | -             |
| C                       | Projects tendered (To start next year)                                  | 103.94          | 62.00           | 6.00          |
| D                       | New EHV Works   | 90.86           | 163.34          | 270.00        |
| E                       | REVAMPED Distribution Projects  | 255.00          | 450.00          | 225.00        |
| F                       | Sub-Total New Schemes   | 957.90          | 856.75          | 520.25        |
| G                       | DEPOSIT WORKS   | 35.37           | -               | -             |
|                         | <b>Sub- Total (New Schemes)</b>   | <b>993.27</b>   | <b>856.75</b>   | <b>520.25</b> |
|                         |   |                 |                 |               |
|                         | <b>GRAND TOTAL (Existing and New Schemes)</b>                           | <b>1,452.74</b> | <b>1,041.59</b> | <b>567.25</b> |

The summary of capitalisation projected by the Petitioner for the 3<sup>rd</sup> MYT Control Period is as follows:

*Table 54: Summary of capitalisation projected by the Petitioner for the 3<sup>rd</sup> MYT Control Period (Rs. Cr.)*

| Sl. No. | Scheme Name  | FY 2022-23 | FY 2023-24 | FY 2024-25 |
|---------|--|------------|------------|------------|
| A1      | Schedule Tribe Development Scheme (P)                      | 68.36      | 34.83      | -          |
| A2      | Infrastructure development through Electricity Duty (Plan) | 156.78     | 39.01      | -          |
| A3      | Erection and Augmentation of 33/11 KV S/S line (Plan)      | 5.00       | 5.00       | 5.00       |
| A4      | Normal Development Schemes (Plan)                          | 11.00      | 6.00       | 6.00       |
| A5      | System Improvement Schemes (Plan)                          | 31.23      | 3.00       | 3.00       |
| A6      | Construction of staff quarters and office buildings (Plan) | 3.00       | 24.00      | 35.00      |

| Sl. No. | Scheme Name   | FY 2022-23    | FY 2023-24    | FY 2024-25   |
|---------|---|---------------|---------------|--------------|
| A7      | Strengthening of 220 KV Transmission Network  | 20.00         | -             | -            |
| A8      | Erection of 220/110/33/11 KV Sub-Station at Verna (New)   |               |               |              |
| A9      | Restructured Accelerated Power Development and Reforms Programme Part A   | 18.00         | 18.00         | 18.00        |
| A10     | Underground Cabling   | 166.50        | 122.00        | -            |
| A11     | R-APDRP Part B / IPDS   | 22.00         | -             | -            |
| A12     | EHV new Transmission / Sub-Station / Capacitor banks schemes  |               |               |              |
| B1      | Smart grid Development of existing network  |               |               |              |
| B2      | Sub-transmission and distribution improvement scheme  | 72.00         | 2.00          | -            |
|         |   |               |               |              |
|         | <b>Other Schemes</b>  |               |               |              |
|         | Public Lighting Scheme  | 0.20          | 0.10          | -            |
|         | <b>Sub- Total (existing Schemes)</b>  | <b>574.07</b> | <b>253.94</b> | <b>67.00</b> |
|         | <b>New Schemes</b>  |               |               |              |
|         | <b>A- Projects with Administrative approval</b>   |               |               |              |
|         | Estimate for the work of providing U/G cabling network for ring feeding 11KV Barazan feeder emanating from 1 x 6.3MVA Xelpem S/S under the jurisdiction of S/D-III, Sanguem, Div-VII, Curchorem in Sanguem Constituency.  | 11.09         | 11.09         | 5.55         |
|         | Estimate for the work of Design, Supply, Erection, Testing and Commissioning of new Outdoor Gas Insulated Hybrid Switchgears of 220KV Incomer line bays KP-I and TP-II at 220/110/33KV Ponda Sub-Station.   | 0.94          | 3.78          | -            |
|         | Estimate for the work of conversion of existing 11 KV overhead lines to underground system, coming under the jurisdiction of Sub Division-III, Division XIV Verna of areas under Cortalim Constituency and Nuvem Constituency.  | 13.41         | 13.41         | 6.70         |
|         | Estimate for the work of S.E.T.C. of 1 no. of 50MVA, 110KV/ 33KV Power transformer at 110KV/ 33KV Verna S/S.  | 4.43          | 1.90          | -            |
|         | Estimate for the work of conversion of existing 11KV O/H network to U/G cabling network of 11KV Bhati feeder emanating from 1 x 3.15 MVA, 33/11KV Waddem S/S under the jurisdiction of S/D-III Sanguem, Div-VII, Curchorem in Sanguem Constituency.   | 5.20          | 2.23          | -            |
|         | Estimate for the work of conversion of existing 11KV O/H network to U/G cabling network of 11KV Sanguem feeder emanating from 1 x 6.3MVA, 33/11KV Xelpem S/S under the jurisdiction of S/D-III, Div-VII, Curchorem in Sanguem Constituency.   | 6.87          | 2.94          | -            |
|         | Estimate for the work of conversion of existing 11KV overhead network to underground cabling network of 11KV Ponsamol feeder emanating from 1x6.3MVA, Xelpem Sub-Station under the jurisdiction of Sub Division-III, Sanguem, Division-VII, Curchorem in Sanguem Constituency.  | 14.00         | 14.00         | 7.00         |
|         | Estimate for the work of supply, erection, testing & commissioning of 11KV, 3Core XLPE armoured cable of size 300sq.mm. for conversion of existing O/H 11KV Mandrem feeder emanating from 33/11KV Tuem S/S to U/G System under the jurisdiction of S/D-III, Agarwada, Pernem, Div-XVII, Mapusa in Mandrem Constituency.   | 10.54         | 10.54         | -            |
|         | Estimate for the work of supply, erection, testing & commissioning of 11KV, 3Core XLPE armoured cable of size 300sq.mm. for conversion of existing O/H 11KV Sodiem feeder emanating from 33/11KV Mapusa S/S to U/G System under the jurisdiction of S/D-III, Agarwada, Pernem, Div-XVII, Mapusa.                          | 6.95          | 2.98          | -            |
|         | Estimate for the work of improvement of 11KV HT network of Undir & Durbhat feeder in Village Wadi Talaulim, Durbhat, Bandora, part of Curti & part of Borim inhabited by the Scheduled Tribes population under Tribal Sub-Plan by converting 11KV HT O/H lines to U/G cable under the jurisdiction of S/D-I, Div-X, Ponda | 8.88          | 3.80          | -            |
|         | Estimate for the work of conversion of 11KV HT electrical network of Khadpabandh, Ponda-I, Bazar and part of Durbhat, Farmagudi & Curti feeders by converting 11KV HT O/H lines to U/G cable, under the jurisdiction of S/D-I, Div-X, Curti-Ponda.  | 11.06         | 11.06         | -            |
|         | <b>Total</b>  | <b>93.37</b>  | <b>77.73</b>  | <b>19.25</b> |
|         | <b>B-Projects Approved by EFC</b>   |               |               |              |



