## **GUJARAT ELECTRICITY REGULATORY COMMISSION**



## **Tariff Order**

Truing up for FY 2021-22

and

Determination of ARR and Tariff for FY 2023-24

For

# Gujarat Energy Transmission Corporation Limited (GETCO)

Case No. 2163 of 2022

31st March, 2023

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# GUJARAT ELECTRICITY REGULATORY COMMISSION (GERC)

## GANDHINAGAR

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March 2023

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#### **ABBREVIATIONS**

ABT	Availability Based Tariff
A&G	Administration and General
ARR	Aggregate Revenue Requirement
АТС	Annual Transmission Charges payable by Long-Term user or Medium-
me	Term user of the transmission system
CAPEX	Capital Expenditure
CC	Capacity Contracted in MW
CEA	Central Electricity Authority
CERC	Central Electricity Regulatory Commission
Ckt-Km	Circuit Kilometre
CoD	Commercial Operation Date
СОН	Capital Overhauling
DISCOMs	Distribution Companies
EA 2003	Electricity Act, 2003
FY	Financial Year
GEB	Gujarat Electricity Board
GERC	Gujarat Electricity Regulatory Commission
GETCO	Gujarat Energy Transmission Corporation Limited
GFA	Gross Fixed Assets
GoG	Government of Gujarat
GoI	Government of India
GSECL	Gujarat State Electricity Corporation Limited
GUVNL	Gujarat Urja Vikas Nigam Limited
HVDC	High Voltage Direct Current
IPP	Independent Power Producer
kV	kilo Volt
kVAh	kilo Volt Ampere Hour
kWh	kilo Watt Hour
MCLR	Marginal Cost of Funds based Lending Rate
MVA	Mega Volt Ampere
MW	Mega Watt
МҮТ	Multi-Year Tariff
0&M	Operations & Maintenance
OEM	Original Equipment Manufacturer
РРА	Power Purchase Agreement
R&M	Repair & Maintenance
RE	Renewable Energy
RoE	Return on Equity

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SCC	Sum of Capacities contracted in MW by all Long-Term users and Medium-Term Users of the Transmission System		
SLDC	State Load Despatch Centre		
ТВСВ	Tariff Based Competitive Bidding		
TC (Rs. /MW/Day)	Transmission Charges payable by the Short-Term user of the Transmission System		
TC (Rs. /kWh)	Transmission Charges payable in the case of Short-Term collective transactions through Power Exchanges		
TPL	Torrent Power Limited		
Wt. Avg.	Weighted Average		



March 2023

# Before the Gujarat Electricity Regulatory Commission at Gandhinagar

Case No. 2163 of 2022

Date of the Order: 31st March, 2023

#### CORAM

Shri Anil Mukim, Chairman Shri Mehul M. Gandhi, Member Shri S.R. Pandey, Member

#### ORDER



March 2023

## **1** Background and Brief History

#### **1.1 Gujarat Energy Transmission Corporation Limited (GETCO)**

Government of Gujarat unbundled and restructured the Gujarat Electricity Board with effect from 1<sup>st</sup> April, 2005. The Generation, Transmission and Distribution businesses of the erstwhile Gujarat Electricity Board were transferred to seven successor companies as listed below:

- Gujarat State Electricity Corporation Limited (GSECL) A Generation Company;
- Gujarat Energy Transmission Corporation Limited (GETCO) A Transmission Company;

Four Distribution Companies, namely:

- Dakshin Gujarat Vij Company Limited (DGVCL);
- Madhya Gujarat Vij Company Limited (MGVCL);
- Paschim Gujarat Vij Company Limited (PGVCL);
- Uttar Gujarat Vij Company Limited (UGVCL); and
- Gujarat Urja Vikas Nigam Limited (GUVNL) A Holding Company of above named six subsidiary Companies, responsible for bulk purchase of electricity from various sources and bulk supply to Distribution Companies.

The Government of Gujarat vide Notification dated 3<sup>rd</sup> October, 2006 notified the final opening Balance Sheets of the transferee Companies as on 1<sup>st</sup> April, 2005, containing the value of assets and liabilities, which stand transferred from the erstwhile Gujarat Electricity Board to the transferee companies, including GETCO.

The transmission assets of the erstwhile Gujarat Electricity Board, including the assets related to the State Load Despatch Centre (SLDC), were transferred to the newly created entity, GETCO. However, Government of India, Ministry of Power, has initiated steps to delink the National and Regional / State Load Despatch Centre from the Central Transmission Utility (CTU) / State Transmission Utility (STU).



# 1.2 Commission's Order for approval of True up of FY 2020-21 and Determination of tariff for FY 2022-23

The Commission vide its Order dated 31<sup>st</sup> March, 2022 in Case No. 2026 of 2022 has approved the Truing up for FY 2020-21 and determined the Tariff for FY 2022-23.

#### **1.3 Background of the present Petition**

Gujarat Energy Transmission Corporation Limited (hereinafter referred to as "GETCO" or the "Petitioner") has filed the present Petition on 15<sup>th</sup> December, 2022 for the Truing up for FY 2021-22 under Section 62 of the Electricity Act, 2003, (hereinafter referred to as "EA 2003") read with Gujarat Electricity Regulatory Commission (Multi-Year Tariff) Regulations, 2016 (hereinafter referred to as "GERC (MYT) Regulations, 2016").

Gujarat Electricity Regulatory Commission (hereinafter referred to as 'GERC' or the 'Commission') notified the GERC (MYT) Regulations, 2016 on 29<sup>th</sup> March, 2016, which is applicable for determination of tariff in all cases covered under the Regulations from 1<sup>st</sup> April, 2016 until 31<sup>st</sup> March, 2021. Subsequently, the Commission vide its Suo-Motu Order No. 7 of 2020 dated 22<sup>nd</sup> December, 2020 deferred the notification of the Regulations by one year and directed the Licensees / utilities to file the tariff application for the FY 2021-22 based on the principles and methodologies as provided in the GERC (MYT) Regulations, 2016. Similarly, the Commission vide its Order in Suo-Motu Petition No. 2140 of 2022 dated 20<sup>th</sup> October, 2022 directed generating companies, licensees and utilities to file their tariff applications for approval of true-up for FY 2021-22 and for determination of ARR and Tariff for FY 2023-24 on or before 15<sup>th</sup> December, 2022 based on the principles and methodologies as provided in the GERC and Tariff for FY 2023-24 on or before 15<sup>th</sup> December, 2022 based on the principles and methodologies as provided in the principles and methodologies as provided in the principles and methodologies as provided of the principles and proval of true-up for FY 2021-22 and for determination of ARR and Tariff for FY 2023-24 on or before 15<sup>th</sup> December, 2022 based on the principles and methodologies as provided in the GERC (MYT) Regulations, 2016.

Thus, Regulation 17.2 (b) of the GERC (MYT) Regulations, 2016 provides for submission of Petition comprising of Truing up for FY 2021-22, Aggregate Revenue Requirement (ARR) for FY 2023-24, revenue from the sale of power at existing tariffs and charges for FY 2023-24, and Revenue Gap or Revenue Surplus for FY 2023-24.

#### 1.4 Registration of the current Petition and Public Hearing Process

GETCO has filed the current Petition for Truing up for FY 2021-22 and Determination of ARR and Tariff for FY 2023-24 on 15<sup>th</sup> December, 2022. After Technical Validation of the Petition, it was registered on 28<sup>th</sup> December, 2022, as Case No. 2163 of 2022. As provided



under Regulation 29.1 of the GERC (MYT) Regulations, 2016, the Commission has proceeded with this Tariff Order.

In accordance with Section 64 of the Electricity Act, 2003, GETCO was directed to publish its application in an abridged form in the newspapers to ensure due public participation.

The Public Notice, inviting objections / suggestions from the stakeholders on the Truing up and Tariff Determination Petition filed by GETCO, was published in the following newspapers:

# Table 1-1: List of Newspapers in which Public Notice was published by thePetitioner

S. No.	Name of Newspaper	Language	Date of Publication	
1	The Indian Express	English	4/01/2023	
2	Sandesh	Gujarati	4/01/2023	

The Petitioner also placed the Public Notice and the Petition on its website (www.getcogujarat.com), for inviting objections and suggestions. The interested parties / stakeholders were asked to file their objections / suggestions on the Petition on or before 3<sup>rd</sup> February, 2023.

The Commission also placed the Petition and additional details received subsequently from the Petitioner on its website (<u>www.gercin.org</u>) for information and study of all the stakeholders.

The Commission also issued a notice for Public Hearing in the following newspapers in order to solicit wider participation by the stakeholders:

#### Table 1-2: List of Newspapers

S. No.	Name of Newspaper	Language	Date of Publication
1	The Indian Eexpress	English	21/02/2023
2	Divya Bhaskar	Gujarati	21/02/2023
3	Gujarat Samachar	Gujarati	22/02/2023

The Commission received objections / suggestions from consumers / consumer organizations as shown in the Table below. The Commission examined the objections / suggestions received from the stakeholders and fixed the date for Public Hearing at the Commission's Office for the Petition on 28<sup>th</sup> February, 2023 at 11.30 AM.



The status of stakeholders who submitted their written suggestion / objections, those who participated in the Public Hearing, and those who made oral submissions are given in the Table below:

S. No.	Name of Newspaper	Written Submission	Oral Submission	Participated in the Public hearing
1	Federation of Kutch Industries Association (FOKIA)	Yes	Yes	Yes
2	Torrent Power Limited	Yes	Yes	Yes
3	Aditya Birla Renewables	Yes	No	No

#### Table 1-3: List of Stakeholders

A short note on the main issues raised by the Objectors in the submissions in respect of the Petition, along with the response of GETCO and the Commission's views on the response, are briefly given in Chapter 3.

#### 1.5 Contents of this Order

The Order is divided into Seven Chapters as under: -

- (a) The **First Chapter** provides the background of the Petitioner, the Petition and details of the Public Hearing process and the approach adopted for this Order;
- (b) The **Second Chapter** outlines the summary of GETCO's Petition;
- (c) The Third Chapter provides a brief account of the Public Hearing process, including the objections raised by various stakeholders, GETCO's response and the Commission's views on the response;
- (d) The Fourth Chapter deals with the Truing up for FY 2021-22;
- (e) The Fifth Chapter deals with the Aggregate Revenue Requirement (ARR) for FY 2023-24;
- (f) The **Sixth Chapter** deals with the determination of Tariff for FY 2023-24;
- (g) The **Seventh Chapter** deals with the compliance of directives.

#### 1.6 Approach of this Order

The GERC (MYT) Regulations, 2016, provide for "Truing up" of the previous year and determination of tariff for the ensuing year. The Commission has approved ARR for five



years of the Control Period of FY 2016-17 to FY 2020-21 in the MYT Order dated 31<sup>st</sup> March, 2017.

The Commission vide its Suo-Motu Order No. 7 of 2020 dated 22<sup>nd</sup> December, 2020 deferred the notification of the Regulations by one year and directed the Licensees / utilities to file the tariff application for the FY 2021-22 based on the principles and methodologies as provided in the GERC (MYT) Regulations, 2016. Similarly, the Commission vide its Order in Suo Motu Petition No. 2140 of 2022 dated 20<sup>th</sup> October, 2022 directed generating companies, licensees and utilities to file their tariff applications for approval of true-up for FY 2021- 22 and for determination of ARR and Tariff for FY 2023-24 on or before 15<sup>th</sup> December, 2022 based on the principles and methodologies as provided in the GERC (MYT) Regulations, 2016.

Accordingly, GETCO has approached the Commission with the present Petition for Truing up for FY 2021-22 and determination of ARR and tariff for FY 2023-24.

The Commission has undertaken Truing up for FY 2021-22, based on the submissions of the Petitioner. The Commission has undertaken the computation of Gains and Losses for FY 2021-22, based on the audited annual accounts and prudence check.

While truing up for FY 2021-22, the Commission has been primarily guided by the following principles:

Controllable parameters have been considered at the level approved as per the Tariff Order, unless the Commission considers that there are valid reasons for revision of the same.

Uncontrollable parameters have been revised based on the actual performance observed.

The Truing up for FY 2021-22 has been considered, based on the GERC (MYT) Regulations, 2016.

The Commission has determined ARR and Tariff for FY 2023-24 as per the GERC (MYT) Regulations, 2016 and its amendments thereof as the base. Truing up of FY 2023-24 shall be carried out based on the principles and methodology adopted in GERC (MYT) Regulations, 2016.



## 2 Summary of GETCO's Petition

#### 2.1 Summary of GETCO's Petition

This Chapter highlights the summary of the Petition for True-Up of FY 2021-22 and Determination of ARR and Tariff for FY 2023-24.

#### 2.2 True-Up of FY 2021-22

GETCO submitted the Petition on 15<sup>th</sup> December, 2022 seeking approval of Truing up of ARR for FY 2021-22. GETCO has computed its ARR for FY 2021-22 as a part of the True-up of FY 2021-22. GETCO has presented the actual cost components based on audited Annual Accounts for FY 2021-22. A summary of the proposed ARR for Truing up for FY 2021-22 compared with the approved final ARR for FY 2021-22 in the Tariff Order dated 30<sup>th</sup> March, 2021 is presented in the Table below:

S. No.	Particulars	Approved in the Tariff Order	Actual Claimed	Deviation
1	<b>Operation &amp; Maintenance Expenses</b>	1,935.86	1,906.73	29.13
2	Depreciation	1,349.02	1,263.34	85.68
3	Interest & Finance Charges	571.08	463.04	108.04
4	Interest on Working Capital	85.51	80.61	4.90
5	Return on Equity	1,096.38	1,064.15	32.23
6	Total Fixed Costs	5,037.85	4,777.88	259.97
7	Add: Provision for Tax	217.46	461.06	(243.60)
8	Total Transmission Charges	5,255.31	5,238.94	16.37
9	Less: Expenses Capitalized	356.38	311.99	44.39
10	Less: Non-Tariff Income	412.84	456.24	(43.40)
11	Add: Incentive for Target Availability	-	46.32	(46.32)
12	Aggregate Revenue Requirement	4,486.10	4,517.03	(30.94)

#### Table 2-1: Summary of Truing up for FY 2021-22 (Rs. Crore)

Summary of the Gain/(Loss) due to allocation to Controllable & Uncontrollable factors are outlined in the Table below:



#### Table 2-2: Summary of Controllable & Uncontrollable Factors submitted by GETCO (Rs. Crore)

S. No.	Particulars	Approved in Tariff Order	Actual Claimed	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
1	<b>Operation &amp; Maintenance Expenses</b>	1,935.86	1,906.73	423.20	(394.08)
2	Depreciation	1,349.02	1,263.34		85.68
3	Interest & Finance Charges	571.08	463.04		108.04
4	Interest on Working Capital	85.51	80.61		4.90
5	Return on Equity	1,096.38	1,064.15		32.23
6	ARR (1 to 5)	5,037.85	4,777.88		(163.23)
7	Add: Provision for Tax	217.46	461.06		(243.60)
8	Less: Non-Tariff Income	412.84	456.24		(43.40)
9	Add: Incentive for Target Availability	-	46.32		(46.32)
10	Less: Expenses Capitalized	356.38	311.99		44.39
11	Total ARR	4,486.10	4,517.03	423.20	(454.14)
12	Net Gain / (Loss) on account of Controllable / Uncontrollable Factors			423.20	(454.14)
13	Gain on account of Controllable Factors to be passed on to Consumer (1/3 x Sr. No. 12)			141.07	
14	Losses on account of Uncontrollable Factors to be passed on to Consumer				(454.14)

Based on the above sharing of Gain and Loss, the Petitioner has claimed the following Gap for FY 2021-22.



#### Table 2-3: Gap for FY 2021-22, as submitted by GETCO (Rs. Crore)

S. No.	Particulars	Amount
1	Gain / (Loss) on account of Uncontrollable factor to be passed on to Beneficiaries for FY 2021-22	(454.14)
2	Gain / (Loss) on account of Controllable factor to be passed on to Beneficiaries (1/3 <sup>rd</sup> of Total Gain / (Loss) for FY 2021-22	141.07
3	Total Gain/ (Loss) of the true up to be addressed in the determination of tariff for FY 2023-24	(313.07)

#### 2.3 ARR and Tariff for FY 2023-24

In accordance with provisions of the GERC (MYT) Regulations, 2016, ARR for FY 2023-24 has been computed by GETCO as follows:

#### Table 2-4: ARR for FY 2023-24, as submitted by GETCO (Rs. Crore)

Sr. No.	Particulars	FY 2023-24
1	<b>Operation &amp; Maintenance Expenses</b>	2,386.95
2	Depreciation	1,468.69
3	Interest & Finance Charges	473.56
4	Interest on Working Capital	97.31
5	Return on Equity	1,237.68
6	Contribution to Contingency Reserves	170.40
7	Total Fixed Costs	5,834.59
8	Less: Expenses Capitalized	348.70
9	Add: Provision for Tax	461.06
10	Total Transmission Charges	5,946.94
11	Less: Non-Tariff Income	456.24
12	Aggregate Revenue Requirement	5,490.70

GETCO has calculated the Transmission Tariff for FY 2023-24 after considering the Gap of FY 2021-22 as follows:



#### Table 2-5: Transmission Tariff for FY 2023-24 as submitted by GETCO (Rs. Crore)

S. No.	Particulars	FY 2023-24
1	Aggregate Revenue Requirement for FY 2023-24	5,490.70
2	Add / (Less): Revenue Gap / (Surplus) for FY 2021-22	(313.07)
3	Add: Unrecovered impact of implementation of 7th Pay Revision for FY 2020-21	11.51
4	Revised ARR	5,815.29
5	Total MW allocation	37,201
6	Transmission tariff (Rs/MW/day)	4,271

Further, GETCO has proposed to allow recovery of transmission charges at 38.97 Paise/kWh for all types of Short-Term transactions.

#### 2.4 Prayers made by GETCO

In the present Petition, GETCO made the following prayers:

- (a) To admit this Petition seeking True up of FY 2021-22, Aggregate Revenue Requirement for FY 2023-24 and Tariff Proposal for FY 2023-24.
- (b) To approve the True up for FY 2021-22 and allow sharing of gains/ (losses) with the Consumers as per sharing mechanism prescribed in the GERC (MYT) Regulations, 2016.
- (c) To allow recovery of Revenue (Gap) / Surplus of FY 2021-22 as part of Tariff determination for FY 2023-24.
- (d) To approve Aggregate Revenue Requirement for FY 2023-24 as submitted by the Petitioner.
- (e) Pass suitable orders for implementation of Tariff Proposal for FY 2023-24 for making it applicable from 1<sup>st</sup> April, 2023 onwards.



# 3 Brief outline of objections raised, response from GETCO and Commission's View

#### 3.1 Public Response to the Petition

In response to the Public Notice inviting objections/suggestions from the stakeholders on the Petition filed by GETCO for Truing up for FY 2021-22 and determination of ARR and Tariff for FY 2023-24 under the GERC (MYT) Regulations, 2016, some consumers /consumer organizations filed their objections/suggestions in writing, and also participated in the Public Hearing.

The Commission has considered the objections/suggestions relevant to the present Petition and the response of GETCO on the same.

The objections/suggestions by the consumers/consumer organizations, the response from the Petitioner and the views of the Commission are dealt with hereunder:

#### 3.2 Issue-wise Submissions and Replies

#### Issue No. 01: Shortfall in Network Capacity

The Objector submitted that the Petition as submitted by GETCO needs to be in compliance / accordance with the provisions of EA 2003, National Electricity Policy (NEP) and the notifications whereby Section 39 specifies function and Section 40 specifies duties of the transmission licensee. Further, it is submitted that transmission utility is required to comply the directives issued by SLDC and has to ensure the grid operations, for achieving the maximum economy and efficiency in the operation of the Power System.

However, looking to the progress of the expansion of the network with huge capital expenditure and more particularly the actions like over delayed in creating required network to control loading elements within specified designed capacity, it seems that this prime function to create needed network capacity is neglected.

#### **GETCO's Reply**

The Petitioner submitted that it has commissioned the following assets during FY 2016-17 to FY 2021-22:



#### Gujarat Energy Transmission Corporation Limited Truing Up for FY 2021-22 and Determination of ARR and Tariff for FY 2023-24

Voltage Class (kV)	Substation (Nos.)	Transmission Line (Ckm)
400 kV	7	711.10
220 kV	17	3,037.33
132 kV	5	398.93
Total	29	4,147.36

Further, GETCO has undertaken the analysis of the commissioned system and found that, with the commissioning of the above said network, Transmission Grid is further strengthened, especially in central and southern part of Gujarat, Tribal belt and Saurashtra Region. The increase in network has been facilitating high RE integration and evacuation of RE integration in GETCO system. The addition of such network has also improved the voltage profile and short circuit level at major locations. Further, for providing sustainable and reliable power, N-1 Contingency has been achieved, overloading of the transmission elements were avoided. It is further to state that, there was significant addition of RE integration in the GETCO grid was achieved because of addition of the network.

Hence, GETCO created the needed network appropriately in consultation with state utilities, DISCOM as per specific technical and design criteria for planning and development of power system.

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

The Commission noted the expansion of network of GETCO as outlined above.

#### Issue No. 02: Sharp increase in Income Tax for FY 2021-22

The Objector submitted that a sharp increase in income tax for FY 2021-22 from approved 217.46 Crore actual of Rs. 461.06 Crore neds to be looked into detail.

#### **GETCO's Reply**

In accordance with the guidelines by the Hon. Gujarat Electricity Regulatory Commission, for computation of approved Income Tax for the FY 2021-22, the Income Tax paid in actual (audited) in the past year FY 2019-20 has been considered. The actual Income Tax paid in FY 2021-22 is based on various factors including but not limited to the revenue generated, and the expenditure incurred during the year, which is also duly reported in the Financial Audit Reports. Further, it is to state that in FY 2021-22, GETCO's taxable Income was taxed under normal Tax rate i.e. 34.944% which was higher than MAT rate 17.472%, accordingly



GETCO has to make provision for tax at the normal rate of 34.944% instead of MAT rate of 17.472%.

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

The Commission has duly verified and computed income tax for FY 2021-22 in respective chapter of this Order.

#### Issue No. 03: Comparison of Capital Expenses

The Objector submitted that the Petitioner has incurred 66% less in 400kV lines, 20% less in 220kV lines. Further, expenditure in 400kV substation is about 35% less than approved whereas expenditure for 66kV substations were about more than 60% of the approved amounts. Such deviations in capital expenses shall be analysed by the Commission.

Also, the details regarding the transmission elements to be commissioned during FY 2021-22 with present status and updated commissioning schedules were sought.

#### **GETCO's Reply**

GETCO submitted that all the elements of a network are planned in an integrated manner. The planning also ascertains the various requirements at different voltage levels. The endeavor of such a comprehensive planning is to reduce the power losses and optimize the expenditures & revenues to the extent possible while maintaining the demand-supply balance. And the variation of the actual expenditure from the approved expenditure for various categories of new projects relates to the above-mentioned reasons. Also, the on-ground implementation of CAPEX is always an ongoing process. The non-utilisation / under utilisation of funds allocated, reasoning to the variation of implementation plan is due to the impact of COVID-19, thus resulted in delay in projects scheduled for commission at that time. It is to state that, various important ongoing project mainly under Kutch region are held up or having progress slowly due to sever RoW or having objection by local farmer owner and association. Seeing the obstacles, GETCO put efforts to clear such pending issued and target to be completed earliest.

Further, with due diligence, on respective ongoing project and their progress level by making effort toward delayed project of FY 2020-21 due to unexpected pandemic and subsequent impacts, were competed in FY 2021-22. Also to mitigate the government KSY planning obligations toward the transmission, in respect to KSY scheme, GETCO has also completed such project in advance which are projected to be completed in next year.



From the above facts and reason, higher capex may be seen on 66kv class elements, whereas lower in case of 220kv & 400Kv. Transmission network planned to be commissioned during FY 2021-22 with present status and updated commissioning schedule along with reason for the deviation is also furnished by the Petitioner.

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

The Commission has noted the data submitted by GETCO regarding the capitalisation made during FY 2021-22.

#### Issue No. 04: Transmission Losses

The Objector submitted that the transmission losses projected by GETCO for FY 2023-24 is 3.60%, which is already achieved during FY 2021-22. Despite being of such huge planned expenditure to be incurred during FY 2022-23 and FY 2023-24 there is no justification is being provided regarding projecting same losses for FY 2023-24 and hence the same should not be allowed.

#### **GETCO's Reply**

The transmission loss depends on numerous factors such as pocket wise generationdemand mismatch, loop power flow through elements at various voltage level, type of load, seasonal demand variation, prolonged agriculture power supply, reactive power requirement due to inductive load (Agriculture pump sets), ambient temperature, renewables, loss of generation / non-availability of generation in load centers due to merit order etc.

Additional inter-State/Inter-Regional Power flow through GETCO Network increases current flow and higher I2R losses for the State network.

Wind power injection is mainly concentrated in remote locations of Saurashtra & Kutch area with high wind power injection likewise solar, we need to back down/stop generation from Generating station located in south & central Gujarat area (i.e. Load centers) on account of high Variable cost.

