



Business Plan

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

Petition No. 71/ 2021

For

Electricity Department, Transmission Division,
UT of Dadra and Nagar Haveli

31st March 2022

JOINT ELECTRICITY REGULATORY COMMISSION

For the State of Goa and Union Territories,

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List of abbreviations

Abbreviation	Full Form
Act	The Electricity Act, 2003
ARR	Aggregate Revenue Requirement
ATE	Appellate Tribunal of Electricity
CAGR	Compounded Annual Growth rate
Capex	Capital Expenditure
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
CGS	Central Generating Stations
COD	Commercial Operation Date
CPPs	Captive Power Plants
CTU	Central Transmission Utility
Crs	Crores
CWIP	Capital Work in Progress
D/C	Double Circuit
Discom	Distribution Companies
DPS	Delayed Payment Surcharge
DS	Domestic Service
DSM	Demand Side Management
DTC	Distribution Transformer Center
F&A	Finance & Accounts
FY	Financial Year
GEB	Gujarat Electricity Board
GFA	Gross Fixed Assets
G.O.	Government Order
GoI	Government of India
HR	Human Resource
HRA	House Rent Allowance
HT	High Tension
ISTS	Inter State Transmission System
JERC	Joint Electricity Regulatory Commission for the State of Goa and Union Territories
KV	Kilo Volt
kVA	Kilo Volt Ampere
kVAh	Kilo Volt Ampere Hour
kW	Kilo Watt
kWh	Kilo Watt Hour
LF	Load Factor
LT	Low Tension
MD	Maximum Demand
MOD	Merit Order Dispatch

Abbreviation	Full Form
MoP	Ministry of Power
MOU	Memorandum of Understanding
MU	Million Units
MVA	Mega Volt Ampere
MW	Mega Watt
MYT	Multi Year Tariff
NEP	National Electricity Policy
NTP	National Tariff Policy
O&M	Operation and Maintenance
OPGW	Optical Ground Wires
PAF	Plant Availability Factor
PF	Provident Fund
PFC	Power finance Corporation
PGCIL	Power Grid Corporation of India Limited
PLF	Plant Load Factor
PLR	Prime Lending Rate
PPA	Power Purchase Agreement
PSD	Power Service Division
REC	Rural Electrification Corporation
R&M	Repair and Maintenance
ROE	Return on Equity
Rs	Rupees
SERC	State Electricity Regulatory Commission
SLDC	State Load Dispatch Center
SOP	Standard of Performance
SS	Substation
T&D	Transmission & Distribution
TVS	Technical Validation Session
UT	Union Territory
WRPC	Western Regional Power Committee

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

QUORUM

Smt Jyoti Prasad, Member (Law)

Petition No. 71/2021

In the matter of

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

And in the matter of

Electricity Department, Transmission Division, Dadra and Nagar Haveli Petitioner

ORDER

Dated: 31st March 2022


1. This Order is passed in respect of the Petition filed by the Electricity Department, Transmission Division, Dadra and Nagar Haveli for approval of its Business Plan for the Multi-Year Control Period of three years commencing from 1st April 2022 to 31st March 2025.
2. In exercise of the powers conferred on it by sub-Section (2) of Section 181 read with Section 36, Section 39, Section 40, Section 41, Section 51, Section 61, Section 62, Section 63, Section 64, Section 65 and Section 86 of the Electricity Act, 2003 (36 of 2003) and all other powers enabling it in this behalf, the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (except Delhi), after previous publication, issued the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2021 on 22nd March, 2021 .
3. In terms of Regulations 8.1 and 17 of the aforesaid Regulations, the Petitioner has filed a Petition for approval of its Business Plan for the three years Control Period i.e., from FY 2022-23 to FY 2024-25 with details for each year of the Control Period before the Commission. The Petitioner has also filed a Multi Year Tariff Petition for the Control Period on 7th December, 2021, in terms of Regulation 8.1 of the aforesaid Regulations.
4. 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, to take a prudent view on the Petition. Comments/objections/suggestions were also invited from the stakeholders and virtual public hearing was conducted on the Business Plan and MYT Petition filed by DNH-T. No comments/suggestions from the stakeholders have been received on Business Plan Petition filed by DNH-T.
5. The Commission also held a Technical Validation Session (TVS) with Petitioner at JERC Office on 18th February, 2022 to determine sufficiency of data and the veracity of the information submitted.

6. Based on the information/documents submitted by the Petitioner and keeping in view the provisions of the Electricity Act, 2003 and the relevant Regulations framed thereunder, the Commission hereby approves the Business Plan for the Control Period from FY 2022-23 to FY 2024-25 by way of this Order, which covers the capital investment plan, performance targets, fixation of Transmission loss trajectory etc.
7. Ordered as above, read with attached document giving detailed reasons, grounds, and conditions.

**Sd/-
(Jyoti Prasad)
Member (Law)**

Place: Gurugram
Date: 31st March 2022

Certified Copy


**Rakesh Kumar
(Secretary)**

1. Chapter 1: Introduction

1.1. Joint Electricity Regulatory Commission

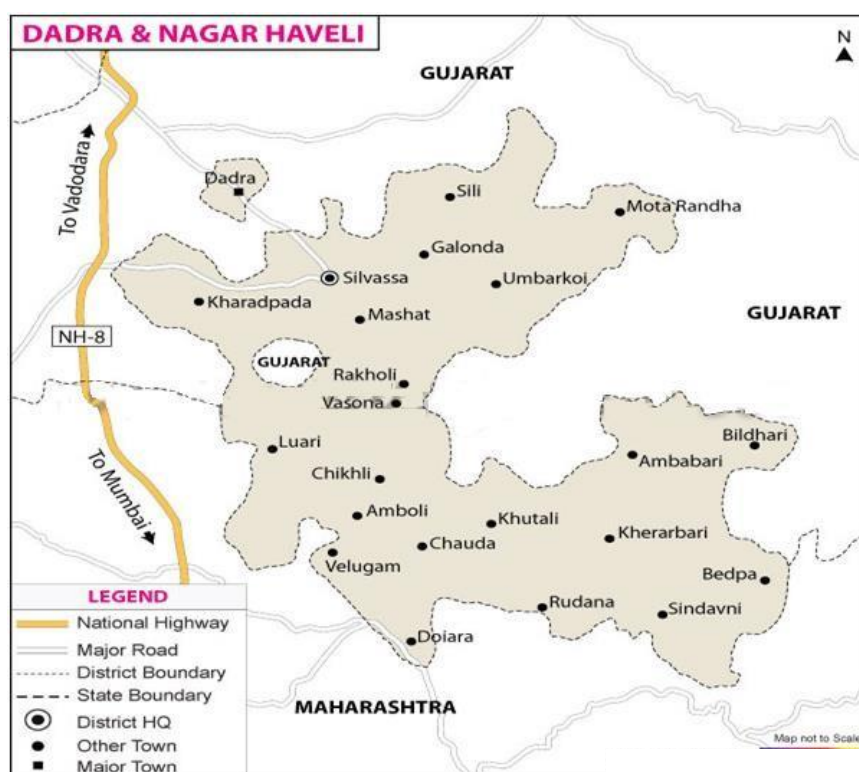
In exercise of powers conferred by the Electricity Act 2003, the Central Government constituted a Joint Electricity Regulatory Commission for all the Union Territories except Delhi to be known as “Joint Electricity Regulatory Commission for the Union Territories” vide notification no. 23/52/2003-R&R 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 a statutory body responsible for regulating the Power Sector in the State of Goa and the Union Territories of Andaman & Nicobar Islands, Lakshadweep Island, 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