| Sl. No. | Scheme Name   | FY 2022-23    | FY 2023-24    | FY 2024-25 |
|---------|---|---------------|---------------|------------|
|         | Conversion of existing O/H 11KV HT network to underground (U/G) cabling for Vasco Town under the Jurisdiction of Sub Division-I(U), Vasco,  | 37.64         | 9.41          | -          |
|         | Work of conversion of O/H HT network to underground HT network of 33KV Xeldem - Xelpem feeder in order to provide uninterrupted m power supply to Salaulim water works and Domestic consumers of Bhati, Uguem, Kalay V.P. areas and Sanguem Municipal areas in Sanguem Constituency.  | 29.71         | 7.43          | -          |
|         | Work of conversion of existing overhead ACSR Racoon conductor to HTLS conductor of 33 KV Nessai-1 and Nessai-11 feeder from 220/33 KV Xeldem Sub-Station to 33/11KV KRC Sub-Station and Benaulim Sub-Station.   | 23.07         | 5.77          | -          |
|         | Work of conversion of existing overhead ACSR Racoon conductor to HTLS conductor of 33 KV Nessai-111 and Nessai-IV feeder from 220/33 KV Xeldem Sub-Station to 33/11KV KRC Sub-Station and Benaulim Sub-Station.   | 22.92         | 5.73          | -          |
|         | Work of supply, erection, testing and commissioning of 33/11kV, 2x 10 MVA, Indoor type Sub-Station (Electrical and Civil Works) at Mandrem under Sub Division-III Agarwada, Div XVII Mapusa.  | 36.62         | 9.16          | -          |
|         | Conversion of existing O/H 11 kV Balli feeder into underground cabling system emerging from 33/11 kV Cuncolim Substation under the jurisdiction of Elect. O&M Sub. Div-IV, Div-XVI, Cuncolim.   | 44.49         | 11.12         | -          |
|         | Work of conversion of O/H HT network to underground HT network in Chinchinim, Dharmapur & Sarzora area of Velim Constituency under the jurisdiction of Subdivision-II Chinchinim, Division-XVI Margao, in South Goa District.   | 26.73         | 6.68          | -          |
|         | Worth of Design, Supply, Erection & Commissioning of 33 kV, 2x3 Core, 400 Sq.mm XLPE Cable from Cable from Ponda Sub-Station to Banastarim for a distance of 185 kms and 1x3 Core 185 Sq.mm XLPE Cable for a distance of 1.95 kms for providing reliable supply to kundaim, Marcel area and Industries of Kundaim Industrial Estate.                  | 20.12         | 5.03          | -          |
|         | Work of conversion of Existing 11 KV (HT) overhead lines to underground cabling network for 11 KV Mandop feeder, 11 KV MES feeder, 11 KV Navelim feeder, emanating from 33/11 KRC Substation and provision for additional 11 KV Navelim Express feeder under Subdivision III, Navelim, Division IV, Margao Goa under Infrastructure Development Fund. | 52.26         | 13.07         | -          |
|         | Work of upgrading of 220 KV PXR line by replacement of existing ACSR Drake Conductor with HTLS ACCC DRAKE Conductor from Ponda 220KV Ponda Sub-Station to 220KV Xeldem Sub-Station and replacement of polymer suspension insulator of 220KV AP-II Circuit from Ponda S/S to Kardi point.  | 38.74         | 9.69          | -          |
|         | Work of conversion of the existing overhead 11 KV line of Bicholim City, Assonora, Bordem and Bicholim IDC feeder emanating from 33/11 kV Bicholim Sub-station to underground cable system in the jurisdiction of Sub Division-I(U), Bicholim-Goa.  | 23.22         | 5.80          | -          |
|         | Work of conversion of existing LT O/H line of 11KV Kakoda Feeder & 11 KV Town-II feeder into underground cabling system in Curchorem Constituency.  | 31.82         | 7.95          | -          |
|         | Work of conversion of existing 33KV SC overhead Virdi II feeder to Double Circuit line with HTLS Conductor from 220 KV Amona Sub Station, under Sub Division – I(U), Bicholim.  | 27.38         | 6.85          | -          |
|         | <b>Total</b>  | <b>414.72</b> | <b>103.68</b> | <b>-</b>   |
|         | <b>C- Projects tendered (To start next year)</b>  |               |               |            |
|         | Tender No. 19(2020-21)/CSC: Tender for the Work of conversion of 11KV overhead network of Torla feeder to 11KV underground system along the road side from 33/11KV Shiroda substation under Sub Division II, Div. X, Ponda in Shiroda constituency  | 3.00          | 1.00          | -          |
|         | Tender No. 22(2020-21)/CSC: Work of conversion of 11KV S/C OH St. Cruz feeder to UG network by laying 11KV, 3Core 300sq.mm. aluminium armoured XLPE cable for a distance of 14.5 Kms along with associated equipments.  | 6.00          | 2.00          | -          |
|         | Tender No. 23(2020-21)/CSC: Work for conversion of 11KV SC OH Diwar feeder, Diwar and Chora section in the jurisdiction of Sub Division-I, Division-I, Panaji.  | 12.00         | 7.00          | -          |
|         | Tender No. 24(2020-21)/CSC: Work of Supply, Laying, Testing & Commissioning of 33KV Core 400 sq.mm. XLPE U/G cable from 220/33KV Amona S/S for providing alternate power supply to 33/11KV Sankhali S/S.  | 8.00          | 2.00          | -          |
|         | Tender No. 25(2020-21)/CSC: Work of Supply and Laying of 33KV, 3C X 400sq.mm. XLPE Aluminium cable from Sonshi to Amona S/S.  | 2.00          | -             | -          |

| Sl. No. | Scheme Name   | FY 2022-23      | FY 2023-24    | FY 2024-25    |
|---------|---|-----------------|---------------|---------------|
|         | Tender No. 26 (2020-21)/CSC: Work of conversion of 11KV S/C O/H Merces feeder to UG network by laying 11KV, 3Core 300sq.mm. Aluminium Armoured XLPE cable for a distance of 13Kms along with associated equipments.   | 6.00            | 1.50          | -             |
|         | Tender No. 27(2020-21)/CSC: Work of conversion of existing 11KV overhead Industry feeder, 11KV cable Industry feeder and 33KV Unichem feeder to underground system and providing new 11KV feeder at Pilerne Industrial Estate, Pilerne under Sub Division-II, Porvorim.                   | 5.00            | 2.50          | -             |
|         | Tender No. 29(2020-21)/CSC: Work of conversion of overhead 11KV Industry-IV feeder to 11KV underground system along the road from 33/11KV Kundai Sub-Station in Priol Constituency under Sub Division-III, Division-X, Ponda.   | 2.30            | -             | -             |
|         | Tender No. 30(2020-21)/CSC: Work of conversion of overhead 11KV of Shiroda feeder to 11KV underground system along the road side from 33/11KV Bethora Sub-Station in Shiroda Constituency under Sub Division-II, Division-X, Ponda.   | 2.74            | -             | -             |
|         | Tender No. 33(20-21)/CSC: Tender for the work of conversion of 11KV Industry-I/II/III feeder to 11KV underground system along the road from 33/11KV Kundai Sub-Station in Priol Constituency under Sub Division-III, Division-X, Ponda.   | 2.00            | 3.00          | -             |
|         | Tender No. 37(20-21)/CSC: Tender for the work of conversion of overhead 11KV Sulcorna feeder to underground network from 33/11KVQuinamol, Rivona Sub-Station to Devrem transformer center under the jurisdiction of Sub Division-II, Division-VII, Curchorem.                             | -               | 12.00         | -             |
|         | Tender No. 38(20-21)/CSC: Tender for the work of conversion of overhead 11KV Mollem feeder to underground network under the jurisdiction of Sub Division-IV, Division-VII, Curchorem.   | 8.00            | 5.00          | -             |
|         | Tender No. 39(20-21)/CSC: Tender for the work of conversion of overhead 11KV Dhat feeder to underground network under the jurisdiction of Sub Division-IV, Division-VII, Curchorem.   | 7.00            | 4.00          | -             |
|         | Tender No. 40(20-21)/CSC: Tender for the work of conversion of overhead 11KV Panchawadi feeder to underground network under the jurisdiction of Sub Division-IV, Division-VII, Curchorem.   | 6.00            | 4.00          | -             |
|         | Tender No. 07(2021-22)/CSC: Tender for the Work of conversion of existing 33KV MES single circuit line to double circuit line emanating from 220/33KV Cuncolim substation to 33/11KV KRC substation under Div. IV, Margao   | 3.40            | -             | -             |
|         | Tender No. 10(2021-22)/CSC: Work of Supply, Erection, Testing and Commissioning 11KV 3Core, XLPE armoured Cable of size 300 Sq. mm. for conversion of existing overhead 11KV Morjim Feeder to underground system under the jurisdiction of Sub-Division-III, Agarwada, Div XVII - Mapusa. | 8.00            | 8.00          | -             |
|         | Tender No. 12(2021-22)/CSC: Supply, Laying, Testing and Commissioning of 33KV, 3 Core, 400 Sq.mm. XLPE cable double circuits (Velim-I & Velim-II) from 220/33KV Cuncolim substation to 33/11KV Velim substation   | -               | 20.00         | 6.00          |
|         | Tender No. 34(20-21)/CSC: Tender for the work of conversion of 11KV overhead network of Borim feeder to 11KV underground system along the road side from 33/11KV Shiroda Sub-Station in Shiroda Constituency under Sub Division-II, Division-X, Ponda.                                    | -               | 10.00         | -             |
|         | Tender No. 35(20-21)/CSC: Tender for the work of conversion of 11KV overhead network of Nirankal feeder to 11KV underground system along the road side from 33/11KV Bethora Sub-Station in Shiroda Constituency under Sub Division-II, Division-X, Ponda.                                 | 2.50            | -             | -             |
|         | <b>TOTAL</b>  | <b>83.94</b>    | <b>82.00</b>  | <b>6.00</b>   |
|         | <b>REVAMPED Distribution Projects</b>   |                 |               |               |
|         | Smart Meter and AMI   | 10.00           | 35.00         | 35.00         |
|         | SCADA upgradation, cabling connection, infra developement, mordernization   | 100.00          | 350.00        | 300.00        |
|         | Training and Placement  | 20.00           | 40.00         | 40.00         |
|         | <b>Total</b>  | <b>130.00</b>   | <b>425.00</b> | <b>375.00</b> |
|         | <b>New EHV Works</b>  |                 |               |               |
|         | Saligao 3/63 MVA 2X33 kV S/s at Saligao & Associated D/C Lines  | -               | -             | 250.00        |
|         | Verna 2 x 63 MVA 220/33 KV S/s and associated D/C Lines.  | -               | -             | 200.00        |
|         | Upgradation of PONDA EHV S/s project  | -               | 29.00         | -             |
|         | Tuem Project  | 22.50           | 22.50         | -             |
|         | <b>Total</b>  | <b>22.50</b>    | <b>51.50</b>  | <b>450.00</b> |
|         | <b>Sub-Total</b>  | <b>1,318.61</b> | <b>993.85</b> | <b>917.25</b> |

| Sl. No. | Scheme Name          | FY 2022-23      | FY 2023-24    | FY 2024-25    |
|---------|----------------------|-----------------|---------------|---------------|
|         | <b>DEPOSIT WORKS</b> | 53.37           | -             | -             |
|         | <b>GRAND TOTAL</b>   | <b>1,371.98</b> | <b>993.85</b> | <b>917.25</b> |

