



Business Plan

Approval of Business Plan for MYT Control Period
from FY 2022-23 to FY 2024-25

Petition No. 65/2021

For

Electricity Department, Daman & Diu

31st March 2022

JOINT ELECTRICITY REGULATORY COMMISSION
For the State of Goa and Union Territories,
3rd and 4th Floor, Plot No. 55-56,
Sector -18, Udyog Vihar - Phase IV
Gurugram, (122015) Haryana
Telephone: +91(124) 4684705 Telefax: +91(124) 4684706
Website: www.jercuts.gov.in
E-mail: secy.jercuts@gov.in

Table of Contents

1 Chapter 1: Introduction	10
1.1 About Joint Electricity Regulatory Commission (JERC)	10
1.2 About Daman & Diu	10
1.3 About Electricity Department of Daman & Diu (ED DD)	11
1.4 Multi Year Tariff Regulations, 2021	12
1.5 Filing and admission of Petition for Multi-Year Business Plan from FY 2022-23 to FY 2024-25	12
1.6 Interaction with the Petitioner	12
1.7 Public Hearing Process	13
2 Chapter 2: Stakeholder Consultation	14
2.1 Regulatory Process	14
2.2 Suggestions/Objections of the Stakeholders, Response of the Petitioner and the Commission's Views	14
2.2.1 Distribution Loss Targets	14
2.2.2 Power Purchase Costs	15
2.2.3 Manpower Planning	15
2.2.4 Sales Projections for Public Water Works	15
2.2.5 Security Deposit	16
2.2.6 Non-Functioning of Street Lights	16
2.2.7 Privatization of EDDD	16
2.2.8 Power Staggering	17
2.2.9 Occupancy Certificate	17
2.2.10 Notice for Hearing	18
3 Chapter 3: Approval of the various components of the Multi-Year Business Plan Petition for the Control Period from FY 2022-23 to FY 2024-25	19
3.1 Introduction	19
3.2 Forecast of Number of Consumers, Connected Load and Sales for the Control Period	19
3.2.1 Overall approach	19
3.2.2 Category-wise analysis	23
3.2.3 Projections of Number of Consumers approved by the Commission	28
3.2.4 Projections of Connected Load approved by the Commission	28
3.2.5 Projections of Sales approved by the Commission	29
3.3 Transmission & Distribution (T&D) losses	29
3.4 Power Procurement Plan	30
3.4.1 Energy Requirement	30
3.4.2 Generation and Power Purchase Quantum	31
3.4.3 Energy Balance	36

3.4.4 Renewable Purchase Obligation (RPO)	37
<hr/>	
3.5 Capital Investment Plan	39
3.5.1 Details of Capital Expenditure and Capitalisation	39
3.5.2 Summary of capitalisation approved by the Commission	46
3.5.3 Capital Expenditure Scheme for Customer Relationship Management	47
3.5.4 Funding Plan	47
<hr/>	
3.6 Manpower Plan	47
3.7 Reliability Indices	48
<hr/>	
Annexures	49
<hr/>	
Annexure 1: List of Stakeholders	49

List of Tables

Table 1: Transmission and Distribution System of EDDD	12
Table 2: Interactions with the Petitioner	12
Table 3: Public Notices published by the Petitioner	13
Table 4: Public Notices published by the Commission	13
Table 5: Category-wise No. of Consumers and Growth Rate considered by the Petitioner for Projections	19
Table 6: Category-wise Connected Load (kW) and Growth Rate Considered by Petitioner for Projections.....	20
Table 7: Category-wise Sales (MU) and Growth Rate Considered by Petitioner for Projections.....	20
Table 8: Petitioner's submission on projection of Number of Consumers for upcoming 3 rd Multi-Year Control Period	21
Table 9: Petitioner's submission on projection of Connected Load for upcoming Multi-Year Control Period ...	21
Table 10: Petitioner's submission on projection of Sales for upcoming Multi-Year Control Period.....	21
Table 11: Historical Year-on-Year growth and CAGR for Number of Consumers	22
Table 12: Historical Year-on-Year growth and CAGR for Connected Load	23
Table 13: Historical Year-on-Year growth and CAGR for Sales.....	23
Table 14: Growth rates approved by the Commission for Domestic category	24
Table 15: Growth rates approved by the Commission for Commercial category	24
Table 16: Growth rates approved by the Commission for Agriculture category	25
Table 17: Growth rates approved by the Commission for LT Industry category.....	26
Table 18: Growth rates approved by the Commission for HT/EHT Industry category	26
Table 19: Growth rates approved by the Commission for Public Lighting category	27
Table 20: Growth rates approved by the Commission for Public Water Works category	27
Table 21: Growth rates approved by the Commission for Temporary Supply.....	28
Table 22: Consumer growth projections approved by the Commission for the upcoming 3 rd Control Period..	28
Table 23: Load growth projections approved by the Commission for the upcoming 3 rd Control Period	28
Table 24: Sales growth projections approved by the Commission for the upcoming 3 rd Control Period	29
Table 25: Actual T&D losses (%)	29
Table 26: T&D loss (%) trajectory proposed by the Petitioner for the upcoming 3 rd Control Period	29
Table 27: T&D loss trajectory approved by the Commission in the upcoming 3 rd Control Period	30
Table 28: Energy requirement as estimated by the Petitioner for the upcoming 3 rd Control Period.....	30
Table 29: Energy requirement at UT periphery approved by the Commission for the upcoming 3 rd Control Period	31
Table 30: Power purchase quantum proposed by the Petitioner for the upcoming 3 rd Control Period	32
Table 31: Power purchase plan approved by the Commission for the upcoming 3 rd Control Period.....	34
Table 32: Energy Balance as estimated by the Petitioner (MU).....	36
Table 33: Energy Balance as approved by the Commission	37
Table 34: RPO plan proposed by the Petitioner for the 3 rd upcoming Control Period.....	38
Table 35: RPO Obligation approved by the Commission for the upcoming 3 rd Control Period.....	39
Table 36: Capital Expenditure plan and capitalisation schedule proposed by the Petitioner for the upcoming 3 rd Control Period.....	39
Table 37: Year-Wise Capital Expenditure and Capitalisation as proposed by the Petitioner.....	40
Table 38: Capital Expenditure achieved by the Petitioner vis-à-vis approved by the Commission	40
Table 39: Capitalisation achieved by the Petitioner vis-à-vis approved by the Commission	40
Table 40: Capital expenditure proposed by the Petitioner for 2X100 MVA, 220/66 KV GIS Sub-station at Dabhel, Daman along with associated 220 KV multi circuit Magarwada-Dabhel transmission line via Kachigam.....	41
Table 41: Capital expenditure approved by the Commission for 2X100 MVA, 220/66 KV GIS Sub-station at Dabhel, Daman along with associated 220 KV multi circuit Magarwada-Dabhel transmission line via Kachigam.....	41
Table 42: Capital expenditure proposed by the Petitioner for establishment of 66/11 KV, 2x20 MVA GIS Sub-station along with associated line at Dabhel, Daman	42

<i>Table 43: Capital expenditure approved by the Commission for establishment of 66/11 KV, 2x20 MVA GIS Sub-station along with associated line at Dabhel, Daman</i>	<i>42</i>
<i>Table 44: Capital expenditure proposed by the Petitioner for Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman.....</i>	<i>43</i>
<i>Table 45: Capital expenditure approved by the Commission for Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman.....</i>	<i>43</i>
<i>Table 46: Capital expenditure proposed by the Petitioner for Establishment of new hybrid bays at Dalwada Sub-station (2 Nos.) and Zari Sub-station (2 Nos.), Daman.....</i>	<i>44</i>
<i>Table 47: Capital expenditure approved by the Commission for Establishment of new hybrid bays at Dalwada Sub-station (2 Nos.) and Zari Sub-station (2 Nos.), Daman.....</i>	<i>44</i>
<i>Table 48: Capital expenditure proposed by the Petitioner for Interconnection of 66 KV line from Zari Sub-station to Eurocoustic and replacement of Panther conductor from Kachigam Sub-station to EPL</i>	<i>44</i>
<i>Table 49: Capital expenditure approved by the Commission for Interconnection of 66 KV line from Zari Sub-station to Eurocoustic and replacement of Panther conductor from Kachigam Sub-station to EPL</i>	<i>45</i>
<i>Table 50: Capital expenditure proposed by the Petitioner for Construction of new Control Room</i>	<i>45</i>
<i>Table 51: Capital expenditure approved by the Commission for Construction of new Control Room</i>	<i>45</i>
<i>Table 52: Summary of capital expenditure approved by the Commission for the upcoming Control Period ...</i>	<i>46</i>
<i>Table 53: Summary of capitalisation submitted and approved by the Commission for the upcoming Control Period</i>	<i>46</i>
<i>Table 54: Approved funding plan for the upcoming Control Period.....</i>	<i>47</i>
<i>Table 55: Reliability Indices submitted by the Petitioner</i>	<i>48</i>
<i>Table 56: Reliability Indices approved by the Commission</i>	<i>48</i>

List of Abbreviations

Abbreviation	Full Form
A&G	Administrative and General
Act	The Electricity Act, 2003
ARR	Aggregate Revenue Requirement
CAGR	Compounded Annual Growth rate
Capex	Capital Expenditure
Cr	Crore
CRM	Customer Relation Manager System
DD	Daman & Diu
DDUGJY	Deen Dayal Upadhyay Gram Jyoti Yojana
DG	Diesel Generator
Discom	Distribution Company
DPR	Detailed Project Report
EA 2003	The Electricity Act, 2003
EDDD	Electricity Department of Daman & Diu
FY	Financial Year
HT	High Tension
IPDS	Integrated Power Development Scheme
IPP	Independent Power Producer
JERC	Joint Electricity Regulatory Commission for the State of Goa and Union Territories
kW	kilo Watt
kWh	kilo Watt Hour
LT	Low Tension
MAIFI	Momentary Average Interruption Frequency Index
MNRE	Ministry of New & Renewable Energy
MoP	Ministry of Power
MU	Million Units
MW	Mega Watt
MYT	Multi Year Tariff
NTPC	National Thermal Power Corporation Limited
O&M	Operation and Maintenance
PBPH	Phoenix Bay Power House
PWD	Public Works Department
REC	Renewable Energy Certificate
RoE	Return on Equity
RPO	Renewable Purchase Obligation
SAIDI	System Average Interruption Duration Index
SAIFI	System Average Interruption Frequency Index
SERC	State Electricity Regulatory Commission
ST&D	Sub Transmission & Distribution

Abbreviation	Full Form
T&D	Transmission & Distribution
TVS	Technical Validation Session
UT	Union Territory
YoY	Year on Year

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

QUORUM

Smt. Jyoti Prasad, Member (Law)

Petition No. 65/2021

In the matter of

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

And in the matter of

Electricity Department, Daman & Diu (EDDD) Petitioner

ORDER

Dated: 31st March 2022

1. This Order is passed in respect of the Petition filed by the Electricity Department, Daman & Diu (herein referred to as “The Petitioner” or “EDDD” or “The Licensee”) for approval of its Business Plan for the 3rd MYT Control Period commencing from 1st April 2022 to 31st March 2025 before Joint Electricity Regulatory Commission (herein 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 22nd 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 scrutinized the said Petition and generally found it in order. The Commission admitted the Petition on 30th 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. Due to the COVID-19 pandemic that has adversely impacted the movement of people as per the guidelines of GoI which had suggested avoiding of travel and gathering of people as far as possible. In view of the same, suggestions/ comments/ views and objections, were invited from the Stakeholders and Electricity

Consumers. Public Hearing through video-conferencing was also held on 2nd February 2022, and all the Stakeholders/ Electricity Consumers present in the Public Hearing were heard.

6. Based on the information/documents submitted by the Petitioner and keeping in view the provisions of the Electricity Act, 2003 and the relevant Regulations framed thereunder, the Commission approves the Business Plan for the Control Period from FY 2022-23 to FY 2024-25, which covers the capital investment plan, sales forecast, power procurement plan, performance targets, fixation of T&D loss trajectory etc.
7. This Business Plan order has been released after detailed scrutiny of submissions made by the Petitioner Further, the attached documents giving detailed reasons, grounds and conditions are the integral part of this Order.