Dadra and Nagar Haveli (hereinafter referred to as “DNH”) 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 industrial area.

The rapid development of DNH has led to a tremendous increase in the demand for power. Currently, 96% of total sales are to HT and LT industrial consumers. After liberation, the power was fed to this territory through 11 KV feeder of GEB and the demand was up to 500 KVA. The present peak demand of this territory is around 885 MW. DNH has already achieved 100% electrification and 100% metering which further contributes to the increasing demand for power.



1.3. Electricity Department, Transmission Division, UT of Dadra and Nagar Haveli

The Dadra and Nagar Haveli Electricity Reforms Transfer Scheme 2013 was notified by the Administration of Dadra and Nagar Haveli vide notification no. 1-1(594) ELE/2013/697 dated 7 March, 2013. Further, the Administration vide notification no. 1-1(656)/ELE/2012/700 dated 8 March, 2013 for implementing the Dadra and Nagar Haveli Electricity Reforms Transfer Scheme 2013 notified the effective date as 1 April, 2013.

As per the Clause 4(1) of the notified transfer scheme:

“Subject to the provision of this scheme on and with effect from such date as may be notified by the Administration as effective date of transfer:

(a) The functions of Distribution and associated divisions of department as set out in Schedule A shall stand out and vested with DNH Power Distribution Corporation Limited without any further act or things to be done by the Administration or the Company or any other person.”

As per the Schedule ‘B’ of the notified Transfer Scheme, the assets at 66/11 kV and below were transferred to DNHPDCL.

Further, as per para at serial no. 8:

“(8) The functions, duties, personnel, assets, liabilities, and proceedings as set out in schedule ‘C’ shall not be transferred to the company and vest with the Electricity Department.”

As per Schedule ‘C’:

“Unless otherwise specified by the Administration, the assets, liabilities, personnel and proceedings in relation to following shall not be transferred to the Company:

- 1. Function of generation of electricity except non-conventional source of energy.*
- 2. Functions of transmission of electricity.*
- 3. Functions of policy making, Planning and Coordination.*
- 4. Functions which are not transferred to the Company under this scheme.”*

Accordingly, as the functions of transmission of electricity has not been vested on DNH Power Distribution Corporation Limited, the Electricity Department, Transmission Division of UT of Dadra and Nagar Haveli (hereinafter referred to as “ED-DNH Transmission”) has been entrusted with the function of transmission of electricity in its license area. The details of operational transmission infrastructure are as below:

Existing Transmission Network

The transmission system of ED-DNH Transmission consists of 38.18 double circuit (D/C) kms till 31 March, 2021. The EHV lines in DC km existing at end of FY 2020-21 and their growth are shown in the table below:

Table 1: Status of Transmission Assets

Assets	Units	FY 2020-21
EHT		
220 KV lines	DC kms	38.18

Table 2: Details of Existing Substations

Sr. No.	Sub-Station	Capacity	Total
1	400 KV Ambheti-Vapi Sub-Station (CTU-Power Grid)	3 x 315 MVA	945 MVA
2	400 KV Kala Sub-Station (CTU-Power Grid)	2 x 315 + 1 x 500 MVA	1130 MVA
3	220 KV Kharadpada Sub-Station	2 x 100 + 2 x 160 MVA	520 MVA
4	220 KV Khadoli Sub-Station	3 x 160MVA	480 MVA
5	220 /66 KV Vaghchhipa Sub-Station	2 x 160 MVA	320 MVA
6	220KV Switching Stations at Sayli, New Kharadpada and Bhilosa.	03 Nos	
	TOTAL Capacity (220KV Level)		1320 MVA*

* CTU-Power Grid Substation Capacity has not been included

Further, the capacity of 220/66 KV Vaghchhipa Substation was added to the network during the FY 2019-20 i.e., 2X160 MVA. The present transmission system of Electricity Department, Transmission Division consists of 38.18 DC km of 220 kV double circuit (D/C) lines. At present, the UT of Dadra & Nagar Haveli gets power from 400/220 kV PGCIL Vapi and 400/220 kV Kala substation of PGCIL.

1.4. Multi Year Tariff Regulations, 2021

The Commission notified the Joint Electricity Regulatory Commission for the State of Goa and Union Territories (Generation, Transmission and Distribution Multi Year Tariff) Regulations, 2021 on 22 March, 2021. The said Regulations have been hereinafter referred to as the “JERC MYT Regulations”. As per Clause 2.1.18 of these Regulations, the “Control Period” is defined as the multi-year period comprising of three financial years from FY 2022-23 to FY 2024-25.

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

1.5. Filing and admission of Petition for Multi-Year Business Plan for FY 2022-23 to FY 2024-25

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

The ED- DNH Transmission submitted the current Petition for approval of ‘Business Plan for MYT Control Period FY 2022-23 to FY 2024-25 on 6 December, 2021.

After initial scrutiny/analysis, the Petition on Business Plan for the Control Period from FY 2022-23 to FY 2024-25 was admitted on 23 December, 2021 and was marked as Petition no. 71/2021.

1.6. 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 3: Interactions with the Petitioner

S. No	Subject	Date
1	Admission of the Petition by the Commission	23 December, 2021
2	Deficiency Note issued by the Commission	25 January, 2022
3	Replies to Deficiency Note received by the Commission	28 January, 2022
4	Technical Validation Session (TVS) with Petitioner at JERC Office	18 February, 2022
5	Issuance of Second Deficiency Note	20 February, 2022
6	Reply received from Petitioner on queries raised during TVS	02 March, 2022
7	Issuance of Third Deficiency Note	07 March, 2022
8	Replies to Third Deficiency Note received by the Commission	11 March, 2022

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 analyzing information/clarifications received from the utilities, and submitting relevant issues for consideration of the Commission.