### Commission's analysis

The Commission notes that the Petitioner has consistently failed to achieve the capital expenditure and capitalisation targets approved by the Commission in the prior MYT Control Periods. As per the provisional data submitted by the Petitioner, the capital expenditure and capitalisation achieved by the Petitioner vis-à-vis the approval of the Commission is given as follows:

*Table 55: Capital expenditure and capitalisation achieved by the Petitioner vis-à-vis the approval of the Commission (INR Cr.)*

| Sl. No. | Scheme Name                                      | FY 16-17        | FY 17-18          | FY 18-19        | FY 19-20        | FY 20-21        |
|---------|--|-----------------|-------------------|-----------------|-----------------|-----------------|
| 1       | Capital expenditure approved by the Commission   | 576.55          | 1,208.54          | 1,158.26        | 575.28          | 330.43          |
| 2       | Capitalisation approved by the Commission        | 182.55          | 579.54            | 685.27          | 442.99          | 303.13          |
| 3       | Capital expenditure achieved by the Petitioner   | 178.67          | 103.36            | 158.86          | 218.47          | 198.57          |
| 4       | Capitalisation achieved by the Petitioner        | 101.44          | 27.54             | 42.01           | 204.16          | 202.96          |
| 5       | <b>Excess/(Shortfall) in capital expenditure</b> | <b>(397.88)</b> | <b>(1,105.18)</b> | <b>(999.40)</b> | <b>(356.81)</b> | <b>(131.86)</b> |
| 6       | <b>Excess/(Shortfall) in capitalisation</b>      | <b>(81.11)</b>  | <b>(552.00)</b>   | <b>(643.26)</b> | <b>(238.83)</b> | <b>(100.17)</b> |

In light of the consistent shortfall in achieving the approved capital expenditure and capitalisation, the Commission has only considered the total scheme cost of the exiting/spillover schemes up to the scheme cost approved in the Business Plan Order for the 2<sup>nd</sup> MYT Control Period. However, the Commission has made an exception for the schemes under 'Infrastructure development through Electricity Duty' as the same is funded through the ED fund levied and collected by the Government of Goa. In respect of new schemes, the Commission has approved the schemes for which the Petitioner has submitted documentary proof such as Administrative Approvals, Sanction Letters or Detailed Project Letters (DPRs).

If the Petitioner intends to execute any additional capital expenditure apart from the ones approved by the Commission in this Order, the Petitioner is directed to approach the Commission separately beforehand with the detailed justification, DPR and/or Administrative Approval for the approval of the said scheme. Accordingly, the capital expenditure and capitalisation approved by the Commission is shown in the following paras.

Further, considering the actual closing CWIP of INR 591.27 Cr. as per the audited accounts for FY 2016-17, the Commission observes that the closing CWIP of FY 2020-21 increases to INR 793.86 Cr. based on the details of provisional capital expenditure and provisional capitalisation submitted by the Petitioner from FY 2017-18 to FY 2020-21. The Petitioner is directed to reconcile the figures of CWIP from FY 2016-17 to FY 2020-21 based on audited annual accounts and submit the details of the same to the Commission within 3 months of the issuance of this Order.

### **Capital expenditure for spillover schemes approved by the Commission**

In respect of spillover schemes, the Commission has only considered the total scheme cost of the schemes up to the scheme cost approved in the Business Plan Order for the 2<sup>nd</sup> MYT Control Period. However, the Commission has made an exception for the schemes under 'Infrastructure development through Electricity Duty' as the same is funded through the ED fund levied and collected by the Government of Goa. Accordingly, the capital expenditure for spillover schemes approved by the Commission for the 3<sup>rd</sup> MYT Control Period is as follows:

| Sl. No. | Scheme Name  | Approved Capital Expenditure |          |          |               |
|---------|--|------------------------------|----------|----------|---------------|
|         |  | FY 22-23                     | FY 23-24 | FY 24-25 | Total         |
| 1       | Scheduled Tribe Development Scheme (P)   | -                            | -        | -        | -             |
| 2       | Infrastructure development through Electricity Duty (Plan)   | 107.78                       | 39.01    | -        | <b>146.79</b> |
|         | Conversion of overhead 11 KV HT network to Aerial Bunched Cabling in North and South Goa   | -                            | -        | -        |               |
|         | Work of New 50 MVA, 220/33 KV transformer & associated works at 220KV receiving station at Ponda and erection of 220/33/11KV GIS Substation at Tuem & 220KV double circuit transmission line from PGCIL Colvale to Tuem Goa  | -                            | -        | -        |               |
|         | Work of 2x10 MVA, 33/11KV (indoor type) sub-station at Badem & Mandrem   | -                            | -        | -        |               |
|         | Design, Supply, installation, Testing and Commissioning of 33/11KV Gas insulated Substation 2x16/20MVA along with associated equipment at Patto Plaza Panaji   | 4.00                         | -        | -        |               |
|         | Work of 2x10 MVA, 33/11KV Indoor type substation along with associated equipment at Karaswado Mapusa.  | -                            | -        | -        |               |
|         | Work of laying of underground 33KV double circuit 3Cx400 sq mm cable from Porvorim Substation to Saligao Substation.   | -                            | -        | -        |               |
|         | Work of 2x10 MVA, 33/11KV Indoor type substation along with associated equipment's at Sal in the jurisdiction of V.P Sal in Bicholim   | -                            | -        | -        |               |
|         | Work of conversion of existing O/H 11KV & LT line to U/G cabling system at Cacora Curchorem Municipal area in Curchorem constituency   | -                            | -        | -        |               |
|         | Work for conversion of 11KV and LT overhead lines to underground network in the left out parts of Margao Municipal areas in Margao & Fatorda   | -                            | -        | -        |               |
|         | Work of erection of 33 kV O/H line tapping from Mapusa II Circuit at Verla Canca to Nagoa Substation.  | -                            | -        | -        |               |
|         | Work of S.E.T & C for replacement of 5 Nos of 110 KV SF6 Circuit breakers (MOCB) on the existing foundations with new gang operated spring.  | -                            | -        | -        |               |
|         | Work of Development of V.P Ibrambur as Model Village under Sansad Adarsh Gram Yojana (SAGY)  | -                            | -        | -        |               |
|         | Work of laying of 11 KV XLPE underground cable from Candolim church to Saipem village  | -                            | -        | -        |               |
|         | Work of conversion of existing overhead 11 KV line to underground system of feeders namely 11 KV Torda, 11KV Housing Board, 11 KV Pundalik Nagar feeder and associated LT network on transformer of said feeders and bifurcation of 11KV Torda feeder and Chogum road feeder emanating from 33/11KV Porvorim Sub-Station covering major portion of Porvorim Plateau area in Porvorim constituency. | -                            | -        | -        |               |
|         | Work of laying of 33KV S/C 3 core 400 Sq mm. XLPE underground cable from Naveli Amona 220/33KV Sub-station to Marcel for a distance of 8.4 kms   | -                            | -        | -        |               |
|         | Work of linking of 33KV Velim, Canacona & MES DC feeder to 220/33KV Cuncolim Sub-Station.  | -                            | -        | -        |               |
|         | Work of conversion of HT/LT overhead network to underground HT & LT network in Cuncolim Industrial Estate  | -                            | -        | -        |               |
|         | Work of survey, design, supply, erection and commissioning of 3x63 MVA, 220/33 KV GIS Sub-   | -                            | -        | -        |               |

