



Business Plan

Approval of Business Plan for Multi-Year Control Period
from FY 2019-20 to FY 2021-22

Petition No. 258/2018

For

DNH Power Distribution Corporation Ltd.

5 November 2018

JOINT ELECTRICITY REGULATORY COMMISSION

For the State of Goa and Union Territories,

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List of abbreviations

Abbreviation	Full Form
A&G	Administrative and General
ACoS	Average Cost of Supply
Act	The Electricity Act, 2003
AMR	Automatic Meter Reading
APR	Annual Performance Review
ARR	Aggregate Revenue Requirement
ATE	Appellate Tribunal of Electricity
BPL	Below Poverty Line
CAGR	Compound Annual Growth rate
CAGR 'n' Year	CAGR based on 'n' years of data for (n-1) periods / jumps
Capex	Capital Expenditure
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGRF	Consumer Grievance Redressal Forum
CGS	Central Generating Stations
COD	Commercial Operation Date
Cr	Crores
Discom	Distribution Company
DSM	Deviation Settlement Mechanism
ED	Electricity Department
EHT	Extra High Tension
ERP	Enterprise Resource Planning
FPPCA	Fuel and Power Purchase Cost Adjustment
FY	Financial Year
GFA	Gross Fixed Assets
HT	High Tension
IEX	Indian Energy Exchange Limited
IPP	Independent Power Producer
ISTS	Inter State Transmission System
JERC	Joint Electricity Regulatory Commission for the state of Goa and Union Territories
LT	Low Tension
MCLR	Marginal Cost of funds based Lending Rate
MU	Million Units
MYT	Multi Year Tariff
NFA	Net Fixed Assets
NTPC	NTPC Ltd.
O&M	Operation and Maintenance
PLF	Plant Load Factor

Abbreviation	Full Form
PLR	Prime Lending Rate
PPA	Power Purchase Agreement
R&M	Repair and Maintenance
REC	Renewable Energy Certificate
RLDC	Regional Load Despatch Centre
RoE	Return on Equity
RPO	Renewable Purchase Obligation
SBI PLR	SBI Prime Lending Rate
SERC	State Electricity Regulatory Commission
SLDC	State Load Despatch Center
SOP	Standard of Performance
T&D	Transmission & Distribution
TVS	Technical Validation Session
UI	Unscheduled Interchange
UT	Union Territory

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

QUORUM

Shri. M. K. Goel (Chairperson)

Smt. Neerja Mathur (Member)

Petition No. 258/2018

In the matter of

Approval of Business Plan for Multi-Year Control Period from FY 2019-20 to FY 2021-22.

And in the matter of

Dadra and Nagar Haveli Power Distribution Corporation Ltd. Petitioner

ORDER

- a) This Order is passed in respect of the Petition filed by the Dadra and Nagar Haveli Power Distribution Corporation Ltd. for approval of its Business Plan for the Multi-Year Control Period of three years commencing from 01 April 2019 to 31 March 2022.
- b) In exercise of the powers conferred on it by sub-Section (2) of Section 181 read with Section 36, Section 39, Section 40, 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 Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2018 on 10 August 2018.
- c) In terms of Regulation 8.1 and 16 of the aforesaid Regulations, the Petitioner has filed a Petition for approval of its Business Plan for three years Control Period i.e. from FY 2019-20 to FY 2021-22 with details for each year of the Control Period before the Commission.
- d) After receiving the Petition, the Commission scrutinized the contents of the Petition and called for further information/data, wherever required, in the form of deficiency notes so as to take a prudent view of the Petition. Comments/objections/suggestions were also invited from the stakeholders and public hearing was conducted. All the comments/objections/suggestions made by the stakeholders in both written or verbal mode are taken into consideration.
- e) 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 hereby approves the Business Plan for the Control Period from FY 2019-20 to FY 2021-22 by way of this Order, which covers the capital investment plan, sales forecast, power procurement plan, performance targets, fixation of T&D loss trajectory etc.

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- f) The Petitioner is now directed to submit the Multi Year Tariff Petition for the Control Period on or before 30 November 2018, in terms of Regulation 9 of the aforesaid Regulations.
- g) Ordered as above, read with attached document giving detailed reasons, grounds and conditions. Copy of this Order be sent to the Petitioner, CEA and the Administration of UT of Dadra and Nagar Haveli.

Sd/-

Neerja Mathur
(Member)

Sd/-

M.K. Goel
(Chairperson)

JOINT ELECTRICITY REGULATORY COMMISSION
(For the State of Goa and Union Territories)

Place: Gurugram

Date: 5 November 2018

1. Chapter 1: Introduction

1.1. Joint Electricity Regulatory Commission

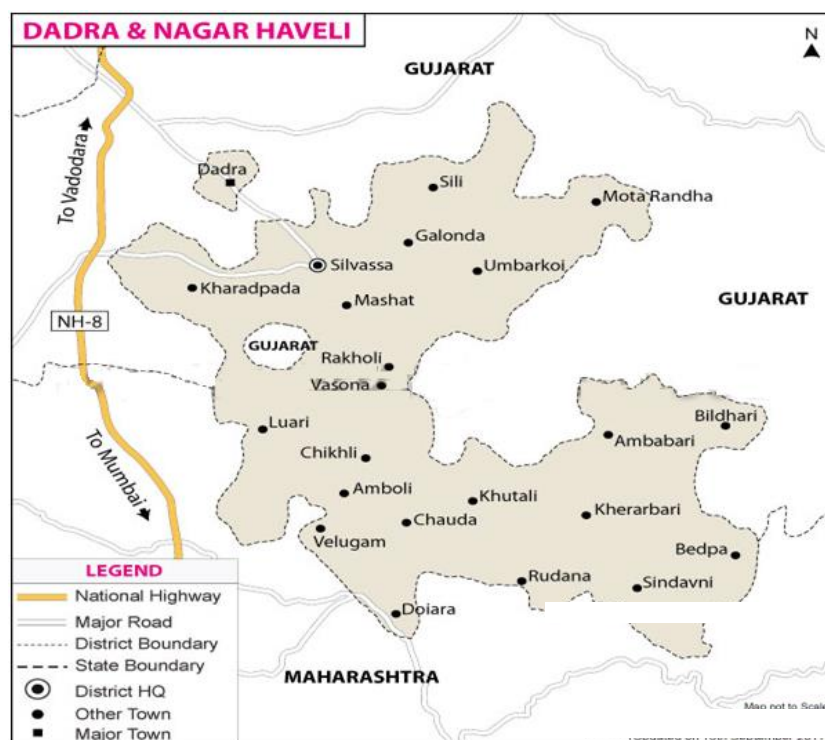
In exercise of powers conferred by the Electricity Act 2003, the Central Government constituted a Joint Electricity Regulatory Commission for all the Union Territories except Delhi to be known as “Joint Electricity Regulatory Commission for the Union Territories” vide notification no. 23/52/2003-R&R dated 2 May 2005. Later with the joining of the State of Goa, the Commission came to be known as “Joint Electricity Regulatory Commission for the State of Goa and Union Territories” (hereinafter referred to as “JERC” or “Commission”) vide notification no. 23/52/2003-R&R (Vol. II) dated 30 May 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, Daman & Diu, Dadra & Nagar Haveli and Puducherry, consisting of generation, transmission, distribution, trading and use of electricity. Its primary objective includes taking measures conducive to the development of the electricity industry, promoting competition therein, protecting interest of consumers and ensuring supply of electricity to all areas.

1.2. Union Territory of Dadra and Nagar Haveli

The Union Territory of Dadra and Nagar Haveli (hereinafter referred to as “UT”) is spread over 491 sq. km, has 72 villages with a population of 3, 42,853 as per Census 2011. The natural attractions of this region have made it a popular tourist destination in the Western region of India. Additionally, due to liberalized policies of Central Government of tax benefits, the State has also developed into a highly industrialized area.

The rapid development of the Territory has led to a tremendous increase in the demand for power. Currently, 97% of total sales are to HT and LT industrial consumers. The present average demand of this territory is 740 MW to 760 MW and peak demand is 801 MW. The UT has also achieved 100% electrification and 100% metering which further contributes to the increasing demand for power.



1.3. DNH Power Distribution Corporation Ltd.

Dadra & Nagar Haveli Power Distribution Corporation Limited (hereinafter referred to as “DNHPDCL” or “Utility”) was created from the erstwhile Electricity Department of Dadra & Nagar Haveli (ED-DNH) and started its operation from April 1, 2013. It is a statutory body engaged in distribution of electricity in the UT of Dadra & Nagar Haveli.

The key duties being discharged by DNHPDCL are:

- Laying and operating of electric line, sub-station and electrical plant that is primarily maintained for the purpose of distributing electricity in the area of supply of DNHPDCL;
- Arranging, in-coordination with the Generating Company(ies) operating in or outside the UT, for the supply of electricity required within the UT 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 UT.

DNHPDCL does not have its own generation (other than Solar plant) and procures power from its allocation from Central Generating Stations i.e. NTPC, NSPC and other IPPs.

Existing Network

The present distribution system of DNHPDCL consists of 279.9 km of 66 kV D/C lines, 833.7 circuit km of 11 kV lines along with 1102 distribution transformers. At present, the UT gets power from 400/220 kV Substation of POWERGRID Vapi and 400/200 kV Kala Substation of POWERGRID (DNH). DNHPDCL has total sub-transmission capacity of 1000 MVA, including 520 MVA in Kharadpada and 480 MVA Khadoli sub-stations. The total installed capacity at 66/11 kV sub-stations is 782 MVA.

The details of the transmission and distribution system of DNHPDCL are as follows:

Table 1: Transmission & Distribution System of DNHPDCL

S.No.	Description	UOM	Length in Circuit (in km)
1	66 kV Line (D/C)	km	279.90
2	11 kV Line	km	833.70
3	LT Line	km	1778.50
4	Distribution Transformers	Nos.	1102
5	66 kV Sub Stations	MVA	782

1.4. Electricity Regulatory Process in Dadra and Nagar Haveli

The Commission had issued the first Multi-Year Order for “Approval of Business Plan for MYT Control Period FY 2016-17 to FY 2018-19” on 15 December 2015 in respect of DNHPDCL.

1.5. Multi Year Tariff Regulations, 2018

The Commission notified the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2018 on 10 August 2018. The said Regulations have been hereinafter referred to as the “JERC MYT Regulations”. As per Clause 2.1.17 of these Regulations, the “Control Period” is defined as multi-year period comprising of three financial years from FY 2019-20 to FY 2021-22.

These Regulations are applicable to all the generation companies, transmission and distribution licensees in the State of Goa and Union Territories of Andaman & Nicobar Islands, Lakshadweep, Chandigarh, Daman & Diu, Dadra & Nagar Haveli and Puducherry.

1.6. Filing and Admission of Petition for Multi-Year Business Plan for FY 2019-22

As per Clause 8.1 of the JERC MYT Regulations, the Petitioner is required to file its Business Plan for three years Control Period i.e. from FY 2019-20 to FY 2021-22 with details for each year of the Control Period for approval of the Commission.

The DNHPDCL submitted the current Petition for approval of 'Business Plan for MYT Control Period FY 2019-20 to FY 2021-22' vide letter no. No. 1-1 (543)/PDCL-AE (Comml)/2018/2562 dated 31 August 2018.

After initial scrutiny/analysis, the Petition on Business Plan for the Control Period FY 2019-20 to FY 2021-22 was admitted on 4 September 2018 and was numbered as Petition no. 258/2018.

1.7. Interaction with the Petitioner

A preliminary scrutiny/analysis of the Petition was conducted and certain deficiencies were observed. Accordingly, deficiency notes were issued to the Petitioner. Further, additional information/clarifications 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

S. No	Subject	Date
1	Admission of Petition by the Commission	04.09.2018
2	Deficiency Note issued by the Commission	12.09.2018
3	Replies to the Deficiency Note received by the Commission	26.09.2018
4	Second Deficiency Note issued by the Commission	11.10.2018
5	Replies to the Second Deficiency Note received by the Commission	22.10.2018

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

1.8. Public Hearing Process

The Commission directed the Petitioner to publish the summary of the Business Plan proposal in the abridged form to ensure 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	Language
1	19.09.2018	Nishpaksh Jansansar	Hindi
2	19.09.2018	Silvassa Mirror	English
3	19.09.2018	UT Today	English

The Petitioner also uploaded the Petition on its website (www.dnhpdcl.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 with a copy to the Petitioner on or before 25 September 2018. The Commission has also uploaded a copy of the Petition on its website to facilitate the stakeholders.

The Commission received written objections/ suggestions on the Petition. The Commission forwarded these to the Petitioner for communicating its response. The Petitioner has generally agreed to address all the issues raised by the stakeholders under intimation to the Commission.

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 on September 25, 2018 from 10 AM onwards at Silvassa.

Table 4: Public Notices published by the Commission

S.No.	Date	Name of Newspaper	Language
1	05.09.2018, 21.09.2018	Indian Express	English
2	05.09.2018, 21.09.2018	Gujarat Samachar	Gujarati
3	05.09.2018, 21.09.2018	Nishpaksha Jansansar	Hindi

The Commission has examined the issues and concerns raised by the stakeholders in writing and / or voiced by them. The major issues raised by the Stakeholders, the responses of the Petitioner thereon and the views of the Commission, have been summarized in Chapter 2 of this Order.