Sd/-
(Jyoti Prasad)
Member (Law)

Place: Gurugram
Date: 31st March 2022

Certified Copy



Rakesh Kumar
(Secretary)

1 Chapter 1: Introduction

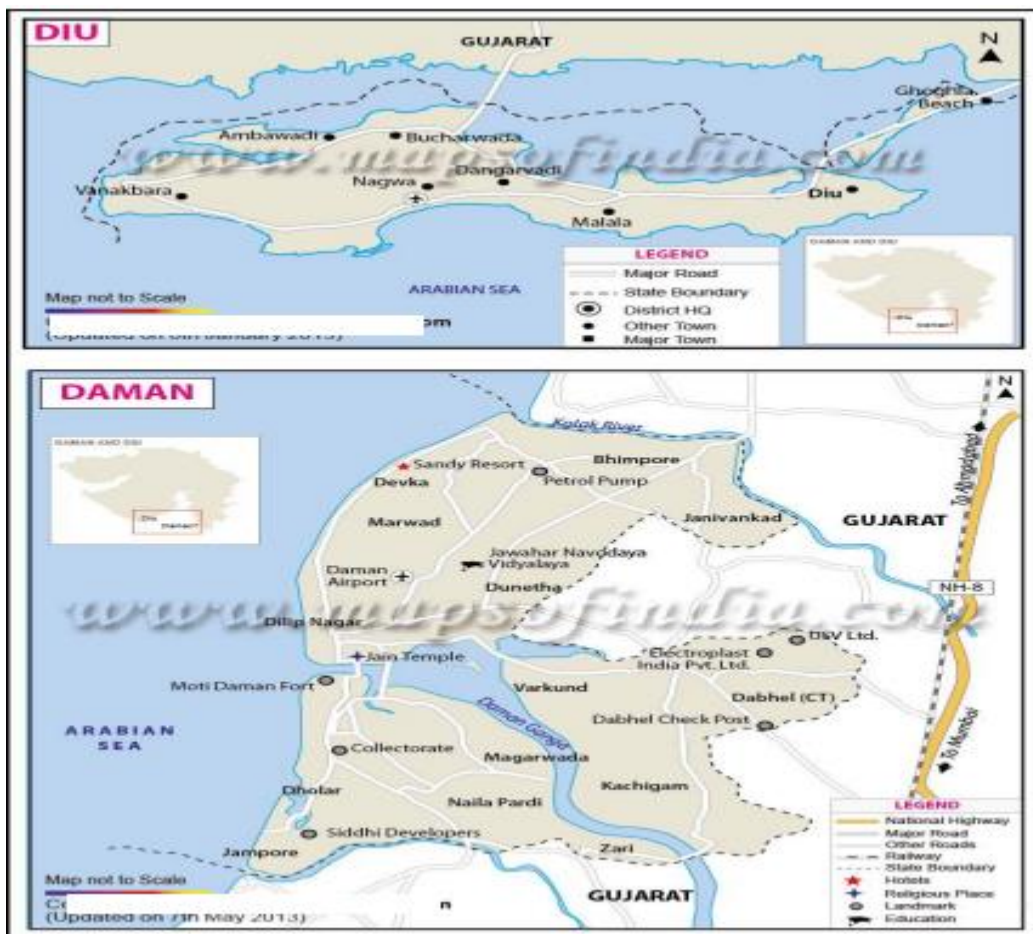
1.1 About Joint Electricity Regulatory Commission (JERC)

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

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

1.2 About Daman & Diu

Daman and Diu (hereinafter referred to as “DD”) covers a total area of 112 sq. km, with the Daman District comprising of an area of 72 sq. km and Diu District of 40 sq. km. In FY 2019-20, the power demand of the DD was predominantly from HT and LT industries, contributing to 91.48% of sales.



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

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

The key duties being discharged by Daman & Diu Electricity Department are:

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

EDDD does not have its own power generation station except some solar generation and completely rely on its allocation in the Central Sector Generating Stations (CSGS) in Western and Eastern Region to meet its energy demand. The present power allocation of Daman & Diu is approximately 398 MW from various central generating stations including 38 MW from Ratnagiri Gas and Power Private Limited (RGPPL). Additionally, EDDD has 70 MW allocations from NSPCL Bhilai Power Station.

The total installed solar capacity in the UT of Daman and Diu is 14.363 MW out of which 10 MW is ground mounted and the remaining 4.363 MW is solar rooftop plants. Further, as per the renewable energy Policy, 2017 all the HT/EHT consumers were directed to install solar rooftop plants at 5% of the contract demand. Hence, as of now a total of 25.90 MW of solar rooftop plants have been installed by HT/EHT consumers.

Existing Network

The present distribution system of EDDD consists of 32.60 circuit km of 220 kV Double Circuit (D/C) lines, 88.70 kms of 66kV lines, 447.62 circuit kms of 11kV lines (O/H as well as U/G) and 791.71 circuit kms of LT OH & U/G lines along with 926 transformers. Presently, there are 124 no. 11 kV feeders and 6 no. 66 kV feeders in the network of Daman & Diu.

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

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

Table 1: Transmission and Distribution System of EDDD

Sr. No.	Details	Daman (ckms)	Diu (ckms)	Total (ckms)
1	220 KV D/C Line	32.60	-	32.60
2	66 KV D/C Line	66.70	22.00	88.70
3	11 KV Line O/H	180.32	4.00	184.32
4	11 KV Line U/G	177.92	85.38	263.30
5	L T Line	430.50	77.00	507.50
6	LT Line U/G	174.20	110.00	284.20
7	Transformer Center (Nos.)	795	131	926

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 on 22 March 2021. The said Regulations have been hereinafter referred to as the “JERC MYT Regulations”. As per Clause 2.1.18 of these Regulations, the “Control Period” is defined as the multi-year period comprising of three financial years from FY 2022-23 to FY 2024-25.

These Regulations are applicable to all the generation companies and 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 Petition for Multi-Year Business Plan from FY 2022-23 to FY 2024-25

As per Clause 8.1 of the JERC MYT Regulations, the Petitioner is required to file Business Plan Petition for the three year Control Period from FY 2022-23 to FY 2024-25 with details for each year of the Control Period for approval of the Commission.

The EDDD submitted the current Petition for approval of ‘Business Plan for MYT Control Period FY 2022-23 to FY 2023-24’ on 21 December, 2021.

After initial scrutiny/analysis, the Petition on Business Plan for the Control Period from FY 2022-23 to FY 2024-25 was admitted on 30 December, 2021 and was marked as Petition no. 65/2021.

1.6 Interaction with the Petitioner

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

A preliminary scrutiny/analysis of the Petition was conducted and certain deficiencies were observed. Accordingly, deficiency notes were issued to the Petitioner. Further, additional information/clarifications were solicited from the Petitioner as and when required. The Petitioner submitted its response on the issues through various letters/emails. The following table provides the list of interactions with the Petitioner along with the dates:

Table 2: Interactions with the Petitioner

Sr. No.	Subject	Date
1	Receipt of Petition by the Commission	December 21, 2021
2	Admission of the Petition by the Commission	December 30, 2021
3	1 st Deficiency Note issued by the Commission	January 25, 2022

Sr. No.	Subject	Date
4	2 nd Deficiency Note issued by the Commission	February 04, 2022
5	Reply to the 1 st Deficiency Note received by the Commission	February 16, 2022
6	Technical Validation Session (TVS) with Petitioner at JERC Office	February 18, 2022
7	3 rd Deficiency Note issued by the Commission on queries raised during TVS	February 19, 2022
8	Reply to the 3 rd Deficiency Note received by the Commission	February 26, 2022
9	4 th Deficiency Note issued by the Commission	March 7, 2022
10	Reply to the 4 th Deficiency Note received by the Commission	March 11, 2022

1.7 Public Hearing Process

The Commission directed the Petitioner to publish the summary of the Business Plan proposal in the abridged form to ensure due public participation. The Public Notices were published by the Petitioner for inviting objections/ suggestions from the stakeholders on the Business Plan Petition as detailed below:

Table 3: Public Notices published by the Petitioner

Sr. No.	Date	Name of Newspaper	Place of circulation
1	18.01.2022/19.01.2022	Hindustan Times (English)	Daman & Diu
2	18.01.2022/19.01.2022	Asli Azadi (Hindi)	Daman & Diu
3	18.01.2022/19.01.2022	Vartman Prabha (Gujarati)	Daman & Diu
4	18.01.2022/19.01.2022	Savera India Times (Hindi)	Daman & Diu

The Petitioner also uploaded the Petition on its website (<http://dded.gov.in>) for inviting objections and suggestions on the Petition. Interested parties/stakeholders were requested to file their objections / suggestions on the Petition to the Commission. The Commission has also uploaded the copy of the Petition on its website to facilitate the stakeholders.

The Commission also published Public Notices in the leading newspapers as tabled below, giving due intimation to the stakeholders, consumers and the public at large about the Public Hearing to be conducted by the Commission via video conferencing on February 2, 2022 from 11:00 hours onwards. The details of the public notices published by the Commission is as below:

Table 4: Public Notices published by the Commission

Sr. No.	Date	Name of Newspaper	Place of Circulation
1	07.01.2022/31.01.2022	Asli Azadi (Hindi)	Daman & Diu
2	07.01.2022/31.01.2022	The Times of India (English)	Daman & Diu
3	07.01.2022/31.01.2022	Savera India Times (Hindi)	Daman & Diu

During the Public Hearing, the issues and concerns raised by the stakeholders in writing and/or voiced by them have been examined by the Commission. The major issues discussed, the responses of the Petitioner thereon and the views of the Commission, have been summarized in Chapter 2.

2 Chapter 2: Stakeholder Consultation

2.1 Regulatory Process

The Public Hearing was held on 02 February 2022 via video conferencing in respect of the Multi-Year Business Plan Petition for the Control Period from FY 2022-23 to FY 2024-25. During the Public Hearing, stakeholders presented their views in person before the Commission. All the participants from the public, who had not submitted written comments earlier, were also given an equal opportunity to present their views/suggestions in respect of the Petition.

EDDD has also filed the Multi Year Tariff Petition (“MYT Petition”) for the Control Period from FY 2022-23 to FY 2024-25. The combined public hearing was held on the both the Petitions i.e., Business Plan Petition and MYT Petition. The issues raised by the stakeholders related to Business Plan Petition are discussed in this Order and the issues related to Truing up of FY 2020-21, APR of 2021-22 and Multi Year Tariff for FY 2022-23 to FY 2024-25 are dealt in the MYT Order.

2.2 Suggestions/Objections of the Stakeholders, Response of the Petitioner and the Commission’s Views

The Commission is appreciative of the efforts of various stakeholders in providing their suggestions/comments/observations to make the Electricity Sector responsive and efficient. The Commission has noted the concerns of all stakeholders and has tried to address them to the extent possible in the subsequent sections and/or through directives. The comments of the Stakeholders’, response of the Petitioner and the views of the Commission are summarized issue-wise below:

2.2.1 Distribution Loss Targets

Stakeholder Comments

The Distribution Loss targets for the Control Period of FY 2022-23 to FY 2024-25 proposed by the Petitioner are on higher side as compared to actual Distribution Loss achieved during FY 2020-21. The Petitioner should submit the reasons for the same.

Petitioner’s Response

It is submitted that the Distribution Loss Trajectory for the MYT Control period has been proposed based on the past performance of the Department. The Hon’ble Commission had approved a distribution loss of 6.50% for the FY 2021-22. Hence, the distribution loss trajectory for the MYT Control Period has been proposed by considering the distribution loss target for the FY 2021-22.

Commission’s View

The Commission has taken note of Stakeholder’s observations regarding the higher projection of Distribution Losses. In this regard, the Commission has duly scrutinized the loss trajectory proposed by EDDD for 3rd Control Period and based on the actual achievement trend during previous Control Period, the Commission has approved the distribution losses target for the 3rd Control Period.

2.2.2 Power Purchase Costs

Stakeholder Comments

The Petitioner has to submit the reasons for projecting much higher power purchase cost.

Petitioner's Response

It is submitted that the power purchase cost for the MYT Control Period has been determined considering the power purchase quantum required by the Department to distribute electricity in Daman and Diu and the cost for purchasing the electricity is determined by considering the cost at which the Department purchased electricity during the first six months of FY 2021-22. Hence, the Hon'ble Commission is requested to approve the power purchase cost as submitted by EDDD in the Petition for the MYT Control Period.

Commission's View

The Commission notes Stakeholder's observation regarding projection of higher power purchase cost for 3rd Control Period. In this regard, the Commission has duly scrutinized the Power Purchase details including details of the assumptions taken into account by EDDD for projecting the power purchase cost for 3rd Control Period. Based on the details submitted by the Petitioner and past trends of actual power purchase costs, the Commission has approved the Power Purchase Cost for 3rd Control Period.

2.2.3 Manpower Planning

Stakeholder Comments

The Petitioner in its petition has submitted that they are operating with low manpower, however, the Petitioner has not submitted the proper manpower planning.

Petitioner's Response

It is submitted that the Department shall recruit manpower as per the requirement in the future years.

Commission's View

The Commission has noted the concern of the Stakeholder. The Commission observes that the petitioner has not projected any manpower addition in its Petition. **The Commission directs the Petitioner to submit the details of Manpower Planning for 3rd Control Period in its Tariff Petition for FY 2023-24.**

2.2.4 Sales Projections for Public Water Works

Stakeholder Comments

The Petitioner has to submit the reason for projecting lower consumption and consumers in Public Water Works while projecting higher consumption and consumers in other consumer categories.

Petitioner's Response

The EDDD would like to submit that the consumption in Public Water Works has been shown as per the requirement under the said category.

Commission's View

The Commission has noted the Stakeholder's observation and Petitioner's response on the said subject. The Commission observes that the projections for Public Water Works vis-à-vis other categories have been made by the Petitioner based on the historical trends of actual data of No. of Consumers and Sales available for Public Water Works and other categories. The Commission after carrying out the detailed analysis of past trends in actual sales, number of consumers and connected load has approved the same as elaborated in Section 3 of the Order.

2.2.5 Security Deposit

Stakeholder Comments

The petitioner has to submit the reasons for the increasing Consumer Security Deposit amount. The stakeholder claimed that the Domestic Consumers in the UT cannot afford higher Consumer Security Deposit charges (Rs. 8,000/- to Rs. 10,000/-). Hence, the petitioner has to submit the reason for the increasing Consumer Security Deposit amount for the Domestic users.