1.7. Public Hearing Process

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

Table 4: Public Notices published by the Petitioner

Sr.No.	Date	Name of Newspaper	Place of circulation
1	24.01.2022	Hindustan Times (English)	Dadra & Nagar Haveli
2	24.01.2022	Nishpaksha Janasansar (Hindi)	Dadra & Nagar Haveli
3	24.01.2022	Vartman Prabha (Gujarati)	Dadra & Nagar Haveli

The Petitioner also uploaded the Petition on its website (www.dnh.nic.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 February 01, 2022. The Commission has also uploaded the copy of the Petition on its website to facilitate the stakeholders.

The Commission also published Public Notices in the leading newspapers as tabled below, giving due intimation to the stakeholders, consumers and the public at large that the Online Public Hearing is to be conducted by the Commission on 02 February, 2022 from 11 AM onwards.

Table 5: Public Notices published by the Commission

S.No.	Date	Name of Newspaper	Place of Circulation
1	07.01.2022	Indian Express (English)	Dadra & Nagar Haveli
2	07.01.2022	Nishpaksha Janasansar (Hindi)	Dadra & Nagar Haveli
3	07.01.2022	Gujarat Samachar (Gujarati)	Dadra & Nagar Haveli
4	07.01.2022	Navbharat Times (Hindi)	Dadra & Nagar Haveli

1.7. Public Hearing

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

Accordingly, the Virtual Public Hearing was held on 02 February, 2022 from 11 AM onwards to enable the JERC Order on Multi-Year Business Plan for Electricity Department, Transmission Division, Dadra and Nagar Haveli

stakeholders to raise issues, if any, related to the Petition filed by the Petitioner. **However, there was no written or verbal comments from the Public/ Stakeholders in respect of the Business Plan Petition of DNH-T.**

2. Chapter 2: Approval of the various components of the Business Plan Petition for the Multi-Year Control Period FY 2022-23 to FY 2024-25

2.1 Introduction

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

- Transmission System-Demand projections and Capacity
- Transmission Loss trajectory
- Capital Investment Plan
- Manpower Plan

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

2.2 Transmission System-Demand projections and Capacity

2.2.1. Monthly Peak and Average Demand

Petitioner's submission

The Petitioner has submitted month wise actual peak and average demand for FY 2018-19, FY 2019-20, FY 2020-21 and for nine months of FY 2021-22 which are as given below:

Table 6: Month wise actual peak and average demand for FY 2018-19

Sr. No	Month	Peak Demand (MW)	Average Demand (MW)
1	Apr-18	815	732
2	May-18	790	726
3	Jun-18	801	739
4	Jul-18	779	720
5	Aug-18	814	741
6	Sep-18	824	765
7	Oct-18	819	708
8	Nov-18	749	610
9	Dec-18	769	711
10	Jan-19	815	725
11	Feb-19	820	756
12	Mar-19	807	745

Table 7: Month wise actual peak and average demand for FY 2019-20

Sr. No	Month	Peak Demand (MW)	Average Demand (MW)
1	Apr-19	829	768
2	May-19	803	743
3	Jun-19	838	746
4	Jul-19	827	774
5	Aug-19	815	756
6	Sep-19	819	768
7	Oct-19	811	716
8	Nov-19	814	748
9	Dec-19	830	779
10	Jan-20	823	762
11	Feb-20	825	767
12	Mar-20	829	590

Table 8: Month wise actual peak and average demand for FY 2020-21

Sr. No	Month	Peak Demand (MW)	Average Demand (MW)
1	Apr-20	269	119
2	May-20	421	330
3	Jun-20	592	484
4	Jul-20	650	575
5	Aug-20	730	622
6	Sep-20	791	731
7	Oct-20	817	750
8	Nov-20	805	730
9	Dec-20	836	766
10	Jan-21	862	796
11	Feb-21	874	820
12	Mar-21	893	817

Table 9: Month wise actual peak and average demand for FY 2021-22

Sr. No	Month	Peak Demand (MW)	Average Demand (MW)
1	Apr-21	855	770
2	May-21	730	653
3	Jun-21	827	750
4	Jul-21	858	800
5	Aug-21	871	806
6	Sep-21	866	808
7	Oct-21	872	807
8	Nov-21	865	776
9	Dec-21	852	795

Further, in response to the information sought by the Commission, the Petitioner has also submitted the peak demand and average demand for the control period from FY 2022-23 to FY 2024-25 which are as follows:

Table 10: Projected peak and average demand for FY 2022-23 to FY 2024-25

Sr. No	Year	Peak Demand (MW)	Average Demand (MW)
1	FY 2022-23	1050	1010
2	FY 2023-24	1125	1075
3	FY 2024-25	1200	1140

Commission's Analysis

The Commission notes that the Petitioner has submitted month wise actual peak and average demand for FY 2018-19, FY 2019-20, FY 2020-21 and for nine months of FY 2021-22, but has not submitted month wise projections for the upcoming Control Period.

The Commission has observed that the projections made by the Petitioner were not in line with actual trends of Peak Demand and Average Demand during the last three years. While replying to Commission's queries, the Petitioner has submitted the following month-wise revised projections of peak demand and average demand for the control period from FY 2022-23 to FY 2024-25:

Table 11: Revised Month wise peak and average demand for FY 2022-23 submitted by the Petitioner

Sr. No	Month	Peak Demand (MW)	Average Demand (MW)
1	Apr-22	898	809
2	May-22	767	686
3	Jun-22	868	788
4	Jul-22	901	840
5	Aug-22	915	846
6	Sep-22	909	848
7	Oct-22	916	847
8	Nov-22	908	815
9	Dec-22	895	835
10	Jan-23	950	878
11	Feb-23	964	904
12	Mar-23	985	901

Table 12: Revised Month wise peak and average demand for FY 2023-24 submitted by the Petitioner

Sr. No	Month	Peak Demand (MW)	Average Demand (MW)
1	Apr-23	943	849
2	May-23	805	720
3	Jun-23	912	827
4	Jul-23	946	882
5	Aug-23	960	889
6	Sep-23	955	891
7	Oct-23	961	890
8	Nov-23	954	856
9	Dec-23	939	876
10	Jan-24	998	921
11	Feb-24	1012	949
12	Mar-24	1034	946

Table 13: Revised Month wise peak and average demand for FY 2024-25 submitted by the Petitioner