1.9. Organization of the Order

This Order is organized in the following Chapters:

- **Chapter 1** of the Order provides the background and brief description of the Territory, Utility and Regulatory process undertaken by the Commission.
- **Chapter 2** of the Order provides the summary of various suggestions and objections raised by the stakeholders, followed by the response of the Petitioner and the views of the Commission on these issues.
- **Chapter 3** discusses the submissions of the Petitioner in its Business Plan Petition and the Commission's views thereon.

2. Chapter 2: Stakeholder Consultations

2.1. Regulatory Process

The Public Hearing was held on 25 September 2018 at Silvassa in respect of the Multi-Year Business Plan Petition for Control Period from FY 2019-20 to FY 2021-22. 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.

2.2. Suggestions/ Objections of the Stakeholders/ Response of the Petitioner and Commission's Views

The Commission is appreciative of the efforts of various stakeholders in providing their suggestions/comments/observations to make the Electricity Distribution 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 submissions of the Stakeholders' comments, response of the Petitioner and the views of the Commission are summarized below:

2.2.1. Sales and Power Procurement

Stakeholder Comments

- Due to expiry of seven year PPA with EMCO Energy Limited (GMR), a shortfall of 200 MW of energy by FY 2019-20 is proposed to be met through procurement of 50 MW of wind power from FY 2019-20 and 200 MW (wind and solar) from FY 2021-22. However, the alternate arrangements need to be kept in case the proposed projects are delayed. Further, 175.2 MUs of energy stated to be received against 50 MW SECI wind power shall effectively result in only about 20 MW on 24x7 basis, and hence effective capacity of only 20 MW can be considered.
- Due care should be taken while tying up the incremental power to avoid power shortages or futile fixed cost obligations of surplus power.
- Power procurement from Exchange should be used for cost optimization, to cope with temporary shortages and, for more reliable planning, the utility should rely on firm bilateral PPAs with generators

Petitioner's Response

- The Petitioner has responded that it is making best efforts to procure power to meet the demand on 24x7 basis at sustainable rates, and it will endeavour to do so in the future as well.

Commission's View

- The Commission notes the Stakeholder's concerns regarding the power procurement plan of the Petitioner in respect of fulfilling the shortfall arising out of expiry of PPA with EMCO Energy Limited (GMR) with energy from renewable sources (SECI) and directs the Petitioner to take all steps to ensure that no delays happen at the Petitioner's end in arrangement of requisite power.
- The Commission also notes the Stakeholder's concerns regarding possible power shortages and cost effectiveness of incremental power purchase arrangements and directs the Petitioner to concurrently explore other short / medium term standby arrangements for fulfilling this shortfall in a cost effective and timely manner, in case of any unforeseen delay in COD of proposed renewable sources.
- The Commission appreciates Stakeholder's concern regarding reduction of reliance on Power Exchange and suggestion that Petitioner should rely more on firm bilateral PPAs. The Commission also observes that

a significant quantum of power purchase is projected to be procured from exchange, which may result in exposing the consumers to unforeseen risks of exchange power price fluctuations. The Commission therefore directs the Petitioner to reduce its reliance on exchange and act in accordance with policy directives and power procurement guidelines issued by the Government of India from time to time.

2.2.2. Transmission & Distribution Loss and Capital Investment Plan

Stakeholder Comments

- Thorough system study needs to be done for 66 kV & 11 kV network for loss reduction and parameter optimization through qualified agencies.
- Considering 97% industrial load and small area of UT, the loss trajectory proposed is high and the overall T&D losses should not be more than 3.9%.
- Further, major capital expenditure is proposed on 11 kV network, where major part of T&D losses occur. The same needs to be considered while proposing trajectory.

Petitioner's Response

- The Petitioner has informed that it has proposed T&D loss trajectory in its Petition after due consideration.

Commission's View

- The Commission notes the suggestion of the Stakeholders and directs the Petitioner to commission a comprehensive loss reduction study and submit a report to the Commission before the end of current financial year.
- The Commission informs the Stakeholders that the T&D loss trajectory has been approved in this Order keeping in view the capital expenditure proposed by the Petitioner.

2.2.3. Standards of Performance

Stakeholder Comments

- Utility needs to provide data related to Standards of Performance, which may include time taken for release of new connections/augmentation of load, on-line services for reporting of faults and clearance time thereof etc.
- Online display of statutory and regulatory compliance data related to testing, safety, quality of power etc. is necessary for transparency.

Petitioner's Response

- The Petitioner has assured to act in accordance with the extant JERC Standard of Performance Regulations.

Commission's View

- The Commission appreciates the suggestions given by the Stakeholders and directs the Petitioner to ensure that the reports in respect of performance of, inter alia, Guaranteed Standards and Overall Standards are maintained by the Petitioner and furnished to the Commission in line with the JERC (Standards of Performance) Regulations applicable from time to time.

2.2.4. Manpower Plan

Stakeholder Comments

- Staff vacancies should be filled up for desired improvement in performance.

Petitioner's Response

- The Petitioner has informed that it has already proposed for creation of sufficient number of posts for recruitment in the Control Period.

Commission's View

- The Commission appreciates Stakeholder's comments and directs the Petitioner to expedite the process of seeking relevant approvals for hiring of manpower and subsequently take proactive steps to ensure timely filling up of vacancies.

3. Chapter 3: Approval of the various components of the Business Plan Petition for the Multi-Year Control Period FY 2019-20 to FY 2021-22

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
- Intra-State Transmission and Distribution (T&D) loss
- Power Procurement Plan
- Capital Investment Plan
- Manpower Plan
- Other Expenditure

In the subsequent sections, the Commission has recorded Petitioner's submissions and analysed the same. 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 2018-19 as the Base Year. The Petitioner has submitted revised estimates for the number of consumers, connected load and sales for FY 2018-19 and forecast the same for the upcoming Control Period based on past years' CAGR.

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: Summary of category wise No. of Consumers and growth rate considered by the Petitioner for projections

Number of Consumers	Actuals						CAGR Considered
	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	
Domestic	35,656	37,294	38,970	40,773	42,835	45,205	4.86%
LIG/ Kutir Jyoti	13,870	14,097	14,223	13,443	14,603	14,879	1.41%
Commercial	7,007	7,070	6,986	7,306	7,586	7,809	2.19%
Agriculture	1,077	1,125	1,179	1,211	1,263	1,313	4.04%
LT Industry	1,866	1,912	2,001	2,038	2,063	2,064	2.04%
HT/EHT Industry	859	872	887	889	895	918	1.34%
Public Lighting	237	274	310	324	350	374	9.55%

Number of Consumers	Actuals						CAGR Considered
	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	
Public Water Works	-	-	307	340	358	398	9.04%
Temp. Supply	168	251	319	334	347	379	-
Total	60,740	62,895	65,182	66,658	70,300	73,339	

Table 6: Summary of category wise Connected Load and growth rate considered by the Petitioner for projections

Connected load (kVA)	Actuals						CAGR Considered
	Consumer Category	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	
Domestic	75,277	85,017	1,06,148	93,887	96,078	1,01,283	6.11%
LIG/ Kutir Jyoti	1,110	1,150	1,422	1,343	1,477	1,486	6.01%
Commercial	21,897	28,234	35,543	24,488	25,752	26,691	4.04%
Agriculture	3,750	4,331	5,217	5,479	5,590	5,779	9.03%
LT Industry	74,409	87,091	1,06,350	1,09,910	1,13,067	1,15,921	2.91%
HT/EHT Industry	9,03,736	10,81,678	11,26,669	11,46,822	11,43,066	11,57,756	5.08%
Public Lighting	1,177	1,594	2,233	2,346	2,536	2,706	6.63%
Public Water Works	-	-	1,980	2,257	2,444	2,886	5.00%
Temp. Supply	889	2,524	3,662	2,359	2,359	2,537	-
Total	10,82,245	12,91,618	13,89,223	13,88,891	13,92,368	14,17,044	

Table 7: Summary of category wise Sales and growth rate considered by the Petitioner for projections

Sales (MU)	Actuals						CAGR Considered
	Consumer Category	FY 2012-13	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	
Domestic	70	81	93	102	104	117	10.76%
Commercial	27	30	27	29	30	33	4.02%
Agriculture	3	4	4	6	6	7	5.00%
LT Industry	162	177	188	201	212	208	5.36%
HT/EHT Industry	4,323	4,661	4,866	5,172	5,368	5,516	6.00%
Public Lighting	4	6	8	7	8	8	7.65%
Public Water Works	-	-	3	4	5	5	5.00%
Temp. Supply	2	2	3	3	3	3	-
Total	4,591	4,961	5,191	5,523	5,737	5,897	

The Petitioner's projections of number of consumers, connected load and sales for FY 2018-19 and the upcoming MYT Control Period is as given in the tables below:

Table 8: Petitioner's submission on projection of Number of Consumers for upcoming MYT Control Period

Number of Consumers	FY 2017-18 (Unaudited Actual)	CAGR Considered	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
			RE	Projected	Projected	Projected
Domestic	45205	4.86%	47402	49706	52122	54655
LIG/ Kutir Jyoti	14879	1.41%	15089	15303	15519	15739

Number of Consumers Consumer Category	FY 2017-18 (Unaudited Actual)	CAGR Considered	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
			RE	Projected	Projected	Projected
Commercial	7809	2.19%	7980	8155	8334	8516
Agriculture	1313	4.04%	1366	1421	1479	1539
LT Industry	2064	2.04%	2106	2149	2193	2237
HT/EHT Industry	918	1.34%	930	943	955	968
Public Lighting	374	9.55%	410	449	492	539
Public Water Works	398	9.04%	434	473	516	563
Temp. Supply	379	-	-	-	-	-
Total	73,339		75,718	78,599	81,609	84,755

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

Connected Load (kVA) Consumer Category	FY 2017-18 (Unaudited Actual)	CAGR Considered	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
			RE	Projected	Projected	Projected
Domestic	1,01,283	6.11%	107475.52	114047.06	121020.42	128420.15
LIG/ Kutir Jyoti	1,486	6.01%	1575.60	1670.32	1770.73	1877.18
Commercial	26,691	4.04%	27768.47	28889.93	30056.68	31270.55
Agriculture	5,779	9.03%	6300.96	6870.20	7490.87	8167.61
LT Industry	1,15,921	2.91%	119298.99	122775.52	126353.36	130035.47
HT/EHT Industry	11,57,756	5.08%	1216556.08	1278342.49	1343266.91	1411488.70
Public Lighting	2,706	6.63%	2885.80	3077.01	3280.88	3498.27
Public Water Works	2,886	5.00%	3029.90	3181.40	3340.47	3507.49
Temp. Supply	2,537	-	-	-	-	-
Total	14,17,044		1484891.32	1558853.93	1636580.32	1718265.43

Table 10: Petitioner's submission on projection of Sales for upcoming MYT Control Period

Sales (MU) Consumer Category	FY 2017-18 (Unaudited Actual)	FY 2018-19	CAGR Considered	FY 2019-20	FY 2020-21	FY 2021-22
		RE		Projected	Projected	Projected
Domestic	116.91	139.62	10.76%	154.65	171.29	189.72
Commercial	32.72	36.62	4.02%	38.09	39.62	41.21
Agriculture	6.50	7.03	5.00%	7.38	7.75	8.13
LT Industry	208.24	212.53	5.36%	223.93	235.94	248.60
HT/EHT Industry	5,515.97	5686.00	6.00%	6,027.16	6,388.79	6,772.11
Public Lighting	7.97	5.77	7.65%	6.21	6.68	7.19
Public Water Works	5.45	4.86	5.00%	5.10	5.35	5.62
Temp. Supply	3.39	-	-	-	-	-
Total	5,897.14	6,092.41		6,462.50	6,855.42	7,272.59

Commission's Analysis

The overall approach of the Commission for projecting the number of consumers, connected load and sales for FY 2018-19 and the upcoming MYT Control Period is described below:

- The Base Year considered by the Petitioner is FY 2018-19 and the same is in line with the JERC MYT Regulations. The Commission has also considered FY 2018-19 as the Base Year for carrying out projections.

The values for FY 2018-19 have been arrived at by considering relevant growth rates approved by the Commission for respective categories and applying the same to FY 2017-18 values.