Petitioner's Response

It is submitted that the Department takes security deposit from the consumers as per the JERC (Electricity Supply Code) Regulations.

Commission's View

The Commission has taken note of the Stakeholder's observation and Petitioner's response. The Security Deposit from the consumers is collected as per the (Electricity Supply Code) Regulations, 2018 and with increase in number of consumers and connected load, the overall security deposit increases every year.

2.2.6 Non-Functioning of Street Lights

Stakeholder Comments

It has been observed that in majority of the area in Daman & Diu, the Street Lights are not working. The petitioner has to submit the reason for the same.

Petitioner's Response

It is submitted that providing street lights on major district roads come under the scope of the PWD and providing street lights on other roads come under the scope of local bodies. Recently, due to road widening the street lights have been removed at a number of places. Providing the street lights again will also be done by the PWD and respective local bodies.

Commission's View

The Commission takes a serious note of the Stakeholder's concerns regarding non-functioning of street lights as providing proper lighting forms a major part of safety and security of the residents of UT. The Petitioner should follow up with PWD and local bodies to expedite the road widening work and re-installation of the street lights.

2.2.7 Privatization of EDDD

Stakeholder Comments

The stakeholder submitted that EDDD is planning to sell its Rs. 5000 Crore assets and infrastructure to private player at price or around Rs. 500 Crore. The stakeholder opposed the privatization of electricity business.

Petitioner's Response

The Government of India has announced an initiative, as a part of Atmanirbhar Bharat Abhiyan to privatize Power Department/utilities in Union Territories on 16th May, 2020. Accordingly, the PFC has engaged a transaction advisor on behalf of Ministry of Power for the privatization of the distribution business of EDDD and DNHPDCL. Accordingly, the Tender Notice for sale of 51% of shares has been issued by the UT Administration.

Commission's View

The decision to restructure and privatize the power department/utility/Board is the sole prerogative of the State Government, which neither requires nor is contingent upon any prior consultation or approval from JERC under Section 86(2) of the Electricity Act, so long as the applicable provisions under the Electricity Act are duly complied with.

The limited role of JERC w.r.t the decision of the appropriate government to corporatize and privatize the Electricity Department of Daman & Diu as envisaged under section 86(2) of the Electricity Act is advisory in nature.

2.2.8 Power Staggering**Stakeholder Comments**

The stakeholder sought the justification for the weekly power staggering for industrial consumer when there is no shortage of power.

Petitioner's Response

It is submitted that due to coal shortage adequate power was not supplied to the Electricity Department by the generating stations during a few months of FY 2021-22. Hence, the Department had to resort to power staggering owing to the shortage of power. However, in recent months no power staggering has been undertaken by the Department as adequate power supply is being maintained by the generating stations.

Commission's View

The Commission has noted the concern of the Stakeholder regarding power staggering. The Commission directs the Petitioner to maintain adequate power availability at UT periphery to maintain the uninterrupted power supply to the consumers in the UT and ensure that the power cuts and staggering is as minimal as possible.

2.2.9 Occupancy Certificate**Stakeholder Comments**

The stakeholder raised the issue that EDDD is insisting for Occupancy Certificate before providing new connection and the same should not be insisted.

Petitioner's Response

It is submitted that as per the Supply Code Regulations laid down by the Hon'ble Commission, various documents are required for providing new connection to the consumers. Hence, the Department follows the guidelines laid by the Hon'ble Commission in issuing new connection.

Commission's View

The Commission has noted the views of the Stakeholder and response of the Petitioner. The Commission observes that the Petitioner has been issuing the connections based on guidelines laid by JERC for issuance of new connection in its Electricity Supply Code Regulations, 2018.

2.2.10 Notice for Hearing**Stakeholder Comments**

The stakeholder submitted that the proper notice for hearing was not given by EDDD.

Petitioner's Response

It is submitted that the Department took all measures to provide publicity regarding the Public Hearing. Advertisement was issued in newspapers (Hindi, English and Gujarati) having wide circulation in the Union Territory. A copy of the advertisement has also been submitted to the Hon'ble Commission. Further, notification was also given to all the Gram Panchayats, Daman and Diu Municipal Council, Hon'ble Member of Parliament and other local bodies through mail for wider publicity of the Public Hearing.

Commission's View

The Commission observes that EDDD by publishing advertisements in various newspapers had informed regarding the Public Hearing wherein objections / suggestions from the stakeholders on the Business Plan Petition were invited, in line with the relevant Regulations. The details of the publication of public notices are given in Chapter 1 of this Order. The Commission also observes that all the Gram Panchayats, Daman and Diu Municipal Council, Hon'ble Member of Parliament and other local bodies were also informed regarding the Public Hearing through mail for wider publicity of the Public Hearing. The Commission once again advises the Petitioner to adopt more proactive approach for creating the public awareness through timely publication of public notices or any other mode deemed appropriate by it in its area including pamphlets, banners, billboards etc. to be distributed/ displayed at various important public places like Panchayat, Government offices, Marketplaces etc., under intimation to the Commission.

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

3.1 Introduction

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

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 chosen FY 2021-22 as the Base Year based on the audited accounts of FY 2018-19, FY 2019-20 and FY 2020-21. For estimating the sales for FY 2021-22, the Petitioner has considered the actual data for six months from April to September 2021. The Petitioner has used past years CAGR to forecast the number of consumers, connected load and sales for FY 2021-22 and the upcoming Control Period. Due to abnormal trends in some categories, the Petitioner has resorted to using normalized CAGR rates or assuming a subjective rate for projections.

Summary of the past data and the CAGR considered by the Petitioner for each consumer category for projecting number of consumers, connected load and sales is as given in the tables below:

Table 5: Category-wise No. of Consumers and Growth Rate considered by the Petitioner for Projections

Number of Consumers	Actuals								CAGR Considered
	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	
Domestic	43962	45298	46420	47403	48287	48455	49924	50957	1.81%
Commercial	7972	8037	8209	7875	7815	7373	7413	7880	2.00%
Agriculture	1191	1195	1243	1283	1344	1299	1257	1286	0.68%
LT Industry	1799	1755	1817	1755	1706	1705	1783	1822	2.00%
HT/EHT Industry	798	786	784	800	807	789	763	720	2.00%
Public Lighting	339	524	529	571	633	635	637	631	2.53%
Public Water Works	71	109	125	127	125	110	104	104	2.00%

Number of Consumers	Actuals								CAGR Considered
Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	
Temp. Supply	-	-	11	366	414	510	629	-	-
Total	56132	57704	59138	60180	61131	60876	62510	63400	-

Table 6: Category-wise Connected Load (kW) and Growth Rate Considered by Petitioner for Projections

Connected Load	Actuals								CAGR Considered
Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	
Domestic	55991	117161	119557	121827	131652	123187	104658	108229	2.00%
Commercial	17654	19322	19761	20781	23722	22187	25034	27444	4.98%
Agriculture	2512	3617	3672	3812	4003	3824	3743	3866	1.04%
LT Industry	97780	100284	107471	104148	108683	112502	117295	121331	2.46%
HT/EHT Industry	488495	486708	505321	536544	551163	543648	537595	519668	0.56%
Public Lighting	1649	1657	1690	880	1405	1447	1488	1536	2.00%
Public Water Works	664	795	795	795	794	748	733	728	2.00%
Temp. Supply	-	-	28	673	1986	1650	1495	-	0.00%
Total	664745	729544	758295	789460	823408	809193	792041	782802	-

Table 7: Category-wise Sales (MU) and Growth Rate Considered by Petitioner for Projections

Sales (MU)	Actuals								CAGR Considered
Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	
Domestic	84.16	83.06	88.20	97.89	121.32	134.47	147.83	139.73	9.84%
Commercial	46.75	41.57	49.93	55.37	57.74	53.27	51.35	41.77	1.58%
Agriculture	3.05	2.30	2.46	2.81	4.83	4.95	4.35	3.40	8.00%
LT Industry	169.59	153.70	160.54	179.85	195.61	197.86	204.68	184.53	3.18%
HT/EHT Industry	1441.53	1327.84	1379.41	1407.81	1708.63	2031.44	2078.33	1749.48	4.75%
Public Lighting	7.06	8.80	7.43	7.89	9.48	8.26	6.32	5.53	2.00%
Public Water Works	1.20	3.28	2.68	3.22	3.49	3.68	2.81	2.46	1.18%
Temp. Supply	0.67	1.09	1.23	2.17	-	-	-	-	-
Total	1754.08	1621.72	1691.98	1757.11	2101.22	2433.91	2495.67	2126.89	-

The Petitioner's projections of number of consumers, connected load and sales for FY 2021-22 and the upcoming 3rd Multi-Year Control Period are as given in the Tables below:

Table 8: Petitioner's submission on projection of Number of Consumers for upcoming 3rd Multi-Year Control Period

Number of Consumers	Actual	CAGR Considered	Base Year (Estimated)	Projections		
Consumer Category	FY 2020-21		FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Domestic	50957	1.81%	51879	52819	53775	54748
Commercial	7880	2.00%	8038	8198	8362	8530
Agriculture	1286	0.68%	1295	1304	1313	1321
LT Industry	1822	2.00%	1858	1896	1934	1972
HT/EHT Industry	720	2.00%	734	749	764	779
Public Lighting	631	2.53%	647	663	680	697
Public Water Works	104	2.00%	106	108	110	113
Temp. Supply	-	-	-	-	-	-
Total	63400	-	64558	65737	66938	68161

Table 9: Petitioner's submission on projection of Connected Load for upcoming Multi-Year Control Period

Connected Load (kW)	Actual	CAGR Considered	Base Year (Estimated)	Projections		
Consumer Category	FY 2020-21		FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Domestic	108229	2.00%	110394	112602	114854	117151
Commercial	27444	4.98%	28810	30244	31750	33331
Agriculture	3866	1.04%	3906	3947	3988	4029
LT Industry	121331	2.46%	124310	127363	130490	133694
HT/EHT Industry	519668	0.56%	522586	525520	528471	531438
Public Lighting	1536	2.00%	1567	1598	1630	1663
Public Water Works	728	2.00%	742	757	772	788
Temp. Supply	-	-	-	-	-	-
Total	782802	-	792316	802031	811955	822094

Table 10: Petitioner's submission on projection of Sales for upcoming Multi-Year Control Period

Sales (MU)	Actual	CAGR Considered	Base Year (Estimated)	Projections		
Consumer Category	FY 2020-21		FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Domestic	139.73	9.84%	155.02	170.28	187.05	205.46
Commercial	41.77	1.58%	50.16	50.96	51.76	52.58
Agriculture	3.40	8.00%	3.54	3.83	4.13	4.47
LT Industry	184.53	3.18%	210.30	217.00	223.91	231.04
HT/EHT Industry	1749.48	4.75%	2034.44	2131.00	2232.13	2338.07
Public Lighting	5.53	2.00%	5.20	5.30	5.41	5.52
Public Water Works	2.46	1.18%	2.60	2.63	2.66	2.70
Temp. Supply	0.00	-	0.00	0.00	0.00	0.00
Total	2126.89	-	2461.28	2581.00	2707.05	2839.82

Commission’s Analysis

The overall approach of the Commission for projecting the number of consumers, connected load and sales for FY 2021-22 and the upcoming 3rd Control Period is described below:

- The Base Year considered by the Petitioner is FY 2021-22 and the same is in line with the JERC MYT Regulations. The Commission has also considered FY 2021-22 as the Base Year for carrying out projections, though the values projected have been adjusted to reflect the growth rates approved by the Commission hereunder for respective categories.
- The Growth rates considered by the Petitioner for projecting number of consumers, connected load and sales are primarily based on historical CAGRs. The Commission has determined Growth rates separately for each consumer category based on past trends and other relevant parameters given below:
 - Year on Year growth
 - CAGR (multiple periods)
 - Specific (per-consumer) consumption
- It is observed that the actual sales during FY 2020-21 have substantially reduced as compared to previous years due to lock down on account of COVID-19. Hence, the Commission has computed the historical CAGRs till FY 2019-20 for the category-wise sales.
- For estimating the category-wise sales for FY 2021-22, the Commission obtained the actual sales data for first nine months of April 2021 to December 2021 and has considered the same. For all the consumer categories, the Commission has estimated the proportion of actual energy sales till the month of December over total energy sales during the financial year FY 2019-20. Using this average proportion of sales, the Commission has extrapolated the actual energy sales till the month of December 2021 for the full year to determine the revised estimated energy sales for FY 2021-22.