Transmission of huge power available in Saurashtra, Kutch & north region to major load centres in south & central Gujarat area through long transmission lines thereby increased I2R losses.

Absolute value of transmission loss cannot be predicted or Controlled. Transmission loss is purely a technical loss. It is inevitable and vary according to power flow profile in reference



to transmission system operation with respect to energy demand, energy supply & energy direction.

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

The Commission has noted the submission of GETCO on the projected transmission losses for FY 2023-24 which are 3.60%. This is going to be again checked at the time of true-up exercise.

#### Issue No. 05: Annual Plans for expansion of network

The Objector submitted that GETCO has proposed huge investment for expanding their network. However, it was observed that full capacity of machines of Gandhinagar TPS Unit No. 3 & 4, Ukai TPS Unit No. 3, 4 & 5 and Wanakbori TPS Unit No. 1,2,3,4,5 and 6 have completed more than 25/40 years and full capacity generation may not be possible and correction in capacity needs to be considered.

Also, GETCO carry out regular studies to decide schemes to be planned and executed to meet the system requirements so that the system can be operated as per Grid Code. Similarly, SLDC is also monitoring system operation and informing transmission elements operating near to design criteria so that the system can be planned executed timely to ensure that all the elements are operating within the design margins.

#### **GETCO's Reply**

The Petitioner submitted that STU network expansion is planned to meet future demand requirements, harnessing Renewable Energy sources in the State, ISTS-STU interconnections to increase TTC/ATC for drawl/injection from ISTS grid, operational feedbacks from SLDC and field offices. All planned transmission schemes are being finalized by STU after due diligences of having consultative process of a joint meeting of DISCOM representatives. All planned schemes are being reviewed periodically and prioritised as per DISCOM, SLDC and field inputs.

Further, the retirement and de-rated capacity of the any generation station is decided by power Generating company and procurer company, hence, full capacity is considered while commissioning. The network addition is planned by GETCO based on detailed study of the requirements and also taking into consideration the existing network and its loading. Based on the same, an integrated development plan which includes the schemes to be developed by GETCO to strengthen/augment the existing network capacity is developed.



Further, the proposal / requirements received from the DISCOMs are also taken into consideration while developing this plan. GETCO creates sub transmission network i.e., 66 kV system, purely on the demand of DISCOMs. Procedure for the creation of 66 kV substation was discussed in length during review meeting of the performance of distribution companies & GETCO. it was decided that DISCOMs have to decide judiciously on the demand of creation of new 66 kV substations and submit the proposal to GETCO. Further, proposal for creation of new 66 kV substations is being approved from the MD/Borad of DISCOM before sending to GETCO along with priority list. Based on the proposal received from DISCOM, GETCO apply for the land to the revenue department and as per the availability of land, GETCO creates new 66 kV substations. Apart from that, every year, GETCO circulate the list of the upcoming new 66 kV substations to all DISCOMs and request them to complete the downstream network so that load can be taken as soon as substations are commissioned. Loading of important elements are being updated on GETCO website on quarterly basis.

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

The Commission has noted the details of loading submitted by GETCO along with this Petition. The transmission line / system operation and loading are based on many factors as outlined above and system security has to be adhered to.

#### Issue No. 06: Compliance of Directives

The Objector submitted that the Petitioner has complied partly with the directives and has not furnished the data in its Petition. The Petitioner shall submit the data along with Petition for study and observations purpose.

#### **GETCO's Reply**

GETCO has submitted the compliance of Directive 1: Submission of peak and average loading of transmission elements before GERC.

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

The Commission has noted the compliance of directive.

#### Issue No. 07: Voltage wise Transmission Charges and Losses

The Objector has submitted that total cost of transmission network is considered for arriving at per MW per day transmission charges. At different voltages, different quantum



of energy is handled and hence to arrive at system voltage wise transmission cost, it is necessary to have system voltage wise energy handled. Further, it is necessary to have voltage wise information in order to look into the performance of the system.

The Objector, M/s Torrent Power Limited (TPL), has filed the objection in its capacity as a Distribution Licensee in the State of Gujarat and is required to pay the transmission charges & losses for availing open access on GETCO Network.

The Objector submitted that the capital expenditure incurred by GETCO to create the intra-State network includes the cost of 400 kV, 220 kV, 132 kV, and 66 kV network including substation and associated network to make power available to the State Distribution Licensees at 11 kV. The cost is being recovered by GETCO through transmission charges and losses from all beneficiaries in Gujarat whereby intra-state transmission charges are calculated considering ARR for all respective voltage levels.

TPL-D sources power at 220 kV voltage level from GETCO periphery, and thereafter, TPL-D has its own network at lower voltage level to supply electricity to its consumers and the same is part of its capital expenditure. However, TPL-D and in turn, its consumers are required to bear the transmission charges and losses of GETCO for availing open access for all voltage levels including 400 kV, 220 kV, 132 kV, and 66 kV/11 kV without even utilising the network.

Ideally, consumption at a particular voltage level requires network at that voltage level and all higher voltage levels. Thus, consumption at the lower voltages should contribute towards the cost recovery of the higher voltage levels also. Since, TPL-D is connected to the higher voltage level, i.e., 220 kV, it would not be utilising the services of the lower voltage level below 220 kV and hence, should not be required to contribute towards the cost recovery of lower voltage network. Hence, TPL-D and its consumers should be required to bear the transmission charges and losses at voltage levels up to 220 KV only. Even in case a generating station is connected at lower voltage level and supplies power to upstream network, the cost of evacuation of power from such generating station is to be borne by the generator or its beneficiary, and TPL-D cannot be asked to bear the cost of such generators.

Wheeling Charges of all Distribution Licensees in the State are being determined separately for 11 kV and above voltages and LT consumers at 400 Volts and below. Same principle is required to be followed in case of GETCO as well, else it will lead to duplication of cost and amounts to cross-subsidisation because of TPL-D bearing the cost of network meant for the Government Distribution Licensees.



The Objector requested the Commission to direct GETCO to furnish the necessary details for determination of transmission charges for the Distribution Licensee sourcing power at 220 kV and above voltage level and other users of the GETCO network. The ratio of Gross Fixed Assets (GFA) of upstream network up to 220 kV substation and balance network can be used to segregate GETCO ARR into ARR pertaining to upstream network and balance ARR. The ARR pertaining to upstream network is being used utilised by all consumers and therefore this portion of ARR is to be further segregated in the ratio of Contract Demand at 220 kV voltage level and Total demand so as to identify the ARR pertaining to consumers connected at upstream network up to 220 kV and balance is to be considered towards the consumers connected at lower voltage level. This identified ARRs are to be divided by respective demand to arrive at the per MW transmission charges.

The Objector requested the Commission to determine the Transmission Charge and Losses of GETCO network for 220 kV and above voltage level and below voltage level for FY 2023-24, so as to avoid additional burden on TPL-D consumers. TPL-D submitted that determination of voltage-wise transmission charges and losses is in accordance with the provisions of the EA 2003.

Further, the Objector submitted that, at present, consumers are required to bear transmission charges and losses of GETCO for all voltage levels including entire GETCO network cost i.e., EHV lines of all voltage levels including substation costs without utilising such network. This results into cross subsidisation owing to TPL-D consumers bearing the cost of network meant for Gujarat State Owned Discoms. Further, this approach is in contradict with the proviso of Regulation 21(2)(i) of the GERC (Terms and Conditions of Intra-State Open Access) Regulations, 2011, as amended from time to time.

The Objector also submitted that as per the provisions of OA Regulations, all distribution companies including Private and State Discoms are open access customers of GETCO. Based on the proviso to Regulation 21(2)(i) of the GERC (Terms and Conditions of Intra-State Open Access) Regulations,2011, it provides that Discom for which specific transmission system is created, has to bear the charges of such dedicated transmission system. It is important to note that last mile connectivity created by GETCO are covered within the purview of above referred provisions of the Regulation:

".....

Provided that where a dedicated transmission system used for open access has been constructed for exclusive use of an open access customer, the transmission charges for such



dedicated system shall be worked out by transmission licensees for their respective systems and got approved by the Commission and shall be borne entirely by such open access customer till such time the surplus capacity is allotted and used by other persons or purposes."

However, the provision related to dedicated transmission systems is not implemented and the cost is socialised whereby all have to bear such cost in intra-state system. Therefore, necessary changes in accordance with the provisions of the Regulations read with the provisions of the ACT is required to be implemented.

Further, the reference was made to RE projects during hearing held on 28<sup>th</sup> February, 2023. In case RE project is connected at lower voltage and supplies power to upstream network, cost of evacuation of power from such RE projects is to be borne by specific generator including TPL. However, consumers of TPL should not be asked to bear this cost of such generators.

The Commission is following postage stamp method for distribution licensees wherein wheeling charges are separately determined for open access consumers at 11 kV and above voltage level and at LT voltage level. Same principle is required to be followed in case of GETCO as well, wherein the Commission may direct GETCO to furnish necessary details for determination of transmission charges in accordance with provisions of GERC (Terms and Conditions of Intra-State Open Access) Regulations, 2011 read with GERC (MYT) Regulations, 2016.

Further, the Objector submitted that there is no bar in the existing regulatory framework for the Commission to determine voltage wise transmission charges and losses. The Objector requested the Commission to determine the Transmission Charge and Losses of GETCO network for 220 kV and above voltage level and below voltage level for FY 2023-24.

#### **GETCO's Reply**

The Petitioner submitted that the power system network in the State as well as at national level is operated as an integrated power network. The power flow in the integrated power network depends upon factors like locations of load and power generation, line impedance of network element, etc. Therefore, when the entity is drawing power at particular voltage level, the power flow in the network not only involves network element of that particular voltage level or higher voltage level but also involves network element of lower voltage level. Whenever entity is drawing power at 220 kV voltage level, the power flow in the network element of voltage level, the power flow in the network also involves network element of lower voltage level. Whenever entity is drawing power at 220 kV voltage level, the power flow in the



would not be appropriate to say that as TPL is drawing power at 220 kV, it is not utilizing transmission network of lower voltage level, i.e., lower than 220 kV voltage level. All the entities concerned are required to bear the network charges and losses determined on the basis of network as a whole, involving transmission elements of all voltage levels. Considering the above peculiarity of integrated power network, even in case of PGCIL, the transmission charges and losses are not differentiated on the basis of voltage level connectivity.

In case of Inter-State Transmission lines, during the old regime, calculation was based on Postage Stamp method, and the applicable transmission charges were uniform irrespective of voltage level at which the user of transmission line is connected. The present regime of Point of Connection (PoC) charges mechanism for Inter State Transmission line is usage based, which captures the direction and distance of power flow. Only when similar mechanism of capturing distance and direction of power is introduced for Intra-State transmission network as well, such concerns can be addressed. Therefore, till such mechanism is introduced at Intra-State level, the existing mechanism of uniform charges should be continued.

Therefore, GETCO transmission network being operated on integrated basis, will not be able to apply voltage-wise transmission charges and losses.

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

The Commission has noted the response submitted by the Petitioner. The PoC mechanism implemented at inter-State level is yet to be introduced at intra-State level, and the present postage-stamp method will continue till such time the PoC mechanism is implemented at intra-State level.

The Petitioner is tasked with creating the necessary transmission infrastructure for transmitting power to the inter-connection points of the Distribution Licensees. The cost of such transmission infrastructure is socialised and recovered at the same rate from all the Distribution Licensees. Hence, GETCO transmission charges and losses shall continue to be recovered uniformly till Intra-State POC mechanism is developed and implemented.



## 4 **Truing up for FY 2021-22**

#### 4.1 Introduction

This Chapter deals with the Truing up for FY 2021-22.

While doing 'Truing up' of various components of ARR for FY 2021-22, the actuals for FY 2021-22 are compared with the approved ARR as per the Tariff Order issued on 30<sup>th</sup> March, 2021.

The Commission has analysed each of the components of the ARR in the following sections:

#### 4.2 Capital Expenditure and Capitalisation

#### **Petitioner's Submission**

GETCO has submitted that in order to ensure unrestricted power flow across the State of Gujarat and maintain an efficient transmission system, GETCO had spent significant amount of capital expenditure for construction of transmission lines and sub-stations during FY 2021-22.

GETCO has submitted the actual capital expenditure at Rs. 3,463.73 Crore for FY 2021-22, as against Rs. 2,787.71 Crore approved for FY 2021-22 in the Order dated 30<sup>th</sup> March, 2021. The actual Capitalisation for FY 2021-22 is submitted as Rs. 2,235.68 Crore. GETCO has incurred this expenditure in construction of new substation and transmission lines required for strengthening of the transmission network of GETCO.

Further, GETCO submitted that the Commission in its Tariff Order in Case No. 1909 of 2020 dated 30<sup>th</sup> March, 2021 has considered capex for FY 2021-22 based on the average capex done by GETCO in past five years. The relevant part of the same is reproduced here below:

"The Commission notes that the Capex and Capitalisation proposed by GETCO for FY 2021-22 is higher than the average capex actually achieved by GETCO in past 5 years. Hence, for the purpose of approving ARR for FY 2021-22, the Commission has considered the Capex based on average of last 5 years Capex by GETCO. **However, all Projects proposed by GETCO are approved, and actual capex and capitalisation achieved by GETCO shall be subject to final adjustments as per Regulations/Prudence check at the time of truing up.** The complete list of CAPEX Schemes approved by the Commission in this Order for FY 2021-22 is given at Annexure I to this Order."



However, the Commission had also mentioned that all the projects proposed by GETCO are approved and the actual capex proposed by GETCO shall be subject to final adjustments as per Regulations/prudence check at the time of truing up. GETCO has incurred the actual expenditure in construction of new substation and transmission lines required for strengthening of the transmission network of GETCO. The comparison of CAPEX approved by the Hon'ble Commission & capital expenditure incurred during FY 2021-22 are shown below:

Sr. No.	Particulars	FY 2021-22 (Approved)	FY 2021-22 (Actual)
	New Projects		
1	765 KV Substations	-	-
2	765 KV Lines	-	-
3	400 KV Substations	283.00	203.66
4	400 KV Lines	400.00	137.22
5	220 KV Substations	353.00	328.66
6	220 KV Lines	305.00	243.25
7	132 KV Substations	15.00	11.17
8	132 KV Lines	37.00	17.92
9	66 KV Substations	450.00	715.67
10	66 KV Lines	620.00	1,251.22
11	Capacitor Bank	16.11	0.74
12	Reactor and Reactor Bay	-	-
	Total	2,477.11	2,909.51
	R&M		
	Renovation and Modernization	-	229.57
	Augmentation of Substation/Lines	-	219.89
	Replacement of RTU	-	-
	Total	-	449.45
	City Development Plan	-	-
	OPGW	115.33	104.77
	Capital Expenditure Plan	2,592.44	3,463.73

#### Table 4-1 Capital Expenditure submitted by GETCO for FY 2021-22 (Rs. Crore)

GETCO submitted that as per annual accounts of FY 2021-22, GETCO has capitalised assets of Rs. 2,235.68 Crore, furthermore, the Commission in its Tariff Order in Case No. 1837 of 2019 dated 30<sup>th</sup> March, 2020 has disallowed capitalization of Rs. 34.05 Crore as a part of



True up of FY 2019-20. Subsequently in the Order in Case No 2026 of 2021 dated 30<sup>th</sup> March, 2021, the Commission further allowed capitalisation of Rs. 4.71 Crore in FY 2020-21 based on perusal of documents submitted by GETCO and prudence check. Out of the disallowed amount of Rs. 14.75 Crore due to soak charges and remaining capitalization will be claimed as and when assets will be put to use. In present Petition, GETCO has claimed disallowed capitalization of Rs. 0.70 Crore over and above the actual capitalization for FY 2021-22.

Hence, total capitalization for FY 2021-22 works out to Rs. 2,233.37 Crore (Rs. 2,235.68 Crore of FY 2021-22 + Rs. 0.70 Crore disallowed Capitalization during FY 2020-21 – Rs. 3.01 Crore SLDC capitalisation).

Table 4-2: Capital Expenditure and Capitalisation as submitted by GETCO (Rs.Crore)

Sr. No.	Particulars	Approved	Actual	Deviation
1	САРЕХ	2,787.71	3,463.73	(676.02)
2	Capitalization	2,400.66	2,233.37	167.29
3	Consumer Contribution/Grants	362.00	389.22	(27.22)
4	Debt	1,427.06	1,290.90	136.16
5	Equity	611.60	553.24	58.36

Based on the capitalisation, the addition of number of substations and transmission lines during FY 2021-22, as submitted by GETCO, is shown in the following Table:

Sr. No	Particulars	Substations (Nos.)	Transmission Line (Ckt-km)
1	400 kV	1	170.100
2	220 kV	6	279.36
3	132 kV	-	28.10
4	66 kV	75	1,466.91
5	33 kV	-	-
	Total	82	1,944.47

 Table 4-3: Network Addition as submitted by GETCO

#### **Commission's Analysis**

The Commission notes that GETCO has submitted the actual capitalisation of Rs. 2,233.37 Crore as against the approved amount of Rs. 2,400.66 Crore. The Commission also notes that GETCO has submitted the details of date of charging and load of substations and lines capitalised during FY 2021-22, along with the Petition.



GETCO submitted the work-wise details of actual capitalisation vis-à-vis approved capitalisation, date of first power flow, date on which maximum and minimum load achieved, etc. The Commission has analysed the work-wise details.

The Commission in its Order dated 26<sup>th</sup> March, 2020 in Case No. 1837 of 2019 and 30<sup>th</sup> March, 2021 in Case No. 1909 of 2020, has held the following while undertaking the truing up for FY 2019-20:

The Commission notes that Regulation 34 of the GERC (MYT) Regulations, 2016 specifies that assets, which have been part of the project but have not been put to use, will not be considered for capitalisation. The Commission in earlier Orders has relied on the Certificate of Chief Electrical Inspector (CEI). The Commission understands that CEI Certificate provides for safety norms. Moreover, it is clear that assets cannot be put to use before certification of CEI. Hence, Certificate of CEI is considered as one of the milestones for asset to be put to use. Further, in some cases, it is observed that after issuance of Certificate of CEI, the respective transmission assets are not being charged on account of delay in connectivity from lower voltages, etc. However, it is expected that transmission works are to be in co-ordination with Distribution Licensee or Beneficiaries, so that there would be optimum utilisation of assets. In light of the foregoing analysis, the Commission, while undertaking prudence check, has considered the actual capitalisation based on CEI certification as well as actual power flow.

..."

"...

Similar approach has been adopted by the Commission in the present Order for approving the capitalisation for FY 2021-22. The Commission sought the relevant details from GETCO. The prudence check undertaken by the Commission is discussed in subsequent paragraphs.

The Commission notes that, while undertaking truing up for FY 2019-20, it has disallowed the capitalisation of Rs. 34.05 Crore towards "Soak Charge" on account of pending work at consumer-end/source-end and have not actually been *put to use*. In the present Petition, GETCO has claimed the capitalisation of Rs. 0.70 Crore towards these schemes. This capitalisation is towards the following schemes:



# Table 4-4: Details of Work-wise capitalisation disallowed by the Commission in FY2019-20 & claimed in FY 2021-22 (Rs. Crore)

S. No	Particulars	Disallowed Cost	Claimed in this Petition	Pending claim
1	2 Nos. FB at 66 kV Dhrangda S/s for 66 kV D/C Dhrangda Virpar line	0.70	0.70	-

The Commission sought the details of CEI certificates and details of power flow for the above said assets. From the perusal of documents and after due prudence check, the Commission hereby approves the capitalisation of Rs. 0.70 Crore in FY 2021-22, which was disallowed in FY 2019-20.

Further, GETCO submitted the work-wise details of actual capitalisation vis-à-vis approved capitalisation, date of first power flow, date on which maximum and minimum load achieved, etc for balance capitalisation. The Commission has analysed the work-wise details.

The Commission notes that GETCO has not provided actual cost of any of the Assets put to use and has submitted that the cost of such assets which are not put to use has not been claimed. It was observed that GETCO has claimed 2 Nos. FB at 66 kV Dhrangda S/s for 66kV D/C Dhrangda Virpar line of Rs. 0.70 Crore. As these assets are capitalised and GETCO has claimed 0&M for the soak charge transmission elements, since these elements are ready and for which, Operation and maintenance is being carried out for safety aspects as the same are energised.

Accordingly, the Commission has allowed the capitalisation of such transmission elements resulting in allowance of Rs. 0.70 Crore towards such works.

On a query from the Commission, GETCO submitted that it is constructing evacuation system for 1000 MW Dholera solar park and 700 MW Raghanesda solar park and cost of which shall be reimbursed by GPCL to GETCO from the amount of Central Financial Assistant received from MNRE and Upfront Development Charges (UDC) collected from solar park developers. It is further submitted by GETCO that it has claimed capitalisation of Rs. 92.33 Crore against erection of 220/33 kV Raghanesda S/S and 220 kV transmission line in the truing up of FY 2021-22. It is also submitted by GETCO that its Board, vide BR No. 130.8/2172 dated 20.08.2020, decided that *"GETCO shall implement and own this project as State's transmission project, wherein GETCO would carry out sub-station project implementation, as their own, therefore, GETCO would bear all the expenditure of this* 



transmission evacuation system as a routine course of activity and keep these assets in it's Books of Accounts and maintain and operate these assets for the service of consumers of Gujarat. It means expenditure will be booked in GETCO ARR. The 220 kV/ 33 kV pooling stations of Raghanesda Solar park and Dholera solar park will be property of GETCO and it's expenditure to be booked in GETCO ARR."

However, based on the details submitted by GETCO about capitalisation of these assets, it is observed by the Commission that these assets were originally to be erected by GPCL from the amount received from solar project developers under the head - "Upfront Development Charges (UDC)" and "Central Financial Assistance (CFA)". Thereafter, there was a series of communication occurred between GETCO and GPCL regarding tendering and execution of work. From these communications, it reveals that GPCL have collected UDC from the solar park developers and was supposed to receive CFA against the renewable evacuation network development for Raghanesda and Dholera solar park. It also reveals from the documents submitted by GETCO that so far no fund has been transferred by GPCL to GETCO. Since, the solar power offered by the solar park developers to the beneficiary GUVNL is based on competitive bidding rate which were quoted by the developers keeping in view the cost of UDC paid or to be paid to GPCL. Thus, cost of RE evacuation development is already built up in the tariff rate at which GUVNL is procuring RE power from developers of Raghanesda solar park. Loading the RE network evacuation cost again on GETCO ARR as per GETCO's Board note tantamount to duplication of recovery against the same RE evacuation network from the consumers; one as a part of RE power and second as GETCO's transmission tariff.

Therefore, the Commission is of the view that aforementioned work is in the purview of GPCL and the costs of the same is to be borne by the GPCL.

In view of above, the Commission has deducted the capitalisation of Rs. 92.33 Crore in the true up of FY 2021-22 with consequent impact on other elements of ARR. GETCO is also directed to remove the asset value from it's Books of Accounts and also not to claim any kind of capitalisation through ARR in future against development of RE evacuation network in respect to Raghanesda and Dholera solar park.

In view of the above, the actual capitalisation allowed by the Commission for FY 2021-22, and the funding considered by the Commission, are shown in the following Table:



S. No	Particulars	Approved
1	Net Capitalisation as per accounts	2,235.68
2	Add: past disallowed capitalisation	0.70
3	Less: Capitalisation of 220/33 kV Raghanesda S/S and 220 kV transmission line	92.33
3	Less: Net Capitalisation for SLDC	3.01
4	Capitalisation Approved	2,141.04

#### Table 4-5: Capitalisation approved for FY 2021-22 (Rs. Crore)

The funding of capitalization approved for FY 2021-22 is shown in the following Table:

#### Table 4-6: Funding of Capitalisation approved for FY 2021-22 (Rs. Crore)

S. No	Particulars	Approved
1	Grant and Consumer Contribution	389.22
2	Debt	1,226.27
3	Equity	525.55
4	Capitalisation Approved	2,141.04

#### 4.3 **O&M Expenses**

#### **Petitioner's Submission**

The normative O&M Expenses are to be computed based on the norms specified in Regulation 68.2.1 of the GERC (MYT) Regulations, 2016, based on the number of bays and transmission line length. GETCO has computed the normative O&M expenses of Rs. 1,935.04 Crore in the truing up for FY 2021-22, as against Rs. 1,935.86 Crore approved in the Order dated 30<sup>th</sup> March, 2021.