- The Growth rates considered by the Petitioner for projecting number of consumers, connected load and sales are based primarily 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
 - Specific sales per kVA of connected load, wherever the number of consumers are low
 - Energy efficiency measures

3.2.2. Category-wise analysis

The historical Year on Year growth and CAGR for number of consumers, connected load and sales is given in the tables below:

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

Number of Consumers	Y-o-Y growth					CAGR			
Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	6 year	5 year	4 year	3 year
Domestic	4.59%	4.49%	4.63%	5.06%	5.53%	4.86%	4.93%	5.07%	5.29%
LIG/Kutir Jyoti	1.64%	0.89%	-5.48%	8.63%	1.89%	1.41%	1.36%	1.51%	5.21%
Commercial	0.90%	-1.19%	4.58%	3.83%	2.94%	2.19%	2.52%	3.78%	3.39%
Agriculture	4.46%	4.80%	2.71%	4.29%	3.96%	4.04%	3.94%	3.65%	4.13%
LT Industry	2.47%	4.65%	1.85%	1.23%	0.05%	2.04%	1.93%	1.04%	0.64%
HT/EHT Industry	1.51%	1.72%	0.23%	0.67%	2.57%	1.34%	1.29%	1.15%	1.62%
Public Lighting	15.61%	13.14%	4.52%	8.02%	6.86%	9.55%	8.09%	6.46%	7.44%
Public Water Works	-	-	10.75%	5.29%	11.17%	0.00%	0.00%	9.04%	8.19%
Temp. Supply	49.40%	27.09%	4.70%	3.89%	9.22%	17.67%	10.85%	5.91%	6.52%

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

Connected Load	Y-o-Y growth					CAGR			
Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	6 year	5 year	4 year	3 year
Domestic	12.94%	24.85%	-11.55%	2.33%	5.42%	6.11%	4.47%	-1.55%	3.86%
LIG/Kutir Jyoti	3.60%	23.65%	-5.53%	9.96%	0.62%	6.01%	6.62%	1.48%	5.19%
Commercial	28.94%	25.89%	-31.10%	5.16%	3.64%	4.04%	-1.40%	-9.11%	4.40%
Agriculture	15.49%	20.47%	5.02%	2.03%	3.37%	9.03%	7.48%	3.47%	2.70%
LT Industry	17.04%	22.11%	3.35%	2.87%	2.52%	9.27%	7.41%	2.91%	2.70%
HT/EHT Industry	19.69%	4.16%	1.79%	-0.33%	1.29%	5.08%	1.71%	0.91%	0.48%
Public Lighting	35.40%	40.09%	5.08%	8.10%	6.72%	18.12%	14.16%	6.63%	7.41%
Public Water Works	-	-	14.02%	8.26%	18.09%	0.00%	0.00%	13.39%	13.07%
Temp. Supply	183.9%	45.08%	-35.58%	0.01%	7.54%	23.33%	0.13%	-11.52%	3.71%

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

Sales	Y-o-Y growth					CAGR			
Consumer Category	FY 2013-14	FY 2014-15	FY 2015-16	FY 2016-17	FY 2017-18	6 year	5 year	4 year	3 year
Domestic	14.99%	15.49%	9.01%	2.90%	11.92%	10.76%	9.73%	7.87%	7.31%
Commercial	10.87%	-9.20%	6.40%	5.49%	7.77%	4.02%	2.37%	6.55%	6.63%
Agriculture	30.95%	-2.05%	33.87%	7.45%	4.84%	14.11%	10.25%	14.68%	6.14%
LT Industry	9.19%	6.23%	7.12%	5.40%	-1.63%	5.19%	4.22%	3.56%	1.82%
HT/EHT Industry	7.83%	4.38%	6.30%	3.79%	2.75%	5.00%	4.30%	4.27%	3.27%
Public Lighting	32.36%	31.75%	-3.87%	10.86%	-3.63%	12.36%	7.85%	0.89%	3.36%
Public Water Works	-	-	10.22%	27.81%	19.78%	0.00%	0.00%	19.05%	23.73%
Temp. Supply	2.03%	29.35%	13.46%	8.47%	5.94%	11.47%	13.96%	9.25%	7.20%

The historical data given above, along with other relevant 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 projecting the number of consumers, connected load and sales for domestic category. Accordingly, the Petitioner has used a growth rate of 4.86%, 6.11% and 10.76% for number of consumers, connected load and sales respectively.

Commission's analysis

The Commission notes that the year-on-year consumer growth has been consistent over past years and thus agrees with Petitioner's submission on forecast of growth of number of consumers in upcoming Control Period of 4.86%. However, the growth in per-consumer consumption of power has been varying over the years, with an average of 6.7% over the last 5 years. The Commission opines that, with increase in the adoption of energy efficient lighting and appliances, the per-consumer consumption is not likely to increase at a rate reflected by the past data. Further, the Commission observes that the Petitioner has considered a ~15% growth in per-consumer consumption in FY 2018-19 (estimated, ~2234 units) over FY 2017-18 (actual, ~1946 units), which is not in line with the historical trends. As per the Petitioner's assumption of CAGR of 10.76% for sales, the per consumer consumption increases at CAGR of 6.45%, increasing the already high base of per consumer consumption to ~2,695 in FY 2021-22, which the Commission opines is not practical, given the fast adoption of energy efficient lighting and appliances by households. Accordingly, the Commission approves 4-year CAGR of 7.87% for projecting the sales for domestic category.

In respect of connected load, the Commission observes that the growth rate has reduced in recent years. Accordingly, the Commission approves growth rate for connected load based on CAGR of last three years of 3.86%. 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	4.86%	4.86%	6.11%	3.86%	10.76%	7.87%

LIG/Kutir Jyoti**Petitioner's submission**

The Petitioner has considered the 6-year CAGR of 1.41% and 6.01% for projecting number of consumers and connected load respectively for the upcoming Control Period. However, the Petitioner has not made any projections in respect of sales.

Commission's analysis

The Commission opines that the Petitioner's assumptions are in line with the historical trends in respect of projections of number of consumers and hence approves the same. However, in respect of connected load, the Commission opines that the 5-year CAGR of 6.62% is more in line with the historical trends and hence approves the same. Further, the Commission has not made any projections for sales as the Petitioner has not submitted historical data for sales. The growth rates approved by the Commission are as below.

Table 15: Growth rates approved by the Commission for LIG/Kutir Jyoti category

Consumer Category	Growth in no. of consumers		Load growth		Sales growth	
	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved	CAGR submitted	CAGR approved
LIG/Kutir Jyoti	1.41%	1.41%	6.01%	6.62%	-	-

Commercial**Petitioner's submission**

The Petitioner has considered the CAGR of last 6 years for projecting the number of consumers, connected load and sales for commercial category. Accordingly, the Petitioner has used a growth rate of 2.19%, 4.04% and 4.02% for number of consumers, connected load and sales.

Commission's analysis

Considering the consistent growth in number of consumers and sales over past years, the Commission approves the Petitioner's submission in respect of projection of growth rate for number of consumers and sales in the commercial category. However, in respect of growth in connected load, Commission opines that a 3-year CAGR of 4.40% reflects the recent trend of increase in connected load and hence, approves the same. The growth rates approved by the Commission are as below.

Table 16: 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	2.19%	2.19%	4.04%	4.40%	4.02%	4.02%

Agriculture**Petitioner's submission**

The Petitioner has considered the CAGR of last 6 years for projecting the number of consumers and connected load for agriculture commercial category. However, for projecting sales, the Petitioner has used a normative growth rate of 5%. Accordingly, the Petitioner has used a growth rate of 4.04%, 9.03% and 5.00% for number of consumers, connected load and sales respectively.

Commission's analysis

Considering the consistent growth in number of consumers over past years, the Commission approves the Petitioner's submission in respect of projection of growth rate for number of consumers in the agriculture category.

However, in respect of growth in connected load and sales, Commission opines that a 3-year CAGR reflects the recent trend of slowdown in growth of these parameters and hence, approves the same at 2.70% and 6.14% respectively. The growth rates approved by the Commission are as below.

Table 17: 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	4.04%	4.04%	9.03%	2.70%	5.00%	6.14%

LT Industry

Petitioner's submission

The Petitioner has considered the CAGR of last 6 years for projecting the number of consumers for LT Industry category. Further, the Petitioner has based its forecast of connected load on 4-year CAGR from FY 2014-15 to FY 2017-18. However, for forecasting sales, the Petitioner has used a normative growth rate. Accordingly, the Petitioner has used a growth rate of 2.04%, 2.91% and 5.36% for number of consumers, connected load and sales respectively.

Commission's analysis

Considering the recent trend of slowdown in growth in number of consumers, connected load and sales, the Commission opines that a 3-year CAGR is reflective of the past trends and thus the future growth in respect of number of consumers, load and sales. Accordingly, the Commission approves a growth rate of 0.64%, 2.70% and 1.82% for projecting number of consumers, connected load and sales respectively.

Table 18: 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	2.04%	0.64%	2.91%	2.70%	5.36%	1.82%

HT/EHT Industry

Petitioner's submission

The Petitioner has considered the CAGR of last 6 years for projecting the number of consumers and connected load for HT/EHT Industry category. Further, for forecasting sales, the Petitioner has used a normative growth rate. Accordingly, the Petitioner has used a growth rate of 1.34%, 5.08% and 6.00% for number of consumers, connected load and sales respectively.

Commission's analysis

The Commission agrees with the Petitioner's submission of considering growth rate of 1.34% (6-year CAGR) in respect of number of consumer for the upcoming Control Period, as it is in line with historical trends. In respect of connected load, the Commission observes that ~20% increase in FY 2013-14 over FY 2012-13 is inflating the 6-year CAGR considered by the Petitioner. However, the growth trend from FY 2014-15 to FY 2017-18 has been more consistent. Therefore, the Commission opines that a 5-year CAGR is more reflective of the historical trends, and hence approves a growth rate of 1.71% for connected load. In respect of sales, the Commission observes a slowdown in growth from 6.3% YoY growth in FY 2015-16 to 2.8% YoY growth in FY 2017-18. Further, the Commission also observes a slowdown in growth of sales per kVA of connected load from 4.4% YoY growth in FY 2015-16 to 1.4% YoY growth in FY 2017-18. Therefore, the Commission opines that a 3-year CAGR is a better representative of historical trends, and hence approves a growth rate of 3.27% for sales. Accordingly, the Commission approves a growth rate of 1.34%, 1.71% and 3.27% for projecting number of consumers, connected load and sales respectively.

Table 19: 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	1.34%	1.34%	5.08%	1.71%	6.00%	3.27%

Public Lighting

Petitioner's submission

The Petitioner has considered the CAGR of last 6 years for projecting the number of consumers for Public Lighting category. Further, the Petitioner has based its forecast of connected load on 4-year CAGR from FY 2014-15 to FY 2017-18. However, for forecasting sales, the Petitioner has used a normative growth rate. Accordingly, the Petitioner has used a growth rate of 9.55%, 6.63% and 7.65% for number of consumers, connected load and sales respectively.

Commission's analysis

It can be observed from the data that the YoY growth of number of consumers has moderated during the last years, from 15.6% in FY 2013-14 to 6.9% in FY 2017-18. Accordingly, the Commission opines that a CAGR of 4 last years is reflective of the past trend and approves the same for growth in number of consumers. The Commission agrees with the Petitioner's submission in respect of growth rate for connected load and approves the same. In view of reducing sales per kVA of connected load (with the exception of FY 2016-17) for the category, which may be primarily attributed to adoption of energy efficient lighting, the Commission considers it appropriate to approve a growth rate of 3.36% reflected by CAGR of past 3 years for projecting Sales growth. Accordingly, the Commission approves a growth rate of 6.46%, 6.63% and 3.36% for projecting number of consumers, connected load and sales respectively.

Table 20: 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	9.55%	6.46%	6.63%	6.63%	7.65%	3.36%

Public Water Works

Petitioner's submission

The Petitioner has considered the CAGR of last 4 years for projecting the number of consumers for Public Water Works category. However, for forecasting connected load and sales, the Petitioner has used a normative growth rate. Accordingly, the Petitioner has used a growth rate of 9.04%, 5.00% and 5.00% for number of consumers, connected load and sales respectively.

Commission's analysis

The Commission observes that the category was created in FY 2014-15. The Commission opines that 4-year CAGR considered by the Petitioner (from FY 2014-15 to FY 2017-18) for growth in number of consumers is in line with historical trends observed by the Commission since the category's creation. In respect of projections of connected load, the Commission observes that the Petitioner expects growth to slow down for the upcoming Control Period as it has considered a normalised CAGR of 5%. However, the Commission observes that considering load growth of 5% would imply a reduction in connected load per consumer (CAGR of -3.7%) for the upcoming Control Period. The Commission opines that this is not a prudent assumption as connected load per consumer has been increasing at ~4% CAGR from FY 2014-15 to FY 2017-18. Accordingly, the Commission approves the 4-year CAGR of 13.39% for connected load. In respect of sales projections, the Commission observes that sales per kVA of connected load has been increasing at 5% (4-year CAGR) since the category's creation. Therefore, the Commission opines that the Petitioner's assumption of 5% CAGR for projecting sales growth is not a prudent assumption based on the load

growth considered by the Petitioner. Accordingly, the Commission approves the 4-year CAGR of 19.05% for projecting sales.

Table 21: 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	9.04%	9.04%	5.00%	13.39%	5.00%	19.05%

Temporary Supply

Petitioner's submission

The Petitioner has not projected number of consumers, connected load and sales for temporary category.

Commission's analysis

The Commission opines that it would not be prudent to ignore the projections for Temporary Supply category. However, as Temporary Supply does not follow any particular trend, the Commission has considered a 0% growth rate for projecting number of consumers, connected load and sales.