Sr. No	Month	Peak Demand (MW)	Average Demand (MW)
1	Apr-24	990	891
2	May-24	845	756
3	Jun-24	957	868
4	Jul-24	993	926
5	Aug-24	1008	933
6	Sep-24	1003	935
7	Oct-24	1009	934
8	Nov-24	1001	898
9	Dec-24	986	920
10	Jan-25	1048	968
11	Feb-25	1062	997
12	Mar-25	1085	993

The Commission is of the view that the projections for the peak and average demand submitted by the petitioner are still on the higher side. Hence the Commission decided to work out the peak and average demand based on historical trends on monthly basis for the upcoming Control Period. In respect of projections of peak and average demand for the months of April to December, the Commission has considered the CAGR from FY 2018-19 to FY 2021-22 for projecting the demand. For the months for which the CAGR works out to be negative, the Commission has not considered any growth rate. In respect of projections of peak and average demand for the months of January to March, the Commission has considered the CAGR from FY 2018-19 to FY 2020-21 and for the months for which the CAGR works out to be negative, the Commission has not considered any growth rate. Further, the Commission has considered FY 2021-22 as the base year by using actual data for the months of April to December and revised estimates for the months of January to March. Accordingly, the peak and average demand projected by the Commission based on historical trends for the upcoming Control Period is given in the following tables:

Table 14: Projections of Peak Demand by the Commission for the upcoming Control Period based on historical data

Sr. No	Month	CAGR Considered		Projections of Peak Demand (MW)		
		Duration	Rate	FY 2022-23	FY 2023-24	FY 2024-25
1	April	4-year	1.22%	865	876	887
2	May		0%	730	730	730
3	June		0.79%	834	840	847
4	July		2.45%	879	901	923
5	August		1.72%	886	901	917
6	September		1.25%	877	888	899
7	October		1.58%	886	900	914
8	November		3.67%	897	930	964
9	December		2.60%	874	897	920
10	January	3-year	1.89%	895	912	929
11	February		2.15%	912	932	952
12	March		3.43%	955	988	1022

Table 15: Projections of Average Demand by the Commission for the upcoming Control Period based on historical data

Sr. No	Month	CAGR Considered		Projections of Average Demand (MW)		
		Duration	Rate	FY 2022-23	FY 2023-24	FY 2024-25
1	April	4-year	1.28%	780	790	800
2	May		0%	653	653	653
3	June		0.36%	753	755	758
4	July		2.66%	821	843	865
5	August		2.14%	823	841	859
6	September		1.38%	819	830	842
7	October		3.33%	834	862	890
8	November		6.20%	824	875	930
9	December		2.83%	818	841	864
10	January	3-year	3.16%	847	874	902
11	February		2.75%	866	889	914
12	March		3.12%	869	896	924

The Commission notes that projections carried out by it based on historical trends yield a peak demand of ~1022 MW in FY 2024-25, which is much less than the revised peak demand estimate of ~1085 MW submitted by the Petitioner for FY 2024-25.

2.2.2. Demand Forecast for the Control Period

Petitioner's submission

The Petitioner has submitted that DNHPDCL is its only long-term open access customer. As DNHPDCL distributes electricity to all the consumers of the UT of Dadra and Nagar Haveli, the Petitioner based on the actual sales made to the various consumer categories of the UT of Dadra and Nagar Haveli has projected sales for the upcoming Control Period. The Petitioner has submitted the energy sales used for the upcoming Control Period in the following table:

Table 16: Energy sales projected by the Petitioner for the upcoming Control Period

Sales (MU)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
	RE	Projected	Projected	Projected
Total Sales	6,588.80	6,809.35	7,037.92	7,274.84

Commission's Analysis

The Commission notes the Petitioner's submission that its demand forecast would depend upon DNHPDCL's projections, DNHPDCL being its only long-term open access customer. The Petitioner has quoted DNHPDCL's sales projections and power purchase tie up projections, but has not quoted the connected load forecast. The Commission in its Business Plan Order for the upcoming Control Period for DNHPDCL has projected for FY 2024-25, energy sales of 7,485 MUs against the petitioner projection of 7,274.84 MUs.

The Commission notes that the submissions of connected load of DNHPDCL are given in the following table:

Table 17: DNHPDCL's submission on projection of Connected Load for upcoming MYT Control Period

Connected Load (MVA)	FY 2020-21 (Unaudited Actual)	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
		RE	Projected	Projected	Projected
Total Connected Load	1,467.84	1,487.07	1,502.99	1,519.86	1,537.71

The projections of connected load approved by the Commission for DNHPDCL in its Business Plan Order for the upcoming Control Period are given below:

Table 18: Connected Load projections approved by the Commission for DNHPDCL for the upcoming MYT Control Period

Connected Load (MVA)	Revised Estimate	Approved Projections			
	Base Year	Control Period			
	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	
Total Connected Load	1,484.97	1,502.74	1,523.58	1,545.40	

DNHPDCL's projection of connected load is ~1538 MVA by FY 2024-25. The projections approved by the Commission in DNHPDCL's Business Plan Order for FY 2024-25 are connected load of ~1545 MVA, which is slightly higher than that projected by DNHPDCL.

2.2.3. Transmission System Capacity

Petitioner's submission

In response to the information sought by the Commission regarding the Intra State Load flow Study, the Petitioner has submitted that all the 220 kV Transmission lines connecting 220/66 kV Sub-Station and 220 kV Switching Stations of DNH are ISTS lines and are in control of Central Transmission Utility (CTU). Hence, the Load Flow Study for the same has not been carried out by the petitioner since UT does not have its own generation and the power is being purchased from the Central Generation Stations (CGS). Further, the petitioner has also submitted that the planning for transmission system is being carried out by the Central Electricity Authority (CEA).

Commission's Analysis

The Commission has sought details of the new works which are being carried out by CTU. While replying to Commission's queries, the Petitioner has submitted that CTU has started new work of "Establishment of new substation at Vapi / Ambethi area and its associated transmission line". The scope of the work are as follows:

Table 19: Details of the Works

Sr. No.	Description of the Work
1	Establishment of 2 x 500 MVA, 400/220 kV S/s near Vapi / Ambheti (Vapi- II)
2	LILO of KAPP - Vapi 400 kV D/c line Vapi - II
3	125 MVar bus reactor at Vapi - II Substation
4	Vapi-II – Sayali D/C 220kV D/C line <ul style="list-style-type: none"> From Vapi-II upto LILO point of one circuit Vapi (PG) -Khadoli 220kV D/c at Sayali substation with ampacity equivalent to twin zebra conductor. Interconnection with LILO section (of LILO of one circuit of Vapi (PG) - Khadoli 220kV D/c line at Sayali substation) so as to form Vapi-II- Sayali 220 kV D/c and Vapi- Khadoli 220 kV D/c line. (The LILO section is with zebra conductor).