The historical Year on Year growth and CAGR for number of consumers is as shown in the following Table:

Table 11: Historical Year-on-Year growth and CAGR for Number of Consumers

Consumer Category	Y-o-Y Growth for Number of Consumers								CAGR					
	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	6-year	5-year	4-year	3-year	2-year	
Domestic	3.42%	3.04%	2.48%	2.12%	1.86%	0.35%	3.03%	2.07%	1.98%	1.88%	1.82%	1.81%	2.55%	
Commercial	-	0.82%	2.14%	4.07%	0.76%	-	5.66%	0.54%	6.30%	-0.33%	-0.81%	0.02%	0.28%	3.38%
Agriculture	1.53%	0.34%	4.02%	3.22%	4.75%	-	3.35%	3.23%	2.31%	1.23%	0.68%	0.06%	-1.46%	-0.50%
LT Industry	-	-	3.53%	-	-	-	4.57%	2.19%	0.63%	0.05%	0.94%	2.22%	3.37%	
HT/EHT Industry	0.37%	1.50%	0.25%	2.04%	0.88%	2.23%	3.30%	5.64%	-1.45%	-1.69%	-2.60%	-3.73%	-4.47%	
Public Lighting	-	54.57%	0.95%	7.94%	10.86%	0.32%	0.31%	-	3.15%	3.59%	2.53%	-0.11%	-0.32%	
Public Water Works	-	-	14.68%	1.60%	-	12.00%	-	0.00%	-0.78%	-3.61%	-4.87%	-5.95%	-2.77%	
Temp. Supply	-	-	-	3227.27%	13.11%	23.19%	23.33%	-100%	-	-100%	-100%	-100%	-100%	

The historical Year on Year growth and CAGR for Connected Load is as shown in the following Table:

Table 12: Historical Year-on-Year growth and CAGR for Connected Load

Consumer Category	Y-o-Y Growth for Connected Load						CAGR				
	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	6-year	5-year	4-year	3-year	2-year
Domestic	1.65%	109.25%	2.05%	1.90%	8.06%	-6.43%	-1.31%	-1.97%	-2.92%	-6.32%	-6.27%
Commercial	-2.89%	9.45%	2.27%	5.16%	14.15%	-6.47%	6.02%	6.79%	7.20%	4.98%	11.22%
Agriculture	11.55%	43.99%	1.52%	3.81%	5.01%	-4.47%	1.12%	1.04%	0.35%	-1.15%	0.55%
LT Industry	0.99%	2.56%	7.17%	-3.09%	4.35%	3.51%	3.23%	2.46%	3.89%	3.74%	3.85%
HT/EHT Industry	1.13%	-0.37%	3.82%	6.18%	2.72%	-1.36%	1.10%	0.56%	-0.80%	-1.94%	-2.23%
Public Lighting	-14.07%	0.49%	1.99%	-47.93%	59.66%	2.99%	-1.26%	-1.89%	14.94%	3.02%	3.03%
Public Water Works	1.53%	19.73%	0.00%	0.00%	-0.13%	-5.79%	-1.46%	-1.75%	-2.18%	-2.85%	-1.35%
Temp. Supply	0.00%	0.00%	0.00%	2303.57%	195.10%	-16.92%	-	-100%	-100%	-100%	-100%

The historical Year on Year growth and CAGR for Sales is as shown in the following Table:

Table 13: Historical Year-on-Year growth and CAGR for Sales

Consumer Category	Y-o-Y Growth for Sales								CAGR				
	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	6-year	5-year	4-year	3-year	2-year
Domestic	8.24%	-1.31%	6.19%	10.99%	23.91%	10.75%	9.94%	-5.48%	9.84%	12.22%	13.78%	14.73%	10.39%
Commercial	20.68%	-11.08%	20.11%	10.90%	4.28%	-7.74%	3.60%	18.66%	1.58%	4.32%	0.70%	-2.48%	-5.70%
Agriculture	-27.73%	24.59%	6.96%	14.23%	71.89%	2.48%	12.12%	21.84%	6.10%	13.59%	15.32%	15.68%	-5.10%
LT Industry	5.20%	-9.37%	4.45%	12.03%	8.76%	1.15%	3.45%	9.84%	3.18%	5.90%	6.26%	4.41%	2.29%
HT/EHT Industry	-8.35%	14.34%	8.93%	3.84%	6.45%	2.35%	2.31%	15.82%	6.29%	4.75%	3.73%	3.69%	2.33%
Public Lighting	8.45%	24.65%	15.57%	6.19%	20.15%	12.87%	23.49%	12.50%	-1.83%	-6.41%	-3.96%	-7.13%	-18.35%
Public Water Works	-	-	18.29%	20.15%	8.39%	5.44%	23.64%	12.46%	-	-3.05%	1.19%	-4.44%	-10.27%
Temp. Supply	31.37%	62.69%	12.84%	76.42%	-100%	-	-	-	-100%	-100%	-100%	-100%	-

3.2.2 Category-wise analysis

The historical data given above, along with other parameters, as applicable, have been used for category wise analysis as described below.

Domestic

Petitioner’s submission

The Petitioner has considered the CAGR of last 6 years for sales growth (9.84%) and that of last 3 years for consumer growth (1.81%) for future projections. However, for load growth the Petitioner has considered a normalized CAGR of 2.0%.

Commission’s analysis

The Commission observes that the Petitioner has considered CAGR of last 6 years for consumer growth. The Commission has examined the historical trends such as YoY growth rate and CAGR for different periods and accordingly approves the 5-year CAGR of 1.88% for growth in number of consumers.

To project overall sales growth, the Commission has examined the trends of sales per consumer, and observes that the sales per consumer has peaked in FY 2019-20 to ~ 2961 units per consumer per annum, when the same was averaging around ~2168 throughout the previous 6 years (FY 2013-14 to FY 2018-19). The Commission observes that the Petitioner has proposed a CAGR of 1.81% in number of consumers, which translates to addition of ~939 connections in FY 2022-23, ~956 connections in FY 2023-24 and ~973 connections in FY 2024-25. Considering the abnormal growth in number of consumers during FY 2020-21 and FY 2021-22 due to prevailing Covid-19 situation, the Commission expects that once the Covid-19 situation normalizes, there would be a steady rise in consumption levels per consumer over the three years of the Control Period. Therefore, the Commission approves the growth rate of 12.22% equivalent to 6 years CAGR for sales projections for the Control Period. In the absence of a discernible trend with respect to load growth, the Commission approves the Petitioner’s assumption of a normalized CAGR of 2% for projection of connected load.

The growth rates approved by the Commission are as below:

Table 14: Growth rates approved by the Commission for Domestic category

Consumer Category	Growth in no. of consumers		Load growth		Sales growth	
	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved
Domestic	1.81%	1.88%	2.00%	2.00%	9.84%	12.22%

Commercial

Petitioner’s submission

The Petitioner has considered 6-year CAGR of 1.58% for sales growth and a normative 2% consumer growth. For load growth, the Petitioner has considered the 3-year CAGR of 4.98%.

Commission’s analysis

The Commission observes that the Petitioner has assumed a normalized CAGR of 2% for projecting number of consumers, without providing much reasoning. The Commission has analysed the past YoY growth trends and CAGRs and observes that there has been small period of positive CAGR with marginal YoY growth for couple of years. Therefore, in order to maintain a progressive outlook, the Commission approves Petitioner’s assumption of a normalized CAGR of 2% for projection of consumer growth.

The Commission is of the opinion that CAGR considered by the Petitioner for projecting connected load are consistent with the trends observed in the past. However, to maintain a progressive outlook the Commission has approved the growth rates for connected load at 5-year CAGR at 6.79% instead of 3-year CAGR at 4.98% as submitted by the Petitioner.

Based on the analysis of trends and submissions made the Petitioner the Commission believes that the 5-year CAGR of 4.32% for sales would be a more appropriate projection.

Table 15: Growth rates approved by the Commission for Commercial category

Consumer Category	Growth in no. of consumers		Load growth		Sales growth	
	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved
Commercial	2.00%	2.00%	4.98%	6.79%	1.58%	4.32%

Agriculture Customers

Petitioner's submission

For projection of the sales in the agriculture category a normalized CAGR of 8% has been considered by the Petitioner. The consumer growth has been assumed as per the 5-year CAGR of 0.68%. The Petitioner has assumed the 5-year CAGR of 1.04% for load growth of agriculture category.

Commission's analysis

The Commission observes that over the past 6 years, the number of agricultural consumers has grown at an average YoY growth rate of around 3.50% except for FY 2018-19 and FY 2019-20 wherein the growth in agricultural consumers have seen a negative growth. Based on the analysis of trends and Petitioner's submission, the Commission considers it prudent to approve 5-year CAGR of 0.68%.

On analysing the sales per consumer trends, the Commission noted that during one particular year i.e. FY 2017-18, the consumption per consumer witnessed a sharp rise of 64%. It was observed that the sharp increase was not sustained over next year and negative consumption per consumer was recorded during FY 2019-20 and FY 2020-21. Based on the analysis of trends and submissions made by the Petitioner, the Commission approves the normalized CAGR of 8.00% for sales growth during the Control Period.

For projection of connected load, the Commission observe a steep YoY growth of 44% in FY 2014-15, followed by a steady increase in growth rates; hence, the Commission considers it prudent to accept the Petitioner's assumption of a 5-year CAGR of 1.04%.

The growth rates approved by the Commission are as given in the following Table:

Table 16: Growth rates approved by the Commission for Agriculture category

Consumer Category	Growth in no. of consumers		Load growth		Sales growth	
	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved
Agriculture	0.68%	0.68%	1.04%	1.04%	8.00%	8.00%

LT Industry

Petitioner's submission

Considering the inconsistency in past trends, the Petitioner has assumed 2% CAGR for consumer growth. However, as the sales growth during FY 2015-16 to FY 2019-20 has seen a general upward trend, the Petitioner has assumed 6-Year CAGR of 3.18% for projecting the sales for 3rd Control Period. For Load growth the Petitioner has considered the 5-Year CAGR of 2.46%.

Commission's analysis

The Commission observed that the number of consumers has declined till FY 2018-19. However, from FY 2010-20, number of consumers are increasing. Accordingly, in the absence of a discernible trend with respect to consumer growth, the Commission approves the Petitioner's assumption of a normalized CAGR of 2% for projection of consumer growth.

Based on the analysis of past trends and submissions made by the Petitioner, the Commission approves a more progressive sales growth of 5-Year CAGR of 5.90% for the 3rd Control Period.

Keeping in line with load trends of past years, for projection of connected load, the Commission approves the 5-year CAGR of 2.46%, as submitted by the Petitioner.

Table 17: Growth rates approved by the Commission for LT Industry category

Consumer Category	Growth in no. of consumers		Load growth		Sales growth	
	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved
LT Industry	2.00%	2.00%	2.46%	2.46%	3.18%	5.90%

HT/EHT Industry**Petitioner's submission**

The Petitioner has assumed a 5-Year CAGR of 4.75% for sales growth. With regard to the consumer growth projections, the Petitioner has assumed the normative 2% CAGR. The Petitioner has projected a 5-Year CAGR of 0.56% for load growth.

Commission's analysis

The HT/EHT category forms the largest portion of sales for the territory. The Commission understands that any deviation in the consumption profile of this category has significant impact on power deficit / surplus situation, power purchase costs and revenues of the territory. However, the Petitioner has only relied upon positive macroeconomic outlook in general for carrying out its projections, instead of a more detailed analysis of the upcoming/ planned industrial growth. The Commission has relied on the past data trends for carrying out projections.

The Commission observes that from FY 2013-14 to FY 2015-16 the number of consumers has declined, however from FY 2016-17 to FY 2017-18 the YoY growth rate has been marginally positive and the consumer growth has declined again during FY 2018-19 to FY 2020-21. Observing the past trends and Petitioner's submissions, the Commission approves normative CAGR of 2% for number of consumer projections.

The Commission is of the opinion that CAGR considered by the Petitioner for projecting connected load and sales are consistent with the trends observed in the past and accordingly approves the 5-Year CAGR of 0.56% and 4.75% for load growth and sales projections respectively.

Therefore, the Commission has approved the growth rates submitted by the Petitioner, as given in the following Table:

Table 18: Growth rates approved by the Commission for HT/EHT Industry category

Consumer Category	Growth in no. of consumers		Load growth		Sales growth	
	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved
HT/EHT Industry	2.00%	2.00%	0.56%	0.56%	4.75%	4.75%

Public Lighting**Petitioner's submission**

The Petitioner has assumed consumer growth rate based on 4-year CAGR of 2.53%. For load growth and sales projection, due to lack of a consistent trend, the Petitioner has considered a normalized growth of 2.00%.

Commission's analysis

Based on the analysis of past trends and submissions made by the Petitioner, the Commission approves a more progressive consumer growth of 5-Year CAGR of 3.59% for the 3rd Control Period.

Further, the Commission is of the opinion that normalised CAGR of 2% considered by the Petitioner for projecting the connected load growth and sales projection due to inconsistency observed with the trends in the past is appropriate Accordingly, expecting the marginal growth in the sales and marginal increase in the connected load,

the Commission approves the normalized CAGR of 2% for connected load and sales projections for 3rd Control Period.

The growth rates approved by the Commission are as below:

Table 19: Growth rates approved by the Commission for Public Lighting category

Consumer Category	Growth in no. of consumers		Load growth		Sales growth	
	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved
Public Lighting	2.53%	3.59%	2.00%	2.00%	2.00%	2.00%

Public Water Works

Petitioner's submission

Due to inconsistent trend observed in the past years the Petitioner has considered a normalized CAGR of 2% for projecting the consumer growth and connected load growth. The Petitioner has considered the CAGR of 1.18% for sales projections.

Commission's analysis

Based on the analysis of past trends and submissions made by the Petitioner, the Commission observes that after a significant jump in FY 2014-15 and FY 2015-16, the YoY growth of number of consumers has been marginal and inconsistent. The Commission, therefore, approves the normalized CAGR of 2% for consumer growth as considered by the Petitioner for the 3rd Control Period.