Table 22: Growth rates approved by the Commission for temporary supply category

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 revised estimates for number of consumer for the Base Year and the projections for the upcoming Control Period based on CAGR approved by the Commission is given in the following table:

Table 23: Consumer growth projections approved by the Commission for the upcoming MYT Control Period

Consumer Category	CAGR Approved	Revised Estimate	Approved Projections		
		Base Year	Control Period		
		FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Domestic	4.86%	47,402	49,706	52,121	54,654
LIG/Kutir Jyoti	1.41%	15,089	15,302	15,517	15,736
Commercial	2.19%	7,980	8,155	8,333	8,516
Agriculture	4.04%	1,366	1,421	1,479	1,538
LT Industry	0.64%	2,077	2,091	2,104	2,117
HT/EHT Industry	1.34%	930	943	955	968
Public Lighting	6.46%	398	424	451	480
Public Water Works	9.04%	434	473	516	563
Temp. Supply	0.00%	379	379	379	379
Total		76,055	78,893	81,856	84,952

3.2.4. Projections of Connected Load approved by the Commission

The summary of the revised estimates for connected load for the Base Year and the projections for the upcoming Control Period based on CAGR approved by the Commission is given in the following tables:

Table 24: Load growth projections approved by the Commission for the upcoming MYT Control Period

Connected Load (kVA)	CAGR Approved	Revised Estimate	Approved Projections			
		Base Year	Control Period			
		FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	
Domestic	3.86%	105,192	109,253	113,470	117,850	
LIG/Kutir Jyoti	6.62%	1,585	1,690	1,801	1,921	
Commercial	4.40%	27,865	29,091	30,371	31,707	
Agriculture	2.70%	5,935	6,095	6,260	6,429	
LT Industry	2.70%	119,051	122,265	125,566	128,957	
HT/EHT Industry	1.71%	1,177,554	1,197,690	1,218,170	1,239,001	
Public Lighting	6.63%	2,886	3,077	3,281	3,499	
Public Water Works	13.39%	3,272	3,710	4,207	4,770	
Temp. Supply	0.00%	2,537	2,537	2,537	2,537	
Total		1,445,876	1,475,407	1,505,663	1,536,670	

3.2.5. Projections of Sales approved by the Commission

Table 25: Sales growth projections approved by the Commission for the upcoming MYT Control Period

Sales (MU)	CAGR Approved	Revised Estimate	Approved Projections			
		Base Year	Control Period			
		FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	
Domestic	7.87%	126.11	136.04	146.74	158.29	
Commercial	4.02%	34.04	35.40	36.83	38.31	
Agriculture	6.14%	6.90	7.32	7.77	8.25	
LT Industry	1.82%	212.03	215.89	219.82	223.82	
HT/EHT Industry	3.27%	5,696.34	5,882.61	6,074.97	6,273.63	
Public Lighting	3.36%	8.24	8.51	8.80	9.10	
Public Water Works	19.05%	6.49	7.72	9.20	10.95	
Temp. Supply	0.00%	3.39	3.39	3.39	3.39	
Total		6,093.53	6,296.89	6,507.52	6,725.73	

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

Petitioner's submission

The actual transmission and distribution losses in the last 3 years are as given below:

Table 26: Actual T&D losses (%)

FY 2015-16	FY 2016-17	FY 2017-18
4.54%	4.73%	4.42%

The Petitioner has submitted that it has achieved T&D loss level of 4.42% for FY 2017-18 as against the target of 4.70%. It further submitted that reduction of T&D loss below 4.42% will involve significant amount of capital expenditure and that it will be DNHPDCL's endeavour to bring the T&D loss level further down in the subsequent years. Accordingly, revised estimates for T&D losses for FY 2018-19 and trajectory proposed by the Petitioner for the upcoming Control Period is as given in the following table:

Table 27: T&D loss (%) trajectory proposed by the Petitioner for the upcoming Control Period

Base Year	Projections		
FY 2018-19 (RE)	FY 2019-20	FY 2020-21	FY 2021-22
4.40%	4.30%	4.20%	4.10%

Commission's analysis

The T&D losses approved by the Commission in the existing Control Period (FY 2016-17 to FY 2018-19) vis-à-vis T&D losses achieved by the Petitioner during the same period is given in the table below:

Table 28: T&D losses approved by the Commission in the existing Control Period vis-à-vis T&D losses achieved by the Petitioner

	T&D loss (%)	
	Approved	Actuals (A)/ Estimate (E)
FY 2016-17	4.70%	4.73% (A)
FY 2017-18	4.70%	4.42% (A)
FY 2018-19	4.70%	4.40% (E)

The Commission takes the note of difficulties expressed by the Petitioner in further reducing T&D losses. However, in view of capital expenditure proposed by the Petitioner and nature of schemes planned to be carried out, the Commission opines that the Petitioner should be in a position to further reduce losses in the upcoming Control Period. Accordingly, the Commission approves the trajectory proposed by the Petitioner.

Table 29: T&D loss trajectory approved by the Commission

	FY 2019-20		FY 2020-21		FY 2021-22	
	Petitioner's submission	Approved by Commission	Petitioner's submission	Approved by Commission	Petitioner's submission	Approved by Commission
T&D loss trajectory (%)	4.30%	4.30%	4.20%	4.20%	4.10%	4.10%

3.4. Power Procurement Plan

3.4.1. Energy Requirement

Petitioner's submission

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

Table 30: Energy requirement proposed by the Petitioner

Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
	RE	Projected	Projected	Projected
Sales	6092.41	6462.50	6855.42	7272.59
Open Access Sales	0.00	0.00	0.00	0.00
Less: Energy Savings	0.00	0.00	0.00	0.00
Total Sales	6092.41	6462.50	6855.42	7272.59

Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
	RE	Projected	Projected	Projected
Add: Losses	280.40	290.37	300.55	310.92
T&D Losses	4.40%	4.30%	4.20%	4.10%
Energy Required at Periphery	6372.81	6752.88	7155.97	7583.52
Add: Sales to common pool consumer	96.91	90.90	2.37	0.64
Less: Own Generation (Solar)	5.23	5.23	5.23	5.23
Total energy requirement at UT periphery	6464.49	6838.55	7153.10	7578.92
Less: Energy Purchased through UI at Periphery	55.16	0.00	0.00	0.00
Less: Purchase from Traders	0.00	0.00	0.00	0.00
Less: Open Access Purchase	0.00	0.00	0.00	0.00
Total Energy Required at Periphery	6409.33	6838.55	7153.10	7578.92
Transmission loss	243.49	259.80	271.75	287.93
Transmission loss (%)	3.66%	3.66%	3.66%	3.66%
Total Energy to be purchased	6652.82	7098.35	7424.85	7866.85

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 29*, the energy requirement at UT periphery and the total energy input estimated by the Commission for the upcoming Control Period is given in the following below:

Table 31: Energy requirement at UT periphery and total energy input approved by the Commission

Particulars	Revised Estimate ¹	Approved Projections			
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	
Sales (MU)	6093.53	6296.89	6507.52	6725.73	
T&D Losses	4.40%	4.30%	4.20%	4.10%	
Energy Required at UT Periphery (MU)	6373.99	6579.82	6792.82	7013.27	
Add: Sales to common pool consumer (MU)	96.91	90.90	2.37	0.64	
Less: Own Generation - Solar (MU)	5.23	5.23	5.23	5.23	
Total energy requirement at UT periphery (MU)	6465.67	6665.49	6789.96	7008.68	

3.4.2. Power Purchase Quantum

Petitioner's submission

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

- **Allocation from CGS:** The firm allocation and allocation from the unallocated quota from the central 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/2018/5733 dated 28.06.2018
- **Power purchase from new stations:** The Petitioner has envisaged purchase of power from two new generating stations for FY 2018-19 and the upcoming Control Period:
 - 25 MW allocation from Lara Super Thermal Power Station from second half of FY 2018-19
 - 25 MW allocation from Gadarwara Super Thermal Power Station from second half of FY 2018-19

¹ The values for FY 2018-19 shown here are revised estimates made by the Commission, used only for the purpose of projections for the Control Period

- **Plant Load Factor (PLF):** The Petitioner has considered the average of plant load factor for previous two years. For NSPCL and GMR EMCO, it has considered a PLF of 90%. Further, it has considered a normative PLF of 85% PLF for the two new stations – Lara and Gadarwara.
- **Auxiliary consumption:** The Petitioner has considered an auxiliary consumption of 9% and 3% for coal and gas based generating stations, respectively
- **Inter-State transmission losses:** The Petitioner has considered 3.66% Inter-State transmission losses

The Petitioner had signed a seven-year PPA with EMCO Energy Limited (GMR) and the same will come to an end by FY 2019-20. Further, the Petitioner has submitted that it is in the process to signing a long term PPA with the Solar Energy Corporation of India (SECI) for receiving Round the Clock (RTC) power from the FY 2020-21. It will be signing the PPA for procuring 200 MW solar and wind power from SECI. Further, DNHPDCL will be getting 50 MW of wind energy from SECI from FY 2019-20 for which the agreement has already been signed. Additionally, DNHPDCL has an installed capacity of 4.585 MW of solar plants in its territory, out of which 4.1 MW is ground mounted and 485 KW is solar rooftop

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

Table 32: Power purchase plan proposed by the Petitioner for the upcoming MYT Control Period

Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
	RE	Projected	Projected	Projected
NTPC Stations				
KSTPS	342.86	337.99	337.99	337.99
KSTPS 3	149.43	146.06	146.06	146.06
VSTPP-I	279.49	282.20	282.20	282.20
VSTPP-II	216.79	214.47	214.47	214.47
VSTPP- III	235.03	228.53	228.53	228.53
VSTPP- IV	314.96	303.35	303.35	303.35
KGPP	387.01	417.77	417.77	417.77
GGPP	301.49	332.70	332.70	332.70
Sipat-I	523.18	491.69	491.69	491.69
Sipat-II	187.46	171.66	171.66	171.66
Mauda	181.63	183.28	183.28	183.28
VSTPS-V	171.80	164.99	164.99	164.99
Mauda 2	372.70	394.50	394.50	394.50
Solapur	219.95	241.25	241.25	241.25
LARA	83.54	169.40	169.40	169.40
Gadarwara	83.54	169.40	169.40	169.40
KHSTPP-II	19.51	19.52	19.52	19.52
Subtotal - NTPC	4070.37	4268.77	4268.77	4268.77
NSPCL - Bhilai	726.22	758.93	758.93	758.93
NPCIL				
KAPS	85.30	116.09	116.09	116.09
TAPS	256.76	249.86	249.86	249.86
Subtotal - NPCIL	342.06	365.95	365.95	365.95

Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
	RE	Projected	Projected	Projected
Others				
EMCO Energy Ltd. (GMR Group)	1475.60	1529.50	0.00	0.00
Subtotal - Others	1475.60	1529.50	0.00	0.00
Power purchase from Other Sources				
Indian E. Exchange/Bilateral	38.58	0.00	104.00	546.00
UI	55.16	0.00	0.00	0.00
Solar	5.23	5.23	5.23	5.23
Non Solar	0.00	175.20	175.20	175.20
Solar REC	0.00	0.00	0.00	0.00
Non Solar REC	0.00	0.00	0.00	0.00
Solar (SECI)	0.00	0.00	876.00	876.00
Wind (SECI)	0.00	0.00	876.00	876.00
Subtotal – Other Sources	98.97	180.43	2036.43	2478.43
Total Power Purchase	6713.22	7103.58	7430.08	7872.08

Commission's Analysis

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

- **Allocation from CGS:** The Commission has considered firm allocation and allocation from the unallocated quota from the central generating stations based on average allocation for FY 2017-18. The same has been obtained from Regional Energy Account of western region prepared by WRPC vide letter number WRPC/Comml.-I/ABTREA/2018/3.0 dated 05.04.2018. The same share of allocation has been assumed for all the years of the upcoming Control Period.
- **Power purchase from new stations:** The Commission has used the assumptions used by the Petitioner as below:
 - 25 MW allocation from Lara Super Thermal Power Station from second half of FY 2018-19
 - 25 MW allocation from Gadardwara Super Thermal Power Station from second half of FY 2018-19.
- **Plant Load Factor (PLF):** The Commission has made the following assumptions with respect to PLF:
 - **NTPC, NSPCL and GMR EMCO plants:** The Commission has considered the load factor as average of PLF for previous two years and 5 months of FY 2018-19, obtained from CEA's Monthly Generation Overview Report.
 - **NPCIL plants:** The Commission has considered the load factor as average of PLF for previous four years and 5 months of FY 2018-19, obtained from CEA's generation overview report. However, for Kakrapar Atomic Power Plant (KAPS), the Commission has not considered PLF as the plant is under shutdown since FY 2016-17.
 - **Lara and Gadardwara plants:** Due to lack of past data, the Commission has assumed a PLF of 15% for FY 2018-19 (as per CEA Generation Report for August 2018) and the Petitioner's assumptions for the remaining years.
- **Auxiliary consumption:** The Commission has considered the Auxiliary consumption based on normative auxiliary consumption allowed in Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for thermal power plants. Accordingly, auxiliary consumption of 7.75% and 2.50% is considered for coal and gas based plants³. However, for nuclear generation power plants, the auxiliary consumption has been assumed as 10%.
- **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.

The quantum of power procurement projected by the Commission for the upcoming Control Period is given in *Table 33*.

The Commission notes that the Petitioner had signed a seven-year PPA with EMCO Energy Limited (GMR) and the same will come to an end by FY 2019-20. Further, it may be observed that, for a few plants such as Kawas Gas based Power Plant (KGPP), Jhanor Gandhar Gas based Power Plant (GGPP), Mauda Super Thermal Power Project (Stage 2), Solapur Super Thermal Power Station, there is a significant difference between power availability projected by the Petitioner and that determined by the Commission. Though the Petitioner's PLF assumptions are based on data for FY 2016-17 and FY 2017-18, reference to CEA Monthly Generation Overview Report shows different PLF values for FY 2016-17 & 2017-18. For instance, the Petitioner has assumed PLF for Mauda stage II as 85%, while the average PLF for last two years is 48.2% (for last four years, the average is 43.9%); PLF assumed by Petitioner for EMCO Energy Limited (GMR) is 90%, while the average PLF for previous years is 72%. The Commission has therefore used average of PLF of FY 2016-17 & 2017-18 and 5 months of FY 2018-19 for carrying out the projections.

Also, the Auxiliary Consumption assumed by the Petitioner is found to be at variance with that allowed by CERC in some cases. For example, the auxiliary consumption for EMCO energy limited (GMR) has been assumed as 3%, similar to a Gas based plant, despite it being a coal based plant. The Commission has therefore disregarded such variations and considered an auxiliary consumption of 7.75% and 2.50% for coal and gas based plants and 10% for nuclear based plants.