The Commission directs the Petitioner to conduct a fresh Intra State Load Flow Study to assess if there is any further need for 220 kV network augmentation and submit a compliance report for Commission's consideration along with ARR and Tariff petition for FY 2023-24.

2.3 Transmission Loss trajectory

Petitioner's submission

The Petitioner submitted that the system improvement works executed every year under the plan schemes as well as increase in energy sales quantum at higher voltages has resulted in the reduction of transmission losses. The Transmission loss trajectory proposed by the Petitioner for the upcoming Control Period (from substation-to-substation) is given in the following table:

Table 20: Transmission loss trajectory proposed by the Petitioner for the upcoming Control Period (from substation-to-substation)

Sr. No.	From Substation-To-Substation	2022-23	2024-25	2024-25
1	220 kV New K'pada-K'pada CKT-1	0.75%	0.65%	0.60%
2	220 kV New K'pada-K'pada CKT-2	0.52%	0.50%	0.49%
3	400 kV Kala- 220 kV Khadoli CKT-1	1.40%	1.20%	1.10%
4	400 kV Kala- 220 kV Khadoli CKT-2	0.30%	0.30%	0.20%
5	220 kV Sayli – Khadoli	0.20%	0.14%	0.10%
6	400 kV Kala-220 New K'pada CKT-1	0.70%	0.60%	0.55%
7	400 kV Kala-220 New K'pada CKT-2	1.20%	1.10%	0.90%

Commission's analysis

In response to the information sought by the Commission regarding the actual Over-all transmission losses and projected Over-all transmission losses of the intra-state transmission system, the petitioner has submitted the following details:

Table 21: Actual Transmission loss submitted by the Petitioner

Sr. No.	From Substation-To-Substation	2018-19	2019-20	2020-21
1	220 KV Ambheti –Kharadapada	1.14%	1.67%	1.52%
2	220 KV Ambheti –BIPL Kharadapada	1.17%	1.58%	1.48%
3	220 KV Kala –New Kharadapada-1	1.12%	1.00%	0.80%
4	220 KV Kala – New Kharadapada-2	1.40%	1.50%	1.30%
5	220 KV New –Kharadapada- Kharadapada - 1	0.28%	0.27%	0.26%
6	220 KV New –Kharadapada- Kharadapada - 2	0.26%	0.24%	0.23%
7	220KV Ambheti –Khadoli line	1.14%	1.30%	1.24%
8	220KV Ambheti – Alok –Khadoli	1.17%	1.38%	1.21%
9	220KV Kala- Khadoli-1	21.90%	2.00%	1.80%
10	220KV Kala- Khadoli-2	0.70%	0.60%	0.50%
11	220KV Ambheti –Khadoli (Vaghchhipa) line -1	1.11%	1.21%	0.46%
12	220KV Ambheti –Vaghchhipa (SAYALI) line-2.	1.08%	1.09%	0.45%
13	220KV Vaghchhipa- Khadoli line	-	-	0.72%
14	220KV Vaghchhipa-Sayali- Khadoli line.	-	-	0.78%

Based on the actual transmission losses, the petitioner has also submitted the following transmission losses for the control period:

Table 22: Transmission loss trajectory proposed by the Petitioner for the upcoming Control Period (from substation-to-substation)

Sr. No.	From Substation-To-Substation	2022-23	2024-25	2024-25
1	220 KV Ambheti –Kharadapada	1.20%	1.50%	1.55%
2	220 KV Ambheti –BIPL Kharadapada	1.27%	1.41%	1.31%
3	220 KV Kala –New Kharadapada-1	1.02%	1.12%	0.98%
4	220 KV Kala – New Kharadapada-2	1.35%	1.45%	1.28%
5	220 KV New –Kharadapada- Kharadapada - 1	0.55%	0.45%	0.38%
6	220 KV New –Kharadapada- Kharadapada - 2	0.38%	0.32%	0.36%
7	220KV Ambheti –Khadoli line	1.02%	1.03%	1.021%
8	220KV Ambheti – Alok –Khadoli	1.30%	1.31%	1.21%
9	220KV Kala- Khadoli-1	1.78%	1.90%	1.73%
10	220KV Kala- Khadoli-2	0.90%	0.80%	0.95%
11	220KV Ambheti –Khadoli (Vaghchipa) line -1	0.98%	0.98%	0.95%
12	220KV Ambheti –Vaghchipa (SAYALI) line-2.	0.96%	0.94%	0.91%
13	220KV Vaghchipa- Khadoli line	1.12%	1.14%	1.05%
14	220KV Vaghchipa-Sayali- Khadoli line.	1.07%	1.18%	1.08%

The Commission sought the details regarding the energy audit conducted by the Petitioner for FY 2018-19, FY 2019-20 and FY 2020-21. The petitioner has submitted that the energy audit has not been carried out for FY 2018-19, FY 2019-20 and FY 2020-21 by DNH-T separately.

The Commission also asked the Petitioner to submit the transmission loss of DNH-T overall system and the Petitioner has failed to submit this information.

The Commission in its Business Plan Order for FY 2019-20 to FY 2021-22 dated 16 November 2018 had approved the overall transmission loss of 0.31% for FY 2019-20 and 0.30% for FY 2020-21 and FY 2021-22. In the absence of energy audit report and unavailability of transmission loss of DNH-T overall system, the Commission in line with the transmission losses of previous control period has provisionally considered the overall transmission loss of 0.30% for the upcoming Control Period of FY 2022-23 to FY 2024-25. **However, in order to assess the overall transmission loss of DNH-T system, the Commission directs the Petitioner to conduct the energy audit of DNH-T system duly verified by SLDC and submit the report to the Commission along with the ARR and Tariff Petition to be filed for each year of this control period.**

In view of the above, the Commission provisionally considers the following Transmission Loss trajectory for the upcoming Control Period (FY 2022-23 – FY 2024-25):

Table 23: Transmission loss (%) trajectory provisionally considered by the Commission for upcoming Control Period

Particular	FY 2022-23	FY 2023-24	FY 2024-25
Transmission loss (%)	0.30%	0.30%	0.30%

2.4 Capital Investment Plan

2.4.1. Details of capital expenditure and capitalisation

Summary of scheme wise capital expenditure and capitalisation

Petitioner's submission

The petitioner has submitted CAPEX Plan proposals (scheme wise) for FY 2022-23 to FY 2024-25 under the MYT Control Period FY 2022-25.