| Sl. No. | Scheme Name   | Approved Capital Expenditure |              |             |               |
|---------|---|------------------------------|--------------|-------------|---------------|
|         |   | FY 22-23                     | FY 23-24     | FY 24-25    | Total         |
|         | Station at Saligao along with associated interconnecting 220 KV D/C line from 400/220 KV PGCIL Colvale Sub-Station to Saligao Sub-Station.  |                              |              |             |               |
|         | Work of conversion of existing overhead 11 KV feeders to underground system, erection of new DTCs, augmentation of DTC, erection of additional feeders, conversion single phase to three phase, replacement of conductor, providing guarding, DP renovation etc. under Section Office Saligao and Britona | -                            | -            | -           |               |
|         | Work of providing 33 KV underground feeder from 110/33 KV Sub-Station to 33/11 KV Sub-Station at Nachinola  | -                            | -            | -           |               |
|         | Change of conductor of 110 KV Ponda -Verna and Ponda -Xeldem with higher current capacity HTLS conductor.   | -                            | -            | -           |               |
|         | Change of conductor of 33 KV Verna Sancoale line with higher current carrying capacity HTLS conductor.  | -                            | -            | -           |               |
|         | Work of conversion of overhead network to Underground cabling in the balance areas of Porvorim constituency (Phase II)  | -                            | -            | -           |               |
|         | Conversion of the overhead HT/LT network to underground cabling in the important town of Vasco, Navelim etc.  | -                            | -            | -           |               |
|         | Erection of 33/11 KV Sub-Stations at Navelim, Calangute, Colva.   | -                            | -            | -           |               |
|         | Conversion of overhead HT network to Aerial Bunched Cabling (Phase II)  | -                            | -            | -           |               |
|         | Street Light EESL Payment   | 41.34                        | 31.01        | -           |               |
|         | Other than approved works undertaken  | 62.44                        | 8.00         | -           |               |
| 3       | Erection and Augmentation of 33/11 KV S/S line (Plan)   | -                            | -            | -           | -             |
| 4       | Normal Development Schemes (Plan)   | 6.00                         | 6.00         | 6.00        | <b>18.00</b>  |
| 5       | Construction of staff quarters and office buildings (Plan)  | 0.50                         | -            | -           | <b>0.50</b>   |
| 6       | Erection of 220/110/33/11 KV Sub-Station at Verna (New)   | -                            | -            | -           | -             |
| 7       | Underground Cabling   | -                            | -            | -           | -             |
| 8       | R-APDRP Part B / IPDS   | 15.00                        | -            | -           | <b>15.00</b>  |
| 9       | EHV new Transmission / Sub-Station / Capacitor banks schemes  | -                            | -            | -           | -             |
|         | <b>Total (Existing/Spillover Schemes)</b>   | <b>129.28</b>                | <b>45.01</b> | <b>6.00</b> | <b>180.29</b> |

### **Capital expenditure for new schemes approved by the Commission**

#### Projects with Administrative Approval

The Commission has approved the following capital expenditure for schemes under the head 'Projects with Administrative Approval':

**Table 56: Details of capital expenditure approved by the Commission for new schemes under the head 'Projects with Administrative Approval' (Rs. Cr.)**

| Sl. No. | Name of scheme   | FY 2022-23   | FY 2023-24   | FY 2024-25   |
|---------|--|--------------|--------------|--------------|
| 1       | Estimate for the work of providing U/G cabling network for ring feeding 11KV Barazan feeder emanating from 1 x 6.3MVA Xelpem S/S under the jurisdiction of S/D-III, Sanguem, Div-VII, Curchorem in Sanguem Constituency.   | 11.09        | 11.09        | 5.55         |
| 2       | Estimate for the work of Design, Supply, Erection, Testing and Commissioning of new Outdoor Gas Insulated Hybrid Switchgears of 220KV Incomer line bays KP-I and TP-II at 220/110/33KV Ponda Sub-Station.  | 0.94         | 3.78         | -            |
| 3       | Estimate for the work of conversion of existing 11 KV overhead lines to underground system, coming under the jurisdiction of Sub Division-III, Division XIV Verna of areas under Cortalim Constituency and Nuvem Constituency.   | 13.41        | 13.41        | 6.70         |
| 4       | Estimate for the work of S.E.T.C. of 1 no. of 50MVA, 110KV/33KV Power transformer at 110KV/33KV Verna S/S.   | 4.43         | 1.90         | -            |
| 5       | Estimate for the work of conversion of existing 11 KV O/H network to U/G cabling network of 11KV Bhati feeder emanating from 1 x 3.15 MVA, 33/11KV Waddem S/S under the jurisdiction of S/D-III Sanguem, Div-VII, Curchorem in Sanguem Constituency.   | 5.20         | 2.23         | -            |
| 6       | Estimate for the work of conversion of existing 11 KV O/H network to U/G cabling network of 11KV Sanguem feeder emanating from 1 x 6.3MVA, 33/11KV Xelpem S/S under the jurisdiction of S/D-III, Div-VII, Curchorem in Sanguem Constituency.   | 6.87         | 2.94         | -            |
| 7       | Estimate for the work of conversion of existing 11KV overhead network to underground cabling network of 11KV Ponsamol feeder emanating from 1x6.3MVA, Xelpem Sub-Station under the jurisdiction of Sub Division-III, Sanguem, Division-VII, Curchorem in Sanguem Constituency.   | 14.00        | 14.00        | 7.00         |
| 8       | Estimate for the work of supply, erection, testing & commissioning of 11KV, 3Core XLPE armoured cable of size 300sq.mm. for conversion of existing O/H 11KV Mandrem feeder emanating from 33/11KV Tuem S/S to U/G System under the jurisdiction of S/D-III, Agarwada, Pernem, Div-XVII, Mapusa in Mandrem Constituency.  | 10.54        | 10.54        | -            |
| 9       | Estimate for the work of improvement of 11KV HT network of Udir & Durbhat feeder in Village Wadi Talaulim, Durbhat, Bandora, part of Curti & part of Borim inhabited by the Scheduled Tribes population under Tribal Sub-Plan by converting 11KV HT O/H lines to U/G cable under the jurisdiction of S/D-I, Div-X, Ponda | 8.88         | 3.80         | -            |
| 10      | Estimate for the work of conversion of 11KV HT electrical network of Khadpabandh, Ponda-I, Bazar and part of Durbhat, Farmagudi & Curti feeders by converting 11KV HT O/H lines to U/G cable, under the jurisdiction of S/D-I, Div-X, Curti-Ponda.   | 11.06        | 11.06        | -            |
|         | <b>Total</b>   | <b>86.42</b> | <b>74.75</b> | <b>19.25</b> |

**Projects with Expenditure Finance Committee Approval**

The Commission has approved the following capital expenditure for schemes under the head 'Projects with Expenditure Finance Committee Approval':

**Table 57: Details of projected capital expenditure approved by the Commission for new schemes under the head 'Projects with Expenditure Finance Committee Approval' (Rs. Cr.)**

| Sl. No. | Name of scheme   | FY 2022-23 | FY 2023-24 | FY 2024-25 |
|---------|--|------------|------------|------------|
| 1       | Conversion of existing O/H 11KV HT network to underground (U/G) cabling for Vasco Town under the Jurisdiction of Sub Division-I(U), Vasco, | 37.64      | 9.41       | -          |