The Commission observes that the Petitioner has planned to substitute the gap in power procurement arising out of ending of seven year PPA with EMCO Energy Limited (GMR) for 200 MW yielding 1163 MUs (72% PLF) in FY 2019-20, with procurement from renewable sources. The Petitioner has signed PPA for 50 MW of wind energy yielding 175.20 MUs with SECI from FY 2019-20 and is in the process of signing another PPA with SECI for procuring 200 MW Round The Clock (RTC) solar and wind energy, yielding 1752 MUs from FY 2020-21. The Commission observes that out of the annual total power procurement, the Petitioner plans to procure as high as ~27.5% from renewable sources in FY 2020-21 and FY 2021-22.

The Commission is of the view that the Petitioner is over relying on renewable procurement to take care of its power procurement requirements. The Commission envisages challenges like grid stability, scheduling issues and excessive share of infirm power availability leading to unscheduled outages in the UT of DNH, which is dominated by industrial consumers. The Commission also observes that there is no PPA signed as yet for RTC renewable power procurement from SECI, further putting the Petitioner's plans at the risk of delay. In view of the above, the Commission directs the Petitioner to take measures expeditiously to ensure that it has a standby medium term or long term arrangement to meet power requirements, should the need arise in case of delay in COD of SECI solar and wind plants. The Commission also directs the Petitioner to ensure that the PPA it proposes to sign with SECI has provisions for protection of Petitioner against expensive exchange procurement, in case SECI plant fails to meet the RTC power supply commitments. In case the Petitioner finds it difficult to meet the directions stated above, the Commission directs the Petitioner to explore other firm medium to long term power tie-up options.

Table 33: Power purchase plan approved by the Commission for the upcoming MYT Control Period

Sr. No.	Source	Capacity (MW)	Weighted average allocation to Licensee		Avg. PLF	Gross Generation (MU)	Aux consumption (%)	Net Generation (MU)	Power Purchase (MU)			
			%	MW					Base Year (RE) ²	Approved Projections		
										2018-19	2019-20	2020-21
1	2	3	4		5	6	7	8				
A	Central Sector Power Stations											
I	NTPC	17,833		663.28					3,855.16	4,134.17	4,134.17	4,134.17
	KSTPS	2,100	2.50%	52.57	89%	16,442.59	7.75%	15,168.29	379.74	379.74	379.74	379.74
	KSTPS 3	500	4.69%	23.43	90%	3,924.12	7.75%	3,620.00	169.60	169.60	169.60	169.60
	VSTPP-I	1,260	3.44%	43.39	86%	9,437.89	7.75%	8,706.45	299.84	299.84	299.84	299.84
	VSTPP-II	1,000	3.30%	33.02	85%	7,483.78	7.75%	6,903.79	227.94	227.94	227.94	227.94
	VSTPP- III	1,000	3.49%	34.86	86%	7,490.39	7.75%	6,909.88	240.89	240.89	240.89	240.89
	VSTPP- IV	1,000	4.60%	46.05	86%	7,490.39	7.75%	6,909.88	318.18	318.18	318.18	318.18
	KGPP	656	12.38%	81.22	40%	2,316.25	2.50%	2,258.34	279.61	279.61	279.61	279.61
	GGPP	657	8.92%	58.61	42%	2,435.08	2.50%	2,374.20	211.81	211.81	211.81	211.81
	Sipat-I	1,980	4.52%	89.41	90%	15,541.75	7.75%	14,337.26	647.43	647.43	647.43	647.43
	Sipat-II	1,000	3.15%	31.51	90%	7,849.37	7.75%	7,241.04	228.14	228.14	228.14	228.14
	Mauda	1,000	4.56%	45.59	48%	4,220.10	7.75%	3,893.04	177.49	177.49	177.49	177.49
	VSTPS-V	500	5.12%	25.59	86%	3,745.19	7.75%	3,454.94	176.85	176.85	176.85	176.85
	Mauda 2	1,320	4.67%	61.65	48%	5,570.53	7.75%	5,138.82	239.99	239.99	239.99	239.99
	Solapur	660	5.51%	36.38	60%	3,455.28	7.75%	3,187.49	175.68	175.68	175.68	175.68
	LARA ³	1,600	1.56%	25.00	85%	11,913.60	9.00%	10,841.38	29.89	169.40	169.40	169.40
	Gadarwara ³	1,600	1.56%	25.00	85%	11,913.60	9.00%	10,841.38	29.89	169.40	169.40	169.40
	KHSTPP-II	1,500	0.23%	3.50	78%	10,300.10	7.75%	9,501.84	22.17	22.17	22.17	22.17
II	NPCIL	1,520		57.06		7,607		6,846	260.73	260.73	260.73	260.73
	KAPS	440	3.62%	15.93	0%	-	10.00%	-	-	-	-	-
	TAPP 3&4	1,080	3.81%	41.13	80%	7,607.05	10.00%	6,846.35	260.73	260.73	260.73	260.73

² The values for FY 2018-19 shown here are revised estimates made by the Commission, used only for the purpose of projections for the Control Period

³ For Lara and Gadawara stations, capacity allocation, PLF and auxiliary consumption for the Control Period have been considered based on the Petitioner's submission

Approval of the various components of the Business Plan Petition

Sr. No.	Source	Capacity (MW)	Weighted average allocation to Licensee		Avg. PLF	Gross Generation (MU)	Aux consumption (%)	Net Generation (MU)	Power Purchase (MU)			
			%	MW					Base Year (RE) ²	Approved Projections		
										2018-19	2019-20	2020-21
III	Others	1,100		300.00		7,574		6,987	1,862.63	1,862.63	699.43	699.43
	NSPCL Bhillai	500	20.00%	100.00	87%	3,790.96	7.75%	3,497.16	699.43	699.43	699.43	699.43
	EMCO Energy Ltd. (GMR)	600	33.33%	200.00	72%	3,782.74	7.75%	3,489.58	1,163.19	1,163.19	-	-
IV	Renewable Sources								5.23	180.43	1,932.43	1,932.43
	Solar (Own Generation)								5.23	5.23	5.23	5.23
	Non-Solar								-	175.20	175.20	175.20
	Solar (SECI)								-	-	876	876
	Wind (SECI)								-	-	876	876
V	Total (excluding Renewable source)								5,978.52	6,257.53	5,094.33	5,094.33
VI	POWERGRID Losses											
	Transmission Loss (%)								3.66%	3.66%	3.66%	3.66%
	Transmission Loss (MU)								218.81	229.03	186.45	186.45
VII	Total power available from firm sources (including Renewable sources)								5,764.94	6,208.93	6,840.31	6,840.31
VIII	Total power available at UT periphery from firm sources (including Renewable sources)⁴								5759.71	6203.70	6835.08	6835.08

⁴ Excluding own generation

3.4.3. Energy Balance

The energy balance proposed for FY 2018-19 and the upcoming Control Period as estimated by the Petitioner is as given below:

Table 34: Energy Balance proposed by the Petitioner

Particulars	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
	RE	Projected	Projected	Projected
Sales	6092.41	6462.50	6855.42	7272.59
Open Access Sales	0.00	0.00	0.00	0.00
Less: Energy Savings	0.00	0.00	0.00	0.00
Total Sales	6092.41	6462.50	6855.42	7272.59
Add: Losses	280.40	290.37	300.55	310.92
T&D Losses	4.40%	4.30%	4.20%	4.10%
Energy Required at Periphery	6372.81	6752.88	7155.97	7583.52
Add: Sales to common pool consumer	96.91	90.90	2.37	0.64
Less: Own Generation (Solar)	5.23	5.23	5.23	5.23
Total energy requirement at UT periphery	6464.49	6838.55	7153.10	7578.92
Less: Energy Purchased through UI at Periphery	55.16	0.00	0.00	0.00
Less: Purchase from Traders	0.00	0.00	0.00	0.00
Less: Open Access Purchase	0.00	0.00	0.00	0.00
Total Energy Required at Periphery	6409.33	6838.55	7153.10	7578.92
Transmission loss	243.49	259.80	271.75	287.93
Transmission loss (%)	3.66%	3.66%	3.66%	3.66%
Total Energy to be purchased	6652.82	7098.35	7424.85	7866.85
Total Energy requirement from tied up sources & UI at generator end	6707.98	7098.35	7424.85	7866.85
Total Energy requirement in UT including Open Access	6707.98	7098.35	7424.85	7866.85

Commission's Analysis

The energy balance for the upcoming Control Period based on the Commission's analysis is given below:

Table 35: Energy Balance approved by the Commission

Particulars	Revised Estimate ⁵	Approved Projections		
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Energy Required				
Sales (A)	6093.53	6296.89	6507.52	6725.73
T&D Losses (B)	4.40%	4.30%	4.20%	4.10%
Energy Required at UT Periphery (C = A/(1-B))	6373.99	6579.82	6792.82	7013.27
Sales to common pool consumer (D)	96.91	90.90	2.37	0.64
Own Generation - Solar (E)	5.23	5.23	5.23	5.23
Total energy requirement at UT periphery (F = C+D-E)	6465.67	6665.49	6789.96	7008.68

⁵ The values for FY 2018-19 shown here are revised estimates made by the Commission, used only for the purpose of projections for the Control Period

Particulars	Revised Estimate ⁵	Approved Projections		
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Energy Available				
Energy available from tied up sources - Conventional (G)	5978.52	6257.53	5094.33	5094.33
Transmission loss (H)	3.66%	3.66%	3.66%	3.66%
Transmission loss (MU) (I=G*H)	218.81	229.03	186.45	186.45
Energy available at UT periphery (J = G-I)	5759.71	6028.50	4907.88	4907.88
Energy available from Renewable sources - SECI (K)	0.00	175.20	1927.20	1927.20
Total energy available at UT periphery from firm sources including renewable sources (L = J+K)	5759.71	6203.70	6835.08	6835.08
(Deficit)/Surplus (M = L-F)	(705.96)	(461.79)	45.12	(173.60)

3.4.4. Renewable Purchase Obligation

Petitioner's submission

The Petitioner has considered the RPO targets for each year of the Control Period as per the Joint Electricity Regulatory Commission for State of Goa & Union Territories (Procurement of Renewable Energy), Third Amendment Regulations, 2016 notified on 22 August 2016. As per the aforementioned Regulations, if the Petitioner fails the RPO targets, it has to compensate by purchasing Renewable Energy Certificates (REC) proportionate to the deficit in RPO procurement.

For the purpose of the Business Plan petition, for FY 2018-19 and FY 2019-20, the Petitioner plans to fulfil the RPO targets through the mix of purchase of physical power and purchase of REC. The Petitioner has submitted that it is in the process to signing a long term PPA with the Solar Energy Corporation of India (SECI) for receiving Round the Clock (RTC) power from the FY 2020-21. It will be signing the PPA for procuring 200 MW solar and wind power from SECI. Further, DNHPDCL will be getting 50 MW of wind energy from SECI from FY 2019-20 for which the agreement has already been signed. Additionally, the DNHPDCL has already installed 4.585 MW of solar plants in its territory for generation of solar energy out of which 4.1 MW is ground mounted and 485 KW is solar rooftop. The Petitioner has submitted that the above steps shall allow it to meet the renewable purchase obligation targets. The plan for meeting RPO submitted by the Petitioner is as given below:

Table 36: RPO plan proposed by the Petitioner for the upcoming MYT Control Period

Description	FY 2019-20	FY 2020-21	FY 2021-22
Sales within UT (MU)	6,462.50	6,855.42	7,272.59
RPO targets (%)	11.50%	14.10%	17.00%
Solar	4.70%	6.10%	8.00%
Non-Solar	6.80%	8.00%	9.00%
RPO targets (MU)	743.19	966.61	1236.34
Solar	303.74	418.18	581.81
Non-Solar	439.45	548.43	654.53
RPO Compliance (Procurement and own generation)	180.43	1932.43	1932.43
Solar	5.23	881.23	881.23
Non-Solar	175.20	1051.20	1051.20
RPO Compliance (REC purchase)	562.75	0.00	0.00
Solar	298.50	0.00	0.00
Non-Solar	264.25	0.00	0.00

Commission's analysis

In the current RPO compliance plan submitted by the Petitioner, the Commission notes that there is an over-reliance on RECs for FY 2018-19 (revised estimates) and the first year of upcoming Control Period FY 2019-20. However, the Commission acknowledges the efforts planned to procure more renewables in FY 2020-21 and FY 2021-22. In view of the sales projections approved by the Commission in section 3.2, approved RPO targets are given below:

Table 37: RPO plan approved by the Commission

Description	Revised Estimate ⁶	Approved Projections		
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22
Sales within UT (MU)	6,093.53	6,296.89	6,507.52	6,725.73
RPO targets (%)	9.00%	11.50%	14.10%	17.00%
Solar	3.60%	4.70%	6.10%	8.00%
Non-Solar	5.40%	6.80%	8.00%	9.00%
RPO targets (MU)	548.42	724.14	917.56	1143.37
Solar	219.37	295.95	396.96	538.06
Non-Solar	329.05	428.19	520.60	605.32
RPO Compliance (Procurement and own generation)	0.00	175.20	1927.20	1927.20
Solar	-	-	876.00	876.00
Non-Solar	-	175.20	1,051.20	1,051.20
RPO Compliance (REC purchase)	548.42	548.94	0.00	0.00
Solar	219.37	295.95	0.00	0.00
Non-Solar	329.05	252.99	0.00	0.00

The Commission expects the Petitioner to make all efforts to increase procurement from renewable sources for FY 2019-20. Furthermore, actual compliance in respect of the pending RPO would be reviewed at the time of true up of the respective years and supporting details such as purchase of RECs, bills from solar/non-solar plants for the respective years must be submitted during the MYT filing.