The O&M Expenses approved for FY 2021-22 by the Commission in the Tariff Order dated 30<sup>th</sup> March, 2021 and computed by GETCO in the truing up for FY 2021-22 are given in the Table below:



S. No	Particulars	Unit	Approved in Order	Actual Claimed
1	Based on Number of Bays			
	Average No. of Bays during the Year	Nos.	15,240.00	15,347.00
	O&M Expenses per Bay	Rs. Lakh	8.98	8.98
	O&M Expenses based on Number of Bays (A)	Rs. Crore	1,368.04	1,378.16
2	Based on Transmission Line Length (ckt. km)			
	Average Line Length during the Year	ckt. km	64,870.00	63,282.18
	O&M Expenses per ckt. km	Rs. Lakh	0.88	0.88
	O&M Expenses based on Transmission Line Length (B)	Rs. Crore	567.82	556.88
3	Total O&M Expenses (normative) (A + B)	Rs. Crore	1,935.86	1,935.04

#### Table 4-7: Normative O&M Expenses Claimed for FY 2021-22 (Rs. Crore)

GETCO has considered the actual O&M Expenses by considering the actual Employee Expenses, Repair & Maintenance (R&M) Expenses, and Administrative & General (A&G) Expenses, based on the audited annual accounts for FY 2021-22 for computing the Gain/(Loss). The O&M Expenses (excluding SLDC's) claimed by GETCO as per the audited annual accounts are as shown in the Table below:

#### Table 4-8: Actual O&M Expenses claimed for FY 2021-22 (Rs. Crore)

S. No	Particulars	Actual Claimed
1	Employees Expenses	1,278.48
2	R&M Expenses	474.47
3	A&G Expenses	153.79
4	Total O&M Expenses	1,906.73

GETCO submitted the following details regarding the actual O&M expenses:

**Employee Cost:** The Employee Cost claimed by GETCO in True up of ARR of FY 2021-22 is as under:



S No.	Particulars	Amount
1	Gross Employee Cost as per P&L Account of FY 2021-22	1,128.49
2	Less: SLDC Employee Cost of FY 2021-22	(20.64)
3	Less: Provision of 7 <sup>th</sup> Pay of FY 2021-22 – (GETCO)	(22.73)
4	Less: Provision of COVID-19 of FY 2021-22 (GETCO)	(5.00)
5	Add: Impact of Employee Cost in Other Comprehensive Income as per P&L account of FY 2021-22 (GETCO)	2.74
6	Add: Arrear Payment of 7 <sup>th</sup> Pay in FY 2021-22 (GETCO)	195.63
7	Employee Cost Claimed by GETCO in True Up of FY 2021-22	1,278.48

#### Table 4-9 Employee cost claimed for FY 2021-22 (Rs. Crore)

GETCO submitted that in past true-up Orders, the Commission had ruled that the impact in Employee Expenses due to revision in salary shall be considered by the Commission after prudence check as an uncontrollable factor. Accordingly, in the present Petition, GETCO is claiming the differential expenses on account of the 6<sup>th</sup> Pay and 7<sup>th</sup> Pay Commission implementation as an uncontrollable expense and seeks full pass through of such expenses in line with the provisions of the GERC (MYT) Regulations, 2016. This also includes the actuals payments made towards wage revision arrears payment done by GETCO during FY 2021-22. The details of provision and the actual payouts by GETCO on account of 7<sup>th</sup> Pay Commission is given in the table below:

Financial Year	Provisioning (A)	Payments against the Provision (B)	Cumulative Provision after adjusting arrear payment (C)	Differential Payments of 7 <sup>th</sup> pay and 6 <sup>th</sup> pay (D)	Total Pay-out on account of 7 <sup>th</sup> Pay (B+D)
2015-16	33.13	0.00	33.13	0.00	0.00
2016-17	138.26	0.00	171.39	0.00	0.00
2017-18	93.83	0.00	265.22	53.54	53.54
2018-19	71.51	131.29	205.44	79.53	210.82
2019-20	72.91	0.00	278.35	95.89	95.89
2020-21	53.49	0.00	331.84	86.55	86.55
2021-22	22.73	195.63	158.94	138.63	334.26

### Table 4-10 Provisions and actual payments made by GETCO in FY 2021-22 (Rs.Crore)

Further, GETCO is also claiming differential payment of 6<sup>th</sup> pay and 7<sup>th</sup> pay in FY 2020-21 relating to incentive and allowance for the period 1<sup>st</sup> January, 2021 to 31<sup>st</sup> March, 2021



which was inadvertently left out to be claimed in the truing up Petition for FY 2020-21. GETCO had claimed the impact of Rs. 69.90 Crore pertaining to Basic + Dearness Allowance + Provident Fund + Pension in the true-up of FY 2020-21 as an uncontrollable element and which was also considered by the Commission while approving the employee cost. However, the differential amount between 6<sup>th</sup> Pay and 7<sup>th</sup> Pay in FY 2020-21 relating to incentive and allowance which works out to Rs. 16.95 crore for FY 2020-21 was not claimed as an uncontrollable cost. Accordingly, this differential cost was clubbed under controllable expense and 1/3<sup>rd</sup> of this amount was allowed for recovery during the true-up of FY 2020-21. Hence, GETCO is seeking the balance recovery equivalent to the 2/3<sup>rd</sup> of this amount (2/3rd of 16.95 = 11.51) through the ARR for FY 2023-24. The working of the amount is given in the table below:

							Rs. In Crore
Particulars	Approved in the Tariff Order	Normative Approved in Truing up	Approved as per Audited Accounts in Truing up	Deviation +/(-)	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors	Net entitlement
1	2	3	4	5 = 2-4	6 = (3-4 and Impact of 7th Pay Commission)	7 = (2-3 and Impact of 7th Pay Commission)	8 = [2 - (1/3rd of 6) - 7]
O&M Expenses As approved in the Order in Case No. 2026 of 2021	1,882.18	1,890.08	1,436.21	445.97	523.47	(77.49)	1,785.18
Revised O&M Expenses computation considering Impact of 7th pay impact on account of Allowances & Incentive	1,882.18	1,890.08	1,436.21	445.97	540.73	(94.76)	1,796.69
						Difference to be claimed in FY 2023-24	11.51

#### Table 4-11 Differential amount of entitlement of O&M expenses for FY 2020-21

**R&M Expenses:** The actual R&M expenses for FY 2021-22 were Rs. 474.47 Crores. As per the provisions of the GERC (MYT) Regulations, 2016, R&M expenses are categorised as controllable expenses. However, the Tauktae Cyclone made a landfall in the State of Gujarat in May 2021. GETCO's property, plant and equipment were damaged and accordingly power



Rs In Crore

supply was disrupted in some parts of the State. GETCO has incurred Rs. 60.63 Crore relating to restoration of damages on account of the cyclone in FY 2021-22 and the same is included under Repairs and Maintenance in FY 2021-22. Considering the nature of this expenditure, GETCO requests the Commission to consider the same under uncontrollable expenses for the purpose of sharing of gains / losses.

**A&G Expenses:** The actual A&G expenses for FY 2021-22 were Rs. 153.79 Crores. As per the provisions of the GERC (MYT) Regulations, 2016, A&G expenses are categorised as controllable expenses. In line with the approach adopted by the Commission in the past Tariff Order in Case No. 2026 of 2021, the expected credit loss on recoverable has not been considered as part of the A&G expenses.

The Petitioner has submitted that O&M expenses are controllable in nature under Regulation 22.2 of GERC (MYT) Regulations, 2016. However, as per the methodology adopted by the Commission, the variance in the normative O&M expenses as approved originally in the earlier Order (Case No. 1909 of 2020 in present context) and the revised normative O&M expense as per actual performance during the year is considered as uncontrollable and variation in the normative O&M expenses and actual as per audited accounts is considered as controllable. As discussed in the earlier paragraphs, GETCO has identified certain expenses related to impact of implementation of 7<sup>th</sup> Pay Commission (Rs. 138.63 Crore), wage revision arrears (Rs. 195.63 Crore) and restoration expenses incurred due to Tauktae cyclone (Rs. 60.63 Crore) as uncontrollable which are considered in the sharing of gains/losses. The O&M expenses and gains / (losses) considered in the Truing up for FY 2021-22 are summarized in Table below:

The O&M Expenses and Gain/(Loss) claimed by GETCO in the Truing up for FY 2021-22 are summarized in the Table below:

Particulars	Approved in the Tariff Order	Normative Claimed	Actual as per Audited Accounts	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
O&M Expenses	1,935.86	1,935.04	1,906.73	423.20	(394.08)

#### Commission's Analysis

The Commission has examined the submissions made by GETCO. It is observed that GETCO has considered opening values of Bays and Ckt. KM for truing up of FY 2021-22 as closing



values of Bays and Ckt. KMs as submitted in Review Petition No. 2093 of 2022. The Commission issued Order on 21.03.2023 on Review Petition No. 2093 of 2022 filed by GETCO. Accordingly, closing values of Bays and Ckt. KMs of FY 2020-21 as approved in the order of the Review Petition No. 2093 of 2022 are considered as opening values of Bays and Ckt. Km for FY 2021-22 to reach at normative O & M as tabulated below.

The Commission has verified the details of network elements put-to-use during FY 2021-22. On verification, it is found that certain number of bays were not considered by GETCO though they were put to use and certain number of bays were claimed by GETCO but were not put to use while claiming O & M expenses. The Commission has considered number of bays for allowing O & M expenses which were inadvertently missed by GETCO for truing up of FY 2021-22. Simultaneously, the Commission disallowed O & M expenses for elements not put to use for truing up of FY 2021-22 and on account of disallowance of capitalisation as shown in the table below;



#### Table 4-13: List of Number of bays not considered for O&M expenses in Truing Up of FY 2021-22

S. No.	Name of Circle	Name of S/S	Voltag e Class	Detail of Feeder Bay	Date of Inspection (DD-MM- YYYY)	Date of CEI Certificate (DD-MM- YYYY)	Total No. of Bays	First Date of Powe r Flow	Maximu m Load (Date & Time)- MW	Minimu m Load (Date & Time)- MW
1	Navsari	66 kV Galkuva	66 kV	66 kV Virpur - Galkuva -2 (HLS) KSY	12/01/22	17/01/22	2	Ready to use		e
2	Navsari	66 kV Galkuva	66 kV	66 kV Galkuva- Kapadvan - 2 (HLS) KSY	12/01/22	17/01/22	./22 2 Ready to		Ready to us	e
3	Navsari	66 kV Kapadvan	66 kV	66 kV Kapadvan- Mangaliya - 2 (HLS) KSY	09/03/22	30/03/22	3/22 2 Ready to u		Ready to us	e
4	Navsari	66 kV Dolvan	66 kV	66 kV Dolvan- Karanjkhed - 2 (HLS) KSY	24/03/22	30/03/22	2		Ready to use	
5	Navsari	66 kV Mahuvas	66 kV	66 kV Mahuvas - Chunawadi - 2 (HLS) KSY	24/02/22	30/03/22	1		Ready to use	
6	Amreli	66 kV Panvi SS	66 kV	66kv Panvi-Navda (panvi S/S)	22/11/19	25/11/19	1		Ready to use	
7	Palanpur	66 kV Nanuda	66 kV	66kv Nanuda-Luvana line KSY	28/09/21	28/09/21	1		Ready to us	e
8	Jambuva	66 kV Ranoli	66 kV	66KV Fartilizer Line bay	09/02/22	14-02-2022	1		Ready to us	e
9	Surendranagar	66 kV Kanz	66 kV	66KV Kanz S/s to M/s JRS India Corporation Pvt ltd	03/02/21	08/02/21	1		Ready to us	e
10	Palanpur	220 kV Radhanesda 220 kV S/S and Feeder Bays		11/06/21	14/06/21	8	Capi	talisation disa	allowed	
				Total			21			



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#### Table 4-13: List of Ckt. KMs not considered for O&M expenses in Truing Up of FY 2021-22

S. No.	Name of Circle	Voltage Class	Name of Line	Type of Ckt	Type of Line	O/H Line Length ckt	UG Cable Length ckt	Total Length Ckt km	Date of Inspection (DD-MM- YYYY)	Date of CEI Certificate (DD-MM- YYYY)	First Date of Power Flow	Maximum Load (Date & Time)-MW	Minimum Load (Date & Time)- MW
1	Navsari	66 kV	66 kV S/C O/H & Ug Line From 66 kV Niyol Ss To 66 kV Laxminarayan Ss	S/C	U/G	0.00	0.45	0.45	02/08/21	13/08/21	Tra	nsmission line	is ready
2	Navsari	66 kV	66 kV Virpur - Galkuva -1	S/C	0/H	7.89	0.00	7.89	26/06/19	28/06/19	Tra	nsmission line	is ready
3	Navsari	66 kV	66 kV Virpur - Galkuva -2 (HLS) KSY	S/C	0/H	7.91	0.00	7.91	12/01/22	17/01/22	Tra	nsmission line	is ready
4	Navsari	66 kV	66 kV Galkuva- Kapadvan - 2 (HLS) KSY	S/C	0/H	7.00	0.00	7.00	24/01/22	27/01/22	Tra	nsmission line	is ready
5	Navsari	66 kV	66 kV Kapadvan- Mangaliya - 2 (HLS) KSY	S/C	0/H	7.70	0.00	7.70	25/01/22	27/01/22	Tra	nsmission line	is ready
6	Navsari	66 kV	66 kV Dolvan- Karanjkhed - 2 (HLS) KSY	S/C	0/H	14.32	0.00	14.32	25/01/22	27/01/22	Tra	nsmission line	is ready
7	Navsari	66 kV	66kv Line from 220kv Virpur SS to 66kv galkuva ss- (2nd source)	S/C	0/H	7.89	0.00	7.89	26/06/19	28/06/19	Tra	nsmission line	is ready
8	Navsari	66 kV	220kv Bhilad - sarigam Line	D/C	0/H	12.80	0.00	12.80	02/03/20	23/03/20	Tra	nsmission line	is ready
9	Himatnagar	66 kV	66 kV Agiyol - Amodara Line	S/C	U/G	0.00	0.53	0.53	24/02/22	08/03/22	Tra	nsmission line	is ready
10	Palanpur	220 kV	220 kV D/C Radhanesda- Vav(Khimanavas Pgcil) Line	D/C	0/H	71.08	0.00	71.08	07/06/21	12/06/21	Cap	italisation dis	allowed
	Total							137.57					

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		Claimed		Approved			
Particulars	Lines	Bays	Total	Lines	Bays	Total	
	(ckt. km)	(Nos.)		(ckt. km)	(Nos.)		
At the beginning of the Year	62,310	14,958		62,310	14,958		
Addition during the Year	1,944	778		1813	762		
At the end of the Year	64,254	15,736		64,123	15,720		
Average	63,282	15,347		63,216	15,339		
Rate (Rs. Lakh)	0.88	8.98		0.88	8.98		
O&M Expenses	557	1,378	1,935	556.30	1,377	1,933.75	

#### Table 4-14: Normative O&M Expenses approved for FY 2021-22 (Rs. Crore)

The Commission approves the normative O&M Expenses at Rs. 1,934 Crore in the Truing up for FY 2021-22.

#### **Actual Cost**

As regards Employee cost, the Commission notes the submission of GETCO and accordingly approves the total Employee Cost of Rs. 1278.48 Crore in truing up of FY 2021-22.

The Commission has reviewed the calculation providing bifurcating the employee expenses into 6<sup>th</sup> Pay and additional payment due to implementation of 7<sup>th</sup> Pay. Accordingly, the Commission approves the payment against the implementation of 7<sup>th</sup> Pay Commission. Accordingly, the Commission approves Rs. 334.26 Crore of Employee Cost as an uncontrollable expense. Regarding the Petitoner's claim about consideration of Rs. 11.51 Crore related to truing up of FY 2020-21 through the ARR of FY 2023-24, it is to state that the Commission has taken appropriate view while determining ARR for FY 2023-24.

Further, it is observed that GETCO has included Rs. 60.63 Crore in R & M Expenses incurred towards restoration of damages on account of cyclone in FY 2021-22. GETCO in response to query, has clarified that it has not received any funds from Government against damages due to Tauktae cyclone and hence the Commission considers the expense of Rs. 60.63 Crore against restoration of network due to damages on account of Tauktae cyclone under R & M expenses as an uncontrollable expenses. Accordingly, the Commission has approved total R & M expense of Rs. 474.47 Crore.

Further, it is observed that the A & G Expenses as per Note N36 also includes Rs. 4.74 towards Net shortage / impairment of Fixed assets The Commission disallows expenses of Rs. 4.74 Crore as per approach adopted in earlier Tariff Orders. Accordingly, the



Commission approves total A&G Expenses of Rs. 149.04 Crore for FY 2021-22 after truing up.

The Commission accordingly approves the actual O&M Expenses for FY 2021-22, as shown in the following Table:

S. No.	Particulars	Actual Claimed	Approved in Truing up
1	Employee Expenses	1,278.48	1,278.48
2	R&M Expenses	474.47	474.47
3	A&G Expenses	153.79	149.04
4	Total O&M Expenses	1,906.73	1,901.99

Further, O&M Expenses are controllable in nature under the GERC (MYT) Regulations, 2016. However, the Commission is of the view that the variance in the O&M Expenses, as approved in the Order and the normative O&M Expenses, as per actual performance during the year, is uncontrollable, and variance between the normative O&M Expenses as per actual performance and the Audited Accounts is controllable.

The O&M Expenses and Gain/(Loss) considered in the Truing up for FY 2021-22 are summarised in the Table below:

#### Table 4-16: Gain/(Loss) from O&M Expenses approved for FY 2021-22 (Rs. Crore)

Particulars	Approved in the Tariff Order	Normative Approved in Truing up	Approved as per Audited Accounts in Truing up	Deviation +/(-)	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
1	2	3	4	5 = 2-4	6 = (3-4 and Impact of 7 <sup>th</sup> Pay Commission)	7 = (2-3 and Impact of 7 <sup>th</sup> Pay Commission)
O&M Expenses	1,935.86	1933.75	1901.99	33.87	426.65	(392.78)

#### 4.4 Depreciation

#### **Petitioner's Submission**

GETCO has claimed Depreciation of Rs. 1,263.34 Crore for FY 2021-22, as against Depreciation of Rs. 1,349.02 Crore approved in the MYT Order dated 30<sup>th</sup> March, 2021.



GETCO has calculated the Depreciation for FY 2021-22 in accordance with the provisions of the GERC (MYT) Regulations, 2016 and the aforementioned directives of the Commission. The addition to GFA has been considered based on capitalisation considered for FY 2021-22. The Weighted Average Rate of Depreciation, works out to be 4.15% which is less than 4.34%, rate approved by the Commission for FY 2021-22, as given in the Table below:

S. No.	Particulars	Approved in Tariff Order	Actual Claimed
1	Opening Gross Block	29,911	29,355
2	Net Additions during the Year	2,401	2,233
3	Closing Gross Block	32,312	31,588
4	Average Rate of Depreciation	4.34%	4.15%
5	Depreciation for the Year	1,349.02	1,263.34

#### Table 4-17: Depreciation claimed for FY 2021-22 (Rs. Crore)

The variation in the amount of depreciation as per the actual cost incurred by GETCO in FY 2021-22 against the amount approved by the Commission is considered as Gain/(Loss) on account of uncontrollable factors, as detailed in the Table below:

Table 4-18: Gain/(Loss) claimed from Depreciation for FY 2021-22 (Rs.Crore)

Particulars	Approved in the Tariff Order	Actual Claimed	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
Depreciation	1,349.02	1,263.34		85.68

#### **Commission's Analysis**

The Commission in accordance with the GERC (MYT) Regulations, 2016 has computed the allowable depreciation for FY 2021-22. The opening GFA for FY 2021-22 has been considered equal to closing GFA of FY 2021-22 as per the Order dated 21.03.2023 issued by the Commission on Review Petition No. 2093 of 2022. The addition to GFA has been considered based on capitalisation approved in earlier Section of this Order.

GETCO confirmed that the deprecation on assets that have already depreciated up to 90% of GFA have not been considered. As regards the treatment of depreciation on assets funded by grants, GETCO clarified that the assets created from grants are depreciated as per the rates provided in GERC (MYT) Regulations which works out to be 5.28%. Further, as per the requirements of Ind AS20, Government grants shall be recognized in profit or loss on a



systematic basis over the periods in which the entity recognizes as expenses the related costs for which the grants are intended to compensate. In order to be compliant with the provisions of Ind AS-20 and to match the Deprecation charged on the assets, GETCO is amortizing Grants and Consumer contribution for first 12 years as per the rate of depreciation of GERC (5.28%) and then remaining balance of Grants and Consumer contribution is amortized over remaining 23 years (As per GERC's methodology of calculating depreciation in MYT regulations). In view of the above, the Commission has not considered the depreciation on assets funded through grant.

The depreciation approved for FY 2021-22 after true-up is detailed in the Table below:

S. No	Particulars	Approved in Tariff Order	Actual Claimed	Approved in Truing up
1	Opening Gross Block	29,911	29,355	29,354.80
2	Net Additions during the Year	2,401	2,233	2,141.04
3	Closing Gross Block	32,312	31,588	31,495.83
4	Average Rate of Depreciation	4.34%	4.15%	4.15%
5	Depreciation for the Year	1,349.02	1,263.34	1,260.12

#### Table 4-19: Depreciation approved for FY 2021-22 (Rs. Crore)

The Commission, accordingly, approves depreciation at Rs. 1,260.12 Crore in the truing up for FY 2021-22.

As regards the computation of Gain/(Loss), if the Gain is on account of lower capital expenditure and capitalisation, it cannot be attributed to the efficiency of the utility. Similarly, if the Loss is on account of higher capital expenditure and capitalisation due to bonafide reasons, the Utility cannot be penalised by allowing only two-thirds of the Loss in the ARR. Hence, the Commission has considered the variation in capitalization as uncontrollable, to this extent. This applies to debt and equity in allowing Gain/(Loss) on account of Interest and Return on Equity too.

The Commission, accordingly, approves the Gain/(Loss) on account of depreciation, on account of uncontrollable factors in the Truing up for FY 2021-22, as detailed in the Table below:



Particulars	Approved in the Tariff Order	Approved in Truing up	Deviation + / (-)	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
Depreciation	1,349.02	1260.12	88.90		88.90

#### Table 4-20: Gain / (Loss) from Depreciation approved for FY 2021-22 (Rs. Crore)

#### 4.5 Interest and Finance Charges

#### **Petitioner's Submission**

GETCO has claimed Interest and Finance Charges of Rs. 463.04 Crore in the Truing up for FY 2021-22, as against approved amount of Rs. 571.08 Crore in the Tariff Order dated 30<sup>th</sup> March 2021. The debt component of the capitalisation during the year (net of grants) is considered at the debt-equity ratio of 70:30. GETCO has submitted that the weighted average interest rate of loans is 6.40% on the actual loan portfolio during FY 2021-22 as per Regulation 38.5 of the GERC (MYT) Regulations, 2016. GETCO has calculated Interest on Loans by considering repayment of loan equivalent to Depreciation for the year as given below:

S. No	Particulars	Approved in Tariff Order	Actual Claimed
1	Opening Loans	7,416.57	7,019.26
2	Loan Additions during the Year	1,427.06	1,290.90
3	Repayment during the Year	1,349.02	1,263.34
4	Closing Loans	7,494.61	7,046.82
5	Average Loans	7,455.59	7,033.04
6	Interest on Loan	570.08	450.10
7	Other Charges (Guarantee + Financing Charges)	1.00	12.94
8	Total Interest & Financial Charges	571.08	463.04
9	Weighted Average Interest Rate on Loan	7.65%	6.40%

#### Table 4-21: Interest and Finance Charges Claimed for FY 2021-22 (Rs. Crore)

GETCO has claimed Rs. 108.04 Crore as Gain from Interest and Finance Charges due to uncontrollable factors, as detailed in the Table below:



## Table 4-22: Gain/ (Loss) claimed from Interest & Finance Charges for FY 2021-22(Rs. Crore)

Particulars	Approved in the Tariff Order	Actual Claimed	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
Interest & Finance Charges	571.08	463.04		108.04

#### **Commission's Analysis**

The Commission has examined the submission of GETCO. The opening loans is considered as closing loan of FY 2020-21 in Order dated 21.03.2023 issued in Review Petition No. 2093 of 2022 filed by GETCO. The repayment of loans during the year has been considered equal to the depreciation for FY 2021-22. As per first proviso of Regulation 38.5 of the GERC (MYT) Regulations, 2016, at the time of truing up, the weighted average rate of interest calculated on the basis of the actual loan portfolio during the year applicable to the Transmission Licensee shall be considered as the rate of interest.

As per the aforesaid Regulation and the data provided by GETCO, the Commission has computed the weighted average interest rate as 5.52% and applied the same on the normative loan amount.

Further, the Commission notes that GETCO has claimed Other Finance Charges of Rs. 12.94 Crore. As per Note 34 of the Audited Accounts, this includes an amount of Rs. 1.12 Crore towards Bank Charges and Rs. 11.83 Crore towards loss on foreign exchange fluctuation.

GETCO has also claimed Loss on Foreign Exchange Fluctuation of Rs. 11.83 Crore. The Commission has verified the computation of the said amount and it was observed that as per Note 57 of the annual accounts, of the total Foreign Exchange Fluctuation of Rs. 11.83 Crore, the amount of Rs. 11.26 Crore is capitalized and Rs. 0.58 Crore is revenue in nature. As per GETCO the same has not been considered as part of GFA for FY 2021-22. However, such cost been capitalised in nature, in future, the same will be allocated to GFA on which depreciation, interest on loan and Return on Equity will be allowed. Allowing such cost as expenses under "Finance Charges" will result in double impact under revenue and capital which is not a normal under accounting principle and same cannot be allowed as expenses. Accordingly, the Commission disallows the Loss on foreign exchange fluctuation to the extent of Rs. 11.26 Crore which is capitalised.