| Sl. No. | Name of scheme  | FY 2022-23    | FY 2023-24   | FY 2024-25 |
|---------|---|---------------|--------------|------------|
| 2       | Work of conversion of O/H HT network to underground HT network of 33KV Xeldem - Xelpem feeder in order to provide uninterrupted m power supply to Salaulim water works and Domestic consumers of Bhati, Uguem, Kalay V.P. areas and Sanguem Municipal areas in Sanguem Constituency.  | 29.71         | 7.43         | -          |
| 3       | Work of conversion of existing overhead ACSR Racocon conductor to HTLS conductor of 33 KV Nessai-1 and Nessai-11 feeder from 220/33 KV Xeldem Sub-Station to 33/11KV KRC Sub-Station and Benaullim Sub-Station.   | 23.07         | 5.77         | -          |
| 4       | Work of conversion of existing overhead ACSR Racocon conductor to HTLS conductor of 33 KV Nessai-111 and Nessai-IV feeder from 220/33 KV Xeldem Sub-Station to 33/11KV KRC Sub-Station and Benaullim Sub-Station.   | 22.92         | 5.73         | -          |
| 5       | Work of supply, erection, testing and commissioning of 33/11kV, 2x 10 MVA, Indoor type Sub-Station (Electrical and Civil Works) at Mandrem under Sub Division-III Agarwada, Div XVII Mapusa.  | 36.62         | 9.16         | -          |
| 6       | Conversion of existing O/H 11 kV Balli feeder into underground cabling system emerging from 33/11 kV Cuncolim Substation under the jurisdiction of Elect. O&M Sub. Div-IV, Div-XVI, Cuncolim.   | 44.49         | 11.12        | -          |
| 7       | Work of conversion of O/H HT network to underground HT network in Chinchinim, Dharmapur & Sarzora area of Velim Contituency under the jurisdiction of Subdivision-II Chinchinim, Division-XVI Margao, in South Goa District.  | 26.73         | 6.68         | -          |
| 8       | Worth of Design, Supply, Erection & Commissioning of 33 kV, 2x3 Core, 400 Sq.mm XLPE Cable from Cable from Ponda Sub-Station to Banastarim for a distance of 18.5 kms and 1x3 Core 185 Sq.mm XLPE Cable for a distance of 1.95 kms for providing reliable supply to kundaim, Marcel area and Industries of Kundaim Industrial Estate.                 | 20.12         | 5.03         | -          |
| 9       | Work of conversion of Existing 11 KV (HT) overhead lines to underground cabling network for 11 KV Mandop feeder, 11 KV MES feeder, 11 KV Navelim feeder, emanating from 33/11 KRC Substation and provision for additional 11 KV Navelim Express feeder under Subdivision III, Navelim, Division IV, Margao Goa under Infrastructure Development Fund. | 52.26         | 13.07        | -          |
| 10      | Work of upgrading of 220 KV PXR line by replacement of existing ACSR Drake Conductor with HTLS ACCC DRAKE Conductor from Ponda 220KV Ponda Sub-Station to 220KV Xeldem Sub-Station and replacement of polymer suspension insulator of 220KV AP-II Circuit from Ponda S/S to Kardi point.  | 38.74         | 9.69         | -          |
| 11      | Work of conversion of the existing overhead 11 KV line of Bicholim City, Assonora, Bordem and Bicholim IDC feeder emanating from 33/11 kV Bicholim Sub-station to underground cable system in the jurisdiction of Sub Division-I(U), Bicholim-Goa.  | 23.22         | 5.80         | -          |
| 12      | Work of conversion of existing LT O/H line of 11KV Kakoda Feeder & 11 KV Town-II feeder into underground cabling system in Curchorem Constituency.  | 31.82         | 7.95         | -          |
|         | <b>Total</b>  | <b>387.34</b> | <b>96.84</b> | -          |

#### Projects Tendered (To Start Next Year)

The Commission has approved the following capital expenditure for schemes under the head 'Projects Tendered (To Start Next Year)':

*Table 58: Details of capital expenditure approved by the Commission for new schemes under the head 'Projects Tendered (To Start Next Year)' (Rs. Cr.)*

| Sl. No. | Name of scheme   | FY 2022-23 | FY 2023-24 | FY 2024-25 |
|---------|--|------------|------------|------------|
| 1       | Tender No. 19(2020-21)/CSC: Tender for the Work of conversion of 11KV overhead network of Torla feeder to 11KV underground | 3.00       | 1.00       | -          |

| Sl. No. | Name of scheme  | FY 2022-23 | FY 2023-24 | FY 2024-25 |
|---------|---|------------|------------|------------|
|         | system along the road side from 33/11KV Shiroda substation under Sub Division II, Div. X, Ponda in Shiroda constituency   |            |            |            |
| 2       | Tender No. 22(2020-21)/CSC: Work of conversion of 11KV S/C OH St. Cruz feeder to UG network by laying 11KV, 3 Core 300sq.mm. aluminium armoured XLPE cable for a distance of 14.5 Kms along with associated equipments.   | 6.00       | 2.00       | -          |
| 3       | Tender No. 23(2020-21)/CSC: Work for conversion of 11KV SC OH Diwar feeder, Diwar and Chorao section in the jurisdiction of Sub Division-I, Division-I, Panaji.   | 12.00      | 7.00       | -          |
| 4       | Tender No. 24(2020-21)/CSC: Work of Supply, Laying, Testing & Commissioning of 33KV Core 400 sq.mm. XLPE U/G cable from 220/33KV Amona S/S for providing alternate power supply to 33/11KV Sankhali S/S.  | 8.00       | 2.00       | -          |
| 5       | Tender No. 25(2020-21)/CSC: Work of Supply and Laying of 33KV, 3C X 400sq.mm. XLPE Aluminium cable from Sonshi to Amona S/S.  | 2.00       | -          | -          |
| 6       | Tender No. 26 (2020-21)/CSC: Work of conversion of 11KV S/C O/H Mercedes feeder to UG network by laying 11KV, 3Core 300sq.mm. Aluminium Armoured XLPE cable for a distance of 13Kms along with associated equipments.   | 6.00       | 1.50       | -          |
| 7       | Tender No. 27(2020-21)/CSC: Work of conversion of existing 11KV overhead Industry feeder, 11KV cable Industry feeder and 33KV Unichem feeder to underground system and providing new 11KV feeder at Pilerne Industrial Estate, Pilerne under Sub Division-II, Porvorim.                   | 5.00       | 2.50       | -          |
| 8       | Tender No. 29(2020-21)/CSC: Work of conversion of overhead 11KV Industry-IV feeder to 11KV underground system along the road from 33/11KV Kundai Sub-Station in Priol Constituency under Sub Division-III, Division-X, Ponda.   | 2.30       | -          | -          |
| 9       | Tender No. 30(2020-21)/CSC: Work of conversion of overhead 11KV of Shiroda feeder to 11KV underground system along the road side from 33/11KV Bethora Sub-Station in Shiroda Constituency under Sub Division-II, Division-X, Ponda.   | 2.74       | -          | -          |
| 10      | Tender No. 33(20-21)/CSC: Tender for the work of conversion of 11KV Industry-I/II/III feeder to 11KV underground system along the road from 33/11KV Kundai Sub-Station in Priol Constituency under Sub Division-III, Division-X, Ponda.   | 4.00       | 1.00       | -          |
| 11      | Tender No. 37(20-21)/CSC: Tender for the work of conversion of overhead 11KV Sulcorna feeder to underground network from 33/11KVQuinamol, Rivona Sub-Station to Devrem transformer center under the jurisdiction of Sub Division-II, Division-VII, Curchorem.                             | 8.00       | 4.00       | -          |
| 12      | Tender No. 38(20-21)/CSC: Tender for the work of conversion of overhead 11KV Mollem feeder to underground network under the jurisdiction of Sub Division-IV, Division-VII, Curchorem.   | 8.00       | 5.00       | -          |
| 13      | Tender No. 39(20-21)/CSC: Tender for the work of conversion of overhead 11KV Dhat feeder to underground network under the jurisdiction of Sub Division-IV, Division-VII, Curchorem.   | 7.00       | 4.00       | -          |
| 14      | Tender No. 40(20-21)/CSC: Tender for the work of conversion of overhead 11KV Panchawadi feeder to underground network under the jurisdiction of Sub Division-IV, Division-VII, Curchorem.   | 6.00       | 4.00       | -          |
| 15      | Tender No. 07(2021-22)/CSC: Tender for the Work of conversion of existing 33KV MES single circuit line to double circuit line emanating from 220/33KV Cuncolim substation to 33/11KV KRC substation under Div. IV, Margao   | 3.40       | -          | -          |
| 16      | Tender No. 10(2021-22)/CSC: Work of Supply, Erection, Testing and Commissioning 11KV 3Core, XLPE armoured Cable of size 300 Sq. mm. for conversion of existing overhead 11KV Morjim Feeder to underground system under the jurisdiction of Sub-Division-III, Agarwada, Div XVII - Mapusa. | 8.00       | 8.00       | -          |
| 17      | Tender No. 12(2021-22)/CSC: Supply, Laying, Testing and Commissioning of 33KV, 3 Core, 400 Sq.mm. XLPE cable double circuits (Velim-I & Velim-II) from 220/33KV Cuncolim substation to 33/11KV Velim substation   | 5.00       | 15.00      | 6.00       |



| Sl. No. | Name of scheme  | FY 2022-23    | FY 2023-24   | FY 2024-25  |
|---------|---|---------------|--------------|-------------|
| 18      | Tender No. 34(20-21)/CSC: Tender for the work of conversion of 11KV overhead network of Borim feeder to 11KV underground system along the road side from 33/11KV Shiroda Sub-Station in Shiroda Constituency under Sub Division-II, Division-X, Ponda.    | 5.00          | 5.00         | -           |
| 19      | Tender No. 35(20-21)/CSC: Tender for the work of conversion of 11KV overhead network of Nirankal feeder to 11KV underground system along the road side from 33/11KV Bethora Sub-Station in Shiroda Constituency under Sub Division-II, Division-X, Ponda. | 2.50          | -            | -           |
|         | <b>TOTAL</b>  | <b>103.94</b> | <b>62.00</b> | <b>6.00</b> |

### New EHV Works

The Commission has not approved the capital expenditure for schemes under the head 'New EHV Works' as the Petitioner has failed to submit documentary proof such as Administrative Approvals, Sanction Letters or Detailed Project Letters (DPRs).