Further, the Commission is of the opinion that normalised CAGR of 2% considered by the Petitioner for projecting the connected load growth due to inconsistency observed with the trends in the past is appropriate. Accordingly, expecting the marginal increase in the connected load, the Commission approves the normalized CAGR of 2% for connected load growth for 3rd Control Period.

With regard to the sales projections, based on the analysis of the past trends, the Commission observes that the 4-Year CAGR considered by the Petitioner for projecting the sales for 3rd Control Period and appropriate and accordingly approves the same.

The growth rates approved by the Commission are as below:

Table 20: Growth rates approved by the Commission for Public Water Works category

Consumer Category	Growth in no. of consumers		Load growth		Sales growth	
	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved
Public Water Works	2.00%	2.00%	2.00%	2.00%	1.18%	1.18%

Temporary Supply

Petitioner's submission

The Petitioner has submitted that, as temporary connections do not follow any particular pattern, it has not considered any particular growth rate for projections.

Commission's analysis

The Commission agrees with the Petitioner that the temporary supply does not follow any particular trend. However, the Commission opines that the projections for the category cannot be ignored. Therefore, the Commission has considered 0% as growth rate for growth in number of consumers and connected load. The Commission further observes that Petitioner recorded the sales data for this category for FY 2020-21 as NIL. Therefore, the Commission has considered the sales as NIL for 3rd Control Period.

The growth rates approved by the Commission are as below:

Table 21: Growth rates approved by the Commission for Temporary Supply

Consumer Category	Growth in no. of consumers		Load growth		Sales growth	
	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved
Temporary Supply	N/A	0.00	N/A	0.00	N/A	0.00

3.2.3 Projections of Number of Consumers approved by the Commission

The summary of the projection of number of consumers approved by the Commission for the upcoming Control Period based on approved CAGRs is given below:

Table 22: Consumer growth projections approved by the Commission for the upcoming 3rd Control Period

Number of Consumers	CAGR Approved	Estimated	Approved Projections		
		Base Year	Control Period		
Consumer Category		FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Domestic	1.88%	51916	52894	53851	54826
Commercial	2.00%	8038	8198	8362	8530
Agriculture	0.68%	1295	1304	1313	1321
LT Industry	2.00%	1858	1896	1934	1972
HT/EHT Industry	2.00%	734	749	764	779
Public Lighting	3.59%	654	677	694	712
Public Water Works	2.00%	106	108	110	113
Temp. Supply	-	-	-	-	-
Total		64601	65826	67028	68253

3.2.4 Projections of Connected Load approved by the Commission

The summary of the projections of connected load approved by the Commission for the upcoming Control Period based on approved CAGRs is given in the following Table:

Table 23: Load growth projections approved by the Commission for the upcoming 3rd Control Period

Connected Load (kW)	CAGR Approved	Estimated	Approved Projections		
		Base Year	Control Period		
Consumer Category		FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Domestic	2.00%	110394	112602	114854	117151
Commercial	6.79%	29307	31297	32855	34491
Agriculture	1.04%	3906	3947	3988	4029
LT Industry	2.46%	124310	127363	130490	133694
HT/EHT Industry	0.56%	522586	525520	528471	531438
Public Lighting	2.00%	1567	1598	1630	1663
Public Water Works	2.00%	742	757	772	788
Temp. Supply	-	-	-	-	-
Total		792813	803084	813060	823254

3.2.5 Projections of Sales approved by the Commission

The summary of the projections of sales approved by the Commission for the upcoming Control Period based on approved CAGRs is given below:

Table 24: Sales growth projections approved by the Commission for the upcoming 3rd Control Period

Sales (MU)	CAGR Approved	Estimated	Approved Projections		
		Base Year	Control Period		
Consumer Category		FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Domestic	12.22%	140.09	157.21	176.42	197.98
Commercial	4.32%	45.41	47.37	49.42	51.55
Agriculture	8.00%	3.18	3.43	3.71	4.00
LT Industry	5.90%	203.61	215.61	228.33	241.79
HT/EHT Industry	4.75%	2035.65	2132.26	2233.46	2339.45
Public Lighting	2.00%	5.11	5.21	5.32	5.43
Public Water Works	1.19%	2.53	2.56	2.59	2.62
Temp. Supply	-	-	-	-	-
Total		2435.58	2563.66	2699.23	2842.82

3.3 Transmission & Distribution (T&D) losses

Petitioner's submission

The Petitioner has submitted that with the system improvement works executed every year under the planned schemes as well as increase in energy sales quantum to the HT consumers, the T & D losses have reduced in its distribution area. The Petitioner further submitted that EDDD has achieved the T&D loss level of 4.48% during FY 2020-21 and that reduction of Distribution losses below 10% involves significant amount of capital expenditure and it is EDDD's endeavour to bring the Distribution loss level further down in the subsequent years.

The actual distribution losses achieved by the Petitioner during past 3 years are as given below:

Table 25: Actual T&D losses (%)

FY 2018-19	FY 2019-20	FY 2020-21
6.19%	4.07%	4.48%

The Petitioner has proposed 0.10% reduction in each year of the Control Period in T&D loss target of 6.50% approved for FY 2021-22 vide order dated 23rd March 2021. The T&D loss trajectory proposed by the Petitioner for FY 2018-19 and the upcoming Control Period is as given below:

Table 26: T&D loss (%) trajectory proposed by the Petitioner for the upcoming 3rd Control Period

Base Year	Projections		
FY 2021-22 (Estimated)	FY 2022-23	FY 2023-24	FY 2024-25
6.50%	6.40%	6.30%	6.20%

Commission's analysis

The Commission appreciates the efforts put in by the Petitioner in overachieving the targets specified by the Commission in FY 2020-21. In view of the actual loss levels achieved by the Petitioner during FY 2020-21 along with the commitment of EDDD to further bring down the loss levels and the capital expenditure proposed by the

Petitioner and nature of schemes planned to be carried out, the Commission is of the opinion that the Petitioner should be in a position to further bring down the losses in the Control Period from FY 2022-23 to FY 2024-25. Accordingly, the Commission approves the T&D loss trajectory for the upcoming Control Period as under:

Table 27: T&D loss trajectory approved by the Commission in the upcoming 3rd Control Period

	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
T&D loss trajectory (%)	6.40%	3.77%	6.30%	3.57%	6.20%	3.47%

3.4 Power Procurement Plan

3.4.1 Energy Requirement

Petitioner's submission

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

Table 28: Energy requirement as estimated by the Petitioner for the upcoming 3rd Control Period

Particulars (MU)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
	RE	Projected	Projected	Projected
Sales	2,461.28	2,581.00	2,707.05	2,839.82
Open Access Sales	0.00	0.00	0.00	0.00
Less: Energy Savings	0.00	0.00	0.00	0.00
Total Sales	2,461.28	2,581.00	2,707.05	2,839.82
Add: Losses	171.10	176.48	182.01	187.71
T&D Losses (%)	6.50%	6.40%	6.30%	6.20%
Energy Required at Periphery	2632.38	2757.48	2889.07	3027.53
Add: Sales to common pool consumer	0.70	0.78	0.19	0.73
Less: Own Generation	11.25	16.00	16.00	16.00
Total energy requirement at UT periphery	2621.83	2742.26	2873.26	3012.26
Less: Energy Purchased through UI at Periphery	46.39	0.00	0.00	0.00
Less: Energy Purchase from IEX	235.64	288.00	419.00	558.00
Less: Open Access Purchase	0.00	0.00	0.00	0.00
Total Energy Required at Periphery	2339.81	2454.26	2454.26	2454.26
Transmission loss	88.89	93.24	93.24	93.24
Transmission loss (%)	3.66%	3.66%	3.66%	3.66%
Total Energy to be purchased	2428.70	2547.50	2547.50	2547.50
Total Energy requirement from tied up sources, UI and renewable sources at Generator end	2721.97	2851.50	2982.50	3121.50

Commission's analysis

Based on the sales projections approved by the Commission in Table 25 and the T&D losses approved by the Commission in Table 28, the energy requirement at UT periphery and the total energy input estimated by the Commission for the upcoming Control Period is given below:

Table 29: Energy requirement at UT periphery approved by the Commission for the upcoming 3rd Control Period

Particulars (MU)	Revised Estimate	Approved		
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Sales	2435.58	2563.66	2699.23	2842.82
T&D Losses (%)	6.50%	3.77%	3.57%	3.47%
Total energy requirement at Periphery	2604.89	2664.10	2799.16	2945.01
Add: Sales to common pool consumer	0.00	0.78	0.19	0.73
Less: Own Generation (Solar)	11.25	16.00	16.00	16.00
Total energy requirement at UT periphery	2593.64	2648.88	2783.36	2929.75
Less: Energy Purchased through DSM	71.19	0.00	0.00	0.00
Less: Energy Purchased through IEX	143.27	3.99	138.47	284.85
Total energy requirement at UT periphery from Tied up Sources	2379.18	2644.89	2644.89	2644.89
Inter-state Loss (%)	3.66%	3.66%	3.66%	3.66%
Total energy requirement from Tied-Up sources	2469.57	2745.37	2745.37	2745.37
Total Energy requirement from tied up sources, UI and renewable sources at Generator end	2695.28	2765.36	2899.84	3046.23

The main reason for substantial variation in Energy Requirement as approved by the Commission with respect to the Petitioner's projection is due to variation in sales projection approved by the Commission and the T&D loss Trajectory approved by the Commission for the Control Period. As discussed earlier, the Commission has projected the category-wise sales for the next Control Period after re-assessing the sales for FY 2021-22.

3.4.2 Generation and Power Purchase Quantum

Petitioner's submission

The Petitioner has made the following assumptions for projecting the quantum of power purchase for the upcoming Control Period:

- **Allocation from CGS:** The firm allocation and allocation from the unallocated quota from the various generating stations has been considered based on the revised allocation issued by the Western Region Power Committee (WRPC) vide No. WRPC/Comml-I/6/Alloc/2021/1048 dated 29 October 2021. For projecting the power purchase from eastern region NTPC generating stations, an allocation of 1.30 MW from KhSTPP has been taken into account. Additionally, EDDD has considered the power availability from NSPCL Bhilai Power Stations for MYT Control Period taking into account the 70 MW allocation from the plant.
- **Purchase of power from Ratnagiri:** EDDD has submitted that it has received 8.55 MU of power from Ratnagiri Gas Power Plant during the H1 of FY 21-22. EDDD expects to receive same quantum of power from Ratnagiri for H2 of FY 2021-22 and therefore has considered the power purchase of 17.10 MUs from the plant for FY 2021-22 and for upcoming Control Period.
- **Plant Load Factor (PLF):** The Petitioner submits that it has considered the average of plant load factor for gas based generating stations i.e. Kawas (KGPP) and Gandhar (GGPP) as approved by the Hon'ble Commission vide order dated 31st October, 2018 for the Business Plan for the MYT Control Period.
- **Auxiliary consumption:** The Petitioner has considered an auxiliary consumption of 7.75% and 2.50% for coal and gas based generating stations, respectively
- **Inter-State transmission losses:** The Petitioner has considered 3.66% Inter-State transmission losses

Further, to meet the Solar RPO and Non-Solar RPO for the Control Period, the Petitioner has submitted that it will be procuring 98.40 MU of solar power and 30 MU of non-solar power during the Control Period.

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

Table 30: Power purchase quantum proposed by the Petitioner for the upcoming 3rd Control Period

Particulars	Revised Estimate	Projected		
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
NTPC Stations				
KSTPP	364.33	355.52	355.52	355.52
KSTPP-III	44.16	42.82	42.82	42.82
VSTPP-I	91.38	88.35	88.35	88.35
VSTPP-II	61.37	62.22	62.22	62.22
VSTPP- III	74.18	75.64	75.64	75.64
VSTPP- IV	91.34	84.56	84.56	84.56
VSTPS-V	59.33	55.16	55.16	55.16
KAWAS	43.23	82.19	82.19	82.19
JGPP	55.81	96.46	96.46	96.46
Sipat-I	178.64	179.59	179.59	179.59
Sipat-II	74.87	70.97	70.97	70.97
MSTPS-I	61.32	42.79	42.79	42.79
MOUDA-II	63.25	58.06	58.06	58.06
KHSTPP-II	11.01	8.09	8.09	8.09
SOLAPUR	97.04	128.34	128.34	128.34
LARA	145.46	143.39	143.39	143.39
GADARWARA	162.69	196.34	196.34	196.34
KHTPP	114.63	160.22	160.22	160.22
Subtotal - NTPC	1794.04	1930.68	1930.68	1930.68
NSPCL - Bhilai	480.62	469.51	469.51	469.51
NPCIL				
KAPS	50.60	51.41	51.41	51.41
TAPS 3& 4	86.34	78.79	78.79	78.79
Subtotal - NPCIL	136.94	130.20	130.20	130.20
Others				
Ratnagiri	17.10	17.10	17.10	17.10
Subtotal - Others	17.10	17.10	17.10	17.10
Power purchase from Other Sources				
Indian E. Exchange/Bilateral	235.64	288.00	419.00	558.00
UI	46.39	0.00	0.00	0.00
Solar	11.25	16.00	16.00	16.00
Non-Solar (Hydro)	0.00	0.00	0.00	0.00
Solar REC	0.00	0.00	0.00	0.00
Non-Solar REC	0.00	0.00	0.00	0.00
Solar (SECI, NTPC)	0.00	0.00	0.00	0.00
Subtotal – Other Sources	293.27	304.00	435.00	574.00
Total Power Purchase	2721.97	2851.50	2982.50	3121.50

Commission's analysis

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

- **Allocation from CGS:** The firm allocation and allocation from the unallocated quota from the various generating stations has been considered based on the revised allocation issued by the Western Region Power Committee (WRPC) vide No. WRPC/Comml-I/6/Alloc/2021/1048 dated 29 October 2021. The same share of allocation has been assumed for all the years of the upcoming Control Period. As submitted by EDDD an allocation of 1.30 MW from KhSTPP and 70MW from NSPCL Bhilai Power Stations has been considered for MYT Control Period.
- **Purchase of power from Ratnagiri:** As per the submissions of EDDD the power purchase of 17.10 MUs from the plant has been considered for upcoming Control Period.
- **Plant Load Factor (PLF):** For NTPC, NSPCL and NPCIL, the Commission has considered the PLF based on actual PAF and PLF achieved during the previous three years. For the newer plants such as Solapur, Lara, Gadarwara and Khargone normative PLF for the Control Period has been considered at 85%.
- **Auxiliary consumption:** The Commission has considered an auxiliary consumption of 5.75% and 2.80% for coal and gas based generating stations, respectively as per CERC Tariff Regulations, 2019.
- **Inter-State transmission losses:** The Commission has considered Inter-State transmission losses as 3.66% for all years of the upcoming Control Period, as per the Petitioner's submission.
- **Power Purchase from IEX/Bilateral Sources:** In order to meet the total energy requirement, the Commission has considered the balance energy requirement after availability from firm sources to be procured from IEX/Bilateral sources.