3.5. Capital Investment Plan

3.5.1 Details of capital expenditure and capitalisation

Summary of scheme wise capital expenditure and capitalisation

The Petitioner has proposed various Transmission and Distribution schemes for the upcoming Control Period. The summary of capital expenditure projections and capitalisation schedule submitted by the Petitioner is as given in the following table:

Table 38: Capital expenditure plan and capitalisation schedule proposed by the Petitioner for the upcoming Control Period

Sr. No.	Name of Scheme	Estimated scheme cost (INR Cr)	Proposed Expenditure (INR Cr)				Capitalisation Schedule
			FY 2019-20	FY 2020-21	FY 2021-22	Total	
Ongoing scheme(s)							
A1	Underground cabling with establishment of 66/11 KV substation in SMC area, Silvassa town	139.00	64.00	0.00	0.00	64.00	FY 2019-20

⁶ The values for FY 2018-19 shown here are revised estimates made by the Commission, used only for the purpose of projections for the Control Period

Sr. No.	Name of Scheme	Estimated scheme cost (INR Cr)	Proposed Expenditure (INR Cr)				Capitalis ation Schedule
			FY 2019-20	FY 2020-21	FY 2021-22	Total	
New schemes							
B1	A scheme for Establishment of new 66/11 KV Sub Station at village Sayali with associated 66 KV underground line	19.44	10.00	9.44	0.00	19.44	FY 2020-21
B2	A scheme for augmentation of 66/11 KV Kharadpada substation by adding 20 MVA Transformer	3.57	3.57	0.00	0.00	3.57	FY 2019-20
B3	A scheme for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV Kharadpada – Athal substation	2.13	2.13	0.00	0.00	2.13	FY 2019-20
B4	Scheme for integrated solution for various business processes such as billing finance HR and projects. (ERP SOFTWARE)	3.25	2.50	0.75	0.00	3.25	FY 2020-21
B5	New 66 kV line from 220/66 kV Wagchipa Sub station	21.00	21.00	0.00	0.00	21.00	FY 2019-20
B6	Smart Metering Projects	48.00	10.00	20.00	18.00	48.00	FY 2021-22
B7	Charging station for e-vehicle	2.00	2.00	0.00	0.00	2.00	FY 2019-20
B8	Upgradation of existing Dudhani 11 KV feeder on Areal Bunch Conductor (ABC) along with mono-pole tower (Approx. 50 km).	17.00	7.00	10.00	0.00	17.00	FY 2020-21
B9	Upgradation of existing Mandoni 11 KV feeder on Areal Bunch Conductor (ABC) on mono-pole tower (Approx. 40 km).	5.00	5.00	0.00	0.00	5.00	FY 2019-20
B10	Official Assets, estd. of data centre, call centre, website, gym etc.	5.00	2.00	2.00	1.00	5.00	FY 2021-22
B11	Capex for Energy Efficiency measures	6.00	2.00	2.00	2.00	6.00	FY 2021-22
B12	Capacitor placement at each substation	2.60	2.60	0.00	0.00	2.60	FY 2019-20
B13	Normal development works.	15.00	5.00	5.00	5.00	15.00	FY 2021-22
B14	A scheme for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV line	25.00	10.00	10.00	5.00	25.00	FY 2021-22
B15	Augmentation of Wagdhara Sub station (1X15+20) MVA to (1X15+2X20) MVA along with 66 KV bay and relay panel	3.57	3.57	0.00	0.00	3.57	FY 2019-20
B16	New Sub station at Dadra 66/11 (2X20) MVA GIS Sub station	19.44	10.00	9.44	0.00	19.44	FY 2020-21
B17	Augmentation of 66/11 KV Piparia Sub station (2X20+1X20) MVA	3.57	3.57	0.00	0.00	3.57	FY 2019-20

Sr. No.	Name of Scheme	Estimated scheme cost (INR Cr)	Proposed Expenditure (INR Cr)				Capitalisation Schedule
			FY 2019-20	FY 2020-21	FY 2021-22	Total	
B18	Extension of 66 KV line with higher capacity conductor (TACSR) from 220 KV Khadoli S/s to 66 KV Kala - Velugam S/s common point	6.00	0.00	6.00	0.00	6.00	FY 2020-21
B19	Fully automatic computerised meter test bench for 20 position (with existing available ref. standard meter)	2.00	2.00	0.00	0.00	2.00	FY 2019-20
B20	Portable single phase reference standard meter for site testing of single phase meters (05 nos.)	0.08	0.08	0.00	0.00	0.08	FY 2019-20
B21	Portable three phase reference standard meter for site testing of three phase meters (02 nos.)	0.24	0.24	0.00	0.00	0.24	FY 2019-20
B22	Software for Meter Data Acquisition Software (MDAS).	0.70	0.70	0.00	0.00	0.70	FY 2019-20
	Total		168.95	74.63	31.00	274.59	

Commission's analysis

The Commission has analysed actual achievement of capital expenditure and capitalisation of the Petitioner vis-à-vis the same approved in the last three previous tried up years as given below:

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

Particulars	FY 2014-15		FY 2015-16		FY 2016-17		Total	
	Approved	Actual	Approved	Actual	Approved	Actual	Approved	Actual
Capital Expenditure (INR Cr)	75.30	57.18	26.00	13.21	136.60	34.06	237.90	104.45

Table 40: Capitalisation achieved by the Petitioner vis-à-vis approved by the Commission

Particulars	FY 2014-15		FY 2015-16		FY 2016-17		Total	
	Approved	Actual	Approved	Actual	Approved	Actual	Approved	Actual
Capitalisation (INR Cr)	25.29	3.33	15.6	3.71	94.36	33.89	135.25	40.93

The Commission observes that the Petitioner has achieved only 43.9% of approved capital expenditure for FY 2014 – 15 to FY 2016 – 17 and 30.3% of approved capitalisation for FY 2014 – 15 to FY 2016 – 17. Further, the Commission observes that the Petitioner has not informed the Commission regarding the execution and completion of the schemes undertaken by it in the existing Control Period on a quarterly basis. The Commission opines that 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:

“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.”

If the Petitioner consistently fails to meet the approved capital expenditure and capitalisation during each quarter or if the Petitioner fails to provide the above reports on time, the Commission would be constrained to reduce the approved capital expenditure and capitalisation.

Overall approach of the Commission

In respect of the ongoing scheme, the Commission has compared the capital expenditure and capitalisation submitted by the Petitioner with that approved by the Commission in its Tariff Order dated 30 January 2018. Any discrepancies in the scheme wise estimated capital expenditure and capitalisation vis-à-vis that approved for FY 2018 – 19 have been factored in while determining the capital expenditure for the Control Period.

In respect of the proposed new schemes, 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 30 days 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.

A1. Underground cabling with establishment of 66/11 KV substation in SMC area, Silvassa town

Petitioner's submission

The capital expenditure and capitalisation details submitted by the Petitioner is given below:

Table 41: Capital expenditure and capitalisation for ongoing schemes

Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)				Capitalisation schedule
		2018-19	2019-20	2020-21	2021-22	
Underground cabling with establishment of 66/11 KV substation in SMC area, Silvassa town	139.00	75.00	64.00	0.00	0.00	FY 2019-20

The Petitioner adds further that upon implementation of the said scheme, the Petitioner will be able to reduce the power interruption, line losses and ensure beautification of city areas of Silvassa. The Petitioner in its reply to the Deficiency Note raised by the Commission has also submitted that the implementation of the said scheme is in progress by M/s L&T Ltd. and is expected to be completed by July 2019.

Commission's analysis

The Commission observes that in its Tariff Order dated 30 January 2018, the Commission had approved the capital expenditure worth INR 60 Cr for the said scheme. Accordingly, the Commission has considered INR 60 Cr of capital expenditure for FY 2018-19 and has approved the balance INR 79 Cr for FY 2018-19. With respect to the capitalisation schedule submitted by the Petitioner, the Commission notes that the implementation of the said scheme is in progress and is expected to be completed by July 2019. Therefore, the Commission has approved the Petitioner's submission.

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

Table 42: Summary of capital expenditure approved for Ongoing Scheme(s) for the upcoming Control Period

Scheme(s)	Approved in TO ⁷ (INR Cr)	Approved (INR Cr)			
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Total
Underground cabling with establishment of 66/11 KV substation in SMC area, Silvassa town	60.00	79.00	-	-	79.00
Total	60.00	79.00	-	-	79.00

Table 43: Summary of capitalisation approved for Ongoing Scheme(s) for the upcoming Control Period

Scheme(s)	Approved in TO ⁷	Approved (INR Cr)			
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	Total
Underground cabling with establishment of 66/11 KV substation in SMC area, Silvassa town	-	139.00	-	-	139.00
Total	-	139.00	-	-	139.00

Therefore, the Commission approves a total capital expenditure of INR 79 Cr and total capitalisation of INR 139 Cr for the upcoming Control Period for ongoing scheme(s).

B1. Establishment of new 66/11 KV Sub Station at village Sayali with associated 66 KV underground line

Petitioner's Submission

The Petitioner has submitted that at Rakholi, Masat & Silli, the three substations are fully loaded and there is no scope for further expansion / augmentation. Furthermore, the above areas and their surrounding areas are getting industrialised at a fast pace. Consequently, there is about 10 MVA load of HT connection pending in the above areas. Therefore, the Petitioner has submitted that by establishing Sayali sub station, 11 KV HT line network load feeding from Rakholi, Masat and Silli sub station will reduce, along with improvements in quality of power supply and reduction in T&D losses.

The Petitioner in its reply to the Deficiency Note issued by the Commission has also submitted that the Petitioner has obtained technical sanctions and is in the process of administrative and expenditure approval.

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

Table 44: Capital expenditure and capitalisation schedule proposed by the Petitioner for establishment of new 66/11 KV Sub Station at village Sayali, with associated 66 KV underground line schemes

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B1	A scheme for establishment of new 66/11 KV Sub Station at village Sayali with associated 66 KV underground line	19.44	10.00	9.44	0.00	FY 2020-21

⁷ Tariff Order dated 30 January 2018

Commission's Analysis

The Commission appreciates the efforts by the Petitioner to improve the existing T&D network and also reduce the T&D losses. The Commission also notes that there is a mismatch between capital expenditure schedule proposed by the Petitioner and the capital expenditure schedule specified in the DPR. As per the schedule in DPR, INR 8 Cr of capital expenditure is estimated to be incurred in FY 2018-19 and the balance in FY 2019-20. Furthermore, as necessary approvals are yet to be obtained, the Commission approves INR 8 Cr of capital expenditure in FY 2019-20 and the balance expenditure of INR 11.44 Cr in FY 2020-21 based on the capital expenditure schedule proposed in the DPR. As regards the capitalisation, the Commission approves the capitalisation schedule submitted by the Petitioner.

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 new 66/11 KV Sub Station at village Sayali, with associated 66 KV underground line schemes

Sl. No.	Name of Scheme	Approved Expenditure (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B1	A scheme for establishment of new 66/11 KV Sub Station at village Sayali with associated 66 KV underground line	8.00	11.44	-	19.44

Table 46: Capitalisation schedule approved by the Commission for establishment of new 66/11 KV Sub Station at village Sayali, with associated 66 KV underground line schemes

Sl. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B1	A scheme for establishment of new 66/11 KV Sub Station at village Sayali with associated 66 KV underground line	-	19.44	-	19.44

Therefore, the Commission approves a total capital expenditure of INR 19.44 Cr and total capitalisation of INR 19.44 Cr for the upcoming Control Period.

B2. Augmentation of 66/11 KV Kharadpada substation by adding 20 MVA Transformer

Petitioner's Submission

The Petitioner has submitted that the initial plan was to implement a new substation at Naroli village. However, as Government land was not available in the surrounding area, the plan was scrapped and a decision was taken to augment the capacity of existing 66/11 KV Kharadpada substation instead. The Petitioner expects the new transformer to reduce the present loading on existing transformer and help cater to pending demand in the area.

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

Table 47: Capital expenditure and capitalisation schedule proposed by the Petitioner for augmentation of 66/11 KV Kharadpada substation by adding 20 MVA Transformer

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B2	A scheme for augmentation of 66/11 KV Kharadpada substation by adding 20 MVA Transformer	3.57	3.57	-	-	FY 2019-20

Commission's Analysis

The Commission observes that the capital expenditure schedule submitted by the Petitioner does not match with the schedule proposed in the submitted DPR. As per the schedule in DPR, INR 3.57 Cr of total capital expenditure was estimated to be completed in FY 2018-19. However, the Petitioner has proposed the same to be completed in FY 2019-20. The Commission observes that the Petitioner has been unable to obtain timely approvals and hence it has delayed the implementation of the said scheme. The Commission therefore approves the capital expenditure plan and the capitalisation schedule submitted by the Petitioner, subject to submission of quarterly updates as per Clause 8.5 (f) of the JERC MYT Regulations.

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

Table 48: Capital expenditure approved by the Commission for augmentation of 66/11 KV Kharadpada substation by adding 20 MVA Transformer

Sl. No.	Name of Scheme	Approved Expenditure (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B2	A scheme for augmentation of 66/11 KV Kharadpada substation by adding 20 MVA Transformer	3.57	-	-	3.57

Table 49: Capitalisation schedule approved by the Commission for augmentation of 66/11 KV Kharadpada substation by adding 20 MVA Transformer

Sl. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B2	A scheme for augmentation of 66/11 KV Kharadpada substation by adding 20 MVA Transformer	3.57	-	-	3.57

Therefore, the Commission approves a total capital expenditure of INR 3.57 Cr and total capitalisation of INR 3.57 Cr for the upcoming Control Period.