Also, Regulation 44.3 of the GERC (MYT) Regulations, 2016 specifies that:



"To the extent the Generating Company or the Transmission Licensee or SLDC or the Distribution Licensee is not able to hedge the foreign exchange exposure, the extra rupee liability towards interest payment and loan repayment corresponding to the normative foreign currency loan in the relevant year shall be permissible provided it is not attributable to the Generating Company or the Transmission Licensee or SLDC or the Distribution Licensee or its suppliers or contractors."

Since, the Regulations allow the liability towards interest as well as repayment, the amount of Rs. 0.58 Crore related to foreign exchange fluctuation is allowed by the Commission.

In view of the above, the Commission approves Other Finance Charges of Rs. 1.68 Crore for FY 2021-22 for the purpose of Truing up for FY 2021-22.

Based on the actual capitalisation approved for GETCO during FY 2021-22 and the approved normative borrowings, considering the interest rate of 5.52%, the Commission has computed the interest on normative loans, as detailed in the Table below:

S. No	Particulars	Approved in the Tariff Order	Actual Claimed	Approved in Truing up
1	Opening Loans	7,416.57	7,019.26	7003.04
2	Loan Additions during the Year	1,427.06	1,290.90	1226.27
3	Repayment during the Year	1,349.02	1,263.34	1260.12
4	Closing Loans	7,494.61	7,046.82	6969.19
5	Average Loans	7,455.59	7,033.04	6986.11
6	Weighted Average Rate of Loan	7.65%	6.40%	5.52%
7	Interest on Loan	570.08	450.10	385.76
8	Other Charges (Guarantee + financing charges)	1.00	12.94	1.68
9	Total Interest & Finance Charges	571.08	463.04	387.44

#### Table 4-23: Interest and Finance Charges approved for FY 2021-22 (Rs. Crore)

The Commission, accordingly, approves Interest and Finance Charges of Rs. 387.44 Crore for FY 2021-22.

As noted above, the Commission is of the view that the parameters, which affect Interest and Finance Charges should be treated as uncontrollable. The Commission, accordingly, approves the Gain/(Loss) on account of Interest and Finance Charges in the Truing up for FY 2021-22, as detailed in the Table below:



## Table 4-24: Gain/(Loss) from Interest & Finance Charges approved for FY 2021-22(Rs. Crore)

Particulars	Approved in the Tariff Order	Approved in the Truing up	Deviation + / (-)	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
Interest and Finance Charges	571.08	387.44	183.64		183.64

The Commission accordingly approves the Gain of Rs. 183.64 Crore on account of uncontrollable factors.

#### 4.6 Return on Equity

#### **Petitioner's Submission**

GETCO has claimed Rs. 1,064.15 Crore towards Return on Equity (ROE) in the Truing up for FY 2021-22, as against Rs. 1,096.38 Crore approved for the year in the Tariff Order. ROE has been computed @ 14% as provided in the GERC (MYT) Regulations, 2016. The deviation in ROE is considered as uncontrollable factor. The comparison between the actual values of ROE for FY 2021-22 with the values approved by the Commission in the Order dated 30<sup>th</sup> March, 2021 is shown in the Table below:

#### Table 4-25: Return on Equity claimed for FY 2021-22 (Rs. Crore)

S. No	Particulars	Approved in the Tariff Order	Actual Claimed
1	Opening Equity Capital	7,525.48	7,324.46
2	Equity Addition during the Year	611.60	553.24
3	Closing Equity	8,137.08	7,877.71
4	Average Equity	7,831.28	7,601.09
5	Rate of Return on the Equity	14%	14%
6	Return on Equity	1,096.38	1,064.15

#### **Commission's Analysis**

The Commission has examined the submission of GETCO. ROE is allowed on the average equity deployed during the year considering the Opening Equity and addition to Equity. The quantum of Equity addition has been considered as approved in earlier Section of this Order. The Closing Equity approved in Order on 21.03.2023 on Review Petition No. 2093 of



2022 filed by GETCOis considered as the Opening Equity for FY 2021-22. Accordingly, the Commission has computed the ROE for FY 2021-22, as detailed in the Table below:

S. No	Particulars	Approved in the Tariff Order	Actual Claimed	Approved in Truing up
1	Opening Equity Capital	7,525.48	7,324.46	7,324.46
2	Equity Addition during the Year	611.60	553.24	525.55
3	Closing Equity	8,137.08	7,877.71	7850.01
4	Average Equity	7,831.28	7,601.09	7587.23
5	Rate of Return on the Equity	14%	14%	14%
6	Return on Equity	1,096.38	1,064.15	1062.21

#### Table 4-26: Return on Equity approved for FY 2021-22 (Rs. Crore)

The Commission accordingly approves Return on Equity at Rs. 1062.21 Crore in the Truing up for FY 2021-22.

The Commission is of the view that the parameters which affect ROE should be treated as uncontrollable. The Commission accordingly approves the Gain and Loss on account of ROE in the Truing up for FY 2021-22, as detailed in the Table below:

#### Table 4-27: Gain/(Loss) from Return on Equity approved for FY 2021-22 (Rs. Crore)

Particulars	Approved in the Tariff Order	Approved in Truing up	Deviation + / (-)	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
Return on Equity	1,096.38	1062.21	34.17		34.17

#### 4.7 Interest on Working Capital

#### **Petitioner's Submission**

GETCO has claimed an amount of Rs. 80.61 Crore towards Interest on Working Capital in the Truing up for FY 2021-22, as against an amount of Rs. 85.51 Crore approved in the Order dated 30<sup>th</sup> March, 2021. GETCO has submitted that Working Capital is computed based on the norms provided in the GERC (MYT) Regulations, 2016 by considering 0&M expenses, Receivables for 1 month and maintenance spares @ 1% of historical cost (i.e., GFA).



GETCO has further submitted that as per the GERC (MYT) Regulations, 2016, interest rate is considered as 1-year SBI MCLR plus 250 basis points, i.e., 9.50%. The comparison of actual value of Interest on Working Capital based on above methodology and the value approved by the Commission is shown in the Table below. This deviation has been considered as loss to GETCO on account of uncontrollable factors.

S. No.	Particulars	Approved in the Tariff Order	Actual Claimed
1	O&M Expenses (1 Month)	161.32	158.89
2	Maintenance Spares (1% of opening GFA)	299.11	293.55
3	Receivables (1 Month)	373.84	396.07
4	Total Working Capital	834.28	848.51
5	Rate of Interest on Working Capital	10.25%	9.50%
6	Interest on Working Capital	85.51	80.61

 Table 4-28: Interest on Working Capital claimed for FY 2021-22 (Rs. Crore)

#### **Commission's Analysis**

The Commission has examined the computation of normative working capital and interest thereon under the GERC (MYT) Regulations, 2016. The working capital comprises one month's O&M Expenses, Maintenance Spares at 1% of historical cost and Receivables equivalent to one month of Transmission Charges calculated on target availability level.

The Commission has considered the weighted average of 1-year State Bank of India (SBI) Marginal Cost of Funds Based Lending Rate (MCLR) prevailing during FY 2021-22 plus 250 basis points, as the interest rate. Accordingly, the rate of interest is worked out to be 9.50%.

Based on the O&M Expenses and GFA approved in the Truing up, the Working Capital requirement and Interest thereon calculated at 9.50%, are detailed in the Table below:



S. No.	Particulars	Approved in the Tariff Order	Actual Claimed	Approved in Truing Up
1	O & M Expenses (1 Month)	161.32	158.89	158.50
2	Maintenance Spares (1% of Opening GFA)	299.11	293.55	293.55
3	Receivables (1 Month)	373.84	396.07	368.70
4	Total Working Capital	834.28	848.51	820.75
5	Rate of Interest on Working Capital	10.25%	9.50%	9.50%
6	Interest on Working Capital	85.51	80.61	77.97

#### Table 4-29: Interest on Working Capital approved for 2021-22 (Rs. Crore)

The Commission, accordingly, approves the Interest on Working Capital at Rs. 77.97 Crore in the Truing up for FY 2021-22.

The Commission considers the Interest on Working Capital as uncontrollable, since the components forming part of the Working Capital are mostly uncontrollable. The Commission, accordingly, approves the Gain/(Loss) on account of Interest on Working Capital in the Truing up for FY 2021-22, as detailed in the Table below:

# Table 4-30: Gain/(Loss) from Interest on Working Capital approved for FY 2021-22 (Rs. Crore)

Particulars	Approved in Tariff Order	Approved in Truing up	Deviation + / (-)	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
Interest on Working Capital	85.51	77.97	7.54		7.54

#### 4.8 Contribution to Contingency Reserve

#### **Petitioner's Submission**

GETCO has not claimed any contribution towards Contingency Reserve in the Truing up for FY 2021-22.

#### **Commission's Analysis**

Regulation 68.3 of the GERC (MYT) Regulations, 2016 specifies that where the Transmission Licensee has made an appropriation to the Contingency Reserve, a sum not



more than 0.5 percent of the original cost of fixed assets shall be allowed annually towards such appropriation in the calculation of ARR. As GETCO has not claimed any contribution to Contingency Reserve, the Commission approves 'Nil' amount as per audited accounts of FY 2021-22.

The Commission accordingly approves the contribution to Contingency Reserve as 'Nil' in the Truing up for FY 2021-22.

#### 4.9 Income Tax

#### **Petitioner's Submission**

GETCO has claimed the Income Tax of Rs. 461.06 Crore in the Truing up for FY 2021-22, as against Rs. 217.46 Crore approved in the Tariff Order dated 30<sup>th</sup> March, 2021, as given in the Table below:

#### Table 4-31 Income Tax claimed by GETCO for FY 2021-22 (Rs. Crore)

S. No	Particulars	Approved in the Tariff Order	Actual Claimed	Deviation +/(-)
1	Income Tax	217.46	461.06	(243.60)

#### **Commission's Analysis**

The Commission notes that income tax amount shown in annual account is Rs. 461.06 Crore. As against this, GETCO has also claimed the same. The Commission has disallowed equity addition of Rs. 27.70 Crore pertaining to capitalisation related to RE evacuation network at Raghanesda solar park as explained in the earlier paragraphs. In view of this, the Commission decides to reduce the impact of Tax on transmission ARR in proportionate to reduction in RoE corresponding to reduction in equity contribution for truing up of FY 2021-22.

Accordingly, the Commission approves the Income Tax of Rs. 460.22 Crore for FY 2021-22 after truing up.

As regards the computation of Gain/(Loss), Regulation 22.1 (h) of the GERC (MYT) Regulations, 2016 considers variation in taxes on income as uncontrollable. The Commission, accordingly, approves the Gain/(Loss) on account of tax on income in the Truing up for FY 2021-22, as detailed in the Table below:



Particulars	Approved in Tariff Order	Approved in Truing up	Deviation + / (-)	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
Income Tax	217.46	460.22	(242.76)		(242.76)

#### Table 4-32: Gain/(Loss) from Income Tax approved for FY 2021-22 (Rs. Crore)

#### 4.10 Capitalization of Expenses

#### **Petitioner's Submission**

GETCO has claimed actual capitalization of expenses of Rs. 311.99 Crore for FY 2021-22 as against Rs. 356.38 Crore approved for the year in the Tariff Order dated 30<sup>th</sup> March, 2021, as given in the Table below:

#### Table 4-33: Expenses Capitalised claimed for FY 2021-22 (Rs. Crore)

S. No	Particulars	Approved in Tariff Order	Actual Claimed	Deviation +/(-)
1	Expenses Capitalised	356.38	311.99	44.39

#### **Commission's Analysis**

The gross O&M Expenses as per audited accounts are allowed in the ARR and, therefore, it is appropriate to consider the deduction of capitalisation of O&M Expenses from the ARR.

The Commission approves the capitalisation of O&M Expenses for FY 2021-22 as shown in the following Table:

#### Table 4-34: 0&M Expenses Capitalized approved for FY 2021-22 (Rs. Crore)

S. No.	Particulars	FY 2021-22
1	Employee Expenses Capitalized	265.75
2	R&M Expenses Capitalized	-
3	A&G Expenses Capitalized	46.24
4	Total Expenses Capitalised	311.99

The Commission, accordingly, approves the Capitalisation of O&M Expenses at Rs. 311.99 Crore, as per the audited annual accounts for the purpose of Truing up for FY 2021-22. The Commission considers the Capitalisation of O&M Expenses as uncontrollable as shown in the Table below:



Particulars	Approved in Tariff Order	Approved in Truing up	Deviation + / (-)	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
Expenses Capitalised	356.38	311.99	44.39		44.39

## Table 4-35: Gain/(Loss) from Expenses Capitalized approved for FY 2021-22 (Rs.Crore)

#### 4.11 Non-Tariff Income for FY 2021-22

#### **Petitioner's Submission**

GETCO submitted that Non-Tariff Income includes income from investments, income from sale of scrap, parallel operation charges, and reactive energy charges, O&M charges for dedicated lines, supervision charges of deposit work as approved by Hon'ble Commission, pro rata charges from all new additional HT/EHT applicant for the development of upstream network, Proportionate charges from HT/EHT applicants in case of strengthening of immediate network. etc. Income from Reversal of Expected Credit Loss is not included under Non-Tariff Income as per commission analysis in true up of FY 2020-21 in tariff order dated 30<sup>th</sup> March, 2022. Similarly, during the Truing Up for FY 2020-21, the Hon'ble Commission had not considered that part of foreign exchange fluctuation (Loss/Gain) which is capitalized in Capital Work in Progress. During the FY 2021-22, GETCO has similar gain of FERV of Rs. 11.26 Crore which has not been considered as part of non-tariff income. In view of the above, GETCO has reduced Rs. 424.17 Crore as Reversal of Grant and Consumer Contribution from Non-Tariff income of Rs. 494.48 Crore earned during FY 2020-21 and net Non-Tariff Income is considered for claim.

GETCO has claimed Non-Tariff Income at Rs. 456.24 Crore in the Truing up for FY 2021-22, as against Rs. 412.84 Crore approved for the year in the Tariff Order.

S. No.	Particulars	Approved in the Tariff Order	Actual Claimed	Deviation +/(-)
1	Non-Tariff Income	412.84	456.24	(43.40)

#### Table 4-36: Non-Tariff Income claimed by GETCO for 2021-22 (Rs. Crore)



#### Commission's Analysis

The Commission notes that, as per Audited accounts, Non-Tariff Income for FY 2021-22 is Rs. 463.30 Crore. This income includes Non-Tariff Income of Rs. 7.36. Crore for SLDC, which has been excluded for the purpose of Truing up for GETCO.

The Commission, accordingly, approves the Non-Tariff Income of Rs. 456.24 Crore as actual, as per the audited annual accounts in the Truing up for FY 2021-22 as detailed in the Table below:

#### Table 4-37: Non-Tariff Income approved for 2021-22 (Rs. Crore)

S. No.	Particulars	Approved in the Tariff Order	Actual Claimed	Approved
1	Non-Tariff Income	412.84	456.24	456.24

The Commission considers the Non-Tariff Income as uncontrollable and, accordingly, approves the Gain/(Loss) on Non-Tariff Income in the Truing up for FY 2021-22, as detailed in the Table below:

# Table 4-38: Gain/(Loss) on Non-Tariff income approved in the Truing up for 2021-22 (Rs. Crore)

Particulars	Approved in the Tariff Order	Approved in the Truing up	Deviation + / (-)	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
Non-Tariff Income	412.84	456.24	(43.40)		(43.40)

#### 4.12 Incentive for Target Availability Factor

#### **Petitioner's Submission**

GETCO has achieved the availability of 99.46% for its transmission network during FY 2021-22 as certified by SLDC against the targeted availability of 98.50%. GETCO further submitted that it has computed the incentive due to higher availability on the ARR, based on the target availability of 98.50% as presented in the Table below:



#### Table 4-39: Incentive for Target Availability claimed for FY 2021-22 (Rs. Crore)

S. No	Particulars	FY 2021-22
1	Target Availability as per the GERC (MYT) Regulations	98.50%
2	Actual Availability	99.46%
3	Annual Transmission Charges	4,752.85
4	Incentive for Transmission System Availability	46.32

#### **Commission's Analysis**

The Commission has verified the availability of the Transmission System from SLDC Certificate as 99.46%. Incentive has to be given as per the formula mentioned in Regulation 73.1 of the GERC (MYT) Regulations, 2016, as shown below:

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Incentive = ATC x [Annual availability achieved – Target Availability]/ Target Availability
```

For computation of incentive, the Commission has considered Annual Transmission Charges equivalent to Aggregate Revenue Requirement approved after truing up for FY 2021-22.

The Commission has accordingly computed the incentive of Rs. 42.71 Crore for the Truing up for FY 2021-22 as detailed in the Table below:

S. No.	Particulars	Approved
1	Target Availability as per MYT Regulations	98.50%
2	Actual Availability	99.46%
3	Annual Transmission Charges	4381.72
4	Incentive for Transmission System Availability	42.71

The Commission considers the deviation in Incentive as uncontrollable and accordingly approves the Gain/(Loss) in the Truing up for FY 2021-22 as given in the Table below:

Table 4-41: Gain	/ (loss) from	<b>Incentive approved</b>	for FY 2021-22	(Rs. Crore)
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Particulars	Approved in Tariff Order	Approved in Truing up	Deviation + / (-)	Gain/(Loss) due to Controllable Factors	Gain/(Loss) due to Uncontrollable Factors
Incentive	-	42.71	(42.71)		(42.71)



#### 4.13 Gain / (Loss) under Truing Up

The Commission has reviewed the performance of GETCO under Regulation 21 of the GERC (MYT) Regulations, 2016, with reference to the Audited Annual Accounts for FY 2021-22.

The Commission has computed the sharing of Gain and (Loss) for FY 2021-22, based on the Truing up for each of the components, as discussed in the above paragraphs.

The fixed charges approved for FY 2021-22 in the Tariff Order dated 30<sup>th</sup> March, 2021, claimed by GETCO in Truing up (Gain / (Loss)), and computed in accordance with the GERC (MYT) Regulations, 2016, are given in the Table below:



S. No.	Particulars	Approved in Tariff Order	Actual Claimed	Approved in Truing up	Gain/(Loss) due to Controllable Factor	Gain/(Loss) due to Uncontrollable Factor
1	Operation & Maintenance Expenses	1,935.86	1,906.73	1,901.99	426.65	(392.78)
2	Depreciation	1,349.02	1,263.34	1,260.12		88.90
3	Interest & Finance Charges	571.08	463.04	387.44		183.64
4	Interest on Working Capital	85.51	80.61	77.97		7.54
5	Return on Equity	1,096.38	1,064.15	1,062.21		34.17
6	Total Fixed Costs	5,037.85	4,777.88	4,689.74	426.65	(78.54)
7	Add: Provision for Tax	217.46	461.06	460.22		(242.76)
8	Less: Expenses Capitalized	356.38	311.99	311.99		44.39
9	Total Transmission Charges	4,898.93	4,926.95	4,837.96	426.65	(365.68)
10	Less: Non-Tariff Income	412.84	456.24	456.24		(43.40)
11	Aggregate Revenue Requirement	4,486.09	4,470.70	4,381.72	426.65	(322.28)
12	Add: Incentive for target availability	-	46.32	42.71		(42.71)
13	Total ARR	4,486.09	4,517.03	4,424.43	426.65	(364.98)

#### Table 4-42: ARR & Gains /(losses) approved in Truing up Order for FY 2021-22 (Rs. Crore)

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#### 4.14 Sharing of Gains / (Losses) for FY 2021-22

The Commission has analysed the Gain/(Loss) on account of controllable and uncontrollable factors. The relevant Regulations of the GERC (MYT) Regulations, 2016 are extracted below:

"Regulation 23. Mechanism for pass-through of gains or losses on account of uncontrollable factors

23.1 The approved aggregate gain or loss to the Generating Company or Transmission Licensee or SLDC or Distribution Licensee on account of uncontrollable factors shall be passed through as an adjustment in the tariff of the Generating Company or Transmission Licensee or SLDC or Distribution Licensee over such period as may be specified in the Order of the Commission passed under these Regulations.

...

Regulation 24. Mechanism for sharing of gains or losses on account of controllable factor

24.1 The approved aggregate gain to the Generating Company or Transmission Licensee or SLDC or Distribution Licensee on account of controllable factors shall be dealt with in the following manner:

a. One-third of the amount of such gain shall be passed on as a rebate in tariffs over such period as may be stipulated in the Order of the Commission under Regulation 21.6;

b. The balance amount, which will amount to two-thirds of such gain, may be utilised at the discretion of the Generating Company or Transmission Licensee or SLDC or Distribution Licensee.

24.2 The approved aggregate loss to the Generating Company or Transmission Licensee or SLDC or Distribution Licensee on account of controllable factors shall be dealt with in the following manner:

a. One-third of the amount of such loss may be passed on as an additional charge in tariffs over such period as may be stipulated in the Order of the Commission under Regulation 21.6; and



b. The balance amount of loss, which will amount to two-thirds of such loss, shall be absorbed by the Generating Company or Transmission Licensee or SLDC or Distribution Licensee."

The Revenue (Gap)/Surplus, based on the Trued-up ARR and the Gains/(Losses) approved in the Truing up for FY 2021-22, is summarised in the Table below:

#### Table 4-43: Revenue (Gap) / Surplus approved for FY 2021-22

S. No	Particulars	Claimed	Approved
1	Gain/(loss) on Account of Uncontrollable Factors to be Passed on to the Consumers	(454.14)	(364.98)
2	Gain/(loss) on Account of Controllable Factors to be Passed on to the Consumers $(1/3^{rd})$	141.07	142.22
3	Revenue (Gap)/Surplus	(313.07)	(222.77)

The Commission has arrived at a Revenue gap of **Rs. 222.77 Crore** in the truing up for FY 2021-22. This revenue gap is carried forward to the ARR of FY 2023-24 for determination of Transmission Charges.



### 5 Determination of Aggregate Revenue Requirement (ARR) for FY 2023-24

#### 5.1 Introduction

This Chapter deals with the determination of ARR and Transmission Charges for FY 2023-24.

#### 5.2 Capital Investment

#### **Petitioner's Submission**

For improving the transmission network availability and to strengthen the overall transmission network, GETCO has proposed Capital Expenditure of Rs. 3,446.81 Crore during FY 2023-24 for construction of new transmission lines and sub-stations along with augmentation and Renovation & Modernisation work. The detailed breakup of proposed capital expenditure is given in the Table below:

S. No.	Particulars	FY 2023-24
Α	New Projects	
1	765 kV Substations	10.00
2	765 kV Lines	2.00
3	400 kV Substations	95.82
4	400 kV Lines	327.68
5	220 kV Substations	316.77
6	220 kV Lines	271.11
7	132 kV Substations	2.50
8	132 kV Lines	14.65
9	66 kV Substations	535.75
10	66 kV Lines	762.96
11	Capacitor Bank	16.12
12	Reactor and Reactor Bay	-
Total (A)		2,355.34
В	<b>Renovation &amp; Modernisation</b>	
1	Renovation and Modernization	531.45
2	Augmentation of Sub-stations/Lines	350.78

#### Table 5-1: Proposed Capital Expenditure of GETCO for FY 2023-24

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S. No.	Particulars	FY 2023-24
3	Replacement of RTU	-
Total (B)		882.23
С	Others	
1	OPGW	209.24
2	Supply-of LDMS System with Firewall and router	-
Total (C)		209.24
Total Cap	3,446.81	

The details of proposed Transmission asset addition in Bays and Transmission Lines are summarised below:

#### Table 5-2: Proposed Bay and Line Ckt. km addition for FY 2023-24

S. No.	Project Name	400 kV	220 kV	132 kV	66 kV	Total
1	400 kV Kalawad substation (Dist. Jamnagar)	16	0	0	0	16
2	220 kV Metoda substation (Dist. Rajkot)	0	7	0	13	20
3	220 kV Sarigam substation (Dist. Valsad)	0	10	0	18	28
4	220 kV Maglana substation (Dist. Bhavnagar)	0	13	0	18	31
5	220kV Ghodasar Substation (Dist. Banaskantha)	0	9	0	15	24
6	220 kV Bhildi Substation (Dist. Banaskantha)	0	9	0	15	24
7	220 kV Sisrana substation (Dist. Banaskantha)	0	9	0	15	24
8	220 kV Raghanesda GIS Substation (Dist. Banaskantha)	0	11	0	37 (33kV)	48
9	220 kV Kamlapur substation (Dist. Rajkot)	0	14	0	14	28
10	220 kV Babarzar (AIS) (Dist. Jamnagar	0	13	0	25	38
11	66 kV Substation (Approx 80 S/s planned to commercialised with line with 6 nos. of bays in each sub-stations	0	0	0	480	480
12	EHV Tr. Link Line bays on each side other than new EHV Substation	20	26	4	0	50
13	66 kV FB associated with the lines of new substations	0	0	0	60	60
14	Link Line FB under KSY	0	0	0	102	102
15	Augmentation with Trf Bays		16		90	106
	Total Nos of Bays Addition	36	137	4	902	1079
	CKM Addition in CKM	642	864	26	1,340	2,872

#### 5.3 Capital Expenditure and Capitalisation



#### **Petitioner's Submission**

GETCO has proposed capital expenditure, capitalization and funding for FY 2023-24 as given in the Table below:

### Table 5-3: Projected Capital Expenditure and Capitalisation in FY 2023-24 (Rs.Crore)

S. No.	Particulars	FY 2023-24
1	Capex for the Year	3,446.81
2	Capitalisation	2,691.40
3	Debt	1,611.52
4	Equity	690.65
5	Grant	389.22

The Capitalisation has been assumed at 78.08% (i.e. average of the ratio of capitalisation to capital expenditure for the past 5 years i.e. FY 2017-18 to FY 2021-22) of capital expenditure is carried out during FY 2022-23. The Capitalisation net of grants is assumed to be funded on normative basis through the means of debt and equity with the debt:equity ratio of 70:30 on normative basis as per GERC (MYT) Regulations, 2016.

#### **Commission's Analysis**

The Commission is of the opinion that CAPEX is required due to increased loading of current system, new addition of generating capacity, system strengthening and regular Renovation & Modernisation. Hence, the Commission partially accepts the CAPEX requirement as proposed by GETCO. However, during the truing-up exercise for FY 2023-24, actual CAPEX will be compared with the CAPEX proposed in the present Petition and approved in the present Order, along with detailed justification for deviation, if any.

GETCO has claimed capitalization as 78.08% of the proposed CAPEX considering the ratio as approved in the tariff order dated 30<sup>th</sup> March, 2021. The Commission is of the view that a realistic view must be taken considering past trends and is required to be updated on a regular basis. The Commission has analysed the trend of CAPEX and Capitalisation in the last five years which includes the capitalisation for FY 2021-22 approved in this order, to assess the reasonability of CAPEX and Capitalisation proposed by GETCO for FY 2023-24, as shown in the Table below:



Particulars	2017-18	2018-19	2019-20	2020-21	2021-22	Average of 5 years
Capex	2,911.09	2,769.89	3,231.68	2,195.50	3,463.73	2,914.38
Capitalization	2,213.07	2,746.59	2,354.26	1,830.93	2,141.04	2,257.18
Capitalisation as % of Capex	76.02%	99.16%	72.85%	83.39%	61.81%	77.45%

#### Table 5-4: 5-year trend of capex and Capitalisation (Rs. Crore)

From the above analysis, it is observed that the average CAPEX is around Rs. 2,914 Crore and the average Capitalisation is around Rs. 2,257 Crore, i.e., ratio of Capitalisation to CAPEX of 77.45%.

The Commission notes that GETCO has proposed Capex of Rs. 10 Crore for 220 kV/33 kV Dholera pooling sub-station and Rs. 52.45 Crore for 220 kV Raghanesda pooling sub-station for the year FY 2023-24. As mentioned in the earlier part of this order, the Commission do not allow the Capex for these two schemes as originally it was to be done from the funds to be arranged by GPCL. Accordingly, the Commission considers the proposed Capex by GETCO for FY 2023-24 as Rs. 3384.36 Crore (3446.81-10.00-52.45). It is also observed by the Commission from the data of five year average of capitalisation v/s Capex that GETCO is able to capitalise 77.45% of the approved Capex. In view of this, the Commission considers capitalisation of Rs. 2621.00 Crore (3384.36\*77.45%) for FY 2023-24. However, all Projects except the RE evacuation projects at Dholera and Raghanesda, proposed by GETCO are approved, and actual capex and capitalisation achieved by GETCO shall be subject to final adjustments as per Regulations/Prudence check at the time of truing up. The complete list of CAPEX Schemes approved by the Commission in this Order for FY 2023-24 is given at **Annexure 1** to this Order.

The Commission also notes that GETCO has considered grant funding of Rs. 389.22 Crore for FY 2023-24, which is equivalent to the actual grant funding in FY 2021-22. The Commission has accepted GETCO's projection in this regard and hence, considered grant funding of Rs. 389.22 Crore for FY 2023-24. The approved Capitalisation, net of grant funding, has been considered to be funded by the normative debt:equity ratio of 70:30.

Hence, the Commission approves the CAPEX and Capitalization and its financing through Grants, Debt and Equity for FY 2023-24, as given in the Table below:



#### Table 5-5: Approved CAPEX and Capitalization for FY 2023-24 (Rs. Crore)

S. No.	Particulars	Petition	Approved
1	Capex	3,446.81	3,384.36
2	Capitalisation	2,691.40	2,621.18
3	Debt	1,611.52	1,562.37
4	Equity	690.65	669.59
5	Grant	389.22	389.22

#### 5.4 Fixed Charges for FY 2023-24

Total fixed charges for FY 2023-24 have been categorized into following elements:

- 0&M expenses
  - Employee cost
  - Administration and General expenses
  - Repairs and Maintenance expenses
- Depreciation
- Interest and Finance charges
- Interest on Working Capital
- Return on Equity
- Contribution to Contingency Reserve

#### 5.5 **O&M Expenses for FY 2023-24**

#### Petitioner's Submission

GETCO has projected O&M expenses for FY 2023-24 as Rs. 2,386.95 Crore as detailed in the Table below:



S. No.	Particulars	Units	FY 2023-24
1	Substations (Bays)		
	Opening Number of Bays	Number	16,614.00
	Addition During Year	Number	1,079.00
	Reduction During Year	Number	-
	Closing Number of Bays	Number	17,693.00
	Average Number of Bays	Number	17,153.50
	O&M Expense Norm Per Bay	Rs. Lakh	10.03
	Total O&M Expenses - Substations	Rs. Crore	1,720.50
2	Transmission Lines (Ckt Km)		
	Opening Ckt Km	Ckt Km	66,569.09
	Addition During Year	Ckt Km	2,872.00
	Reduction During Year	Ckt Km	-
	Closing Ckt Km	Ckt Km	69,441.09
	Average Ckt Km	Ckt Km	68,005.09
	O&M Expense Norm Per Ckt Km	Rs. Lakh	0.98
	Total O&M Expenses - Transmission Lines	Rs. Crore	666.45
3	Total O&M Expenses (As Per Norms)	Rs. Crore	2,386.95

#### Table 5-6: Proposed Normative O&M expenses for FY 2023-24 (Rs. Crore)

GETCO has projected the O&M expenses for FY 2023-24 considering an escalation of 5.72% for the year FY 2023-24 which would only address the inflationary cost increase aspect of O&M costs but does not include additional expenses on account of 7<sup>th</sup> Pay commission. GETCO requested to the Hon'ble Commission to approve the additional impact on account of 7<sup>th</sup> Pay Commission and payment of past arrears of 7<sup>th</sup> Pay Commission as and when paid by GETCO as an uncontrollable expense.

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

The Commission has examined the submissions made by GETCO. The Commission has considered actual closing values of Bays and ckt. km of FY 2021-22 as the opening values of Bays and ckt. km of FY 2022-23 and addition as approved in Tariff Order dated 30<sup>th</sup> March, 2022 so as to arrive at the closing of FY 2022-23 which would resultant be the opening values of No. of Substation Bays and Transmission Lines (ckt. km) of FY 2023-24 which is 16598 and 66438 respectively, so as to arrive at the O&M expenses for FY 2023-24.

Further, as discussed in earlier Section, the Commission has allowed Capex based on past trends. Hence, the Commission has considered the addition of Bays and Transmission Lines



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in FY 2023-24, also on proportionate basis in the similar ratio of 77.45% as considered for capitalisation.

The Commission also observes that actual O&M expenses have been lower than approved normative O&M expenses in recent years. Under normal circumstances, the Commission would have revised the O&M norms based on analysis of actual O&M expenses, while framing the GERC (MYT) Regulations for the next Control Period, including FY 2023-24. However, as stated earlier, due to unavoidable circumstances, there is a delay in framing the GERC (MYT) Regulations for the next Control Period, and hence, the applicability of the GERC (MYT) Regulations, 2016 has been extended by one year, to include FY 2023-24 also. Therefore, the O&M expenses is required to be normalised based on the approach adopted at the time of framing of MYT Regulations. Accordingly, the Commission in the last tariff order dated 30<sup>th</sup> March, 2022, has already normalised the O&M expenses norms for FY 2021-22, considering the actual O&M Expenses in the previous years, by adopting the same principles as adopted in the previous MYT Order.

Based on the above approach, the O&M Expense per Bay and per ckt. km has been derived based on average number of Bays and ckt. km of Transmission lines in last 3 years and was escalated by 5.72% yearly as specified in the GERC (MYT) Regulations, 2016. Since the normalisation impact has already been considering by deriving the O&M norms for FY 2022-23, the Commission doesn't find any logic to recalculate the average O&M expenses to derive the new norms and accordingly has considered the escalation of 5.72% on the norms as approved for FY 2022-23 to derive the O&M norms for FY 2023-24, which is also in line with the proposal submitted by GETCO.

Particulars	Per Bay	Per ckt. km
0&M Norms for FY 2022-23	9.49	0.93
Escalation Rate	5.72%	5.72%
0&M Norms for FY 2023-24	10.03	0.98

#### Table 5-7: Approved O&M norms for FY 2023-24 (Rs. Crore)

Accordingly, the approved number of Bays and ckt. km of Transmission Lines, and the normative O&M expenses for FY 2023-24 have been computed as detailed in the Table below:



#### Table 5-8: Approved O&M expenses for FY 2023-24 (Rs. Crore)

S. No.	Particulars	Units	Petition	Approved
1	Substations (Bays)			
	Opening Number of Bays	Number	16,614.00	16,598.00
	Addition During Year	Number	1,079.00	835.68
	Reduction During Year	Number	-	-
	Closing Number of Bays	Number	17,693.00	17,433.68
	Average Number of Bays	Number	17,153.50	17,015.84
	O&M Expense Norm Per Bay	Rs. Lakh	10.03	10.03
	Total O&M Expenses - Substations	Rs. Crore	1,720.50	1,706.69
2	Transmission Lines (Ckt Km)			
	Opening Ckt Km	Ckt Km	66,569.09	66,437.58
	Addition During Year	Ckt Km	2,872.00	2,224.36
	Reduction During Year	Ckt Km	-	-
	Closing Ckt Km	Ckt Km	69,441.09	68,661.93
	Average Ckt Km	Ckt Km	68,005.09	67,549.75
	O&M Expense Norm Per Ckt Km	Rs. Lakh	0.98	0.98
	Total O&M Expenses - Transmission Lines	Rs. Crore	666.45	661.99
3	Total O&M Expenses (As Per Norms)	Rs. Crore	2,386.95	2,368.68

The Commission accordingly approves the normative O&M expenses for FY 2023-24 as Rs. 2,368.68 Crore.

# 5.6 Depreciation for FY 2023-24

# **Petitioner's Submission**

GETCO has projected depreciation of Rs. 1,469 Crore for FY 2023-24 as given in the Table below:



S. No.	Particulars	FY 2023-24
1	Opening Gross Block	34,078.65
2	Net Additions during the Year	2,691.40
3	Closing Gross Block	36,770.05
4	Depreciation for the Year	1,468.69
5	Average Rate of Depreciation	4.15%

# Table 5-9: Proposed Depreciation for FY 2023-24 (Rs. Crore)

GETCO has submitted that the closing GFA of FY 2021-22 has been considered as the opening GFA of FY 2022-23. The addition during FY 2022-23 has been considered based on the approved capitalisation in Tariff Order dated 30<sup>th</sup> March, 2022 and for FY 2023-24, it has considered based on projected capitalisation for that year. Depreciation has been calculated taking into consideration the opening balance of assets at the beginning of the year and the projected capitalisation during the year.

#### **Commission's Analysis**

The Commission has computed the depreciation applying the weighted average rate of depreciation of 4.15% for FY 2023-24 based on the approved weighted average rate of depreciation for FY 2021-22. The closing GFA approved in the truing up of FY 2021-22 has been considered as opening GFA of FY 2022-23. Asset addition in FY 2022-23 has been considered equal to the capitalisation approved for FY 2022-23 in the Tariff Order dated 30<sup>th</sup> March, 2022. Further, Asset addition in FY 2023-24 on account of capitalization is considered as approved for FY 2023-24 in Table 5-5 above.

Thus, the Commission approves Depreciation for FY 2023-24 as detailed in the Table below:

S. No.	Particulars	Petition	Approved
1	Opening Gross Block	34,078.65	33,986.32
2	Net Additions during the Year	2,691.40	2,621.18
3	Closing Gross Block	36,770.05	36,607.50
4	Depreciation for the Year	1,468.69	1,463.40
5	Average Rate of Depreciation	4.15%	4.15%

# Table 5-10: Approved Depreciation for FY 2023-24 (Rs. Crore)

The Commission approves the Depreciation of Rs. 1,463.40 Crore for FY 2023-24.



# 5.7 Interest and Finance charges for FY 2023-24

#### **Petitioner's Submission**

GETCO has projected interest and finance charges of Rs. 473.56 Crore for FY 2023-24 as detailed in the Table below:

S. No.	Particulars	FY 2023-24
1	Opening Loans	7,126.02
2	Loan Addition during the Year	1,611.52
3	Repayment during the Year	1,468.69
4	Closing Loans	7,268.85
5	Average Loans	7,197.43
6	Interest on Loan	460.62
7	Other Charges (Guarantee + Financing Charges)	12.94
8	Total Interest & Finance Charges	473.56
9	Weighted Average Interest Rate	6.40%

The closing balance of loan portfolio for FY 2021-22 has been taken as opening balance of FY 2022-23. The Normative loan addition during FY 2022-23 is considered as approved in Tariff Order dated 30<sup>th</sup> March, 2022 to work out closing balance of FY 2022-23 and for FY 2023-24, the same has been computed as per Capex Funding Plan projected by GETCO as discussed above.

The repayment for the year during FY 2023-24 is considered equivalent to the computed depreciation for FY 2023-24. The rate of interest has been taken as the weighted average rate of interest on the actual loan portfolio for FY 2021-22, which is 6.40%. Other Bank Charges have been taken at the same level as in FY 2021-22.

# **Commission's Analysis**

The Commission has examined the interest and finance charges projected by GETCO for FY 2023-24. The closing loan as approved in the Truing-up for FY 2021-22 has been considered as the opening balance of loan for FY 2022-23. The loan addition in FY 2022-23 has been considered as approved for the year in the Tarff Order dated 30<sup>th</sup> March, 2022 and repayment of loan has been considered for FY 2022-23 consequent upon the review Order dated 21.03.2023 issued by the Commission on petition No. 2093 of 2022. The loan addition in FY 2023-24 has been considered as approved in Table 5-5 above.



The weighted average rate of interest has been considered as 5.52%, based on the truingup for FY 2021-22 and as proposed by the Petitioner. In accordance with the GERC (MYT) Regulations, 2016, repayment for FY 2023-24 has been considered equal to the depreciation allowed for FY 2023-24.