The quantum of power procurement projected by the Commission for the upcoming Control Period is given in Table 31 at the next page.

Table 31: Power purchase plan approved by the Commission for the upcoming 3rd Control Period

Sr. No.	Source	Capacity (MW)	Weighted Average allocation to Licensee		Avg. PLF	Gross Generation (MU)	Auxiliary Consumption (%)	Net Generation (MU)	Power Purchase (MU)		
			%	MW					Approved		
									FY 2022-23	FY 2023-24	FY 2024-25
1	2	3	4		5	6	7	8	10	11	12
A	Central Sector Power Stations										
I	NTPC	20,814		257.80		1,46,456.49		1,37,563.12	2111.88	2111.88	2111.88
	KSTPP	2100	2.35%	49.43	90.00%	16556.40	6.68%	15,450.43	363.69	363.69	363.69
	KSTPP-III	500	1.19%	5.95	90.00%	3942.00	5.75%	3,715.34	44.24	44.24	44.24
	VSTPP-I	1260	1.05%	13.17	88.69%	9789.25	9.00%	8,908.22	93.12	93.12	93.12
	VSTPP-II	1000	0.93%	9.28	88.69%	7769.24	5.75%	7,322.51	67.93	67.93	67.93
	VSTPP- III	1000	1.13%	11.28	88.69%	7769.24	5.75%	7,322.51	82.57	82.57	82.57
	VSTPP- IV	1000	1.26%	12.61	88.69%	7769.24	5.75%	7,322.51	92.31	92.31	92.31
	KAWAS	656	4.73%	31.04	40.00%	2299.32	5.75%	2,167.11	102.52	102.52	102.52
	GGPP	657	4.77%	31.37	42.00%	2418.67	5.75%	2,279.60	108.79	108.79	108.79
	Sipat-I	1980	1.28%	25.25	90.00%	15610.32	5.75%	14,712.73	187.65	187.65	187.65
	Sipat-II	1000	1.00%	9.98	90.00%	7884.00	5.75%	7,430.67	74.16	74.16	74.16
	MSTPS-I	1000	1.26%	12.61	48.00%	4204.80	5.75%	3,963.02	49.96	49.96	49.96
	VSTPS-V	500	1.64%	8.22	86.00%	3766.80	5.75%	3,550.21	58.39	58.39	58.39
	MOUDA-II	1320	1.30%	17.11	55.00%	6359.76	5.75%	5,994.07	77.67	77.67	77.67
	SOLAPUR	1320	1.97%	26.04	85.00%	9828.72	5.75%	9,263.57	182.71	182.71	182.71
	LARA	1600	1.32%	21.16	85.00%	11913.60	5.75%	11,228.57	148.51	148.51	148.51
	GADARWARA	1600	1.81%	28.98	85.00%	11913.60	5.75%	11,228.57	203.35	203.35	203.35
	KHTPP	1320	1.79%	23.65	85.00%	9828.72	5.75%	9,263.57	165.94	165.94	165.94
	KHSTPP-II	1000	0.13%	1.30	78.00%	6832.80	5.75%	6,439.91	8.37	8.37	8.37
II	NPCIL	1,520		21.29		10,343.81		9,344.86	129.02	129.02	129.02

Joint Electricity Regulatory Commission (JERC)

Sr. No.	Source	Capacity (MW)	Weighted Average allocation to Licensee		Avg. PLF	Gross Generation (MU)	Auxiliary Consumption (%)	Net Generation (MU)	Power Purchase (MU)		
			%	MW					Approved		
									FY 2022-23	FY 2023-24	FY 2024-25
1	2	3	4		5	6	7	8	10	11	12
	KAPS	440	2.06%	9.06	72%	2775.17	9.50%	2511.53	51.70	51.70	51.70
	TAPP 3&4	1080	1.16%	12.49	80%	7568.64	9.50%	6849.62	79.23	79.23	79.23
III	Others	1,082		108.00		8,144.17		3,344.52	502.57	502.57	502.57
	NSPCL Bhillai	500	14.00%	70.00	87%	3810.60	9.00%	3467.65	485.47	485.47	485.47
	Ratnagiri	582	6.53%	38.00	85%	4333.57	2.80%	4214.40	17.10	17.10	17.10
IV	Renewable Sources								16.00	16.00	16.00
	Solar								16.00	16.00	16.000
	Non-Solar								-	-	-
V	Power Purchase from External Sources								3.99	138.47	284.85
	IEX								3.99	138.47	284.85
VI	POWERGRID Losses										
	Transmission Loss (%)								3.66%	3.66%	3.66%
	Transmission Loss (MU)								100.00	100.00	100.00
VII	Total power available at periphery from firm sources								2765.36	2899.84	3046.23

The Commission notes that the Petitioner is resorting to short-term procurement of power through Exchange for 10% of its total power requirement for FY 2022-23. The proportion of short term further increases to 18% by the end of the Control Period. The Commission strongly feels that this arrangement is not sustainable and results in exposure of consumers to risk of fluctuating tariffs. Further, the Commission observes that the Petitioner despite carrying huge backlog towards the RPO fulfilment in the previous years, has not considered enough power procurement from renewable sources including Solar and Non-Solar while projecting the power purchase for the Control Period. This is expected to create huge backlog towards the fulfilment of RPO obligation.

The proportion of short-term power as projected by the Commission for each year of the Control Period is substantially lower than that projected by the Petitioner due to following reasons:

- Sales projected by the Commission is slightly lower than the Petitioner’s sales projections
- T&D loss targets approved by the Commission are lower than the loss targets proposed by the Petitioner
- Power availability from firm sources as worked out by the Commission is higher than that projected by the Petitioner.

The Commission directs the Petitioner to explore long-term/ medium term power purchase arrangements and thereby minimizing its dependence on more risk-free sources of power and reduce its dependence on purchase of power from short-term sources such as UI/ Traders / Power Exchange. Further, the Commission directs the Petitioner to increase the share of power purchase from renewable sources in the energy mix planned during the Control Period so that the share of clean energy increases in the energy mix and the backlog of RPO targets is cleared by the end of the Control Period.

3.4.3 Energy Balance

Petitioner’s submission

The Energy Balance for upcoming Control Period as estimated by the Petitioner is as given below:

Table 32: Energy Balance as estimated by the Petitioner (MU)

Particulars	Projected		
	FY 2022-23	FY 2023-24	FY 2024-25
Retail Sales (a)	2,581.00	2,707.05	2,839.82
Open Access Sales (b)	0.00	0.00	0.00
Less: Energy Savings (c)	0.00	0.00	0.00
Total Sales (d=a+b-c)	2,581.00	2,707.05	2,839.82
Distribution Loss (MU) (e=g-d)	176.48	182.01	187.71
Distribution Loss (%) (f=e/g)	6.40%	6.30%	6.20%
Energy Required at Periphery (g)	2757.48	2889.07	3027.53
Sale to common pool consumer/UI Sale(h)	0.78	0.19	0.73
Own generation (i)	16.00	16.00	16.00
Total energy requirement at UT periphery(j=g+h-i)	2742.26	2873.26	3012.26
Less: Energy Purchased through UI at Periphery (k)	0.00	0.00	0.00
Less: Energy Purchase from IEX (l)	288.00	419.00	558.00
Less: Open Access Purchase at Periphery (m)	0.00	0.00	0.00
Energy requirement at UT periphery from tied up sources (n=j-k-l-m)	2454.26	2454.26	2454.26
Interstate loss (MU) (o=p-n)	93.24	93.24	93.24

Particulars	Projected		
	FY 2022-23	FY 2023-24	FY 2024-25
Interstate loss (%)	3.66%	3.66%	3.66%
Energy requirement at UT periphery from generator end (p)	2547.50	2547.50	2547.50
Total Energy requirement from tied up sources, UI and IEX at generator end (q=p+k+l)	2851.50	2982.50	3121.50
Total Energy requirement in UT including Open Access (r=p+m)	2851.50	2982.50	3121.50

Commission's analysis

The energy balance for upcoming Control Period as approved by the Commission is as given below:

Table 33: Energy Balance as approved by the Commission

Particulars	Approved by the Commission		
	FY 2022-23	FY 2023-24	FY 2024-25
Retail Sales (a)	2563.66	2699.23	2842.82
Open Access Sales (b)	0.00	0.00	0.00
Less: Energy Savings (c)	0.00	0.00	0.00
Total Sales (d=a+b-c)	2563.66	2699.23	2842.82
Distribution Loss (MU) (e=g-d)	100.44	99.93	102.19
Distribution Loss (%) (f=e/g)	3.77%	3.57%	3.47%
Energy Required at Periphery (g)	2664.10	2799.16	2945.01
Sale to common pool consumer/UI Sale(h)	0.78	0.19	0.73
Own generation (i)	16.00	16.00	16.00
Total energy requirement at UT periphery(j=g+h-i)	2648.88	2783.36	2929.75
Less: Energy Purchased through UI at Periphery (k)	0.00	0.00	0.00
Less: Energy Purchase from IEX (l)	3.99	138.47	284.85
Less: Open Access Purchase at Periphery (m)	0.00	0.00	0.00
Energy requirement at UT periphery from tied up sources (n=j-k-l-m)	2644.89	2644.89	2644.89
Interstate loss (MU) (o=p-n)	100.48	100.48	100.48
Interstate loss (%)	3.66%	3.66%	3.66%
Energy requirement at UT periphery from generator end (p)	2745.37	2745.37	2745.37
Total Energy requirement from tied up sources, UI and IEX at generator end (q=p+k+l)	2765.36	2899.84	3046.23
Total Energy requirement in UT including Open Access (r=p+m)	2765.36	2899.84	3046.23

3.4.4 Renewable Purchase Obligation (RPO)

Petitioner's submission

The Petitioner submitted that the total installed solar capacity in the UT of Daman and Diu is 14.363 MW out of which 10 MW is ground mounted and the remaining 4.363 MW is solar rooftop plants. Additionally, 27 MW of rooftop solar plant has been added to the existing capacity during the 2020-21. Further, the EDDD will also procure 50 MUs of solar power from the open market. Hence, EDDD will procure 93.65 MUs from solar plants during the FY 2021-22 and 98.40 MUs during the MYT Control Period. The remaining solar RPO obligation will be fulfilled by procuring renewable energy certificates. For meeting the non-solar RPOs the EDDD will procure

30 MUs non-solar energy from the open market and the remaining RPO obligation shall be met by purchasing renewable energy certificates during the FY 2021-22 and the MYT Control Period.

The summary of projected Solar and Non-Solar RPO for the Control Period as submitted by the Petitioner is as given below:

Table 34: RPO plan proposed by the Petitioner for the 3rd upcoming Control Period

Description	FY 2022-23	FY 2023-24	FY 2024-25
Sales within State (MU)	2,581.00	2,707.05	2,839.82
RPO obligation (%)	17.00%	17.00%	17.00%
Solar	8.00%	8.00%	8.00%
Non-Solar	9.00%	9.00%	9.00%
RPO obligation for the year (MU)	438.77	460.20	482.77
Solar	206.48	216.56	227.19
Non-Solar	232.29	243.63	255.58
RPO Compliance (Procurement and own generation)	128.40	128.40	128.40
Solar	98.40	98.40	98.40
Non-Solar	30.00	30.00	30.00
RPO Compliance (REC purchase)	310.37	331.80	354.37
Solar	108.08	118.16	128.79
Non-Solar	202.29	213.63	225.58

Commission's Analysis

The Commission has made note of the submission of the Petitioner and expects the Petitioner to comply with RPO targets. Actual compliance in respect of the pending RPO obligations would be reviewed at the time of true-up of the respective years and supporting details such as purchase of RECs, and bills from solar/non-solar plants for the respective years must be submitted along with the MYT filing.