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

Table 24: Capital expenditure plan proposed by the Petitioner for the upcoming Control Period

Sr. No.	Name of Scheme	Total Estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			
			FY 2022-23	FY 2023-24	FY 2024-25	Total
1	Augmentation of 220/66 kV Vaghchhipa sub-station from 2x160MVA to 3x160MVA associate with 220KV bay and 66KV Bus.	12.00	6.00	6.00	0.00	12.00
2	Up gradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system	6.00	6.00	0.00	0.00	6.00
3	Providing OPGW on Double Circuit 220kV line emanation from 400 kV PGCIL- Kala substation to 220KV Khadoli substation and 400 kV Kala- substation to 220 kV Kharadpada substation to receive online data at SLDC, Silvassa.	10.00	2.50	2.50	5.00	10.00
	Total	28.00	14.50	8.50	5.00	28.00

The capitalisation schedule proposed by the petitioner during the Control Period is as follows:

Table 25: Capitalisation Schedule submitted by the Petitioner for upcoming Control Period

Particular	FY 2022-23	FY 2023-24	FY 2024-25
Capitalisation (INR Cr)	6.00	12.00	10.00

Commission's Analysis

The Commission appreciates the Petitioner's efforts to upgrade and modernize its existing transmission system. However, the Commission observes that the Petitioner has not updated the Commission regarding the execution and completion of the schemes undertaken by it in the existing Control Period on a quarterly basis. The Commission directs the petitioner to ensure submission of progress 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.

Before approving the capital expenditure and capitalisation of schemes for the next Control Period FY 2022-23 to FY 2024-25, the Commission has analysed the actual status of the schemes approved in the Business Plan for the previous Control Period FY 2019-20 to FY 2021-22. The summary of capital expenditure approved by the Commission in the previous Control Period is given in following Table:

Table 26: Capital expenditure plan approved during previous Control Period

Sr. No.	Name of Scheme	Capital Expenditure (INR Cr)			
		FY 2019-20	FY 2020-21	FY 2021-22	Total
1	Establishment of 2x160 MVA, 220/66 kV Vaghchhipa Sub-Station with associated 220 kV Lines	21.09	-	-	21.09
2	Upgradation and Modernization of existing 220/66 kV Kharadpada Sub-Station by replacing existing circuit breakers and providing SCADA system	5.00	5.00	5.75	15.75
3	Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada by providing SCADA system	1.45	-	-	1.45
	Total	27.54	5.00	5.75	38.29

The Commission asked the Petitioner to submit the actual status of implement of capital expenditure schemes approved in the previous Business Plan for the Control Period FY 2019-20 to FY 2021-22. The Petitioner in its reply submitted the status of schemes as follows:

- The scheme for Establishment of 2 x 160 MVA, 220/66 kV Sub-Station was commissioned in Feb 2020 and put in commercial operation thereafter.
- The scheme for Replacement of existing old 220 KV circuit breaker and providing 110 Volt DC battery set at Kharadpada has been capitalized during the FY 2021-22.
- The schemes for Upgradation and modernization of 220/66 kV Kharadpada Sub-Station and New Kharadpada Sub-Station by providing SCADA has been dropped due to some Administrative and Technical issues. Hence, the DNH-T has proposed to implement the same during the next MYT Control Period.

Overall approach of the Commission

The Commission asked the Petitioner to submit the following information with respect to capital expenditure schemes proposed in the Business Plan:

- Preparedness for each scheme in terms of status of tendering process and funds tied up to execute the Capital works proposed and Planned during MYT Control Period from FY 2022-23 to FY 2024-25.
- Detailed methodology for estimating expenditure for each of the new schemes with components and costing.

The petitioner in its reply submitted that proposed schemes in Business Plan for the MYT FY 2022-23 to FY 2024-25 will be submitted to CEA, New Delhi for according Techno- Economical Sanction once Business Plan is approved by the Commission. After receiving Technical Sanction from CEA, necessary Administrative Approval / Expenditure Sanction will be accorded by U.T Administration.

The Commission during the Technical Validation Session has discussed with the petitioner regarding the tentative time for getting approval from CEA, New Delhi and further process for starting the project. The petitioner conveyed that it will be time-consuming process and may take almost a year for completing the modalities for starting the project. Hence the Commission has directed the petitioner to submit the revised Capital Expenditure and Capitalisation plan for all the schemes proposed during the Control Period. The Petitioner has submitted the revised capital expenditure and Capitalisation plan.

Accordingly, the Commission has considered the revised capital expenditure and capitalisation submitted by

the Petitioner for approval. Based on the Petitioner's submissions and the overall approach discussed herein, the scheme wise analysis of proposed capital expenditure plan by the Commission is as given in subsequent sections.

1. Augmentation of 220/66KV Vaghchhipa sub-station from 2x160MVA to 3x160MVA associate with 220KV bay and 66KV Bus

Petitioner's submission

The petitioner has submitted that 2 x 160 MVA, 220/66 KV Vaghchhipa sub-station has been commissioned and kept in commercial operation since February 2019. Load of 4 nos. of 66/11 KV substations of DNHPDCL are being fed through this substation. At present, the total peak load feeding to this sub-station is around 140 MW. DNHPDCL is planning to connect 66/11 KV Dadra and Vaghudara substation to Vaghchhipa substation. Therefore, anticipated load of 100 MW is expected to be added to the present load of the substation. Hence, to maintain the n-1 contingency for transformers, the petitioner proposes to add 1 no. of 160 MVA, 220/66 KV power transformer at 220/66 KV Vaghchhipa substation. In view of the above, the petitioner proposes the scheme or augmentation of Vaghchhipa substation at an estimated cost of INR 12.00 Crore.

The capital expenditure details w.r.t. the scheme submitted by the Petitioner in its Petition is given below:

Table 27: Capital expenditure and Capitalisation details submitted by the Petitioner for scheme(s)

Sl. No.	Name of Scheme	Total Estimated amount (INR Cr)	Proposed Expenditure (INR Cr)				Capitalisation Schedule
			FY 2022-23	FY 2023-24	FY 2024-25	Total	
1	Augmentation of 220/66KV Vaghchhipa sub-station from 2x160MV A to 3x160MVA associate with 220KV bay and 66KV Bus.	12.00	6.00	6.00	0.00	12.00	FY 2023-24

Commission's analysis

As discussed earlier, considering the time required for obtaining CEA approval and further tendering process, the petitioner in its revised submission has shifted the phasing of capital expenditure of this scheme and has submitted the following revised Capital Expenditure and Capitalisation plan for the above scheme:

Table 28: Revised Capital expenditure and Capitalisation details submitted by the Petitioner for scheme(s)

Sl. No.	Name of Scheme	Total Estimated amount (INR Cr)	Proposed Expenditure (INR Cr)				Capitalisation Schedule
			FY 2022-23	FY 2023-24	FY 2024-25	Total	
1	Augmentation of 220/66KV Vaghchhipa sub-station from 2x160MV A to 3x160MVA associate with 220KV bay and 66KV Bus.	12.00	0.00	6.00	6.00	12.00	FY 2024-25

The Petitioner has submitted the appropriate technical justification for the scheme, but the Petitioner is yet to obtain the CEA approval for the scheme. The Commission notes the revised submission made by the petitioner and is of the view that the revised phasing of expenditure appears to be reasonable considering the time required for CEA approval and hence approves the capital expenditure schedule proposed by the Petitioner **subject to the Petitioner submitting requisite CEA approval within 6 months from the date of this Order.** As regards the capitalisation, the Commission approves the revised capitalisation schedule submitted by the Petitioner.