The Commission has considered the Other Bank Charges as approved for FY 2021-22.

The Commission has accordingly computed the interest expenses for FY 2023-24, as detailed in the Table below:

S. No.	Particulars	Petition	Approved
1	Opening Loans	7,126.02	7,029.52
2	Loan Addition during the Year	1,611.52	1,562.37
3	Repayment during the Year	1,468.69	1,463.40
4	Closing Loans	7,268.85	7,128.48
5	Average Loans	7,197.43	7,079.00
6	Interest on Loan	460.62	390.88
7	Other Charges (Guarantee + Financing Charges)	12.94	1.68
8	Total Interest & Finance Charges	473.56	392.57
9	Weighted Average Interest Rate	6.40%	5.52%

 Table 5-12: Approved Interest and Finance Charges for FY 2023-24 (Rs. Crore)

The Commission approves the interest and finance charges of Rs. 392.57 Crore for FY 2023-24.

# 5.8 Interest on working capital for FY 2023-24

# Petitioner's submission

GETCO has projected interest on working capital of Rs. 97.31 Crore for FY 2023-24 as detailed in the Table below:



S. No.	Particulars	FY 2023-24
1	O&M Expenses (1 Month)	198.91
2	Maintenance Spares (1% of opening GFA)	340.79
3	Receivables (1 Month)	484.61
4	Total Working Capital	1,024.31
5	Rate of Interest on Working Capital	9.50%
6	Interest on Working Capital	97.31

# Table 5-13: Proposed Interest on Working Capital for FY 2023-24 (Rs. Crore)

GETCO submitted that the interest on working capital has been computed on normative basis in accordance with the GERC (MYT) Regulations, 2016.

GETCO further submitted that Interest rate has been considered as per the GERC (MYT) (First Amendment) Regulations, 2016. Thus, GETCO has considered the Interest rate of 9.50% (MCLR rate as on 1<sup>st</sup> April, 2022, i.e., 7.00% plus 250 basis points).

# **Commission's Analysis**

The Commission has computed the normative working capital requirement and interest on working capital in accordance with Regulation 40.2 of the GERC (MYT) Regulations, 2016, and its First Amendment. Considering the 1-year MCLR of State Bank of India as on 1<sup>st</sup> April, 2022, i.e., 7.00%, and adding a spread of 250 basis points, the interest rate works out to 9.50%. The Commission has calculated the working capital and interest on working capital for FY 2023-24 as detailed in the Table below:

S. No.	Particulars	Petition	Approved
1	O&M Expenses (1 Month)	198.91	197.39
2	Maintenance Spares (1% of opening GFA)	340.79	339.86
3	Receivables (1 Month)	484.61	466.69
4	Total Working Capital	1,024.31	1,003.95
5	Rate of Interest on Working Capital	9.50%	9.50%
6	Interest on Working Capital	97.31	95.37

# Table 5-14: Approved Interest on Working Capital for FY 2023-24 (Rs. Crore)

The Commission thus, approves Interest on Working Capital of Rs. 95.37 Crore for FY 2023-24.



# 5.9 Return on Equity for FY 2023-24

#### Petitioner's submission

GETCO has projected ROE of Rs. 1,237.68 Crore for FY 2023-24 as detailed in the Table below:

Table 5-15: Proposed Return on Equity for FY 2023-24 (Rs. Crore)

S. No.	Particulars	FY 2023-24
1	Opening Equity	8,495.22
2	Equity Addition during the year	690.65
3	Closing Equity	9,185.87
4	Average Equity	8,840.55
5	Rate of Return on the Equity	14%
6	<b>Return on Equity</b>	1,237.68

The closing balance of Equity for FY 2021-22 has been taken as opening balance of FY 2022-23. The Normative equity addition during FY 2022-23 is considered as approved in Tariff Order dated 30<sup>th</sup> March, 2022 to work out closing balance of FY 2022-23.

GETCO has submitted that ROE has been considered on the average equity for FY 2023-24 at 14%, in accordance with the GERC (MYT) Regulations, 2016.

# **Commission's Analysis**

The Commission has examined the submission made by GETCO. The RoE is to be considered on normative basis on the opening balance of equity and approved equity addition during FY 2023-24. The rate of ROE as per GERC (MYT) Regulations, 2016 is 14% as claimed by GETCO.

The closing balance of equity as approved in the Truing-up for FY 2021-22 has been considered as the opening balance of equity loan for FY 2022-23. The equity addition in FY 2022-23 has been considered as approved for the year in the Tarff Order dated 30<sup>th</sup> March, 2022. The equity addition in FY 2023-24 has been considered as approved in Table 5-5 above. The Commission has computed the RoE for FY 2023-24 as detailed in the Table below:



S. No.	Particulars	Petition	Approved
1	Opening Equity	8,495.22	8,467.52
2	Equity Addition during the year	690.65	669.59
3	Closing Equity	9,185.87	9,137.10
4	Average Equity	8,840.55	8,802.31
5	Rate of Return on the Equity	14%	14%
6	<b>Return on Equity</b>	1,237.68	1,232.32

The Commission approves the Return on Equity of Rs. 1,232.32 Crore for FY 2023-24.

# 5.10 Tax on Income for FY 2023-24

#### **Petitioner's Submission**

GETCO has projected the Income Tax for FY 2023-24 as detailed in the Table below:

#### Table 5-17: Proposed Tax on Income for FY 2023-24 (Rs. Crore)

S. No.	Particulars	FY 2023-24
1	Tax on Income	461.06

GETCO submitted that it has computed the Income Tax for FY 2023-24 in line with the provisions of GERC (MYT) Regulations, 2016 by considering the tax incurred during FY 2021-22. The relevant provision of the Regulation is as mentioned below:

"41.1 The Commission in its MYT Order shall provisionally approve Income Tax payable for each year of the Control Period, if any, based on the actual income tax paid, including cess and surcharge on the same, if any, as per latest Audited Accounts available for the Applicant, subject to prudence check."

#### **Commission's Analysis**

The Commission has examined the submission made by GETCO. As provided in Regulation 41.1 of GERC (MYT) Regulations 2016, the Commission approves Income Tax for FY 2023-24, as approved in the truing up for FY 2021-22. Any variation in Income Tax actually paid and approved shall be reimbursed based on documentary evidence. at the time of truing up for FY 2023-24 subject to prudence check, in accordance with Regulation 41.2 of the GERC (MYT) Regulations, 2016.



#### Table 5-18: Approved Income Tax for FY 2023-24 (Rs. Crore)

S. No.	Particulars	Petition	Approved
1	Tax on Income	461.06	460.22

Thus, the Commission approves Income Tax of Rs. 460.22 Crore for FY 2023-24.

# 5.11 Expenses capitalized during FY 2023-24

# **Petitioner's submission**

GETCO has considered the capitalized expenses for FY 2023-24 with an escalation of 5.72% to the actual expenses capitalized in FY 2021-22 as detailed in the Table below:

Table 5-19: Proposed Expenses Capitalised for FY 2023-24 (Rs. Crore)

S. No.	Particulars	FY 2023-24
1	Expenses Capitalised	348.70

# **Commission's Analysis**

The Commission notes that Expenses Capitalised are directly linked with O&M Expenses. The Expenses Capitalised in FY 2021-22 work out to 16.40% of the actual O&M expenses. However, the expenses capitalised for FY 2021-22, if allowed for FY 2023-24 will result in 13.07% of the normative O&M expenses as approved by the Commission in Table 5-8 of this order. Hence, the Commission approves the expenses capitalised for FY 2023-24 as proposed by GETCO a, as given in the Table below.

Table 5-20: Approved Expenses Capitalised for FY 2023-24 (Rs. Crore)

S. No.	Particulars	Petition	Approved
1	Expenses Capitalised	348.70	348.70

Thus, the Commission approves Expenses Capitalised of Rs. 348.70 Crore for FY 2023-24.

# 5.12 Non-Tariff Income for FY 2023-24

# **Petitioner's Submission**

GETCO has projected the Non-Tariff Income for FY 2023-24 as detailed in the Table below:



#### Table 5-21: Projected Non-Tariff Income for FY 2023-24 (Rs. Crore)

S. No.	Particulars	FY 2023-24
1	Non-Tariff Income	456.24

GETCO has submitted that it has estimated Non-Tariff Income at the same levels as actual for FY 2021-22.

#### **Commission's Analysis**

The Commission has examined the submission of GETCO. GETCO has estimated the Non-Tariff Income to remain constant at FY 2021-22 levels in FY 2022-23. The Commission has accepted GETCO's submission in this regard and accordingly approves Non-Tariff Income for FY 2023-24 equivalent to Non-Tariff Income as approved in truing up for FY 2021-22 (excluding the impact of Reversal of Grant & Consumer Contribution) as shown in the Table below:

Table 5-22: Approved Non-Tariff Income for FY 2023-24 (Rs. Crore)

S.	. No.	Particulars	Petition	Approved
	1	Non-Tariff Income	456.24	456.24

Thus, the Commission approves Non-Tariff Income of Rs. 456.24 Crore for FY 2023-24.

# 5.13 Contribution to Contingency Reserve

GETCO has claimed Contingency Reserve of Rs. 170.40 Crore for FY 2023-24 and submitted that Regulation 68.3 of the GERC (MYT) Regulations, 2016 provides for appropriation to Contingency Reserve of not more than 0.5 percent of the original cost of Fixed Assets annually towards such appropriation in the calculation of ARR.

# Table 5-23: Projected Contribution to Contingency Reserve for FY 2023-24 (Rs. Crore)

S. No.	Particulars	FY 2023-24
1	Contribution to Contingency Reserves	170.40

#### **Commission's Analysis**

The Commission has examined the submission of GETCO. Regulation 68.3 of the GERC (MYT) Regulations, 2016 specifies that where the Transmission Licensee has made an appropriation to the Contingency Reserve, a sum of not more than 0.5 percent of the original



cost of fixed assests shall be allowed annually towards such appropriation in the calculation of ARR. GETCO has claimed Rs. 170.40 Crore towards Contribution to Contingency Reserve which is more than 0.5 percent of opening GFA approved for FY 2023-24 and therefore, the Commission approves Rs. 169.93 Crore towards Contribution to Contingency Reserve for FY 2023-24 which is 0.5 percent of opening GFA approved for FY 2023-24.

# Table 5-24: Approved Contribution to Contingency Reserve for FY 2023-24 (Rs.Crore)

S. No.	Particulars	Petition	Approved
1	Contribution to Contingency Reserves	170.40	169.93

# 5.14 Projected and Approved Fixed Costs for FY 2023-24

The ARR as projected by GETCO and as approved by the Commission for FY 2023-24 is given in the Table below:

S. No.	Particulars	Projected By GETCO	Approved
1	<b>Operation &amp; Maintenance Expenses</b>	2,386.95	2,368.68
2	Depreciation	1,468.69	1,463.40
3	Interest & Finance Charges	473.56	392.57
4	Interest on Working Capital	97.31	95.37
5	Return on Equity	1,237.68	1,232.32
6	Contribution to Contingency Reserves	170.40	169.93
7	Total Fixed Costs	5,834.59	5,722.28
8	Less: Expenses Capitalised	348.70	348.70
9	Add: Provision for Income Tax	461.06	460.22
10	Total Transmission Charges	5,946.94	5,833.79
11	Less: Non-Tariff Income	456.24	456.24
12	Aggregate Revenue Requirement	5,490.70	5,377.55

# Table 5-25: ARR Approved for FY 2023-24 (Rs. Crore)



# 6 Determination of Transmission Charges for FY 2023-24

# 6.1 Introduction

This Chapter deals with the determination of Transmission Charges for FY 2023-24 for GETCO. The Commission has approved the ARR for FY 2023-24 in accordance with the GERC (MYT) Regulations, 2016, as specified in the earlier Chapter of this Order.

# 6.2 Determination of Transmission Tariff for FY 2023-24

The Table below summarizes the ARR for FY 2023-24, as approved by the Commission in Table 5-25 of this Order:

S. No.	Particulars	Projected By GETCO	Approved
1	<b>Operation &amp; Maintenance Expenses</b>	2,386.95	2,368.68
2	Depreciation	1,468.69	1,463.40
3	Interest & Finance Charges	473.56	392.57
4	Interest on Working Capital	97.31	95.37
5	Return on Equity	1,237.68	1,232.32
6	Contribution to Contingency Reserves	170.40	169.93
7	Total Fixed Costs	5,834.59	5,722.28
8	Less: Expenses Capitalised	348.70	348.70
9	Add: Provision for Income Tax	461.06	460.22
10	Total Transmission Charges	5,946.94	5,833.79
11	Less: Non-Tariff Income	456.24	456.24
12	Aggregate Revenue Requirement	5,490.70	5,377.55

# Table 6-1: Approved ARR for FY 2023-24 (Rs. Crore)

GETCO has submitted the total projected loading for GETCO system for FY 2023-24 as shown in the Table below:



S. No.	Stations	FY 2022-23 Projected
А	GSECL Plants	6,202
В	IPPs	6,416
С	Share from Central Sector	8,040
D	CPP Wheeling	238
Е	Wind Farm Capacity	6,723
F	Solar Project 9,035	
G	Bio-Mass Power capacity	112
Н	Others (Small/ Mini Hydal & MSW)	240
Ι	Western Railway (OA)	195
	Total Loading in MW	37,201

# Table 6-2: Total Loading in MW

The Petitioner has submitted Transmission Tariff for FY 2023-24, based on the Truing up projected for FY 2021-22. The Commission has determined the Revenue (Gap) / Surplus, based on the truing up for FY 2021-22. The detailed computation of the Revenue (Gap) / Surplus amount has been provided in earlier sections.

The Petitioner have claimed Rs. 11.51 Crore pertaining to FY 2020-21 to be recovered through ARR for FY 2023-24 stating that the said amount is the 2/3<sup>rd</sup> amount of uncontrollable expense related to payment made to employees towards incentive and allowance for the period 1<sup>st</sup> January 2021 to 31<sup>st</sup> March 2021 and was inadvertently missed by the Petitioner to claim in the truing up petition of FY 2020-21. In this regard, it is to state that truing up of FY 2020-21 has been concluded by the Commission vide order dated 30<sup>th</sup> March 2022 and has attained finality. Any changes in the concluded trued up figures amounts to review of the Order of the Commission. This being impermissible, the Commission do not allow to pass the claim of Rs. 11.51 Crore through the ARR of FY 2023-24.

The Petitioner's proposal and the Transmission Tariff approved by the Commission for FY 2023-24 are given in the Table below:



S. No.	Stations	Unit	Claimed	Approved
1	ARR for FY 2023-24	Rs. Crore	5,490.70	5,377.55
2	Less: Revenue (Gap)/Surplus for FY 2021-22	Rs. Crore	(313.07)	(222.77)
3	Add: Impact of 7 <sup>th</sup> Pay Commission	Rs. Crore	11.51	0.00
4	Revised ARR		5,815.29	5,600.32
5	Total MW allocation	MW	37,201.13	37,201.13
6	Transmission Tariff	Rs./MW/Day	4,271.04	4,113.16

# Table 6-3: Approved Transmission Tariff for FY 2023-24

The Commission, accordingly, approves the Transmission Tariff for FY 2023-24, as mentioned above.

Regulation 72.1 of the GERC (MYT) Regulations, 2016 has specified a formula for sharing of the ARR of the Transmission Licensee, as approved by the Commission, by all Long-Term and Medium-Term users of the transmission system on monthly basis in the ratio of their respective contracted transmission capacities to the total contracted transmission capacity. Accordingly, Transmission ARR for FY 2023-24 as approved by the Commission shall be shared by all Long-Term and Medium-Term users of the transmission system on monthly basis.

Further, the Commission vide the GERC (MYT) (Second Amendment) Regulations, 2018, substituted the Regulations 72.2 and 72.3 of the principal Regulations by Regulation 72.2 as stated below:

"72.2 For Short-term users, including the collective transactions through power exchanges, the transmission charges shall be determined in Rs. Per kWh in accordance with the following formula:

TC (Rs./kWh) = Transmission ARR ÷ Total units wheeled,

Where,

Transmission ARR = Aggregate Revenue Requirement of the Transmission Licensee, determined in accordance with Regulation 68 of these Regulations;

Total units wheeled = Total energy units wheeled through the transmission system, which shall be equal to the total energy input into the intra-State transmission system during the financial year"



The Commission has determined Transmission ARR of Rs. 5,600.32 Crore for FY 2023-24 as shown in the Table above.

In the past tariff orders, the Commission has decided the methodology for working out short term transmission charges on per kWh basis and worked out short term charges for FY 2021-22. Similar principle has been followed by GETCO in its Petition and accordingly estimated the energy input, based on energy received during FY 2021-22 for working out the energy input for FY 2023-24 on proportionate basis considering the Transmission Loading Capacity of 37,201 MW. The Commission notes that, as per the principle followed during past tariff Orders, base energy received for FY 2021-22 is required to be considered for working out the energy input for FY 2023-24 based on the expected load factors.

However, the Commission is also of view that, energy demand was lower during widespread of COVID Pandemic and lockdown situation in the State of Gujarat resulted in the impact of the same on energy wheeled / transmitted during FY 2021-22. Therefore, it is prudent to compute the short-term transmission charges considering the average load factor of last five years i.e. FY 2017-18 to FY 2021-22 based on the energy wheeled and transmission loading capacity of the respective years. The load factors considered by the Commission in past Tariff Orders is shown in the following Table:

S. No.	Tariff Order	MW Allocation	Wheeled Energy (MU)	Load Factor (%)
1	FY 2017-18	22,653	95,446	48.10
2	FY 2018-19	24,164	1,05,158	49.68
3	FY 2019-20	24,134	1,02,865	48.66
4	FY 2020-21	27,727	1,02,048	42.01
5	FY 2021-22	32609	113960	38.89
6	Average	26,257	1,03,895	45.17

# Table 6-4: Average Load Factor of system demand for past 5 years

Accordingly, the Commission has worked out the total estimated wheeled units during FY 2023-24 as 147600 MUs on proportionate basis considering the Transmission Loading Capacity of 37,201 MW during FY 2023-24 and average load factor of 45.17%. Thus, the Transmission Charges payable by the Short-Term users, including the collective transactions through Power Exchanges, works out as under:

TC = 37.94 Paise/kWh (5600.32 Crore/147600.7758 MUs)



# 6.3 Reactive Energy Charges

The Petitioner in its Petition has requested for continuation of Reactive Energy Charges for all renewable sources, i.e., Wind, Solar, Biomass, Bagasse, Mini-hydel, MSW, etc., at the same rate as approved in Order dated 30<sup>th</sup> March, 2021 in Case No. 2026 of 2021.

After considering the submission of the Petitioner, the Commission decides to continue with the existing Reactive Energy Charges and approved the charges for FY 2023-24 as shown in the following Table:

# Table 6-5: Reactive Energy Charges approved for FY 2023-24

S. No.	Category	Approval Rate
1	For the drawal of reactive energy at 10% or less of the net energy exported	10 Paisa / kVARh
2	For the drawal of reactive energy at more than 10% of the net energy exported	50 Paisa / kVARh



# 7 Compliance of Directives

# 7.1 Compliance of Directives issued by the Commission

The Commission had given certain directives to GETCO. GETCO has submitted a report on compliance of the Directives issued by the Commission. The comments of the Commission on the submission/compliance of GETCO are given below:

# Directive 1: Submission of Peak and Average Loading of Transmission Elements

The Commission, while dealing with objections/suggestion of the stakeholders, has observed that many transmission elements are functioning on overloading conditions. GETCO has been directed to adhere to the Manual of CEA on Transmission Planning Criteria to avoid such overloading operation of transmission elements. The Commission has been directing GETCO to submit report on peak and average loading of various 220 kV, 132 kV and 66 kV sub-stations. GETCO is directed to keep submitting the said reports at quarterly interval along with the report on peak loading and average loading of transmission elements. GETCO shall also apprise the Commission on quarterly basis about the transmission elements, which are running in overload condition for more than two times in a calendar month.

# **Compliance:**

GETCO has submitted a report on average as well as peak loading of various 400,220kV, 132kV and 66kV substations in the Gujarat for 1st Quarter of FY 2022-23 (April-2022 to June-2022) on dated 1st October, 2022 and 2nd Quarter of FY 2022-23 (July-2022 to Sept-2022) on dated 12th December, 2022.

Further, GETCO has also submitting submitted the loading of important EHV elements during 2nd Quarter of FY 2022-23 and EHV transmission elements, which are running in overload condition for more than two times in a calendar month during the 2nd Quarter of FY 2022-23 on dated 12th December, 2022.

# **Commission's Comment:**

The Commission has noted the submission of the Petitioner. GETCO is directed to continue submitting reports in this regard on quarterly basis rather as well as at the time of filing of the tariff petition in future.



# Directive 2: Adoption of Tariff Based Competitive Bidding (TBCB) for Intra-State Transmission Projects

The Commission directed GETCO to submit a plan for carrying out TBCB for its 220 kV and above sub-stations and lines.

# **Compliance:**

In compliance to the above direction GETCO organized one-day conference on "360° Review conference on TBCB – Route for new Transmission Projects" on 4th August, 2022 with intention to have detailed insight from Hon'ble Regulatory Commissions, CTU, PGCIL, State TRANSCOs, Consultants and Transmission Project Developers, etc. A package is envisaged for deriving a threshold limit for implementation of transmission schemes through TBCB mode. A scheme includes 220 kV upstream network and associated 66 kV downstream network.

		Upstream Network		
	220/66 kV AIS substation	AIS package including 220/66 kV 2X160 MVA ICT (2 nos for future provision), 220 kV FB-4 nos. (6 nos for future provision), 220 kV BC bay-1, 220 kV Reactor bay-1, PT bay, 66 kV FB-10 nos (4 nos for future provision), BC, C&_ Panels, SCADA, illumination, Testing Equipments, Spares, etc including land cost		
1	220 kV Transmission lines	<ul> <li>[1] 2 nos of 220 kV D/C Transmission lines with OPGW having route length about 85-100 Km (approx.)</li> <li>[2] 220 kV M/C transmission line with OPGW having route length about 10-15 km (approx.)</li> </ul>	Rs. 220 Crore (Approx.)	
	66 KV associated / interconnection lines	<ul> <li>[1] 3-4 nos of 66 kV D/C Transmission lines route having about 40-50 Km (approx.)</li> <li>[2] 66 kV M/C Transmission lines route having about 10-15 Km (approx.)</li> <li>[3] 66 kV underground cable having route length about 10-15 km (approx.)</li> </ul>		
		Downstream Network		
2	3 nos of 66 KV Substations - downstream network	<ul> <li>[1] 66/11 kV AIS substation with 2X20 MVA Transformers, 66 kV bays, 11 kV capacitor banks and all associated equipments in the substation including land cost.</li> <li>[2] 66 kV S/C &amp; D/C transmission lines &amp; underground cables having route length about 15-20 Km.(approx.)</li> </ul>	Rs. 30 Crore (Approx.)	

The total estimated cost for creation a typical package of Transmission system with above component is approximately Rs. 250 Crore which can be considered as Threshold limit of TBCB mode in Intra-State.