The Commission observed that for meeting the RPO compliance, the Petitioner has proposed to procure 98.40 MU Solar power and 30 MU Non-Solar power during each year of the Control Period, but the same has not been submitted separately by the Petitioner while estimating power purchase quantum from various sources as summarised in Table No. 31. The Commission discussed this issue with the Petitioner during the Technical Validation Session and the Petitioner informed that it has considered the same as part of power purchase from IEX and hence it has not been shown separately in source wise Power purchase.

In view of the sales projections approved by the Commission in Section 3.2.5, the Commission has approved the RPO for each year of the Control Period based on the JERC (Procurement of Renewable Energy) Regulations, Fourth Amendment Regulation, 2022 notified on 28 March 2022. Considering the submissions made by the Petitioner, the Commission has considered the projected Solar Power procurement of 16 MU during each year of the Control Period. With regard to remaining RPO Target during each year of the Control Period, the Commission has considered RPO to be fulfilled by Power Purchase from IEX to the extent of energy requirement from short term sources and directs the Petitioner to purchase such power from GTAM market which may be considered as Renewable Power Purchase. Further, the Commission approves balance RPO to be met through REC Certificate Purchase. The details of RPO approved by the Commission for the Control Period is as under:

Table 35: RPO Obligation approved by the Commission for the upcoming 3rd Control Period

Description	FY 2022-23	FY 2023-24	FY 2024-25
Sales within State (MU)	2563.66	2699.23	2842.82
RPO obligation (%)	18.35%	19.91%	21.58%
Solar	9.00%	10.00%	11.00%
Non-Solar	9.35%	9.91%	10.58%
RPO obligation for the year (MU) (a)	470.43	537.42	613.48
Solar	230.73	269.92	312.71
Non-Solar	239.70	267.49	300.77
RPO Compliance (Procurement and own generation) (MU) (b)	16.00	16.00	16.00
Solar	16.00	16.00	16.00
Non-Solar	0.00	0.00	0.00
Renewable Energy Purchase from Exchange (c)	3.99	138.47	284.45
RPO Compliance (REC purchase) (d = a - b - c)	450.45	382.95	312.63

3.5 Capital Investment Plan

3.5.1 Details of Capital Expenditure and Capitalisation

Summary of scheme-wise capital expenditure and capitalisation

New Schemes

Petitioner's submission

The Petitioner has proposed various Transmission and Distribution schemes for the upcoming Control Period. The summary of capital expenditure projections and capitalisation schedule for the upcoming Control Period is given below:

Table 36: Capital Expenditure plan and capitalisation schedule proposed by the Petitioner for the upcoming 3rd Control Period

Sr. No.	Name of Scheme	Total Estimated Amount (Rs. Cr.)	Proposed Expenditure (Rs. Cr.)			Total Capex Proposed during the Control Period	Capitalization Schedule
			FY 2022-23	FY 2023-24	FY 2024-25		
1	Establishment of 2x100 MVA, 220/66 KV GIS Sub-station at Dabhel, Daman along with associated 220 KV multi circuit Magarwada - Dabhel transmission line via Kachigam	49.60	-	-	20.00	20.00	FY 2025-26
2	Establishment of 66/11 KV, 2x20 MVA GIS Sub-station along with associated line at Dabhel, Daman	31.52	10.00	10.00	11.52	31.52	FY 2024-25
3	Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman	32.58	16.00	16.58	-	32.58	FY 2023-24
4	Establishment of new hybrid bays at Dalwada Sub-station (2 Nos.) and Zari Sub-station (2 Nos.), Daman	3.19	3.19	-	-	3.19	FY 2022-23
5	Inter connection of 66 KV line from Zari Sub-station to Eurocoustic and replacement of Panther conductor from Kachigam Sub-station to EPL	6.36	6.36	-	-	6.36	FY 2022-23
6	Scheme for shifting and commissioning of newly procured/existing equipment in newly constructed control room building near existing 66 KV Sub-station at Dalwada and Dabel Sub-station.	14.00	7.00	7.00	-	14.00	FY 2022-23
Total		137.25	42.55	33.58	31.52	107.65	

The overview of the capital expenditure and capitalisation plan proposed by the Petitioner for the upcoming Control Period is as given in the Table below:

Table 37: Year-Wise Capital Expenditure and Capitalisation as proposed by the Petitioner

Particulars (Rs. Cr.)	FY 2022-23	FY 2023-24	FY 2024-25	Total
Capital Expenditure	42.55	33.58	31.52	107.65
Capitalisation	23.55	32.58	31.52	87.65

Commission's analysis

The Commission has analysed actual achievement of capital expenditure and capitalisation of the Petitioner vis-à-vis that approved by the Commission in the previous Business Plan of MYT Control Period from FY 2019-20 to FY 2021-22 as given below:

Table 38: Capital Expenditure achieved by the Petitioner vis-à-vis approved by the Commission

Particulars	FY 2019-20		FY 2020-21		FY 2021-22		Total		
	Approved	Actual	Approved	Actual	Approved	Estimated	Approved	Actual/Estimated	% Achievement
Capital Expenditure (Rs. Cr.)	108.00	27.50	143.02	24.88	88.23	20.00	339.25	72.38	21.34%

Table 39: Capitalisation achieved by the Petitioner vis-à-vis approved by the Commission

Particulars	FY 2019-20		FY 2020-21		FY 2021-22		Total		
	Approved	Actual	Approved	Actual	Approved	Estimated	Approved	Actual/Estimated	% Achievement
Capitalisation (Rs. Cr.)	9.55	20.24	64.10	14.26	49.60	5.00	123.25	39.50	32.04%

The Commission observes that the Petitioner has achieved only 21.34% of approved capital expenditure and 32.04% of approved capitalisation for MYT Control Period from FY 2019-20 to FY 2021-22.

The Petitioner informed the Commission that Schemes approved during previous Control Period could not be implemented as various technical and administrative approvals could not be attained and requested the Commission to allow the Petitioner to implement those schemes during the upcoming Control Period.

Overall approach of the Commission

For the upcoming Control Period, the Commission has compared capital expenditure and capitalisation proposed by the Petitioner with DPRs submitted by the Petitioner along with the Business Plan petition and replies to Deficiency Notes. If the Petitioner has failed to submit the DPRs / Technical Clearance letters from CEA for any of the proposed scheme for the upcoming Control Period or the submitted proofs/details are missing the required information, the Commission has not approved any of the capital expenditure and capitalisation proposed for the said schemes. However, the Commission may make some exceptions, subject to Petitioner furnishing documents within 3 months of this Order. Based on the Petitioner's submissions and the overall approach discussed herein, the scheme wise analysis of proposed capital expenditure plan by the Commission is as given in subsequent sections.

1. Establishment of 2X100 MVA, 220/66 KV GIS Sub-station at Dabhel, Daman along with associated 220 KV multi circuit Magarwada-Dabhel transmission line via Kachigam

Petitioner's Submission

The Petitioner has submitted that at present Dabhel Sub-station is connected with 220/66 kV Magarwada Sub-

station through double circuit 66 KV line via 66 kV Kachigam line and present load on this circuit is 212 MW, which cannot be catered from existing system. Therefore, the Petitioner has proposed to establish 220/66 kV, 2X100 MVA Sub-station at Dabhel and the same Sub-station will be connected to Magarwada 400/220 kV Sub-station (POWERGRID). By implementing this scheme Daman district will be connected to CTU system and reliability of Power supply will be increased and line losses can be reduced.

This scheme will provide third 220 KV power source to the UT of Daman and will improve the voltage regulation of the electrical system and reduce the line losses by ensuring extra High voltage transmission of lines. It will improve power supply and will ensure stand by feeding arrangement in case major breakdown on 220 kV Magarwada Sub-station or 220 kV Ringanwada Sub-station, Dabhel Sub-station will be connected to CTU network.

The capital expenditure and capitalisation schedule proposed by the Petitioner for this scheme is as given below:

Table 40: Capital expenditure proposed by the Petitioner for 2X100 MVA, 220/66 KV GIS Sub-station at Dabhel, Daman along with associated 220 KV multi circuit Magarwada-Dabhel transmission line via Kachigam

Name of Scheme	Particulars	Proposed (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Establishment of 2X100 MVA, 220/66 KV GIS Sub-station at Dabhel, Daman along with associated 220 KV multi circuit Magarwada-Dabhel transmission line via Kachigam	Capital Expenditure	-	-	20.00	20.00

Commission's analysis

The Commission appreciates the efforts made by the Petitioner to improve the existing T&D network and reduce the T&D losses. The Petitioner has submitted the DPR for the Scheme. Therefore, based on the DPR submitted, and subject to obtaining the technical sanction letter, the Commission approves the capital expenditure schedule as proposed by the Petitioner.

The Commission also directs that it shall not consider any cost escalations due to controllable delays. Additionally, the Commission opines that the Petitioner should do all efforts to ensure that it informs the Commission about the status of each scheme on a quarterly basis as per Clause 8.5 (f) of the JERC MYT Regulations, 2018.

The capital expenditure and capitalisation approved for the upcoming Control Period for this scheme is given below:

The summary of capital expenditure and capitalisation approved for the upcoming Control Period is given below.

Table 41: Capital expenditure approved by the Commission for 2X100 MVA, 220/66 KV GIS Sub-station at Dabhel, Daman along with associated 220 KV multi circuit Magarwada-Dabhel transmission line via Kachigam

Name of Scheme	Particulars	Approved (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Establishment of 2X100 MVA, 220/66 KV GIS Sub-station at Dabhel, Daman along with associated 220 KV multi circuit Magarwada-Dabhel transmission line via Kachigam	Capital Expenditure	-	-	20.00	20.00

Therefore, the Commission approves a total capital expenditure of Rs. 20.00 Crore.

2. Establishment of 66/11 KV, 2X20 MVA GIS Sub-station along with associated line at Dabhel, Daman

Petitioner's Submission

The Petitioner has submitted that the 66 kV Dabel Sub-station is presently fed from 66 kV Magarwada Dabel via Kachigam line. Being a lengthy 66 kV feeder, the losses are on a higher side, hence in order to lower the losses and provide a stable and reliable power to the industries and residential consumers at Dabhel it is proposed to establish the 66/11 KV 2x20 MVA GIS S/S. Also, at present in Daman all the 07 Nos. S/S's at Kachigam, Dalwada, Dabhel, Varkund Ringanwada, Magarwada and Bhimpore are loaded up to their optimum capacity. As Daman is a small UT with limited financial and technical sanction powers, it is generally not advisable to load the Substation by more than 80% of its capacity to avoid heavy load shedding in the eventuality of outage of any power transformers. The Petitioner submits that considering the present load growth it is expected that the Maximum demand of Daman area could be around 400 MWs at the end of 12th Five Year Plan. Keeping in view of the loading of existing Substation and future load, it is essential to establish a new 66/11 KV GIS Substation Dabhel, Daman to cope up with the forth-coming loading of this area.

The capital expenditure and capitalisation schedule proposed by the Petitioner for the above scheme is as given below.

Table 42: Capital expenditure proposed by the Petitioner for establishment of 66/11 KV, 2x20 MVA GIS Sub-station along with associated line at Dabhel, Daman

Name of Scheme	Particulars	Proposed (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Scheme for establishment of 66/11 KV, 2X20 MVA GIS Sub-station along with associated line at Dabhel, Daman	Capital Expenditure	10.00	10.00	11.52	31.52

Commission's analysis

The Commission notes that the Petitioner has submitted the technical clearance letter from CEA. The Commission observes that even after obtaining the technical sanction, the Petitioner has not been able to issue a Work Order over the last 5 years leading to further delays. Since the scheme has its importance with respect to the loading of existing Substation and future load, the Commission directs the Petitioner to expedite the process and ensure completion of the scheme within the suggested revised timelines. The Commission also directs that it shall not allow any cost escalation on account of controllable factors.

The capital expenditure and capitalisation approved for the said scheme for the upcoming Control Period is given below:

Table 43: Capital expenditure approved by the Commission for establishment of 66/11 KV, 2x20 MVA GIS Sub-station along with associated line at Dabhel, Daman

Name of Scheme	Particulars	Approved (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Scheme for establishment of 66/11 KV, 2X20 MVA GIS Sub-station along with associated line at Dabhel, Daman	Capital Expenditure	10.00	10.00	11.52	31.52

Therefore, the Commission approves total capital expenditure of Rs. 31.52 Crore.

3. Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman

Petitioner's Submission

The Petitioner has submitted that the present demand of Panchal industrial area is about 8.25 MW which is being met by existing 66/11 KV Bhimpore S/s. This maximum demand of Panchal area is expected to increase to about 27 MW by FY 2021-22. As Bhimpore Substation is about 3 km away from the industrial area and there is no space for further augmentation of Bhimpore S/s, it is proposed to establish new 2X20 MVA, 66/11 kV Sub-station at load centre at Panchal to meet the expected demand in the area. The scheme provides for erection of 66 KV line and 66/11 KV GIS Sub-station along with all associated equipment at Bhimpore area in order to share the enhanced loading of existing 66/11 kV Substation and to meet future load growth to improve regulation.