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

Table 29: Summary of capital expenditure approved for Augmentation of 220/66KV Vaghchhipa sub-station from 2x160MVA to 3x160MVA associate with 220KV bay and 66KV Bus for the upcoming Control Period

Sl. No.	Scheme(s)	Approved Capital Expenditure (INR Cr)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
1	Augmentation of 220/66KV Vaghchhipa sub-station from 2x160MV A to 3x160MVA associate with 220KV bay and 66KV Bus.	0.00	6.00	6.00	12.00

Table 30: Summary of capitalisation approved for Augmentation of 220/66KV Vaghchhipa sub-station from 2x160MVA to 3x160MVA associate with 220KV bay and 66KV Bus for the upcoming Control Period

Sl. No.	Scheme(s)	Approved Capitalisation(INR Cr)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
1	Augmentation of 220/66KV Vaghchhipa sub-station from 2x160MV A to 3x160MVA associate with 220KV bay and 66KV Bus.	0.00	0.00	12.00	12.00

Therefore, the Commission approves a total capital expenditure of INR 12.00 Cr and total capitalisation of INR 12.00 Cr for this scheme for the upcoming Control Period.

2. Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system

Petitioner's Submission

The petitioner has submitted that the 220/66 kV Kharadpada substation was commissioned in the year 2002. Control and Relay panels of Kharadpada substation is of old design and consists of electromechanical type relays. Spares for these relay are not available in the market for O & M works. Hence, these relay panel needs to be replaced by new microprocessor-based relays & panels for 220 kV & 66 kV with integration of SCADA system for better monitoring and getting real time data for SLDC. WRLDC also seeks submission of Disturbance Records reports in the event of tripping and other incidents. Hence, the petitioner has proposed a scheme for upgradation and modernisation for 220/66 kV Kharadpada Sub-Station is proposed.

Further, 220 kV New Kharadpada substation was commissioned in the year 2015. The Sub-Station is having Control and Relay panels with SCADA compatible relays inbuilt. To enhance the New Kharadpada substation, a SCADA system needs to be installed. By providing the SCADA system in New Kharadpada substation, better monitoring and getting real time data for SLDC operations will be ensured. Also, there is a possibility to reduce the O & M cost for this sub-station by remote operations from Kharadpada substation by extending SCADA controls. The capital expenditure and capitalisation schedule proposed by the Petitioner for the above scheme in its Petition is as given below:

Table 31: Capital expenditure and capitalisation schedule proposed by the Petitioner for Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system

Sl. No.	Name of Scheme	Total Estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule
			FY 2022-23	FY 2023-24	FY 2024-25	
2	Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system	6.00	6.00	0.00	0.00	<i>FY 2022-23</i>

Commission's Analysis

As discussed earlier, considering the time required for obtaining CEA approval and further tendering process, the petitioner in its revised submission has shifted the phasing of capital expenditure of this scheme and has submitted the following revised Capital Expenditure and Capitalisation plan for the above scheme:

Table 32: Revised Capital expenditure and Capitalisation details submitted by the Petitioner for scheme(s)

Sl. No.	Name of Scheme	Total Estimated amount (INR Cr)	Proposed Expenditure (INR Cr)				Capitalisation Schedule
			FY 2022-23	FY 2023-24	FY 2024-25	Total	
2	Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system	6.00	0.00	6.00	0.00	6.00	FY 2023-24

As discussed earlier, this scheme was approved in the Capital Expenditure Plan for the previous Control Period of FY 2019-20 to FY 2021-22, but this scheme was not implemented. The Commission asked the Petitioner to submit the justification for not considering above scheme under the Ongoing Schemes and details of the current status of the project.

The Petitioner in its reply submitted that the previous proposed schemes approved by Commission in previous Business Plan have not been executed due to some Administrative and Technical issues. Some of the urgent kind of work had been executed out by department in which new 220 kV Circuit Breakers has been installed in place of old ones. Accordingly, considering the revised scope of work, new scheme has been proposed for upgradation and modernization of Sub-Station.

As the scheme was approved in the Business Plan for the previous Control Period, the Commission approves the scheme with modifications proposed by the Petitioner. The Commission notes the revised submission made by the petitioner and is of the view that the revised phasing of expenditure appears to be reasonable and approves the same. As regards the capitalisation, the Commission approves the revised capitalisation schedule submitted by the Petitioner.

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

Table 33: Capital expenditure approved by the Commission for Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system

Sl. No.	Name of Scheme	Approved Capital Expenditure (INR Cr)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
2	Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system	0.00	6.00	0.00	6.00

Table 34: Capitalisation schedule approved by the Commission for Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system

Sl. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
2	Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system	0.00	6.00	0.00	6.00

Therefore, the Commission approves a total capital expenditure of INR 6.00 Cr and total capitalisation of INR 6.00 Cr for this scheme for the upcoming Control Period.

3. Providing OPGW on Double Circuit 220KV line emanation from 400KV PGCIL- Kala Substation to 220 kV Khadoli Substation and 400k V Kala- Substation to 220KV Kharadpada Substation to receive online data at SLDC, Silvassa

Petitioner's Submission

The petitioner has submitted that as per the discussion held in 5th SCADA meeting called by WRPC, all the SLDC's should be connected through alternate route to add redundancy for connectivity of SLDC's. Accordingly, the petitioner has proposed to provide OPGW from 400 kV PGCIL- Kala Substation to 220KV Khadoli Substation and 400KV Kala- Substation to 220 kV Kharadpada Substation to enhance the connectivity of SLDC and meet the directives of WRPC.