# **Commission's Comment:**

The Commission has issued suo moto Order dated 21.03.2023 regarding TBCB.



# **COMMISSION'S ORDER**

The Commission approves the components of Transmission Charges and the Transmission Tariff for GETCO for FY 2023-24, as shown in the Tables below:

S. No.	Particulars	Approved
1	<b>Operation &amp; Maintenance Expenses</b>	2,368.68
2	Depreciation	1,463.40
3	Interest & Finance Charges	392.57
4	Interest on Working Capital	95.37
5	Return on Equity	1,232.32
6	Contribution to Contingency Reserves	169.93
7	Total Fixed Costs	5,722.28
8	Less: Expenses Capitalised	348.70
9	Add: Provision for Income Tax	460.22
10	Total Transmission Charges	5,833.79
11	Less: Non-Tariff Income	456.24
12	Aggregate Revenue Requirement	5,377.55

# ARR for FY 2023-24 (Rs. Crore)

# Transmission Tariff for FY 2023-24

S. No.	Particulars	Unit	FY 2023-24
1	Transmission Tariff	Rs./MW/Day	4113.16
2	Transmission Tariff for STOA	Ps./kWh	37.94

# This order shall come into force with effect from 1<sup>st</sup> April, 2023.

-Sd-	-Sd-	-Sd-
S.R. PANDEY	MEHUL M. GANDHI	ANIL MUKIM
Member	Member	Chairman

Place: Gandhinagar Date: 31.03.2023



# **Annexure 1: Capex Details for FY 2023-24**

#### Table: CAPEX FY 2023-24 - Substation Details (Rs. Crore)

S. No.	Voltage class	NAME OF SUBSTATION	FY 2023-24 Planning
1	765 KV	765/400 KV substation in Saurashtra (1) 765/400 KV, 2 x 1500 MVA (2) 2 Nos. of 765 KV feeder bays (3) 6 Nos. of 400 KV feeder bays (4) 765 KV, 1 x 330 MVAR Reactor with bay (5) 400 KV, 1 x 125 MVAR Reactor with bay	10.00
2	765 кV	765 KV, 240 MVAR LINE REACTOR FOR 765 KV D/C SAURASHTRA - VATAMAN LINE: 240 MVAR LINE RECTOR FOR EACH CIRCUITS AT BOTH ENDS	0.00
		765 KV TOTAL	10.00
1	400 KV	400 KV BHACHUNDA GIS SUBSTATION (DIST. KUTCH) (220/66 KV SCHEME IS ALREADY APPROVED) (1) 400/220 KV, 3 X 500 MVA (2) 6 NOS. OF 400 KV FEEDER BAYS (3) 400 KV, 1 X 125 MVAR REACTOR WITH BAY	0.00
2	400 KV	400/220/66 KV BHOGAT GIS SUBSTATION (DIST. JAMNAGAR) (1) 400/220 KV, 3 X 500 MVA (2) 220/66 KV, 2 X 160 MVA (3) 4 NOS. OF 400 KV FEEDER BAYS (4) 400 KV, 1 X 125 MVAR REACTOR WITH BAY (5) 8 NOS. OF 220 KV & 10 NOS. OF 66 KV FEEDER BAYS	0.00
3	400 кV	400/220 KV KALAVAD GIS SUBSTATION (DIST. JAMNAGAR) (1) 400/220 KV, 3 X 500 MVA (2) 8 Nos. of 400 KV feeder bays (3) 400 KV, 1 x 125 MVAR Reactor with bay	65.82
4	400 кV	400 kV Achhalia2x500 MVA X'mers, 400 kV FB - 6, 220 kV FB - 8, 63 MVAR Bus Reactor, 220/66 kV, 2x160 MVA X'mer; 66 kV FB - 6 and 66 kV interconnection	0.00
5	400 кV	400 kV Prantij 400/220 kV, 2x500 MVA X'mers, 400 kV FB - 4, 220 kV FB - 4, 63 MVAR Bus Reactor, 220/66 kV s/s with 2x160 MVA X'mer; 66 kV FB - 6 and 66 kV interconnections	0.00
6	400 KV	400/220/66 kV KHIJADIYA (KESHOD) GIS SUBSTATION (DIST. JUNAGADH) (1) 400/220 kV, 2 X 500 MVA (2) 220/66 kV, 2 X 160 MVA (3) 6 Nos. of 400 kV FEEDER BAYS (4) 400 kV, 1 x 125 MVAR REACTOR WITH BAY (5) 8 Nos. of 220 kV & 8 Nos. of 66 kV FEEDER BAYS	0.00
7	400 KV	400/220/66 KV SHIVLAKHA GIS SUBSTATION (DIST. KUTCH) (1) 400/220 KV, 2 X 500 MVA (2) 220/66 KV, 2 X 160 MVA (3) 4 Nos. of 400 KV feeder bays (4) 400 KV, 1 x 125 MVAR REACTOR WITH BAY (5) 6 NOS. OF 220 KV & 8 NOS. OF 66 KV FEEDER BAYS	5.00
8	400 кV	400 KV BALANI VAV (PIPAVAV) 400/220 KV, 2x500 MVA X'MERS, 400 KV FB - 4, 220 KV FB - 4, 63 MVAR BUS REACTOR, 220/66 KV s/s with 2x160 MVA X'MER; 66 KV FB - 6 AND 66 KV INTERCONNECTIONS	0.00
9	400 кV	400/220 kV, 500 MVA ICT AT UKAI TPS - REPLACEMENT OF 315 MVA ICT WITH 500 MVA ICT AND 2ND 500 MVA ICT WITH BAYS, TERMINATION ARRANGEMENT FOR 2ND ICT	0.00
10	400 KV	400 KV SAYKHA (GIS) SUBSTATION TA. WAGRA DIST. BHARUCH 400/220 KV - 3x500 MVA TRF, 220/66 KV - 2x160 MVA TRF, 400 KV 1x125 MVAR BUS REACTOR, 400 KV FB - 4 NOS, 220 KV FB - 6 NOS & 66 KV FB - 10 NOS	5.00
11	400 KV	400/220 KV BABARZAR GIS SUBSTATION (DIST. JAMNAGAR) (1) 400/220 KV, 2 X 500 MVA (2), 220/66 kV 3x160 MVA. 4 NOS. OF 400 KV FEEDER BAYS (3) 400 KV, 1 x 125 MVAR REACTOR WITH BAY	5.00
12	400 кV	400 KV, 50 MVAR line Reactor for both ends 765 KV D/C Sayakha - Pachchham line (initially to be charged at $400 \text{ kV}$ level)	0.00
13	400 KV	400 kV Dholera GIS 400/220 kV 3x500 MVA Transformer 220/66 kV 2x160 MVA Transformer	15.00

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S. No.	Voltage class	NAME OF SUBSTATION	FY 2023-24 Planning
	CLITOD	1x125 MVAR	
		4 NOS OF 400 KV BAYS 400 KV TOTAL	95.82
			95.82
1	220 кV	220 KV RAJULA (SINTEX / LUNSAPUR) 220/66 KV s/s with 2x160 MVA X'mer; 220 KV FB-4, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 6 Along with 66 KV interconnections	0.00
2	220 кV	220 KV KHAJOD220/66 KV GIS s/s WITH 2x160 MVA X'MER; 220 KV FB-4, 220 KV BC BAY-1, 220 KV TBC - 1, 66 KV FB - 6 ALONG WITH 66 KV INTERCONNECTIONS	5.00
3	220 кV	220 kV Makansar 220/66 kV, 2X160 MVA ICTs	2.00
4	220 KV	220 KV KUNDIYANA (OLPAD) 220/66 KV s/s with 2x160 MVA X'mer; 220 KV FB-4, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 10	3.00
5	220 KV	220 kV Samadhiyala (Bagasara) 220/66 kV, 2x160 MVA X'mer; 220 kV FB-2, 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 6 and 66 kV interconnections	0.00
6	220 KV	220 kV Metoda S/s 220/66 kV s/s with 2x160 MVA X'mer; 220 kV FB-2, 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 8 and 66 kV interconnections	5.00
7	220 KV	220 kV Chiloda (up-gradation of 132 kV to 220 kV - GIS)220/66 kV GIS substation with 2x160 MVA X'mer; 220 kV FB-6, 220 kV BC bay-1, PT Bays - 2 Nos. 66 kV FB – 8 220/132 kV, 2 X 150 MVA ICTs at 220kV Chiloda	0.00
8	220 KV	220 KV GOMTA SUBSTATION (DIST. RAJKOT) (1) 220/66 KV, 2 X 160 MVA, (2) 6 NOS. 220 KV, 6 NOS. 66 KV FEEDER BAYS.	1.00
9	220 KV	220 KV SARIGAM GIS (UMAGAM) 220/66 KV, 2x160 MVA X'MER; 220 KV FB-4, 220 KV BC BAY-1, PT BAYS - 2 NOS. 66 KV FB - 6	1.00
10	220 KV	220 KV VERAVAL GIS 220/66 KV s/s with 2x160 MVA X'mer; 220 KV FB-4, 220 KV BC bay-1, 220 KV TBC - 1, 66 KV FB - 8 Along with 66 KV interconnections	5.00
11	220 KV	220 kV HALOL 220/66 kV s/s with 2x160 MVA X'mer; 220 kV FB-4, 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 6 Along with 66 kV interconnections	3.00
12	220 кV	220 kV Maglana 220/66 kV, 2X160 MVA ICT	20.00
13	220 KV	220 KV BHAT (UP-GRADATION OF 66 KV TO 220 KV - GIS)220/66 KV, 2x160 MVA X'MER; 220 KV FB-6, 220 KV BC BAY-1, PT BAYS - 2 NOS. 66 KV FB - 8220/132 KV, 2 X 150 MVA ICTS; 132 KV FB-4, BC BAY-1, PT BAY-2	0.00
14	220 KV	UPGRADATION OF 66KV MAHUVA S/S TO 220KV LEVEL HGIS/GIS 220/66 kV, 2x160 MVA X'MER; 220 kV FB-4, 220 kV BC BAY-1, PT BAYS - 2 NOS. 66 kV FB - 6	5.00
15	220 KV	Upgradation of 66kV Velanja S/S to 220kV level HGIS/GIS system 220/66 kV, 2x160 MVA X'mer; 220 kV FB-4, 220 kV BC bay-1, PT Bays - 2 nos. 66 kV FB - 6	39.74
16	220 KV	Upgradation of 132kV Ankleshwar S/S to 220kV level HGIS/GIS system 220/66 kV, 2x160 MVA X'mer; 220 kV FB-6, 220 kV BC bay-1, PT Bays - 2 nos. 66 kV FB - 8	0.00
17	220 KV	220kV VANSDA (LIMZER) S/S 220/66 kV s/s with 2x160 MVA X'mer; 220 kV FB-4, 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 6	0.00
18	220 KV	220kV MERA S/S / (220kV MITHIPALDI S/S)220/66 kV, 2x160 MVA X'MER; 220 kV FB- 4, 220 kV BC bay-1, PT Bays - 2 nos. 66 kV FB – 10 (Provision of 4 No. of 220 kV & 6 Nos. of 66 kV bays for future purpose)	1.00

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S. No.	VOLTAGE CLASS	NAME OF SUBSTATION	FY 2023-24 Planning
19	220 KV	220kV Ghodasar (Rah) S/S 220/66 kV s/s with 2x160 MVA X'mer; 220 kV FB-4, 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 10	19.93
20	220 кV	220kV Khumapur (Kheradi) S/S 220/66 kV s/s with 2x160 MVA X'mer; 220 kV FB-4, 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 10	0.00
21	220 KV	220 KV NICHI MANDAL (VANKDA) / SHAPAR (DIST. MORBI) GIS (1) 220/66 KV, 2 X 160 MVA, (2) 6 Nos. 220 KV, 6 Nos. 66 KV feeder bays.	18.64
22	220 KV	220 KV GIYAVAD SUBSTATION (DIST. MORBI) (1) 220/66 KV, 2 X 160 MVA, (2) 8 Nos. 220 KV, 6 Nos. 66 KV feeder bays.	1.00
23	220 KV	220 KV KAMLAPUR SUBSTATION (DIST. RAJKOT) (1) 220/66 KV, 2 X 160 MVA, (2) 8 Nos. 220 KV, 6 Nos. 66 KV feeder bays.	0.50
24	220 кV	132 kV System at $220$ kV Vijapur S/S with FB & Termination from $220/132$ kV ICT to $132$ kV Bus and other misc civil works	0.00
25	220 кV	220kV Sarvala S/S220/66 kV s/s with 2x160 MVA X'mer; 220 kV FB-4, 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 6	0.00
26	220 KV	UP GRADATION OF 66KV SEVALIA S/S TO 220KV LEVEL 220/66 KV s/s with 2X 160 MVA Transformers, 220 KV FB-4, 220 KV BC BAY-1, 220 KV TBC-1, 66 KV FB-6	0.50
27	220 KV	220kV Mandali S/S 220/66 kV s/s with 2x160 MVA X'mer; 220 kV FB-4, 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 6	0.00
28	220 кV	220 KV DHAMA SUBSTATION (DIST. SURENDRANAGAR) (1) 220/66 KV, 2 X 160 MVA, (2) 4 NOS. 220 KV, 6 NOS. 66 KV FEEDER BAYS.	2.00
29	220 KV	UPGRADATION OF 66KV BHILDI SUBSTATION TO 220KV LEVEL USING HYBRID MODULES 220/66 kV, 2x160 MVA X'MER; 220 kV FB-4, 220 kV BC bay-1, PT Bays - 2 nos. 66 kV FB - 10	39.36
30	220 KV	220kV Chikada (Satwan) (Umarpada) S/S 220/66 kV s/s with 2x160 MVA X'mer; 220 kV FB-6 (Additional space for 4 nos. of future bays), 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 6, U/G cable termination	0.00
31	220 KV	220kV PADANA S/S (AVANA SS/ UPGRADATION OF GANDHIDHAM-B) S/S TO 220kV LEVEL (GIS/HGIS)220/66 kV s/s with 2x160 MVA X'mer; 220 kV FB-4, 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 6	0.00
32	220 KV	220 KV BHUTESHAWAR (AVANIYA) 220/66 KV s/s with 2x160 MVA ICT; 220 KV FB-6 (ADDITIONAL SPACE FOR 4 NOS. OF FUTURE BAYS), 220 KV BC BAY-1, 220 KV TBC - 1, 66 KV FB - 8	0.00
33	220 KV	220/66 kV (GIS) SYSTEM AT KANBHA (UPGRADATION) 220/66 kV, 2x160 MVA X'MER; 220 kV FB-6, 220 kV BC BAY-1, PT BAYS - 2 NOS. 66 kV FB - 8	0.00
34	220 KV	220/66 kV (GIS) system at Siddheshwar (Upgradation) 220/66 kV, 3x160 MVA X'mer; 220 kV FB-4, 220 kV BC bay-1, PT Bays - 2 nos. 66 kV FB - 10	5.00
35	220 KV	220 kV BALETHI (AIS) 220/66 kV s/s with 2x160 MVA X'mer (2 Nos for future provision); 220 kV FB-4 (Additional space for 4 nos. of future bays), 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB - 10	0.00
36	220 KV	220kV Sisrana/Satlasana220/66 kV s/s with 2x160 MVA ICTs (provision to be kept for additional 2 ICTs for later stage); 220 kV FB-4 (provision to be kept for additional 8 bays for later stage), 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB – 10	34.63
37	220 кV	220 KV BHESAN (AIS) 220/66 KV s/s with 2x160 MVA X'mer (2 Nos for future provision); 220 KV FB-5	5.00

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S. No.	Voltage class	NAME OF SUBSTATION	FY 2023-24 Planning
		(ADDITIONAL SPACE FOR 4 NOS. OF FUTURE BAYS), 220 KV BC BAY-1, 220 KV TBC - 1, 66 KV FB – 10	
38	220 кV	220kV Patkhilori 220/66 kV s/s with 2x160 MVA X'mer (provision to be kept for additional 2 ICTs for later stage); 220 kV FB-4 (provision to be kept for additional 4-6 bays for later stage), 220 kV BC bay-1, 220 kV TBC - 1, 66 kV FB – 10	5.00
39	220 кV	220 KV Khodu/Dudhrej	0.00
40	220 кV	220 кV Dumas (GIS) 220/66 - 3 х160 MVA Trf, 220 кV FB - 6 nos, 66 кV FB - 8 nos	5.00
41	220 кV	220 kV BABARZAR (AIS) WITH 3x160 MVA ICTS (1 NO. FUTURE PROVISION); 220 KV FB-4 (6 NOS. OF FUTURE PROVISION), 220 KV, 25 MVAR BUS REACTOR, 66 KV FB – 10 (5 NOS. EACH FOR GSECL & GETCO)	2.00
42	220 KV	Upgradation of 132 kV Manjusar to 220 kV AIS 220/132 kV 2x150 220 kV FB - 4 nos 220 kV BC bay - 1 nos PT bay & 132 kV Future Bay Demolition of old building of MGVCL	15.02
43	220 кV	2 NOS OF 220 KV FB AT 400 KV SANAND GIS	10.00
44	220 KV	220/66 kV GIS SUBSTATION AT HAJIPIR / DHORDO / LUNA IN DIST. KUTCH220/66 kV 2x160 MVA ICT (2 Nos. FOR FUTURE PROVISION), 220 kV FB- 4 NOS (6 NOS. FOR FUTURE PROVISION), 220kV BC BAY-1, PT BAY, 66 kV FB- 10 NOS (4 NOS. FOR FUTURE PROVISION)	0.00
45	220 кV	220 KV MUNJPUR SUBSTATION (DIST. PATAN) (1) 220/66 KV, 2 X 160 MVA, (2) 6 NOS. 220 KV, 6 NOS. 66 KV FEEDER BAYS.	0.00
		220 KV TOTAL	254.32
1	132 кV	132 KV KANSUMRA 132/66 - 2 x 100 MVA 132 KV FB - 4+4 (FUTURE) 132 KV B/C BAY 66 KV FB - 8 66/11 KV S/S WITH 3x20 MVA	2
2	132 кV	132 KV SUPEDI 132/66 KV, 2 X 100 MVA ICTs WITH 132 KV FB-2, 132 KV B/C BAY, 66 KV FB-6 – AIS	0.50
		132 KV TOTAL	2.50
		TOTAL EHV	362.64
		66kv Substation	535.75
		G. TOTAL	898.39

# TRANSMISSION LINES (Rs. CRORES)

S. No.	Voltage class	NAME OF TRANSMISSION LINE	Length in Ckt. km	FY 2023-24
1	765 кV	765 kV D/C Saurashtra - Vataman line	400	1
2	765 кV	765 KV D/C Pachchham (Fedra) - Sayakha line (765 kV line initially to be charged at 400 kV level))	320	1
		765 KV TOTAL	720	2
1	400 кV	400 kV Essar - Amreli line (Twin Moose) (Vadinar- Amreli)	356	38.00
2	400 кV	400 KV D/C VADAVI - HALVAD LINE	290	15.00
3	400 KV	400 KV S/C Mundra - Hadala line LILO at Halvad	55	0.00

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S. No.	Voltage class	NAME OF TRANSMISSION LINE	Length in Ckt. km	FY 2023-24
4	400 кV	400 KV D/C VARSANA - HALVAD (QUAD MOOSE)	237	30.00
5	400 кV	400 KV D/C KASOR - AMRELI LINE (QUAD MOOSE)	460	2.00
6	400 кV	400 KV D/C WANAKBORI TPS - SOJA	212	0.00
7	400 кV	400 KV D/C Soja - Zerda line (Twin moose)	268	0.00
8	400 кV	400 KV D/C Bhachunda - Varsana line	264	40.00
9	400 кV	400 KV D/C Adani - Zerda line-1	666	1.00
10	400 кV	400 KV D/C Shapar - Fedra line (twin moose)	200	50.00
11	400 кV	LILO OF ONE CKT OF 400 KV D/C HALVAD - VADAVI LINE AT 400 KV CHHARODI S/S (ACSR TWIN MOOSE)	86	5.00
12	400 кV	400 KV D/C BHOGAT - KALAVAD LINE	250	40.00
13	400 кV	LIL O OF ONE CKT OF PROPOSED $400 \text{ kV D/C}$ Wanakbori - Soja line at Prantij s/s	80	12.68
14	400 кV	400кV D/C KALAWAD - KESHOD LINE (2 х 120 = 240Скм)	240	0.50
15	400 кV	400kV D/C Keshod - Shapar line (2 x 190 = 380Ckm)	380	0.50
16	400 кV	400kV D/C Bhachunda - Shivlakha line (2 x 210 = 420KM)	420	0.00
17	400 кV	400kV D/C Shapar - Chharodi line (2 x 90 = 180KM)	230	20.00
18	400 кV	400kV D/C Shivlakha - Veloda line (2 x 245 = 490KM)	490	0.00
19	400 кV	400kV D/C Veloda - Prantij line (2 x150 = 300KM)	300	25.00
20	400 кV	LILO of one ckt of $400$ kV D/C Soja - Zerda line at Veloda (2 x 50 = 100Ckm)	100	10.00
21	400 кV	LILO OF 400 KV S/C KOSAMBA-PACHHAM LINE AT 400 KV SAYKHA	4	0.00
22	400 кV	LILO OF 400 KV S/C KOSAMBA-CHARAL LINE AT 400 KV SAYKHA	4	0.00
23	400 кV	LILO OF 400 KV S/C SSP - Asoj & Kasor line at Achhalia substation (2x40=80 Ckm)	80	0.00
24	400 KV	400 кV D/C Kosamba - Achhalia line (2Х70= 140 Скм) (conductor configuration changed from Twin Moose to Twin AL-59 vide BR. No. 109.16/1816 dtd. 27.10.16)	140	0.00
25	400 кV	LILO OF BOTH CIRCUITS OF $400 \text{ KV D/C}$ BHOGAT - KALAVAD LINE AT BABARZAR SUBSTATION	20	15.00
26	400 кV	400 KV D/C Kalvad - Saurashtra line (Twin AL-59)	240	1.00
27	400 кV	LILO OF BOTH CIRCUITS OF $400 \text{ kV}$ D/C CGPL - Jetpur line at Saurashtra substation (M/C line)	100	0.00
28	400 кV	LILO OF BOTH CIRCUITS OF 400 KV D/C MUNDRA - ZERDA LINE AT SHIVLAKHA SUBSTATION (25 RKM M/C LINE)	100	1.00
29	400 кV	400 kV D/C Sayakha - Jhanor (NTPC) line OR LILO of 400 kV S/C Jhanor - Sugen (TPGL) line at 400 kV Sayakha substation)	50	0.50
30	400 кV	400 kV D/C line for reconfigurations to have 400 kV D/C Chorania - Kosamba & 400 kV D/C Fedra - Sanand (Chharodi) line	50	20.00
31	400 кV	400 KV D/C SANAND (CHHARODI) - SOJA LINE (BY USING LILO PORTION OF HALVAD - VADAVI LILO AT SANAND)	100	0.50



S. No.	VOLTAGE CLASS	NAME OF TRANSMISSION LINE	Length in Ckt. km	FY 2023-24
32	400 KV	400kV D/C Pipavav - Amreli line (2x95=190 Ckm) (Additional Budget for 20KM approved vide BR no. 95.2/1502 dated 24.06.14) (conductor configuration changed from ACSR Quad Moose to Twin AL-59 vide BR. No. 109.16/1816 dtd. 27.10.16)	190	0.00
		<b>400 kV Total</b>	6662	328
1	220 кV	220 kV D/C Gavasad - Salejda line	194	10.00
2	220 кV	LILO OF ONE CIRCUIT OF 220 KV D/C JETPUR - SARDARGADH LINE AT 220 KV SHAPUR SUBSTATION	12	0.00
3	220 кV	LILO OF BOTH CKT OF 220 KV D/C KAWAS - NVASARI (PG) LINE AT 220 KV KHAJOD S/S	20	1.00
4	220 кV	LILO OF 220 KV S/C ICHHAPORE – TALANGPORE LINE AT PROPOSED 220 KV KHAJOD SUBSTATION	7	1.00
5	220 кV	220 KV D/C BECL- BOTAD	190	2.00
6	220 кV	220kV D/C Chorania - Salejada line with AL-59 conductor	134	2.00
7	220 кV	220 KV D/C Bhatia - Kalavad line	238	0.00
8	220 кV	220 kV D/C Kalavad - Kangasiali	112	46.00
9	220 кV	220 KV D/C Chorania - Botad line	104	6.00
10	220 кV	LILO OF ONE CIRCUIT OF 220 KV D/C AMRELI - DHASA LINE AT GARIYADHAR	70	5.11
11	220 кV	LILO OF BOTH CKTS OF 220KV D/C KAWAS - HALDARWA AT ANKLESHWAR BY USING EXISTING ROW OF $132$ kV D/C Ankleshwar - Bharuch line (4 x 10 = 40Ckm)	40	0.00
12	220 KV	LILO of 220кV S/C GSEG - Кім and S/C GSEG - Mora - Кім ат Velanja (4 х 10=40Скм)	7	0.00
13	220 кV	LILO OF BOTH CIRCUITS OF 220 KV D/C MOTA - CHIKHLI (AMBHETA) LINE AT MAHUVA	40	1.00
14	220 кV	LILO OF BOTH CIRCUITS OF 220 KV D/C GANDHINAGAR TPS - RANASAN LINE AT BHAT SUBSTATION BY USING EXISTING ROW OF 66 KV RANASAN-BHAT OR 132 KV RANASAN-PRL LINE	32	0.00
15	220 KV	LILO OF BOTH CIRCUITS OF 220 KV D/C GANDHINAGAR TPS - RANASAN LINE AT CHILODA SUBSTATION	12	0.00
16	220 кV	220 KV D/C Bhogat (400 KV) - Moti Gop line	139	10.00
17	220 кV	LILO OF 220 kV S/C Lalpar - Sartanpar line at 220 kV Wankaner substation on M/C tower by dismentalling of existing 132 kV S/C Lalpar - Wankaner line	76	0.00
18	220 KV	LILO OF ONE CIRCUIT OF 220 KV D/C KASOR - GAVASAD LINE AT 220 KV GOTRI SUBSTATION	98	15.00
19	220 кV	LILO OF 220 KV S/C SARTANPAR - WANKANER LINE AT 220 KV MAKANSAR SUBSTATION	2	0.00
20	220 кV	LILO OF 220 KV S/C MORBI - HADALA LINE AT 220 KV MAKANSAR SUBSTATION	20	0.00
21	220 кV	LILO OF BOTH CIRCUITS OF 220 KV GSEG – KOSAMBA LINE AT 220 KV KUDIYANA WITH PILE FOUNDATION	70	10.00
22	220 кV	LILO OF 220 KV S/C SAVARKUNDLA - VISAVADAR AT BAGASARA S/S	16	1.00
23	220 кV	LILO OF 220 KV S/C JETPUR - RAJKOT LINE AT METODA S/S (U/G)	3	19.00

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S. No.	Voltage class	NAME OF TRANSMISSION LINE	Length in Ckt. km	FY 2023-24
24	220 KV	LILO of 220 kV S/C Chorania - Sarla & Sarla - Gondal line (due to LILO of 220 kV S/C Chorania - Gondal line at Sarla S/s) at Shapar S/s	20	0.00
25	220 кV	220 KV BHOGAT - RANAVAV LINE	140	10.00
26	220 KV	220 KV D/C WANAKBORI TPS - ZALOD LINE ALONG WITH ONE CIRCUIT LILO AT SAVDASNA MUVADA	270	20.00
27	220 кV	LILO OF BOTH CIRCUIT OF 220 KV D/C SAGAPARA - TALAJA LINE AT MAGLANA SUBSTATION (M/C TOWER AL-59)	140	0.00
28	220 KV	220 KV D/C Maglana - Pachchham line (AL-59) on M/C line to have reconfigurations to establish 220 kV D/C Botad - Kasor line	360	0.00
29	220 кV	LILO OF 220 KV D/C UKAI (TH) - ACHHALIA LINE AT 400 KV ACHHALIA	20	0.00
30	220 KV	Termination of 220 kV D/C GPEC - Haldarwa line at Achhalia (400 kV) instead of Haldarwa s/s (Zebra)	180	0.00
31	220 кV	220 kV D/C Suva - Achhalia (400 kV) line	140	0.00
32	220 кV	220 KV D/C Prantij - Agiyol ine	60	5.00
33	220 кV	220 KV D/C Prantij - Dhansura line (AP-59)	70	5.00
34	220 кV	220 kV D/C Babra - Gomta (Gondal-II)	160	0.00
35	220 кV	220 KV D/C PIPAVAV - RAJULA LINE	12	0.00
36	220 KV	LILO of one circuit of 220 kV D/C Chandrapura - Godhara line at 220 kV Halol	10	1.00
37	220 кV	220 KV D/C VYANKATPURA - HALOL LINE	50	0.00
38	220 кV	LILO OF BOTH CIRCUIT OF $220 \text{ kV}$ D/C Visavadar - Timbdi line at $400 \text{ kV}$ Keshod substation	24	0.00
39	220 кV	220 KV D/C KESHOD (400 KV) - KESHOD LINE	50	0.00
40	220 кV	220kV D/C Mansar (Halvad) - Dhama line (2 x 110 = 220Ckm)	220	0.00
41	220 кV	220кV D/C Dhama - Bechraji line (2 x 45 = 90Скм)	220	10.00
42	220 кV	220kV D/C Dhama - Chharodi line (2 x 100 =200Ckm)	200	0.00
43	220 кV	LILO OF 220KV S/C BALA - DHANKI AT 220KV SARLA S/S (2 x 45 = 90CKM)	90	5.00
44	220 KV	LILO OF BOTH CKTS OF 220KV D/C BHIMASAR - CHARADVA AT VANKDA (NICHIMANDAL) ( $4 \times 10 = 40$ Ckm)	40	0.00
45	220 KV	LILO OF BOTH CKT OF 220KV D/C TAPPAR - SHIVLAKHA LINE AT SHIVLAKHA (400KV) (4 x 25 = 100CKM)	80	0.50
46	220 KV	LILO OF BOTH CKT OF 220KV D/C SHAPAR - BABRA AT KAMLAPUR (M/C) ( $4 \times 15 = 60$ Ckm)	80	0.00
47	220 кV	LILO OF 220 KV S/C GONDAL – SADLA LINE AT 220 KV KAMLAPUR	34	6.00
48	220 кV	220кV D/C Kamalpur - Bagodara line (2 x 110 = 220Скм)	220	2.00
49	220 кV	220кV D/C Мотіgop - Gondal II (Gomta) (2 х 125 = 250Скм)	250	0.00
50	220 кV	220кV D/C Ghiyavad - Shapar (400кV) line (2 x 50 = 100Скм)	100	10.00
51	220 кV	LILO OF ONE CKT OF $220$ kV D/C HADALA - SARTANPAR AT $220$ kV Ghiyavad (2 x $10 = 20$ Ckm)	16	0.00



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52         220 KV         150         0.00           54         220 KV         220 KV         D/C GMTA - KAMLAPUR LINE (2 X 75 - 150CKM)         150         0.00           54         220 KV         11L0 OF BOTH CKTS OF 220 KV D/C [AMBUVA - KARAMSAD LINE AT DUWARAN CCPP (by USING EXETING LILLO PORTION AND THRUGH 220 KV D/C PACHIAM - KASOR         80         0.00           55         220 KV         120 KV D/C EBIATIA - KALAVAD LINE AT KUWADIVA         55         2.00           57         220 KV         LILO OF BOTH CIRCUIT OF 220 KV D/C KAISARI-DEDDAR AT 220 KV BHILDI         10         0.00           58         220 KV         LILO OF BOTH CIRCUIT OF 220 KV D/C UKAI (HY) - ACHIALIA LINE AT 220 KV         60         0.00           59         220 KV         LILO OF BOTH CIRCUIT OF 220 KV D/C UKAI (HY) - ACHIALIA LINE AT 220 KV         60         0.00           61         220 KV         LILO OF BOTH CIRCUIT OF 220 KV D/C UKAI (HYDRO) - UMARPADA (CIRKDA) AT 220         KV SARVALA WTH AL-59 CONDUCTOR (WTH OPCW) (70 RKM)         140         0.00           62         220 KV         LILO OF BOTH CIRCUT OF 220 KV D/C EMAIA SIG (SY C SHIVAKIA-         3         0.00           63         220 KV         LILO OF BOTH CIRCU OF 220 KV D/C MAIA SIG (SY C SHIVAKIA- <th>S. No.</th> <th>Voltage class</th> <th>NAME OF TRANSMISSION LINE</th> <th>Length in Ckt. km</th> <th>FY 2023-24</th>	S. No.	Voltage class	NAME OF TRANSMISSION LINE	Length in Ckt. km	FY 2023-24
54         LLD OF BOTH CKTS OF 220KV D/C JANBUVA - KARAMSAD LINE AT DIBUVABAN CCPP (BY USING EXISTING LLD PORTION AND THROUGH 220KV D/C PACIILIAM - KASOR BO         80         0.00           55         220 KV         220 KV D/C KESHOD (400 KV) - VERAVAL LINE         90         2.00           56         220 KV         LILO OF 220 KV D/C BHATIA - KALAVAD LINE AT KUWADIYA         55         2.00           57         220 KV         LILO OF 200 KV D/C BHATIA - KALAVAD LINE AT KUWADIYA         55         2.00           58         220 KV         LILO OF BOTH CIRCUTT OF 220KV D/C KANSARI-DEODAR AT 220 KV BHILDI         10         0.00           58         220 KV         LILO OF BOTH CIRCUTT OF 220KV D/C KASARI-DEODAR AT 220 KV         60         0.00           59         220 KV         LILO OF BOTH CIRCUTT OF 220KV D/C KASI (HYDO) - UMARPADA (CIRKMA) AT 220         140         0.00           60         220 KV         LILO OF ONE CIRCUTT OF 220KV D/C BUIMASAH - MOREI AND 220KV S/C BIIMASAH - SARTAMPA AT CANDIHIDIAM B S/S (2 X 1.5KM, 1200SO, MM)         3         0.00           61         220 KV         LILO OF BOTH CIRCUT OF 220KV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 X 15 = 60         60         5.00           62         220 KV         LILO OF BOTH CIRCUT OF 220KV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 X 15 = 60         60         5.00           64         220 KV         LILO	52	220 кV	220kV D/C Bagodara - Mogar line (2 x 110 = 220 Ckm)	220	2.00