### Revamped Distribution Sector Scheme (RDSS)

As the Petitioner has submitted the Sanction Letter, DPRs and Action Plan for the schemes proposed under RDSS, the Commission has approved the following capital expenditure for schemes under the head 'Revamped Distribution Sector Scheme (RDSS)':

*Table 59: Details of capital expenditure approved by the Commission for new schemes under the head 'Revamped Distribution Sector Scheme (RDSS)' (Rs. Cr.)*

| Sl. No. | Name of scheme  | FY 2022-23    | FY 2023-24    | FY 2024-25    |
|---------|---|---------------|---------------|---------------|
| 1       | Smart Meter and AMI   | 10.00         | 35.00         | 35.00         |
| 2       | SCADA upgradation, cabling connection, infra development, modernization | 225.00        | 375.00        | 150.00        |
| 3       | Training and Placement  | 20.00         | 40.00         | 40.00         |
|         | <b>Total</b>  | <b>255.00</b> | <b>450.00</b> | <b>225.00</b> |

### Deposit Works

The Commission has approved the proposed Deposit Works of INR 35.37 Cr.in FY 2022-23.

### **Summary of Capital expenditure approved by the Commission**

The summary of capital expenditure approved by the Commission for the 3<sup>rd</sup> MYT Control Period are given in the following tables:

*Table 60: Summary of capital expenditure approved by the Commission for Spillover Schemes for the 3<sup>rd</sup> MYT Control Period*

| Sl. No.                           | Scheme Name  | Capital Expenditure Approved for 2 <sup>nd</sup> MYT | Actual Capital Expenditure in 2 <sup>nd</sup> Control Period | Approved Capital Expenditure |          |          |               |
|-----------------------------------|--|--|--|------------------------------|----------|----------|---------------|
|                                   |  |  |  | FY 22-23                     | FY 23-24 | FY 24-25 | Total         |
| <b>Existing/Spillover Schemes</b> |  |  |  |                              |          |          |               |
| 1                                 | Scheduled Tribe Development Scheme (P)                     | 21.50  | 70.70  | -                            | -        | -        | -             |
| 2                                 | Infrastructure development through Electricity Duty (Plan) | 416.68   | 419.53   | 107.78                       | 39.01    | -        | <b>146.79</b> |
| 3                                 | Erection and Augmentation of 33/11 KV S/S line (Plan)      | 1.37   | 15.48  | -                            | -        | -        | -             |

| Sl. No. | Scheme Name  | Capital Expenditure Approved for 2 <sup>nd</sup> MYT | Actual Capital Expenditure in 2 <sup>nd</sup> Control Period | Approved Capital Expenditure |              |             |               |
|---------|--|--|--|------------------------------|--------------|-------------|---------------|
|         |  |  |  | FY 22-23                     | FY 23-24     | FY 24-25    | Total         |
| 4       | Normal Development Schemes (Plan)                            | 29.62  | 9.98   | 6.00                         | 6.00         | 6.00        | <b>18.00</b>  |
| 5       | Construction of staff quarters and office buildings (Plan)   | 3.24   | 2.74   | 0.50                         | -            | -           | <b>0.50</b>   |
| 6       | Erection of 220/110/33/11 KV Sub-Station at Verna (New)      | 76.00  | -  | -                            | -            | -           | -             |
| 7       | Underground Cabling  | 92.30  | 112.35   | -                            | -            | -           | -             |
| 8       | R-APDRP Part B / IPDS  | 465.00   | 76.84  | 15.00                        | -            | -           | <b>15.00</b>  |
| 9       | EHV new Transmission / Sub-Station / Capacitor banks schemes | 25.00  | 0.90   |                              |              |             | -             |
|         | <b>Total (Existing/Spillover Schemes)</b>                    | <b>1130.71</b>                                       | <b>708.52</b>  | <b>129.28</b>                | <b>45.01</b> | <b>6.00</b> | <b>180.29</b> |

Table 61: Summary of capital expenditure approved by the Commission for New Schemes for the 3<sup>rd</sup> MYT Control Period

| Sl. No.            | Scheme Name  | Approved Capital Expenditure |               |               |                |
|--------------------|--|------------------------------|---------------|---------------|----------------|
|                    |  | FY 22-23                     | FY 23-24      | FY 24-25      | Total          |
| <b>New Schemes</b> |  |                              |               |               |                |
| 1                  | Projects with Administrative approval                    | 86.42                        | 74.75         | 19.25         | <b>180.42</b>  |
| 2                  | Projects Approved by Expenditure Finance Committee (EFC) | 387.34                       | 96.84         | -             | <b>484.18</b>  |
| 3                  | Projects tendered (To start next year)                   | 103.94                       | 62.00         | 6.00          | <b>171.94</b>  |
| 4                  | New EHV Works  | -                            | -             | -             | -              |
| 5                  | Revamped Distribution Sector Scheme (RDSS)               | 255.00                       | 450.00        | 225.00        | <b>930.00</b>  |
| 6                  | Deposit Works  | 35.37                        | -             | -             | <b>35.37</b>   |
|                    | <b>Total (New Schemes)</b>                               | <b>868.07</b>                | <b>683.58</b> | <b>250.25</b> | <b>1801.90</b> |
|                    | <b>Grand Total (Spillover &amp; New Schemes)</b>         | <b>997.35</b>                | <b>728.59</b> | <b>256.25</b> | <b>1982.19</b> |

Therefore, the Commission approves a total capital expenditure of INR 1982.19 Cr for the 3<sup>rd</sup> MYT Control Period.

### Summary of Capitalisation approved by the Commission

The summary of capitalisation approved by the Commission for the 3<sup>rd</sup> MYT Control Period is given in the following table:

Table 62: Summary of capitalisation approved by the Commission for the 3<sup>rd</sup> MYT Control Period

| Sl. No.                           | Scheme Name  | Capitalisation Approved for 2 <sup>nd</sup> MYT | Actual Capitalisation in 2 <sup>nd</sup> MYT | Approved Capitalisation |          |          |               |
|-----------------------------------|--|---|--|-------------------------|----------|----------|---------------|
|                                   |  |   |  | FY 22-23                | FY 23-24 | FY 24-25 | Total         |
| <b>Existing/Spillover Schemes</b> |  |   |  |                         |          |          |               |
| 1                                 | Scheduled Tribe Development Scheme (P)                     | 21.50   | 52.66  | -                       | -        | -        | -             |
| 2                                 | Infrastructure development through Electricity Duty (Plan) | 411.47  | 447.46                                       | 156.78                  | 39.01    | -        | <b>195.79</b> |

| Sl. No.            | Scheme Name  | Capitalisation Approved for 2 <sup>nd</sup> MYT | Actual Capitalisation in 2 <sup>nd</sup> MYT | Approved Capitalisation |               |               |                |
|--------------------|--|---|--|-------------------------|---------------|---------------|----------------|
|                    |  |   |  | FY 22-23                | FY 23-24      | FY 24-25      | Total          |
| 3                  | Erection and Augmentation of 33/11 KV S/S line (Plan)        | 3.49  | 16.34  | -                       | -             | -             | -              |
| 4                  | Normal Development Schemes (Plan)                            | 29.62   | 9.98   | 11.00                   | 6.00          | 6.00          | <b>23.00</b>   |
| 5                  | Construction of staff quarters and office buildings (Plan)   | 2.74  | 2.62   | 0.12                    | -             | -             | <b>0.12</b>    |
| 6                  | Erection of 220/110/33/11 KV Sub-Station at Verna (New)      | 90.00   | -  | -                       | -             | -             | -              |
| 7                  | Underground Cabling  | 42.30   | 22.35  | 19.95                   | -             | -             | <b>19.95</b>   |
| 8                  | R-APDRP Part B / IPDS  | 465.00  | 69.25  | 22.00                   | -             | -             | <b>22.00</b>   |
| 9                  | EHV new Transmission / Sub-Station / Capacitor banks schemes | 25.00   | 0.90   | -                       | -             | -             | -              |
|                    | <b>Total (Existing/Spillover Schemes)</b>                    | <b>1091.12</b>                                  | <b>621.56</b>                                | <b>209.85</b>           | <b>45.01</b>  | <b>6.00</b>   | <b>260.86</b>  |
| <b>New Schemes</b> |  |   |  |                         |               |               |                |
| 1                  | Projects with Administrative approval                        | Not Applicable                                  |  | 86.42                   | 74.75         | 19.25         | <b>180.42</b>  |
| 2                  | Projects Approved by Expenditure Finance Committee (EFC)     |   |  | 387.34                  | 96.84         | -             | <b>484.18</b>  |
| 3                  | Projects tendered (To start next year)                       |   |  | 83.94                   | 82.00         | 6.00          | <b>171.94</b>  |
| 4                  | New EHV Works  |   |  | -                       | -             | -             | -              |
| 5                  | Revamped Distribution Sector Scheme (RDSS)                   |   |  | 130.00                  | 425.00        | 375.00        | <b>930.00</b>  |
| 6                  | Deposit Works  |   |  | 53.37                   | -             | -             | <b>53.37</b>   |
|                    | <b>Total (New Schemes)</b>                                   |   |  | <b>741.07</b>           | <b>678.58</b> | <b>400.25</b> | <b>1819.90</b> |
|                    | <b>Grand Total (Spillover &amp; New Schemes)</b>             |   |  | <b>950.92</b>           | <b>723.59</b> | <b>406.25</b> | <b>2080.76</b> |

Therefore, the Commission approves a total capitalisation of INR 2080.76 Cr for the 3<sup>rd</sup> MYT Control Period.