B3. Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV Kharadpada – Athal substation

Petitioner's Submission

The Petitioner has submitted that the current carrying capacity of ACSR Panther conductor at Kharadpada – Athal substation is 525 Amp. As the current conductor has already passed 93% loading of its capacity, the Petitioner is replacing the same with High capacity TACSR conductor with a capacity of 800 Amp. The Petitioner expects the new conductor to be sufficient to cater to the anticipated load of Athal substation as well as some of Masat S/s load.

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

Table 50: Capital expenditure and capitalisation schedule proposed by the Petitioner for replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV Kharadpada – Athal substation

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B3	A scheme for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV Kharadpada – Athal substation	2.13	2.13	-	-	FY 2019-20

Commission's Analysis

The Commission observes that the capital expenditure schedule submitted by the Petitioner does not match with the schedule proposed in the submitted DPR. As per the schedule in DPR, INR 3.57 Cr of total capital expenditure was estimated to be completed in FY 2018-19. However, the Petitioner has proposed the same to be completed in FY 2019-20. The Commission opines that the Petitioner has not been able to obtain timely approvals and hence has delayed the implementation of the said scheme. The Commission therefore approves the capital expenditure of INR 2.13 Cr and the capitalisation schedule submitted by the Petitioner, subject to submission of quarterly updates as per Clause 8.5 (f) of the JERC MYT Regulations.

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 replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV Kharadpada – Athal substation

Sl. No.	Name of Scheme	Approved Expenditure (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B3	A scheme for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV Kharadpada – Athal substation	2.13	-	-	2.13

Table 52: Capitalisation schedule approved by the Commission for replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV Kharadpada – Athal substation

Sl. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B3	A scheme for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV Kharadpada – Athal substation	2.13	-	-	2.13

Therefore, the Commission approves a total capital expenditure of INR 2.13 Cr and total capitalisation of INR 2.13 Cr for the upcoming Control Period.

B4. Integrated solution for various business processes such as billing finance HR and projects (ERP SOFTWARE)

Petitioner's Submission

The Petitioner has submitted that the objective of the project is to improve the internal efficiency by facilitating timely flow of data between different offices and elimination of the need for the physical submission. The Petitioner has proposed the following components as part of the scheme:

- Office management System (OMS)
 - Inward Outward Register Maintenance System (IORMS)
 - Human Resource Management System (HRMS)
 - Finance & Accounts Management System (FAMS)
 - Visitor Management System (VMS)
 - Vendor/Contractor Management System (VCMS)
 - Purchase & Store Management System (PSMS)
 - Document Management System (DMS)
 - Estimate/Tender Management System (EMS)
 - User management System (UMS)
- Consumer Services management System
 - Consumer Online Application System
 - Billing Management System
 - Consumer Complaint Management System

- Technical Services Management System
 - Operation & Maintenance management System
- Asset management System
- Grievance System

The Petitioner in its reply to the Deficiency Note has also submitted the internal approvals for said scheme and the proposal provided by the implementing firm.

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

Table 53: Capital expenditure and capitalisation schedule proposed by the Petitioner for ERP software

	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B4	Scheme for integrated solution for various business processes such as billing finance HR and projects. (ERP SOFTWARE)	3.25	2.50	0.75	0.00	FY 2020-21

Commission's Analysis

The Commission notes that the Petitioner has submitted the internal approval for said scheme and its implementation has already been awarded through a tendering process. Further, the Commission observes that that the expenditure proposed by the Petitioner (INR 3.25 Cr) does not match with the expenditure proposed by the implementing firm (~ INR 3.8 Cr). In view of no clarification provided by the Petitioner in this regard, the Commission approves the lower of the two values i.e. INR 3.25 Cr, as proposed by the Petitioner.

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

Table 54: Capital expenditure approved by the Commission for the implementation of ERP Software

Sl. No.	Name of Scheme	Approved Expenditure (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B4	Scheme for integrated solution for various business processes such as billing finance HR and projects. (ERP SOFTWARE)	2.50	0.75	-	3.25

Table 55: Capitalisation schedule approved by the Commission for the implementation of ERP Software

Sl. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B4	Scheme for integrated solution for various business processes such as billing finance HR and projects. (ERP SOFTWARE)	-	3.25	-	3.25

Therefore, the Commission approves a total capital expenditure of INR 3.25 Cr and total capitalisation of INR 3.25 Cr for the upcoming Control Period.

B5. New 66 kV line from 220/66 kV Wagchiba Sub station

Petitioner's Submission

The Petitioner has indicated that the proposal for establishment of 220/66 KV 2X160 MVA substation at Wagchiba in UT of Dadra & Nagar Haveli by LILO of both circuit of Vapi-Khadoli 220 KV D/C line was agreed in the 33rd Standing Committee on Power System Planning in WR. The Petitioner further adds that the work of

laying of 66 KV lines has to be completed so that power can be evacuated and connected to various substations of the Petitioner.

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

Table 56: Capital expenditure and capitalisation schedule proposed by the Petitioner for new 66 kV line from 220/66 kV Wagchiba Sub station

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B5	New 66 kV line from 220/66 kV Wagchiba Sub station	21.00	21.00	-	-	FY 2019-20

Commission's Analysis

The Commission observes that the capital expenditure schedule submitted by the Petitioner does not match with the schedule proposed in the submitted DPR. Furthermore, the Commission observes that there are inconsistencies in the proposed schedule within the DPR. As per the funding plan specified in DPR, INR 21.03 Cr of total capital expenditure was estimated to be completed in FY 2018-19. However, as per the schedule of work specified in the DPR, the implementation is likely to start in FY 2018-19 and is planned to be completed at the end of FY 2019-20. Based on the above observations, the Commission observes that the said scheme is planned to be executed over a period of 18-24 months. Further, the Commission also observes that the Petitioner envisages the implementation to start in 2019-20. Therefore, the Commission approves the capital expenditure and capitalisation of INR 21.00 Cr for FY 2020-21, as it opines that the Petitioner is yet to obtain the necessary approvals (based on the Commission's observations in other schemes).

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

Table 57: Capital expenditure approved by the Commission for new 66 kV line from 220/66 kV Wagchiba Sub station

Sl. No.	Name of Scheme	Approved Expenditure (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B5	New 66 kV line from 220/66 kV Wagchiba Sub station	-	21.00	-	21.00

Table 58: Capitalisation schedule approved by the Commission for new 66 kV line from 220/66 kV Wagchiba Sub station

Sl. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B5	New 66 kV line from 220/66 kV Wagchiba Sub station	-	21.00	-	21.00

Therefore, the Commission approves a total capital expenditure of INR 21 Cr and total capitalisation of INR 21 Cr for the upcoming Control Period.

B6. Smart Metering Projects

Petitioner's Submission

The Petitioner has submitted that the said scheme is being implemented under the flagship program of the GoI i.e. the IPDS scheme. The Power Finance Corporation (PFC) has been envisaged to be the nodal agency for operationalization and implementation of the scheme under the overall guidance of the MOP.

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

Table 59: Capital expenditure and capitalisation schedule proposed by the Petitioner for Smart Metering Projects

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B6	Smart Metering Projects	48.00	10.00	20.00	18.00	FY 2021-22

Commission's Analysis

The Commission observes in the DPR that the said scheme is estimated to cost INR 48.62 Cr and is to be implemented over a period of 3 years. The Commission further observes that there is a mismatch between the capital expenditure specified in the DPR i.e. INR 48.62 Cr and the capital expenditure proposed i.e. INR 48 Cr. In view of no clarification provided by the Petitioner in this regard, the Commission approves the lower of the two values i.e. INR 48 Cr, as proposed by the Petitioner.

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

Table 60: Capital expenditure approved by the Commission for Smart Metering Projects

Sl. No.	Name of Scheme	Approved Expenditure (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B6	Smart Metering Projects	10.00	20.00	18.00	48.00

Table 61: Capitalisation schedule approved by the Commission for Smart Metering Projects

Sl. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B6	Smart Metering Projects	-	-	48.00	48.00

Therefore, the Commission approves a total capital expenditure of INR 48 Cr and total capitalisation of INR 48 Cr for the upcoming Control Period.

B7. Charging station for e-vehicle

Petitioner's Submission

The Petitioner has submitted that it has decided to establish a charging station for the e-vehicle because the UT of Dadra and Nagar Haveli is promoting the use of e-vehicle. The Petitioner has also submitted that the administration of UT of D&NH is in the process to procure two vehicles (e-bus).

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

Table 62: Capital expenditure and capitalisation schedule proposed by the Petitioner for charging station for e-vehicle

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B7	Charging station for e-vehicle	2.00	2.00	-	-	FY 2019-20

Commission's Analysis

The Commission notes that the Petitioner has failed to submit the DPRs for the above schemes. Based on the Commission's overall approach, if the Petitioner has failed to submit the DPRs / Work orders for any scheme, the Commission has not approved any of the capital expenditure and capitalisation proposed for the said schemes. The Commission also observes that the proposed expenditure for the scheme is significantly higher than the market rates. Therefore, the Commission cannot proceed with the approval for the said scheme without DPR/ additional details.

B8-B9. Upgradation of existing Dudhani 11 KV feeder and Mandoni 11 KV feeder on Areal Bunch Conductor (ABC) along with monopole tower

Petitioner's Submission

The Petitioner has submitted that voltage of Dudhani and Mandoni areas is not maintained properly. In addition, as the Petitioner expects expansion of tourism activities in these areas, it has proposed to erect one 11 KV feeder with dog conductor on Areal Bunch Conductor (ABC) along with monopole tower for each of the area (Dudhani and Mandoni). The Petitioner has also submitted that the length of the conductor is expected to be ~50 km and ~40 km for the areas of Dudhani and Mandoni respectively.

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

Table 63: Capital expenditure and capitalisation schedule proposed by the Petitioner for upgradation of existing Dudhani 11 KV feeder and Mandoni 11 KV feeder on Areal Bunch Conductor (ABC) along with monopole tower

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B8	Upgradation of existing Dudhani 11 KV feeder on Areal Bunch Conductor (ABC) along with mono-pole tower (Approx. 50 km).	17.00	7.00	10.00	-	FY 2020-21
B9	Upgradation of existing Mandoni 11 KV feeder on Areal Bunch Conductor (ABC) on mono-pole tower (Approx. 40 km).	5.00	5.00	0.00		FY 2019-20

Commission's Analysis

The Commission notes that the Petitioner has failed to submit the DPRs for the above schemes. Based on the Commission's overall approach, if the Petitioner has failed to submit the DPRs / Work orders for any scheme, the Commission has not approved any of the capital expenditure and capitalisation proposed for the said schemes. Accordingly, the Commission shall approve these schemes once the DPRs in respect of both the schemes are submitted, which shall also clarify the difference in the cost/km of INR 0.34 Cr/km for the Dudhani scheme and INR 0.125 Cr/km for the Mandoni scheme.

B10-B22. Other Schemes

Petitioner's submission

Official Assets

The Petitioner has submitted that it intends to establish data center, call center, upgradation of website, cafeteria etc. for the customer welfare as well as the modernization and smooth functioning of day to day activities. The Petitioner has also submitted that establishment of call center is mandatory as per the directive of the Commission.

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

Table 64: Capital expenditure and capitalisation schedule proposed by the Petitioner for establishment of Official Assets

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B10	Official Assets, estd. of data centre, call centre, website, gym etc.	5.00	2.00	2.00	1.00	FY 2021-22

Energy Efficiency schemes

The Petitioner submits that it intends to install LED lights and 5 star agriculture pumps under the scheme for which funding shall be provided by the Bureau of Energy Efficiency (BEE).

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

Table 65: Capital expenditure and capitalisation schedule proposed by the Petitioner for Energy Efficiency schemes

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B11	Capex for Energy Efficiency measures	6.00	2.00	2.00	2.00	FY 2021-22

Capacitor placement at each substation

The Petitioner has submitted that the objective of the said scheme is to improve the power factor at the 66 kV substations. Due to poor power factor, the Petitioner currently has to pay the reactive energy charges. However, with the installation of the capacitor bank, the Petitioner expects to reduce the reactive energy by improving the power factor. The Petitioner has also submitted that the all the works related to this scheme has been allotted.

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

Table 66: Capital expenditure and capitalisation schedule proposed by the Petitioner for Capacitor placement at each substation

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B12	Capacitor placement at each substation	2.60	2.60	0.00	0.00	FY 2019-20

Normal development works

The Petitioner has submitted that the following works are under progress as part of this scheme:-

- Erection /Extension of HT Line Works
- Erection /Extension of LT Line Works
- Erection of Distribution Transformer Centre
- Release of Service Connections to various categories of consumers
- System improvement works
 - Strengthening of Electric lines.

- Augmentation of Transformer Centre.
- Providing capacitor Banks
- Feeder bifurcation and 11 KV link line at new 66 KV sub-stations

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

Table 67: Capital expenditure and capitalisation schedule proposed by the Petitioner for Normal development works

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B13	Normal development works.	15.00	5.00	5.00	5.00	FY 2021-22

Scheme for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV line

The Petitioner has submitted that the capacity of the TACSR is more than the normal ACSR conductor, which results in less impedance resulting into low line losses. The Petitioner has therefore proposed to replace the existing ACSR conductor with the TACSR conductor in all 66 KV Substations.