The capital expenditure and capitalisation schedule proposed by the Petitioner for the above scheme is as given below.

Table 44: Capital expenditure proposed by the Petitioner for Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman

Name of Scheme	Particulars	Proposed (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman	Capital Expenditure	16.00	16.58	-	32.58

Commission's Analysis

The Commission notes the importance of the scheme with respect to the loading of existing Sub-station and future load. The Petitioner has submitted the technical clearance letter from CEA. The Commission observes that even after obtaining the technical sanction, the Petitioner has not been able to issue a Work Order over the last 5 years leading to further delays. The Commission states that it shall not consider any cost escalations in cases of delays due to controllable factors, including internal approval process of the Petitioner. The Commission directs the Petitioner to expedite the process and ensure completion of the scheme within the suggested revised timelines.

The summary of capital expenditure and capitalisation approved for the upcoming Control Period is given below:

Table 45: Capital expenditure approved by the Commission for Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman

Name of Scheme	Particulars	Approved (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman	Capital Expenditure	16.00	16.58	-	32.58

Therefore, the Commission approves total capital expenditure of Rs. 32.58 Crore.

4. Establishment of new hybrid bays at Dalwada Sub-station (2 Nos.) and Zari Sub-station (2 Nos.), Daman

Petitioner's Submission

The Petitioner has submitted that the existing 66/11 KV Substations at Dalwada Sub-station (2 Nos.) and Zari Sub-station (2 Nos.), Daman are heavily loaded (almost 70 %) then its capacity and load is increasing day by day so to cope up with existing demand new transformers as well as bays has to be installed which requires extra space which is not available in the Substation therefore department is going to adopt new technology i.e. hybrid bay system, as its occupy half the space of current installed bay and provide better efficiency and less maintenance then current system. It's costing will be 20 % higher than existing bays but keeping in mind less space consumption and low maintenance cost the overall cost is justified.

The capital expenditure and capitalisation schedule proposed by the Petitioner for the above scheme is as given below.

Table 46: Capital expenditure proposed by the Petitioner for Establishment of new hybrid bays at Dalwada Sub-station (2 Nos.) and Zari Sub-station (2 Nos.), Daman

Name of Scheme	Particulars	Proposed (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Establishment of new hybrid bays at Dalwada Sub-station (2 Nos.) and Zari Sub-station (2 Nos.), Daman	Capital Expenditure	3.19	-	-	3.19

Commission's Analysis

The Commission has examined the DPR and has approved the capital expenditure as proposed by the Petitioner for the Control Period. The summary of capital expenditure and capitalisation approved for the upcoming Control Period is given below:

Table 47: Capital expenditure approved by the Commission for Establishment of new hybrid bays at Dalwada Sub-station (2 Nos.) and Zari Sub-station (2 Nos.), Daman

Name of Scheme	Particulars	Approved (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Establishment of new hybrid bays at Dalwada Sub-station (2 Nos.) and Zari Sub-station (2 Nos.), Daman	Capital Expenditure	3.19	-	-	3.19

Therefore, the Commission approves a total capital expenditure of Rs. 3.19.

5. Interconnection of 66 KV line from Zari Sub-station to Eurocoustic and replacement of Panther conductor from Kachigam Sub-station to EPL

Petitioner's Submission

The Petitioner has submitted that presently the entire load of Eurocaustic is fed from 66/11 KV Kachigam S/s. also, the load of Dabel Sub-station is fed through 66 KV Magarwada-Kachigam line resulting in overloading of the line. Considering the future industrial growth and to make supply reliable thereby relaxing the loading of 66 KV Magarwada – Kachigam line it is proposed to erect 66 KV D/c line from Zari Sub-station to Eurocoustic and replacement of Panther conductor from Kachigam Sub-station to Eurocaustic. The Petitioner submitted that scheme has been submitted to the CEA for technical sanction.

The capital expenditure and capitalisation schedule proposed by the Petitioner for the above scheme is as given below:

Table 48: Capital expenditure proposed by the Petitioner for Interconnection of 66 KV line from Zari Sub-station to Eurocoustic and replacement of Panther conductor from Kachigam Sub-station to EPL

Name of Scheme	Particulars	Proposed (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Interconnection of 66 KV line from Zari Sub-station to Eurocoustic and replacement of Panther conductor from Kachigam Sub-station to EPL	Capital Expenditure	6.36	-	-	6.36

Commission's Analysis

The Commission has examined the DPR and has approved the capital expenditure as proposed by the Petitioner for the Control Period. The Commission also directs that it shall not consider cost escalations due to controllable factors. The summary of capital expenditure and capitalisation approved for the upcoming Control Period is given below:

Table 49: Capital expenditure approved by the Commission for Interconnection of 66 KV line from Zari Sub-station to Eurocoustic and replacement of Panther conductor from Kachigam Sub-station to EPL

Name of Scheme	Particulars	Approved (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Interconnection of 66 KV line from Zari Sub-station to Eurocoustic and replacement of Panther conductor from Kachigam Sub-station to EPL	Capital Expenditure	6.36	-	-	6.36

Therefore, the Commission approves a total capital expenditure of Rs. 6.36.

6. Scheme for shifting and commissioning of newly procured/existing equipment in newly constructed control room building near existing 66 KV Sub-station at Dalwada and Dabel Sub-station

Petitioner's Submission

The Petitioner has submitted that the existing 66/11 KV S/s at Dalwada was commissioned in the 1991 and the 66/11 KV S/s at Dabel was commissioned in 1996. The building is very old and there is water leakage in the building during rainy season. Hence, it is proposed to construct a new control room.

The capital expenditure and capitalisation schedule proposed by the Petitioner for the above scheme is as given below:

Table 50: Capital expenditure proposed by the Petitioner for Construction of new Control Room

Name of Scheme	Particulars	Proposed (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Construction of New Control Room	Capital Expenditure	7.00	7.00	-	14.00

Commission's Analysis

The Commission has observed that the Petitioner has failed to submit the DPR or Technical sanction report for the said scheme. Based on the submissions made by the Petitioner, the Commission has approved the capital expenditure as proposed by the Petitioner for the Control Period. The Commission directs the Petitioner to positively submit the DPR for the scheme within 90 days from the release of this Business Plan Order. The Commission also directs that it shall not consider cost escalations due to controllable factors. The summary of capital expenditure and capitalisation approved for the upcoming Control Period is given below:

Table 51: Capital expenditure approved by the Commission for Construction of new Control Room

Name of Scheme	Particulars	Approved (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
Construction of New Control Room	Capital Expenditure	7.00	7.00	-	14.00

Therefore, the Commission approves a total capital expenditure of Rs. 14.00 Crore.

Summary of capital expenditure approved by the Commission

The summary of capital expenditure approved by the Commission for the upcoming Control Period is given below.

Table 52: Summary of capital expenditure approved by the Commission for the upcoming Control Period

Sr. No.	Name of Scheme	Approved Capital Expenditure (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
1	Establishment of 2x100 MVA, 220/66 KV GIS Sub-station at Dabhel, Daman along with associated 220 KV multi circuit Magarwada - Dabhel transmission line via Kachigam	-	-	20.00	20.00
2	Establishment of 66/11 KV, 2x20 MVA GIS Sub-station along with associated line at Dabhel, Daman	10.00	10.00	11.52	31.52
3	Establishment of 66/11 KV GIS Sub-station at Bhimpore, Daman	16.00	16.58	-	32.58
4	Establishment of new hybrid bays at Dalwada Sub-station (2 Nos.) and Zari Sub-station (2 Nos.), Daman	3.19	-	-	3.19
5	Inter connection of 66 KV line from Zari Sub-station to Eurocoustic and replacement of Panther conductor from Kachigam Sub-station to EPL	6.36	-	-	6.36
6	Scheme for shifting and commissioning of newly procured/existing equipment in newly constructed control room building near existing 66 KV Sub-station at Dalwada and Dabel Sub-station	7.00	7.00	-	14.00
Total		42.55	33.58	31.52	107.65

Therefore, the Commission approves a total capital expenditure of Rs. 107.65 Crore for the upcoming Control Period.

Regulation 8.5 (f) of the JERC MYT Regulations, 2018 in this regard stipulates as follows:

“The Licensee shall submit a report for every quarter detailing the progress of the capital expenditure and capitalisation undertaken against that proposed in the Capital Investment Plan, on or before the last Day of the month succeeding the respective quarter for review by the Commission.”

The Commission directs the Petitioner to submit a quarterly report for every quarter on actual capital expenditure and capitalisation starting from first quarter of FY 2022-23.

3.5.2 Summary of capitalisation approved by the Commission

The Commission has observed that the Petitioner has not submitted the year wise scheme wise capitalization details and has submitted the total year wise capitalization for each year of 3rd Control Period. It is observed that the capitalization proposed by the Petitioner is in line with previous trends of capitalization followed by the Petitioner. Accordingly, the Commission approves the year wise capitalization as proposed by the Petitioner. The summary of capitalisation proposed and approved by the Commission for the upcoming Control Period is given below:

Table 53: Summary of capitalisation submitted and approved by the Commission for the upcoming Control Period

Sr. No.	Particulars	Approved Capitalisation (Rs. Cr.)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
1	Capitalization	23.55	32.58	31.52	87.65

Therefore, the Commission approves a total capitalisation of Rs. 87.65 Crore for the upcoming Control Period.

3.5.3 Capital Expenditure Scheme for Customer Relationship Management

The Commission observed that the Petitioner has not proposed any Capital expenditure towards the implementation of Customer Relations Manager (CRM) system the UT to improve the consumer convenience, improved customer retentions, centralized information management, etc. in light of Electricity (Rights of Consumers) Rules, 2020 issued by the Central Government.

In view of the above, the Commission directs the Petitioner to submit the Detailed Project Report with estimated capital expenditure towards the implementation of CRM system within 90 days of release of this order.

3.5.4 Funding Plan

Petitioner's submission

The Petitioner has submitted that the entire proposed capital expenditure is to be funded through Government Funding through budgetary support without any external borrowings. The Petitioner has not provided details of debt:equity ratio to be deployed towards the proposed capital expenditure.

Commission's analysis

The Petitioner has proposed to fund the capital investment schemes using budgetary funding. However, the Petitioner can only consider equity up to 30% of the capital cost and the rest shall be treated as normative debt as per Clause 27.2 of the JERC MYT Regulations:

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

Based on the analysis of proposed funding for each of the schemes, the approved funding plan is given in the table below:

Table 54: Approved funding plan for the upcoming Control Period

Sr. No.	Sources of Funds	FY 2022-23	FY 2023-24	FY 2024-25	Total
A	Total Capitalization in INR Cr	23.55	32.58	31.52	87.65
B	Debt (%)	70%	70%	70%	70%
C	Equity (%)	30%	30%	30%	30%
D	Normative Debt (INR Cr) (B x A)	16.485	22.806	22.064	61.355
E	Equity (INR Cr) (C x A)	7.065	9.774	9.456	26.295

3.6 Manpower Plan

Petitioner's submission

The Petitioner has submitted that there is no plan to hire new staff for the upcoming Control Period.

Commission's Analysis

As the Petitioner has no plans for recruitment, the Commission does not have any observation on the same.

3.7 Reliability Indices

Petitioner's submission

The Petitioner, has submitted the details of SAIFI, SAIDI and MAIFI for the upcoming Control Period along with actual values achieved by the Petitioner during previous two year before the base year FY 2021-22. The details of the reliability indices submitted by the Petitioner are given in the Table below:

Table 55: Reliability Indices submitted by the Petitioner

Particulars	FY 2019-20 Actual	FY 2020-21 Actual	FY 2021-22 RE	FY 2022-23 Projected	FY 2023-24 Projected	FY 2024-25 Projected
SAIFI	2.31	1.44	1.30	1.17	1.05	0.94
SAIDI	3.78	2.35	2.12	1.90	1.71	1.54
MAIFI	1.03	0.64	0.58	0.52	0.47	0.42

Commission's Analysis

The Commission has analysed the details of the reliability indices submitted by the Petitioner. It is observed that Petitioner is already maintaining a healthy record of reliability indices with minimal interruptions and lesser duration of outages in the power supply within the UT. The Commission appreciates the efforts being put in by the Petitioner to further reduce the incidence of outages and achieve the reduction in reliability indices. The Petitioner has proposed 10% improvement in reliability indices during each year of the Control Period. Accordingly, the Commission approves the reliability indices as projected by the Petitioner for the Control Period. However, the same shall be reviewed annually in line with JERC SOP Regulations, 2015. The reliability indices approved by the Commission for each year of the Control Period are given in the Table below:

Table 56: Reliability Indices approved by the Commission

Particulars	FY 2022-23 Approved	FY 2023-24 Approved	FY 2024-25 Approved
SAIFI	1.17	1.05	0.94
SAIDI	1.90	1.71	1.54
MAIFI	0.52	0.47	0.42

Annexures

Annexure 1: List of Stakeholders

The following is the list of the stakeholders who have attended virtual public hearing conducted on February 2nd 2022:

S. No.	Name of Stakeholders	Designation
1.	Mr. Umesh Babubhai Patel	Social Worker
2.	Ms. Vaishali Vadhel	Social Worker
3.	Mr. Sanjay Dalal	Consumer