### 3.5.2 Funding Plan

#### Petitioner's submission

The Petitioner has submitted the financing plan for the capital expenditure as follows:

Table 63: Financing Plan projected by the Petitioner for the 3<sup>rd</sup> MYT Control Period (Rs. Cr.)

| Sl. No. | Sources of Funds   | FY 2022-23     | FY 2023-24     | FY 2024-25    | Total          |
|---------|--|----------------|----------------|---------------|----------------|
| A       | <b>Total Capital Expenditure (without deposit works)</b>                             | <b>1417.37</b> | <b>1041.59</b> | <b>567.25</b> | <b>3026.21</b> |
| B       | Electricity Duty Fund  | 638.05         | 345.79         | 282.70        | 1266.54        |
| C       | Grant  | 165.50         | 270.25         | 135.25        | 571.00         |
| D       | <b>Total Capital Expenditure (excluding Electricity Duty Fund and Grant) (A-B-C)</b> | <b>613.82</b>  | <b>425.55</b>  | <b>149.30</b> | <b>1188.67</b> |
| E       | Debt (%)   | 70%            | 70%            | 70%           | 70%            |
| F       | Equity (%)   | 30%            | 30%            | 30%           | 30%            |

| Sl. No. | Sources of Funds        | FY 2022-23 | FY 2023-24 | FY 2024-25 | Total  |
|---------|-------------------------|------------|------------|------------|--------|
| G       | Normative Debt (D x E)  | 429.67     | 297.89     | 104.51     | 832.07 |
| H       | Equity (INR Cr) (D x F) | 184.15     | 127.67     | 44.79      | 356.60 |

### Commission's analysis

The financing plan approved based on the capitalisation schedule approved by the Commission is as follows:

*Table 64: Financing Plan approved by the Commission for FY 2022-23 (Rs. Cr.)*

| Sl. No.                           | Scheme Name  | Approved Funding in Capitalisation Schedule |               |               |                       |              |               |
|-----------------------------------|--|---|---------------|---------------|-----------------------|--------------|---------------|
|                                   |  | FY 22-23                                    |               |               |                       |              |               |
|                                   |  | Debt  | Equity        | ED Fund       | Consumer Contribution | Govt. Grant  | Total         |
| <b>Existing/Spillover Schemes</b> |  |   |               |               |                       |              |               |
| 1                                 | Scheduled Tribe Development Scheme (P)                       | -   | -             | -             | -                     | -            | -             |
| 2                                 | Infrastructure development through Electricity Duty (Plan)   | -   | -             | 156.78        | -                     | -            | 156.78        |
| 3                                 | Erection and Augmentation of 33/11 KV S/S line (Plan)        | -   | -             | -             | -                     | -            | -             |
| 4                                 | Normal Development Schemes (Plan)                            | -   | 11.00         | -             | -                     | -            | 11.00         |
| 5                                 | Construction of staff quarters and office buildings (Plan)   | -   | 0.12          | -             | -                     | -            | 0.12          |
| 6                                 | Erection of 220/110/33/11 KV Sub-Station at Verna (New)      | -   | -             | -             | -                     | -            | -             |
| 7                                 | Underground Cabling  | -   | 19.95         | -             | -                     | -            | 19.95         |
| 8                                 | R-APDRP Part B / IPDS  | -   | 8.80          | -             | -                     | 13.20        | 22.00         |
| 9                                 | EHV new Transmission / Sub-Station / Capacitor banks schemes | -   | -             | -             | -                     | -            | -             |
|                                   | <b>Total (Existing/Spillover Schemes)</b>                    | -   | <b>39.87</b>  | <b>156.78</b> | -                     | <b>13.20</b> | <b>209.85</b> |
| <b>New Schemes</b>                |  |   |               |               |                       |              |               |
| 1                                 | Projects with Administrative approval                        | -   | 72.07         | 14.35         | -                     | -            | 86.42         |
| 2                                 | Projects Approved by Expenditure Finance Committee (EFC)     | -   | 67.71         | 319.64        | -                     | -            | 387.34        |
| 3                                 | Projects tendered (To start next year)                       | -   | 3.40          | 80.54         | -                     | -            | 83.94         |
| 4                                 | New EHV Works  | -   | -             | -             | -                     | -            | -             |
| 5                                 | Revamped Distribution Sector Scheme (RDSS)                   | -   | 48.50         | -             | -                     | 81.50        | 130.00        |
| 6                                 | Deposit Works  | -   | -             | -             | 53.37                 | -            | 53.37         |
|                                   | <b>Total (New Schemes)</b>                                   | -   | <b>191.68</b> | <b>414.53</b> | <b>53.37</b>          | <b>81.50</b> | <b>741.07</b> |
|                                   | <b>Grand Total (Spillover &amp; New Schemes)</b>             | -   | <b>231.55</b> | <b>571.31</b> | <b>53.37</b>          | <b>94.70</b> | <b>950.92</b> |

*Table 65: Financing Plan approved by the Commission for FY 2023-24 (Rs. Cr.)*

| Sl. No.                           | Scheme Name  | Approved Funding in Capitalisation Schedule |        |         |                       |             |       |
|-----------------------------------|--|---|--------|---------|-----------------------|-------------|-------|
|                                   |  | FY 23-24                                    |        |         |                       |             |       |
|                                   |  | Debt  | Equity | ED Fund | Consumer Contribution | Govt. Grant | Total |
| <b>Existing/Spillover Schemes</b> |  |   |        |         |                       |             |       |
| 1                                 | Scheduled Tribe Development Scheme (P)                     | -   | -      | -       | -                     | -           | -     |
| 2                                 | Infrastructure development through Electricity Duty (Plan) | -   | -      | 39.01   | -                     | -           | 39.01 |

| Sl. No.            | Scheme Name  | Approved Funding in Capitalisation Schedule |               |               |                       |               |               |
|--------------------|--|---|---------------|---------------|-----------------------|---------------|---------------|
|                    |  | FY 23-24                                    |               |               |                       |               |               |
|                    |  | Debt  | Equity        | ED Fund       | Consumer Contribution | Govt. Grant   | Total         |
| 3                  | Erection and Augmentation of 33/11 KV S/S line (Plan)        | -   | -             | -             | -                     | -             | -             |
| 4                  | Normal Development Schemes (Plan)                            | -   | 6.00          | -             | -                     | -             | 6.00          |
| 5                  | Construction of staff quarters and office buildings (Plan)   | -   | -             | -             | -                     | -             | -             |
| 6                  | Erection of 220/110/33/11 KV Sub-Station at Verna (New)      | -   | -             | -             | -                     | -             | -             |
| 7                  | Underground Cabling  | -   | -             | -             | -                     | -             | -             |
| 8                  | R-APDRP Part B / IPDS  | -   | -             | -             | -                     | -             | -             |
| 9                  | EHV new Transmission / Sub-Station / Capacitor banks schemes | -   | -             | -             | -                     | -             | -             |
|                    | <b>Total (Existing/Spillover Schemes)</b>                    | -   | <b>6.00</b>   | <b>39.01</b>  | -                     | -             | <b>45.01</b>  |
| <b>New Schemes</b> |  |   |               |               |                       |               |               |
| 1                  | Projects with Administrative approval                        | -   | 57.56         | 17.18         | -                     | -             | 74.75         |
| 2                  | Projects Approved by Expenditure Finance Committee (EFC)     | -   | 16.93         | 79.91         | -                     | -             | 96.84         |
| 3                  | Projects tendered (To start next year)                       | -   | -             | 82.00         | -                     | -             | 82.00         |
| 4                  | New EHV Works  | -   | -             | -             | -                     | -             | -             |
| 5                  | Revamped Distribution Sector Scheme (RDSS)                   | -   | 169.75        | -             | -                     | 255.25        | 425.00        |
| 6                  | Deposit Works  | -   | -             | -             | -                     | -             | -             |
|                    | <b>Total (New Schemes)</b>                                   | -   | <b>244.24</b> | <b>179.09</b> | -                     | <b>255.25</b> | <b>678.58</b> |
|                    | <b>Grand Total (Spillover &amp; New Schemes)</b>             | -   | <b>250.24</b> | <b>218.10</b> | -                     | <b>255.25</b> | <b>723.59</b> |