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

Table 68: Capital expenditure and capitalisation schedule proposed by the Petitioner for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV line

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B14	A scheme for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV line	25.00	10.00	10.00	5.00	FY 2021-22

Augmentation of Wagdhara Sub station (1X15+20) MVA to (1X15+2X20) MVA along with 66 KV bay and relay panel

The Petitioner has submitted that due to current loading of 85% of the installed capacity, the Petitioner has proposed capacity augmentation of the substation.

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

Table 69: Capital expenditure and capitalisation schedule proposed by the Petitioner for augmentation of Wagdhara Sub station (1X15+20) MVA to (1X15+2X20) MVA along with 66 KV bay and relay panel

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B15	Augmentation of Wagdhara Sub station (1X15+20) MVA to (1X15+2X20) MVA along with 66 KV bay and relay panel	3.57	3.57	0.00	0.00	FY 2019-20

New Substation at Dadra 66/11(2X20) MVA GIS Sub station

The Petitioner has submitted that due to overloading of the installed capacity, it is required to establish a new GIS substation.

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

Table 70: Capital expenditure and capitalisation schedule proposed by the Petitioner for new Substation at Dadra 66/11 (2X20) MVA GIS Sub station

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B16	New Substation at Dadra 66/11(2X20) MVA GIS Sub station	19.44	10.00	9.44	0.00	FY 2020-21

Augmentation of 66/11 KV Piparia Sub station (2X20+1X20) MVA

The Petitioner has submitted that due to overloading of the installed capacity, it is required to enhance the capacity of the current substation. The Petitioner has also submitted that the said scheme will help the Petitioner in catering to future load growth in the area

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

Table 71: Capital expenditure and capitalisation schedule proposed by the Petitioner for augmentation of 66/11 KV Piparia Sub station (2X20+1X20) MVA

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B17	Augmentation of 66/11 KV Piparia Sub station (2X20+1X20) MVA	3.57	3.57	0.00	0.00	FY 2019-20

Extension of 66 KV line with higher capacity conductor (TACSR) from 220 KV Khadoli S/s to 66 KV Kala - Velugam S/s common point

The Petitioner has submitted that as there is currently only one source of 66 KV line in the area, the Petitioner has proposed extension of 66 KV line from 220 KV Khadoli substation to common point and extension of 66 KV line from common point to Velugam 66 KV substation.

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

Table 72: Capital expenditure and capitalisation schedule proposed by the Petitioner for extension of 66 KV line with higher capacity conductor (TACSR) from 220 KV Khadoli S/s to 66 KV Kala - Velugam S/s common point

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B18	Extension of 66 KV line with higher capacity conductor (TACSR) from 220 KV Khadoli S/s to 66 KV Kala - Velugam S/s common point	6.00	0.00	6.00	0.00	FY 2020-21

Fully automatic computerized meter test bench for 20 position (with existing available ref. standard meter)

The Petitioner has submitted that it has established a meter-testing laboratory for testing of all metering equipment, including all domestic/commercial consumers to industrial LT and HT consumers. For better revenue recovery purpose, the Petitioner has also initiated following steps under the scheme:

- Replacement of the old type mechanical meters by new electronics meter.
- Installation of electronic meter to LIG consumers.

- Replacement of faulty meter.
- It is envisaged that smart meters shall be installed under the IPDS scheme. Hence, the meter test bench shall also help in testing the smart meters.

The Petitioner has also purchased electronic meters and has planned to purchase smart meters in the near future. The Petitioner has claimed that to cope up with all the meter testing work, it needs to have a new fully computerized meter test bench.

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

Table 73: Capital expenditure and capitalisation schedule proposed by the Petitioner for establishing fully automatic computerized meter test bench for 20 position (with existing available ref. standard meter)

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B19	Fully automatic computerized meter test bench for 20 position (with existing available ref. standard meter)	2.00	2.00	0.00	0.00	FY 2019-20

Portable single-phase reference standard meter for site testing of single phase meters (05 nos.)

The Petitioner has submitted that the above equipment is required for site testing of single-phase meters for domestic, commercial and other categories. The Petitioner further adds that this is also required to address the consumer complaints regarding functioning of meters.

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

Table 74: Capital expenditure and capitalisation schedule proposed by the Petitioner for Portable single-phase reference standard meter for site testing of single-phase meters

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B20	Portable single-phase reference standard meter for site testing of single-phase meters (05 nos.)	0.08	0.08	0.00	0.00	FY 2019-20

Portable three phase reference standard meter for site testing of three phase meters (02 nos.)

The Petitioner has submitted that the above equipment is required for site testing of three phase meters for LT industrial and HT industrial consumer categories. The Petitioner further adds that this is also required to address the consumer complaints regarding functioning of meters.

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

Table 75: Capital expenditure and capitalisation schedule proposed by the Petitioner for Portable three phase reference standard meter for site testing of three phase meters (02 nos.)

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B21	Portable three phase reference standard meter for site testing of three phase meters (02 nos.)	0.24	0.24	0.00	0.00	FY 2019-20

Software for Meter Data Acquisition Software (MDAS)

The Petitioner has submitted that it needs MDAS to get real time data acquisition from the deployed “DCU”s, and organize the data in the database in a Common Data Format (CDF). MDAS will do real time monitoring, summary reports and graphs, online alerts, dynamic formation for observation groups of suspicious meters or just area, zone, consumer indices etc. in normal circumstances.

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

Table 76: Capital expenditure and capitalisation schedule proposed by the Petitioner for Meter Data Acquisition Software (MDAS)

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule (INR Cr)
			FY 2019-20	FY 2020-21	FY 2021-22	
B22	Software for Meter Data Acquisition Software (MDAS)	0.70	0.70	0.00	0.00	FY 2019-20

Commission’s Analysis

The Commission observes that in respect of Sl. No. B7 to B22 in *Table 38*, the DPRs / Work Orders have not been submitted for the following schemes proposed for the upcoming Control Period:

1. Charging station for e-vehicle
2. Upgradation of existing Dudhani 11 KV feeder on Areal Bunch Conductor (ABC) along with mono-pole tower (Approx. 50 km)
3. Upgradation of existing Mandoni 11 KV feeder on Areal Bunch Conductor (ABC) on mono-pole tower (Approx. 40 km)
4. Official Assets
5. Energy Efficiency schemes
6. Capacitor placement at each substation
7. Normal development works
8. Scheme for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV line
9. Augmentation of Wagdhara Sub station (1X15+20) MVA to (1X15+2X20) MVA along with 66 KV bay and relay panel
10. New Substation at Dadra 66/11(2X20) MVA GIS Sub station
11. Augmentation of 66/11 KV Piparia Sub station (2X20+1X20) MVA
12. Extension of 66 KV line with higher capacity conductor (TACSR) from 220 KV Khadoli S/s to 66 KV Kala - Velugam S/s common point
13. Fully automatic computerized meter test bench for 20 position (with existing available ref. standard meter)
14. Portable single-phase reference standard meter for site testing of single phase meters (05 nos.)
15. Portable three phase reference standard meter for site testing of three phase meters (02 nos.)
16. Software for Meter Data Acquisition Software (MDAS)

As per on the Commission’s overall approach, since the Petitioner has failed to submit the DPRs / Work orders for any scheme, 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 30 days of this Order.

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 77: Summary of capital expenditure approved by the Commission for the upcoming MYT Control Period

Sr. No.	Name of Scheme	Approved Expenditure (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
Ongoing scheme(s)					
A1	Underground cabling with establishment of 66/11 KV substation in SMC area, Silvassa town	79.00	-	-	79.00
New schemes					
B1	A scheme for Establishment of new 66/11 KV Sub Station at village Sayali with associated 66 KV underground line	10.00	9.44	-	19.44
B2	A scheme for augmentation of 66/11 KV Kharadpada substation by adding 20 MVA Transformer	3.57	-	-	3.57
B3	A scheme for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV Kharadpada – Athal substation	2.13	-	-	2.13
B4	Scheme for integrated solution for various business processes such as billing finance HR and projects. (ERP SOFTWARE)	2.50	0.75	-	3.25
B5	New 66 kV line from 220/66 kV Wagchipa Sub station	21.00	-	-	21.00
B6	Smart Metering Projects	10.00	20.00	18.00	48.00
	Total	128.20	30.19	18.00	176.39

Therefore, the Commission approves a total capital expenditure of INR 176.39 Cr for the upcoming Control Period.

Summary of capitalisation approved by the Commission

The summary of capitalisation approved by the Commission for the upcoming Control Period is given in the following table:

Table 78: Summary of capitalisation approved by the Commission for the upcoming Control Period

Sr. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
Ongoing scheme(s)					
A1	Underground cabling with establishment of 66/11 KV substation in SMC area, Silvassa town	-	139.00	-	139.00
New schemes					
B1	A scheme for Establishment of new 66/11 KV Sub Station at village Sayali with associated 66 KV underground line	-	19.44	-	19.44
B2	A scheme for augmentation of 66/11 KV Kharadpada substation by adding 20 MVA Transformer	3.57	-	-	3.57
B3	A scheme for Replacement of ACSR Panther conductor by High Capacity TACSR conductor of 66 KV Kharadpada – Athal substation	2.13	-	-	2.13
B4	Scheme for integrated solution for various business processes such as billing finance HR and projects. (ERP SOFTWARE)	-	3.25	-	3.25
B5	New 66 kV line from 220/66 kV Wagchipa Sub station	-	21.00	-	21.00

Sr. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
B6	Smart Metering Projects	-	-	48.00	48.00
	Total	5.70	182.69	48.00	236.39

Therefore, the Commission approves a total capitalisation of INR 236.39 Cr for the upcoming Control Period.

The Commission, in line with the overall approach, has not approved schemes with capital expenditure and capitalisation of INR 113.20 Cr, for which DPRs / technical sanctions were not furnished by the Petitioner. The Commission advises the Petitioner to furnish the relevant documents while submitting the MYT Petition, for Commission's consideration, to enable it to pass on the impact of the same in the Multi Year Tariff Order.

3.5.2 Funding Plan

Petitioner's submission

The Petitioner has submitted that it will consider a debt to equity ratio of 70:30 for financing the capital schemes. The Petitioner has also submitted that it will avail grants for the smart metering project from Power Finance Corporation (PFC) and for the energy efficiency project from Bureau of Energy Efficiency (BEE).

Commission's analysis

The Commission notes that the Petitioner has considered a debt to equity ratio of 70:30 for financing the capital schemes. However, as per the approach followed by the Commission, if the Petitioner has failed to submit the DPRs / Work orders for any scheme, the Commission has not approved any of the capital expenditure and capitalisation proposed for the said schemes. Further, the Commission observes that the Petitioner may be availing grants for the smart metering project and the energy efficiency project which shall be appropriately factored in as per Clause 25.4 of the JERC MYT Regulations as follows:

“the debt to equity ratio shall be considered in accordance with Regulation 26, after deducting the amount of financial support provided through consumer contribution, deposit work, capital subsidy or grant;”

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

Table 79: Approved funding plan for the upcoming Control Period

Sr. No.	Sources of Funds	FY 2019-20	FY 2020-21	FY 2021-22	Total
A	Total Capital Expenditure (INR Cr)	128.20	30.19	18.00	176.39
B	Debt (%)	70%	70%	70%	70%
C	Equity (%)	30%	30%	30%	30%
D	Total Debt (INR Cr) (A x B)	89.74	21.13	12.6	123.47
E	Total Equity (INR Cr) (A x C)	38.46	9.06	5.4	52.92

3.6. Manpower Plan

Petitioner's submission

The Petitioner has submitted the forecasted number of employees for the MYT Control Period from FY 2019-20 to FY 2021-22 based on the proposed recruitments and retirement as below.

Table 80: Projections of No. of Employees for the MYT Control Period as submitted by Petitioner

Financial Year	Manpower Strength (Regular, Deputation, Contractual, Work charge)	New Posts to be Created	Retirement
FY 2018-19	368	-	7
FY 2019-20	361	48	5
FY 2020-21	404	46	7
FY 2021-22	443	48	6

Commission's Analysis

The Commission approves the Petitioner's additional manpower requirements. However, the Commission directs the Petitioner to furnish the Government approvals at the time of Multi-Year Tariff determination.

3.7. Other Expenditure

3.7.1. Expenses related to safety of manpower

Petitioner's submission

The Petitioner has proposed expenditure of INR 0.50 Cr for each year of Control Period, to be spent on procurement of safety equipment, safety related trainings etc. The Petitioner has further submitted that actual expenses spent under this head in FY 2017-18 are not available.

Commission's Analysis

The Commission observes that these expenses form part of the ARR and shall be approved by the Commission subsequently at the time of approval of the MYT Petition. The Petitioner is directed to submit the details pertaining to the proposed expenditure under this head in last three years, the basis for considering the proposed amount including any other expenditure planned to be carried out under this proposed amount.

3.7.2. Expenses related to CGRF

Petitioner's submission

The Petitioner has submitted that the actual expenditure on CGRF was INR 17.58 lakhs in FY 2017-18. Further, the Petitioner has proposed the following expenditure related to CGRF for the upcoming Control Period.

Table 81: Proposed expenditure on CGRF

Year	Expenditure (INR Cr)
FY 2019-20	0.21
FY 2020-21	0.23
FY 2021-22	0.26

Commission's Analysis

The Commission observes that these expenses form part of the ARR and shall be approved by the Commission subsequently at the time of approval of the MYT Petition. The Petitioner is directed to submit the details pertaining to the proposed expenditure under this head in last three years, the basis for considering the proposed amount including any other expenditure planned to be carried out under this proposed amount.