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

Table 35: Capital expenditure and capitalisation schedule proposed by the Petitioner for Providing OPGW on Double Circuit 220KV line emanation from 400KV PGCIL- Kala Substation to 220 kV Khadoli Substation and 400k V Kala- Substation to 220KV Kharadpada Substation to receive online data at SLDC, Silvassa

Sl. No.	Name of Scheme	Total estimated amount (INR Cr)	Proposed Expenditure (INR Cr)			Capitalisation Schedule
			FY 2022-23	FY 2023-24	FY 2024-25	
3	Providing OPGW on Double Circuit 220KV line emanation from 400KV PGCIL- Kala Substation to 220 kV Khadoli Substation and 400 kV Kala-Substation to 220KV Kharadpada Substation to receive online data at SLDC, Silvassa	10.00	2.50	2.50	5.00	FY 2024-25

Commission's Analysis

As discussed earlier, considering the time required for obtaining CEA approval and further tendering process, the petitioner in its revised submission has shifted the phasing of capital expenditure of this scheme and has submitted the following revised Capital Expenditure and Capitalisation plan for the above scheme:

Table 36: Revised Capital expenditure and Capitalisation details submitted by the Petitioner for scheme(s)

Sl. No.	Name of Scheme	Total Estimated amount (INR Cr)	Proposed Expenditure (INR Cr)				Capitalisation on Schedule
			FY 2022-23	FY 2023-24	FY 2024-25	Total	
3	Providing OPGW on Double Circuit 220KV line emanation from 400KV PGCIL- Kala Substation to 220 kV Khadoli Substation and 400 kV Kala-Substation to 220KV Kharadpada Substation to receive online data at SLDC, Silvassa	10.00	0.00	5.00	5.00	10.00	FY 2024-25

The Petitioner has submitted the appropriate technical justification for the scheme, but the Petitioner is yet to obtain the CEA approval for the scheme. The Commission notes the revised submission made by the petitioner and is of the view that the revised phasing of expenditure appears to be reasonable considering the time required for CEA approval and hence approves the capital expenditure schedule proposed by the Petitioner **subject to the Petitioner submitting requisite CEA approval within 6 months from the date of this Order.** As regards the capitalisation, the Commission approves the revised capitalisation schedule submitted by the Petitioner. The summary of capital expenditure approved for the upcoming Control Period is given in the following table:

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

Table 37: Capital expenditure approved by the Commission for Providing OPGW on Double Circuit 220 kV line emanation from 400 kV PGCIL- Kala Substation to 220 kV Khadoli Substation and 400 kV Kala-Substation to 220 kV Kharadpada Substation to receive online data at SLDC, Silvassa

Sl. No.	Name of Scheme	Approved Expenditure (INR Cr)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
3	Providing OPGW on Double Circuit 220KV line emanation from 400KV PGCIL- Kala Substation to 220 kV Khadoli Substation and 400kV Kala-Substation to 220KV Kharadpada Substation to receive online data at SLDC, Silvassa	0.00	5.00	5.00	10.00

Table 38: Capitalisation schedule approved by the Commission for Providing OPGW on Double Circuit 220 kV line emanation from 400 kV PGCIL- Kala Substation to 220 kV Khadoli Substation and 400 kV Kala-Substation to 220 kV Kharadpada Substation to receive online data at SLDC, Silvassa

Sl. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
3	Providing OPGW on Double Circuit 220KV line emanation from 400KV PGCIL- Kala Substation to 220 kV Khadoli Substation and 400k V Kala-Substation to 220KV Kharadpada Substation to receive online data at SLDC, Silvassa	0.00	0.00	10.00	10.00

Therefore, the Commission approves a total capital expenditure of INR 10.00 Cr and total capitalisation of INR 10.00 Cr for the upcoming Control Period.

Summary of capital expenditure approved by the Commission

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

Table 39: Summary of capital expenditure approved by the Commission for the upcoming Control Period

Sr. No.	Name of Scheme	Approved Expenditure (INR Cr)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
New schemes					
1	Augmentation of 220/66 kV Vaghchhipa sub-station from 2x160MVA to 3x160MVA associate with 220KV bay and 66KV Bus.	0.00	6.00	6.00	12.00
2	Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system	0.00	6.00	0.00	6.00
3	Providing OPGW on Double Circuit 220kV line emanation from 400 kV PGCIL- Kala s / s to 220KV Khadoli s/s and 400 kV Kala- S/s to 220 kV Kharadpada S/s to receive online data at SLDC, Silvassa.	0.00	5.00	5.00	10.00
	Total	0.00	17.00	11.00	28.00

Therefore, the Commission approves a total capital expenditure of INR 28.00 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 40: Summary of capitalisation approved by the Commission for the upcoming Control Period

Sr. No.	Name of Scheme	Approved Capitalisation (INR Cr)			
		FY 2022-23	FY 2023-24	FY 2024-25	Total
New schemes					
1	Augmentation of 220/66 kV Vaghchhipa sub-station from 2x160MVA to 3x160MVA associate with 220KV bay and 66KV Bus.	0.00	0.00	12.00	12.00
2	Upgradation and Modernization of existing 220 kV Switching Sub-Station New Kharadpada and 220/66 kV Kharadpada Sub-station by providing SCADA system	0.00	6.00	0.00	6.00
3	Providing OPGW on Double Circuit 220kV line emanation from 400 kV PGCIL- Kala s / s to 220KV Khadoli s/s and 400 kV Kala- S/s to 220 kV Kharadpada S/s to receive online data at SLDC, Silvassa.	0.00	0.00	10.00	10.00
	Total	0.00	6.00	22.00	28.00

Therefore, the Commission approves a total capitalisation of INR 28.00 Cr for the upcoming Control Period.

2.4.2. Funding Plan

Petitioner's submission

For all the proposed new schemes, the Petitioner has submitted that the capital expenditure will be funded through Government funds.

Commission's analysis

The Petitioner can only consider equity up to 30% of the capital cost and the balance in excess of 30% shall be treated as normative debt as per provision 27.2 of the JERC MYT Regulations:

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

Based on the analysis of proposed funding for each of the schemes and the MYT Regulations stated above, the approved funding plan is given in the table below:

Table 41: Approved funding plan for the upcoming Control Period

Sr. No.	Sources of Funds	FY 2022-23	FY 2023-24	FY 2024-25	Total
A	Total Capitalisation in INR Cr	0.00	6.00	22.00	28.00
B	Debt (%)	70%	70%	70%	70%
C	Equity (%)	30%	30%	30%	30%
D	Normative Debt (INR Cr) (B x A)	0.00	4.20	15.40	19.60
E	Equity (INR Cr) (C x A)	0.00	1.80	6.60	8.40

2.5 Manpower Plan

Petitioner's submission

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

Commission's Analysis

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