Table 66: Financing Plan approved by the Commission for FY 2024-25 (Rs. Cr.)

| Sl. No.                           | Scheme Name  | Approved Funding in Capitalisation Schedule |             |         |                       |             |             |
|-----------------------------------|--|---|-------------|---------|-----------------------|-------------|-------------|
|                                   |  | FY 24-25                                    |             |         |                       |             |             |
|                                   |  | Debt  | Equity      | ED Fund | Consumer Contribution | Govt. Grant | Total       |
| <b>Existing/Spillover Schemes</b> |  |   |             |         |                       |             |             |
| 1                                 | Scheduled Tribe Development Scheme (P)                       | -   | -           | -       | -                     | -           | -           |
| 2                                 | Infrastructure development through Electricity Duty (Plan)   | -   | -           | -       | -                     | -           | -           |
| 3                                 | Erection and Augmentation of 33/11 KV S/S line (Plan)        | -   | -           | -       | -                     | -           | -           |
| 4                                 | Normal Development Schemes (Plan)                            | -   | 6.00        | -       | -                     | -           | 6.00        |
| 5                                 | Construction of staff quarters and office buildings (Plan)   | -   | -           | -       | -                     | -           | -           |
| 6                                 | Erection of 220/110/33/11 KV Sub-Station at Verna (New)      | -   | -           | -       | -                     | -           | -           |
| 7                                 | Underground Cabling  | -   | -           | -       | -                     | -           | -           |
| 8                                 | R-APDRP Part B / IPDS  | -   | -           | -       | -                     | -           | -           |
| 9                                 | EHV new Transmission / Sub-Station / Capacitor banks schemes | -   | -           | -       | -                     | -           | -           |
|                                   | <b>Total (Existing/Spillover Schemes)</b>                    | -   | <b>6.00</b> | -       | -                     | -           | <b>6.00</b> |
| <b>New Schemes</b>                |  |   |             |         |                       |             |             |
| 1                                 | Projects with Administrative approval                        | -   | 12.55       | 6.70    | -                     | -           | 19.25       |

| Sl. No. | Scheme Name  | Approved Funding in Capitalisation Schedule |               |              |                       |               |               |
|---------|--|---|---------------|--------------|-----------------------|---------------|---------------|
|         |  | FY 24-25                                    |               |              |                       |               |               |
|         |  | Debt  | Equity        | ED Fund      | Consumer Contribution | Govt. Grant   | Total         |
| 2       | Projects Approved by Expenditure Finance Committee (EFC) | -   | -             | -            | -                     | -             | -             |
| 3       | Projects tendered (To start next year)                   | -   | -             | 6.00         | -                     | -             | <b>6.00</b>   |
| 4       | New EHV Works  | -   | -             | -            | -                     | -             | -             |
| 5       | Revamped Distribution Sector Scheme (RDSS)               | -   | 149.75        | -            | -                     | 225.25        | <b>375.00</b> |
| 6       | Deposit Works  | -   | -             | -            | -                     | -             | -             |
|         | <b>Total (New Schemes)</b>                               | -   | <b>162.30</b> | <b>12.70</b> | -                     | <b>225.25</b> | <b>400.25</b> |
|         | <b>Grand Total (Spillover &amp; New Schemes)</b>         | -   | <b>168.30</b> | <b>12.70</b> | -                     | <b>225.25</b> | <b>406.25</b> |

### 3.6 Reliability Indices

#### Petitioner's submission

The Petitioner has submitted the projections of SAIFI and SAIDI for the upcoming Control Period along with actual values achieved by the Petitioner from FY 2018-19 to FY 2020-21. The details of the reliability indices submitted by the Petitioner are given in the Table below:

Table 67: Reliability Indices submitted by the Petitioner

| Particulars                | FY 2018-19 Actual | FY 2019-20 Actual | FY 2020-21 Actual | FY 2022-23 Projected | FY 2023-24 Projected | FY 2024-25 Projected |
|----------------------------|-------------------|-------------------|-------------------|----------------------|----------------------|----------------------|
| SAIFI (Monthly Avg. Count) | 8.58              | 14.92             | 10.45             | 9.00                 | 7.21                 | 5.79                 |
| SAIDI (Monthly Avg. Hours) | 9.44              | 12.00             | 7.65              | 7.55                 | 6.55                 | 5.50                 |

#### Commission's Analysis

The Commission approves the SAFI and SAIDI trajectory as submitted by the Petitioner for the 3<sup>rd</sup> MYT Control Period. However, the same shall be reviewed annually in line with the JERC SOP Regulations. The trajectory approved by the Commission for the 3<sup>rd</sup> MYT Control Period is as follows:

Table 68: Trajectory of Reliability Indices approved by the Commission

| Particulars                | FY 2022-23 | FY 2023-24 | FY 2024-25 |
|----------------------------|------------|------------|------------|
| SAIFI (Monthly Avg. Count) | 9.00       | 7.21       | 5.79       |
| SAIDI (Monthly Avg. Hours) | 7.55       | 6.55       | 5.50       |

### 3.7 Manpower Plan

#### Petitioner's Submission

The Petitioner has forecasted the no. of employees on the basis of the retirements and recruitments in the 3<sup>rd</sup> Control Period:

*Table 69: Manpower plan submitted by the Petitioner*

| Sl. No. | Particulars  | Actuals      |              |              | Base Year Projections | Projections  |              |              |
|---------|--|--------------|--------------|--------------|-----------------------|--------------|--------------|--------------|
|         |  | FY 2018-19   | FY 2019-20   | FY 2020-21   | FY 2021-22            | FY 2022-23   | FY 2023-24   | FY 2024-25   |
| 1       | Number of employees as on 1st April                      | 6,202        | 6,111        | 6,010        | 5883                  | 5,722        | 5,586        | 5,422        |
| 2       | Employees on deputation/ foreign service as on 1st April | 594          | 593          | 509          | 491                   | 486          |              |              |
| 3       | Total number of employees (1+2)                          | <b>6,796</b> | <b>6,704</b> | <b>6,519</b> | <b>6374</b>           | <b>6,208</b> | <b>5,586</b> | <b>5,422</b> |
| 4       | Number of employees retired/ retiring during the year    | 157          | 153          | 127          | 182                   | 136          | 164          | 142          |
| 5       | Recruitment  | 66           | 52           | -            | 21                    |              |              |              |
| 6       | Number of employees at the end of the year (3-4+5+6)     | <b>6,704</b> | <b>6,519</b> | <b>6,374</b> | <b>6208</b>           | <b>5,586</b> | <b>5,422</b> | <b>5,280</b> |

### Commission's analysis

The Commission approves the Manpower plan as submitted by the Petitioner for the 3<sup>rd</sup> MYT Control Period. Accordingly, the Manpower plan approved by the Commission for the 3<sup>rd</sup> MYT Control Period is as follows:

*Table 70: Manpower plan approved by the Commission*

| Sl. No. | Particulars  | 3 <sup>rd</sup> MYT Control Period |              |              |
|---------|--|------------------------------------|--------------|--------------|
|         |  | FY 2022-23                         | FY 2023-24   | FY 2024-25   |
| 1       | Number of employees as on 1st April                      | 5,722                              | 5,586        | 5,422        |
| 2       | Employees on deputation/ foreign service as on 1st April | 486                                | -            | -            |
| 3       | Total number of employees (1+2)                          | <b>6,208</b>                       | <b>5,586</b> | <b>5,422</b> |
| 4       | Number of employees retired/ retiring during the year    | 136                                | 164          | 142          |
| 5       | Recruitment  | -                                  | -            | -            |
| 6       | Number of employees at the end of the year (3-4+5+6)     | <b>5,586</b>                       | <b>5,422</b> | <b>5,280</b> |

# Annexures

## ***Annexure 1: List of Stakeholders who attended the Public hearing on 24<sup>th</sup> January 2022 in Goa***

*Table 71: List of Stakeholders*

| <b>S. No.</b> | <b>Name of Person (Mr/Ms)</b> | <b>Organization/ Address</b>              |
|---------------|-------------------------------|---|
| 1             | Martin Rodrigues              | Secretary, Raia Civic and Consumer Forum. |
| 2             | Mr. Gerard DMello             | Goa Chamber of Commerce & Industry        |
| 3             | Mr. Sanjay Y. Amonkar         | Goa Chamber of Commerce & Industry        |
| 4             | Mr. Joseph D'Souza            | Goa Chamber of Commerce & Industry        |
| 5             | Mr. M. Durairaj               | Goa Chamber of Commerce & Industry        |