54         220 kV         (PV USING EXISTING LILO PORTION AND THROUGH 220 kV D/C PACHHAM - KASOR LINF)         80         0.00           55         220 kV         220 kV D/C KESHOD (400 kV) - VERAVAL LINE         90         2.00           56         220 kV         LILO OF 220 kV D/C BIATTA - KALAVAD LINE         90         2.00           57         220 kV         220 kV D/C PIPAVAV - OTHA LINE         130         0.00           58         220 kV         LILO OF BOTH CIRCUIT OF 220kV D/C KANSARI-DEODAR AT 220kV BIILDI         10         0.00           59         220 kV         LILLO OF BOTH CIRCUIT OF 220kV D/C UKAI (HY) - ACHHALIA LINE AT 220 kV         60         0.00           60         220 kV         LILLO OF BOTH CIRCUIT OF 220kV D/C UKAI (HYDRO) - UMARPADA (CHIKDA) AT 220         140         0.00           61         220 kV         LILLO OF NOT CIRCUIT OF 220kV S/C ANJAR - WELSPUN AND 220kV S/C SUIVAKIIA-         3         0.00           62         220 kV         LILLO OF BOTH CKT OF 220kV S/C ANJAR - WELSPUN AND 220kV S/C BHIMASAR - SRITAMPRA RT GANHIDHAM B S/s (21 x 1.5KM, 12008, M)         3         0.00           63         220 kV         LILLO OF BOTH CKT OF 220kV S/C MITHA - SOJA LINE AT 220 kV M/C TOWERS)         20         0.00           64         220 kV         LILO OF DOTH CKT OF 220kV A/C BELE - BOTAD LINE AT AVANIYA S/S (4 x 15 =         <	53	220 кV	220kV D/C Gomta - Kamlapur line (2 x 75 = 150Ckm)	150	0.00
56         220 KV         LILO OP 220 KV D/C BHATIA - KALAVAD LINE AT KUWADIYA         55         2.00           57         220 KV         220 KV D/C PIPAVAY - OTHA LINE         130         0.00           58         220 KV         LILO OF BOTH CIRCUIT OF 220 KV D/C KANSARI-DEODAR AT 220 KV BIILDI         10         0.00           59         220 KV         LILO OF BOTH CIRCUIT OF 220 KV D/C UKAI (HY) - ACHHALIA LINE AT 220 KV UMARPADA (CHIKDA)         60         0.00           60         220 KV         LILD OF POR CIRCUIT OF 220 KV D/C UKAI (HYDRO) - UMARPADA (CHIKDA) AT 220 KV SRVALA WITH AL-59 CONDUCTOR (WITH OPGW) (70 RKM)         140         0.00           61         220 KV         LILD OF FORT CIRCUT OF 220 KV S/C ANAR - WEISPUN AND 220 KV S/C BHIWASAR - WEISPUN AT GANDHIDHAM B S/S (2 x L15KM, 1200SQ, MM)         3         0.00           62         220 KV         LILD OF FOTT CIRCUT OF 220 KV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60         5.00           63         220 KV         LILD OF EDTIC KT OF 220 KV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60 CKM ON M/C TOWER)         60         0.00           64         220 KV         LILO OF DOTIC KT OF 220 KV D/C MATA - SOJA LINE AT 220 KV KHERADI         40         0.00           67         220 KV         LILO OF DORE CIRCUT OF 220 KV AGYOL - DHANSURA AT 220 KV KHERADI         40         0.00           68         220	54	220 KV	(BY USING EXISTING LILO PORTION AND THROUGH 220KV D/C PACHHAM - KASOR	80	0.00
57         220 kV         220 kV         220 kV         220 kV         110 OF BOTH CIRCUIT OF 220kV D/C KANSARI-DEODAR AT 220kV BIILDI         10         0.00           58         220 kV         LILO OF BOTH CIRCUIT OF 220kV D/C KANSARI-DEODAR AT 220kV BIILDI         10         0.00           59         220 kV         LILO OF BOTH CIRCUIT OF 220kV D/C UKai (HY) - ACHHALIA LINE AT 220 kV         60         0.00           60         220 kV         LILO OF ONE CIRCUIT OF 220kV D/C UKai (HY) - ACHHALIA LINE AT 220 kV         60         0.00           61         220 kV         LILO OF ONE CIRCUIT OF 220kV D/C UKai (HYDRO) - UMARPADA (CHIKDA) AT 220 kV SARVALA WITH AL-59 CONDUCTOR (WITH OPGW) (70 RKM)         3         0.00           61         220 kV         LILO OF BOTH CT OF 220kV S/C ANJAR - WELSPUN AND 220kV S/C BHIMASAR         3         0.00           62         220 kV         LILO OF BOTH CT OF 220kV S/C MIMASAR - MORBI AND 220kV S/C BHIMASAR         30         0.00           63         220 kV         LILO OF BOTH CKT OF 220kV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60         5.00           64         220 kV         LILO OF DOTE CIRCUIT OF 220kV ACK QUV MANDALI         30         0.00           65         220 kV         LILO OF ONE CIRCUIT OF 220kV ACK QUV MANDALI         30         0.00           66         220 kV         LILO OF ONE	55	220 кV	220 kV D/C Keshod (400 kV) - Veraval line	90	2.00
58         220 kV         LILO OF BOTH CIRCUIT OF 220kV D/C KANSARI-DEODAR AT 220 kV         10         0.00           59         220 kV         LILO OF BOTH CIRCUIT OF 220kV D/C UKAI (HY) - ACHIHALIA LINE AT 220 kV         60         0.00           60         220 kV         LILO OF BOTH CIRCUIT OF 220kV D/C UKAI (HYDR) - UMARPADA (CHIKDA) AT 220         60         0.00           61         220 kV         LILO OF BOTH CIRCUIT OF 220kV D/C UKAI (HYDR) - UMARPADA (CHIKDA) AT 220         140         0.00           61         220 kV         LILO OF BOTH CIT OF 220kV S/C ANJAR - WELSPUN AND 220kV S/C SHIVLAKHA - WELSPUN AT GANDHIDHAM B S/s (2 x 1.5KM, 1200SQ, MM)         3         0.00           62         220 kV         LILO OF BOTH CIT OF 220kV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60         60         5.00           63         220 kV         LILO OF BOTH CIT OF 220kV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60         60         5.00           64         220 kV         LILO OF ONE CIRCUIT OF 220kV D/C BECL - BOTAD LINE AT 4220 kV KHERADI         40         0.00           67         220 kV         LILO OF ONE CIRCUIT OF 220kV AGFOL - DIANSURA AT 220 kV KHERADI         56         0.00           68         220 kV         LILO OF ONE CIRCUIT OF 220 kV AGFOL - DIANSURA AT 220 kV KHERADI         56         0.00           69         220 kV         LILO OF	56	220 кV	LILO OF 220 KV D/C BHATIA - KALAVAD LINE AT KUWADIYA	55	2.00
59         220 kV         LILO OF BOTH CIRCUIT OF 220kV D/C UKAI (HY) - ACHHALIA LINE AT 220 kV         60         0.00           60         220 kV         LILO OF BOTH CIRCUIT OF 220kV D/C UKAI (HYDRO) - UMARPADA (CHIKDA) AT 220         140         0.00           61         220 kV         LILO OF BOTH CIRCUIT OF 220kV D/C UKAI (HYDRO) - UMARPADA (CHIKDA) AT 220         140         0.00           61         220 kV         LILO OF BOTH OF 220kV S/C ANJAR - WELSPUN AND 220kV S/C SHIVLAKHA-         3         0.00           62         220 kV         LILO OF BOTH CKT OF 220kV S/C BHIMASAR - WELSPUN AND 220kV S/C BHIMASAR - SARTANPAR AT GANDHIDHAM B S/S (2 x 1.5KM, 1200SQ. MM)         3         0.00           63         220 kV         LILO OF BOTH CKT OF 220kV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60         5.00           64         220 kV         LILO OF DOTH CKT OF 220kV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60         5.00           65         220 kV         LILO OF ONE CIRCUIT OF 220kV D/C BECL - BOTAD LINE AT 220 kV KHERADI         30         0.00           66         220 kV         LILO OF ONE CIRCUIT OF 220kV D/C BECL - BOTAD LINE AT 220 kV KHERADI         40         0.00           67         220 kV         LILO OF ONE CIRCUIT OF 220kV D/C THANSURA AT 220 kV KHERADI         56         0.00           68         220 kV         LILO OF ONE CIRCUIT OF 220 kV D/C C	57	220 кV	220 KV D/C Pipavav - Otha line	130	0.00
59         220 kV         UMARPADA (CHIKDA)         60         0.00           60         220 kV         LILO OF ONE CIRCUIT OF 220kV D/C UKAI (HYDRO) - UMARPADA (CHIKDA) AT 220 kV SARVALA WITH AL-59 CONDUCTOR (WITH OPGW) (70 RKM)         140         0.00           61         220 kV         LILO OF BOTH OF 220kV S/C ANJAR - WELSPUN AND 220kV S/C SHIVLAKHA - WELSPUN AT GANDRIIDHAM B/S (2 X 1.5KM, 1200so, MM)         3         0.00           62         220 kV         LILO OF BOTH CKT OF 220kV S/C BHIMASAR - MORBI AND 220kV S/C BHIMASAR - SARTANPAR AT GANDRIIDHAM B (PADANA) S/S (4 x 5 = 20CKM ON M/C TOWERS)         20         0.00           63         220 kV         LILO OF BOTH CKT OF 220kV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60 CKM ON M/C TOWER)         60         5.00           64         220 kV         LILO OF DOTH CKT OF 220kV M/C MITHA - SOJA LINE AT 220 kV MANDALI         30         0.00           65         220 kV         LILO OF ONE CIRCUIT OF 220kV MUTHA - AGIYOL AT 220 kV KHERADI         40         0.00           66         220 kV         LILO OF ONE CIRCUIT OF 220kV AGIYOL - DHANSURA AT 220 kV KHERADI         56         0.00           67         220 kV         LILO OF ONE CIRCUIT OF 220 kV ACSR ZEBRA (500 AMP) CONDUCTOR WITH HIGH AMPACITY CONDUCTORS (AROUND 1000 AMP) (9 NOS OF LINES)         633         0.00           70         220 kV         LILO OF ONE CIRCUIT OF 220 kV D/C KALAVAD - KARGASHIYALI LINE	58	220 кV	LILO OF BOTH CIRCUIT OF 220KV D/C KANSARI-DEODAR AT 220KV BHILDI	10	0.00
60         220 kV         kV SARVALA WITH AL-59 CONDUCTOR (WITH OPGW) (70 RKM)         140         0.00           61         220 kV         LILO OF BOTH OF 220kV S/C ANJAR - WELSPUN AND 220kV S/C SHIVLAKHA- WELSPUN AT GANDHIDHAM B S/S (2 x 1.5 KM, 1200SQ, MM)         3         0.00           62         220 kV         LILO OF BOTH CKT OF 220kV S/C BHIMASAR - MORBLAND 220kV S/C BHIMASAR         20         0.00           63         220 kV         LILO OF BOTH CKT OF 220kV S/C BHCL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60 CKM ON M/C TOWER)         60         5.00           64         220 kV         LILO OF DOTH CKT OF 220kV S/C MITHA - SOJA LINE AT 220 kV MANDALI         30         0.00           65         220 kV         LILO OF ON CIRCUIT OF 220kV S/C MITHA - SOJA LINE AT 220 kV MANDALI         30         0.00           66         220 kV         LILO OF ONE CIRCUIT OF 220kV D/C BECL - BOTAD LINE AT 220 kV KHERADI         40         0.00           67         220 kV         LILO OF ONE CIRCUIT OF 220kV B/C MANDALI LINE         120         0.00           68         220 kV         LILO OF BOTH CIRCUIT OF 220kV AGIYOL - DHANSURA AT 220 kV KHERADI         56         0.00           69         220 kV         LILO OF ONE CIRCUIT OF 220 kV AGIYOL - DHANSURA AT 220 kV KHERADI         56         0.00           70         220 kV         LILO OF ONE CIRCUIT OF 220 kV AGIYOL - DH	59	220 кV		60	0.00
61220 kVWelspun at Gandhidham B S/s (2 x 1.5kM, 1200sq. Mm)30.0062220 kVLILO OF BOTH CKT OF 220kV S/C BHIMASAR - MORBI AND 220kV S/C BHIMASAR - SARTANPAR AT GANDHIDHAM B (PADANA) S/s (4 x 5 = 20CKM ON M/C TOWERS)200.0063220 kVLILO OF BOTH CKT OF 220kV D/C BECL - BOTAD LINE AT AVANIYA S/s (4 x 15 = 60CKM ON M/C TOWER)605.0064220 kVLILO OF 20kV S/C MITHA - SOJA LINE AT 220 kV MANDALI300.0065220 kVLILO OF 220kV S/C MITHA - SOJA LINE AT 220 kV MANDALI300.0066220 kVLILO OF ONE CIRCUIT OF 220kV BHUTYA - AGIYOL AT 220 kV KHERADI400.0067220 kVLILO OF ONE CIRCUIT OF 220kV AGIYOL - DHANSURA AT 220 kV KHERADI560.0068220 kVLILO OF ONE CIRCUIT OF 220kV D/C THARAD-DHANERA AT 220 kV KHERADI560.0069220 kVLILO OF BOTHCIRCUIT OF 220 kV D/C THARAD-DHANERA AT 220 kV KHERADI6330.0070220 kVLILO OF ONE CIRCUIT OF 220 kV D/C CANASAN - KARAMSAD LINE AT KANBHA SUBSTATION22.0071220 kV220 kV DEHGAM - KANBHA LINE500.00072220 kVLILO OF ONE CIRCUIT OF 220 kV D/C KALAVAD - KANGASHIYALI LINE AT SUDDHESHWAR SUBSTATION1912.0073220 kVLILO OF ONE CIRCUIT OF 220 kV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILD AT 220 kV V KIPORE) AT 220 kV D/C KALAVAD - KANGASHIYALI LINE AT SUDDHESHWAR SUBSTATION300.0074220 kVLILO OF ONE CIRCUIT OF 220 kV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LI	60	220 кV		140	0.00
62         220 kV         SARTANPAR AT GANDHIDHAM B (PADANA) S/S (4 x 5 = 20CkM on M/C TOWERS)         20         0.00           63         220 kV         LILO OF BOTH CKT OF 220kV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60         60         5.00           64         220 kV         LILO OF BOTH CKT OF 220kV D/C BECL - BOTAD LINE AT AVANIYA S/S (4 x 15 = 60         60         5.00           64         220 kV         LILO OF 220kV S/C MITHA - SOJA LINE AT 220 kV MANDALI         30         0.00           65         220 kV         LILO OF ONE CIRCUIT OF 220kV BHUTIYA - AGIYOL AT 220 kV KHERADI         40         0.00           66         220 kV         LILO OF ONE CIRCUIT OF 220kV AGIYOL - DHANSURA AT 220 kV KHERADI         56         0.00           67         220 kV         LILO OF BOTH CIRCUIT OF 220kV AGIYOL - DHANSURA AT 220 kV KHERADI         56         0.00           68         220 kV         LILO OF BOTHCIRCUIT OF 220 kV ACSIZEBRA (500 AMP) CONDUCTOR WITH HIGH AMPACITY CONDUCTORS (AROUND 1000 AMP) (9 NOS OF LINES)         633         0.00           70         220 kV         LILO OF NE CIRCUIT OF 220 kV D/C RANASAN - KARAMSAD LINE AT KANBHA         2         2.00           71         220 kV         220 kV DEHGAM - KANBHA LINE         50         0.00         12.00           73         220 kV         LILO OF ONE CIRCUIT OF 220 kV D/C KALAVAD - KA	61	220 кV		3	0.00
63         220 kV         600 kM on M/C Tower)         60         5.00           64         220 kV         LILO of 220kV S/C MITHA - SOJA LINE AT 220 kV MANDALI         30         0.00           65         220 kV         220 kV D/C CHHARODI (400 kV) - MANDALI LINE         120         0.00           66         220 kV         LILO of ONE CIRCUIT OF 220kV BHUTIYA - AGIYOL AT 220 kV KHERADI         40         0.00           67         220 kV         LILO of ONE CIRCUIT OF 220kV AGIYOL - DHANSURA AT 220 kV KHERADI         56         0.00           68         220 kV         LILO OF BOTHCIRCUIT OF 220 kV AGIYOL - DHANSURA AT 220 kV KHERADI         56         0.00           69         220 kV         LILO OF BOTHCIRCUIT OF 220 kV ACSR ZEBRA (500 AMP) CONDUCTOR WITH HIGH AMPACITY CONDUCTORS (AROUND 1000 AMP) (9 NOS OF LINES)         633         0.00           70         220 kV         LILO OF ONE CIRCUIT OF 220 kV D/C RANASAN - KARAMSAD LINE AT KANBHA         2         2.00           71         220 kV         220 kV DHEGAM - KANBHA LINE         50         0.00           72         220 kV         LILO OF ONE CIRCUIT OF 220 kV D/C KALAVAD - KANGASHIYALI LINE AT         19         12.00           73         220 kV         LILO OF ONE CIRCUIT OF 220 kV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILO AT 220 kV VIRPORE) AT 220 kV VBALETHI SUBSTATION         30 <td>62</td> <td>220 кV</td> <td>LILO OF BOTH CKT OF 220KV S/C BHIMASAR - MORBI AND 220KV S/C BHIMASAR - Sartanpar at Gandhidham B (Padana) S/s (<math>4 \times 5 = 20</math>Ckm on M/C towers)</td> <td>20</td> <td>0.00</td>	62	220 кV	LILO OF BOTH CKT OF 220KV S/C BHIMASAR - MORBI AND 220KV S/C BHIMASAR - Sartanpar at Gandhidham B (Padana) S/s ( $4 \times 5 = 20$ Ckm on M/C towers)	20	0.00
65         220 kV         220 kV D/C CHHARODI (400 kV) - MANDALI LINE         120         0.00         66         220 kV         LILO OF ONE CIRCUIT OF 220kV BHUTIYA - AGIYOL AT 220 kV KHERADI         40         0.00         67         220 kV         LILO OF ONE CIRCUIT OF 220kV AGIYOL - DHANSURA AT 220 kV KHERADI         56         0.00         68         220 kV         LILO OF ONE CIRCUIT OF 220kV AGIYOL - DHANSURA AT 220 kV KHERADI         56         0.00         68         220 kV         LILO OF BOTHCIRCUIT OF 220kV AGIYOL - DHANSURA AT 220 kV KHERADI         56         0.00         69         220 kV         LILO OF BOTHCIRCUIT OF 220 kV D/C THARAD-DHANERA AT 220 kV KHERADI         633         0.00         69         220 kV         LILO OF ONE CIRCUIT OF 220 kV ACSR ZEBRA (500 AMP) CONDUCTOR WITH HIGH AMPACITY CONDUCTORS (AROUND 1000 AMP) (9 NOS OF LINES)         633         0.00           70         220 kV         LILO OF ONE CIRCUIT OF 220 kV D/C RANASAN - KARAMSAD LINE AT KANBHA         2         2.00           71         220 kV         220 kV DEHGAM - KANBHA LINE         50         0.00           72         220 kV         LILO OF DE OTH CIRCUIT OF 220 kV D/C KALAVAD - KANGASHIYALI LINE AT SIDDHESHWAR SUBSTATION         30         0.00           73         220 kV         LILO OF ONE CIRCUIT OF 220 kV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILO AT 220 kV V/RPORE) AT 220 kV D/C KOSAMBA - ICHCHHAPORE LINE AT GSEG ALONG WITH OTHER MISCELIANEOUS WORK	63	220 кV		60	5.00
66220 kVLILO OF ONE CIRCUIT OF 220 kV BHUTIYA - AGIYOL AT 220 kV KHERADI400.0067220 kVLILO OF ONE CIRCUIT OF 220 kV AGIYOL - DHANSURA AT 220 kV KHERADI560.0068220 kVLILO OF BOTHCIRCUIT OF 220 kV AGIYOL - DHANSURA AT 220 kV KHERADI560.0069220 kVLILO OF BOTHCIRCUIT OF 220 kV ACSR ZEBRA (500 AMP) CONDUCTOR WITH HIGH AMPACITY CONDUCTORS (AROUND 1000 AMP) (9 NOS OF LINES)6330.0070220 kVLILO OF ONE CIRCUIT OF 220 kV D/C RANASAN - KARAMSAD LINE AT KANBHA SUBSTATION22.0071220 kVLILO OF ONE CIRCUIT OF 220 kV D/C RANASAN - KARAMSAD LINE AT KANBHA SUBSTATION22.0071220 kV220 kV DEHGAM - KANBHA LINE500.0072220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C KALAVAD - KANGASHIYALI LINE AT SIDDHESHWAR SUBSTATION1912.0073220 kVLILO OF DE CIRCUIT OF 220 kV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILO AT 220 kV VIRPORE) AT 220 kV BALETHI SUBSTATION300.0074220 kV220 kV D/C KOSAMBA - BALETHI LINE AL - 59 CONDUCTORS700.0075220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C PALANPORE LINE AT GSEG ALONG WITH OTHER MISCELLANEOUS WORK (HIGH AMPACITY CONDUCTOR)160.0076220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C PALANPUR - KHERALU LINE AT 220 kV SISRANA/SATLASANA S/S (2x D/C OR M/C TOWER)482.00	64	220 кV	LILO OF 220KV S/C MITHA - SOJA LINE AT 220 KV MANDALI	30	0.00
67220 kVLILO OF ONE CIRCUIT OF 220kV AGIYOL - DHANSURA AT 220 kV KHERADI560.0068220 kVLILO OF BOTHCIRCUIT OF 220 kV D/C THARAD-DHANERA AT 220 kV RAH S/S240.0069220 kVUP-GRADATION OF 220 kV ACSR ZEBRA (500 AMP) CONDUCTOR WITH HIGH AMPACITY CONDUCTORS (AROUND 1000 AMP) (9 NOS OF LINES)6330.0070220 kVLILO OF ONE CIRCUIT OF 220 kV D/C RANASAN - KARAMSAD LINE AT KANBHA SUBSTATION22.0071220 kV220 kV DEHGAM - KANBHA LINE500.0072220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C KALAVAD - KANGASHIYALI LINE AT SIDDHESHWAR SUBSTATION1912.0073220 kVLILO OF ONE CIRCUIT OF 220 kV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILO AT 220 kV VIRPORE) AT 220 kV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILO AT 220 kV VIRPORE) AT 220 kV BALETHI SUBSTATION300.0074220 kV220 kV D/C KOSAMBA - BALETHI LINE AL - 59 CONDUCTORS700.0075220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C PALANPUR - KHERALU LINE AT 220 kV160.0076220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C PALANPUR - KHERALU LINE AT 220 kV482.00	65	220 кV	220 KV D/C Chharodi (400 KV) - Mandali line	120	0.00
68220 kVLILO OF BOTHCIRCUIT OF 220 kV D/C THARAD-DHANERA AT 220 kV RAH S/S240.0069220 kVUP-GRADATION OF 220 kV ACSR ZEBRA (500 AMP) CONDUCTOR WITH HIGH AMPACITY CONDUCTORS (AROUND 1000 AMP) (9 NOS OF LINES)6330.0070220 kVLILO OF ONE CIRCUIT OF 220 kV D/C RANASAN - KARAMSAD LINE AT KANBHA SUBSTATION22.0071220 kV220 kV DEHGAM - KANBHA LINE500.0072220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C KALAVAD - KANGASHIYALI LINE AT SIDDHESHWAR SUBSTATION1912.0073220 kVLILO OF NE CIRCUIT OF 220 kV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILO AT 220 kV VIRPORE) AT 220 kV BALETHI SUBSTATION300.0074220 kV220 kV D/C Kosamba - BALETHI LINE AL - 59 CONDUCTORS700.0075220 kVLILO OF 220 kV S/C Kosamba - ICHCHHAPORE LINE AT GSEG ALONG WITH OTHER MISCELLANEOUS WORK (HIGH AMPACITY CONDUCTOR)160.0076220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C PALANPUR - KHERALU LINE AT 220 kV482.00	66	220 кV	LILO OF ONE CIRCUIT OF 220KV BHUTIYA - AGIYOL AT 220 KV KHERADI	40	0.00
69220 kVUP-GRADATION OF 220 kV ACSR ZEBRA (500 AMP) CONDUCTOR WITH HIGH AMPACITY CONDUCTORS (AROUND 1000 AMP) (9 NOS OF LINES)6330.0070220 kVLILO OF ONE CIRCUIT OF 220 kV D/C RANASAN - KARAMSAD LINE AT KANBHA SUBSTATION22.0071220 kV220 kV DEHGAM - KANBHA LINE500.0072220 kV220 kV DEHGAM - KANBHA LINE500.0073220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C KALAVAD - KANGASHIYALI LINE AT SIDDHESHWAR SUBSTATION1912.0073220 kVLILO OF ONE CIRCUIT OF 220 kV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILO AT 220 kV VIPPORE) AT 220 kV BALETHI SUBSTATION300.0074220 kV220 kV D/C KosamBa - BALETHI LINE AL - 59 CONDUCTORS700.0075220 kVLILO OF 200 kV S/C KosamBa - ICHCHHAPORE LINE AT GSEG ALONG WITH OTHER MISCELLANEOUS WORK (HIGH AMPACITY CONDUCTOR)160.0076220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C PALANPUR - KHERALU LINE AT 220 kV482.00	67	220 кV	LILO OF ONE CIRCUIT OF 220KV AGIYOL - DHANSURA AT 220 KV KHERADI	56	0.00
69220 kVAMPACITY CONDUCTORS (AROUND 1000 AMP) (9 NOS OF LINES)6330.0070220 kVLILO OF ONE CIRCUIT OF 220 kV D/C RANASAN - KARAMSAD LINE AT KANBHA SUBSTATION22.0071220 kV220 kV DEHGAM - KANBHA LINE500.0072220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C KALAVAD - KANGASHIYALI LINE AT SIDDHESHWAR SUBSTATION1912.0073220 kVLILO OF ONE CIRCUIT OF 220 kV D/C Ukai (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILO AT 220 kV VIRPORE) AT 220 kV BALETHI SUBSTATION300.0074220 kV220 kV D/C KOSAMBA - BALETHI LINE AL - 59 CONDUCTORS700.0075220 kVLILO OF 220 kV S/C KOSAMBA - ICHCHHAPORE LINE AT GSEG ALONG WITH OTHER MISCELLANEOUS WORK (HIGH AMPACITY CONDUCTOR)160.0076220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C PALANPUR - KHERALU LINE AT 220 kV482.00	68	220 кV	LILO OF BOTHCIRCUIT OF 220KV D/C THARAD-DHANERA AT 220KV RAH S/S	24	0.00
70220 KVSUBSTATION22.0071220 KV220 KV DEHGAM - KANBHA LINE500.0072220 KVLILO OF BOTH CIRCUIT OF 220 KV D/C KALAVAD - KANGASHIYALI LINE AT SIDDHESHWAR SUBSTATION1912.0073220 KVLILO OF ONE CIRCUIT OF 220 KV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILO AT 220 KV VIRPORE) AT 220 KV BALETHI SUBSTATION300.0074220 KV220 KV D/C KOSAMBA - BALETHI LINE AL - 59 CONDUCTORS700.0075220 KVLILO OF 220 KV S/C KOSAMBA - ICHCHHAPORE LINE AT GSEG ALONG WITH OTHER MISCELLANEOUS WORK (HIGH AMPACITY CONDUCTOR)160.0076220 KVLILO OF BOTH CIRCUIT OF 220 KV D/C PALANPUR - KHERALU LINE AT 220 KV SISRANA/SATLASANA S/S (2X D/C OR M/C TOWER)482.00	69	220 кV		633	0.00
72220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C KALAVAD - KANGASHIYALI LINE AT SIDDHESHWAR SUBSTATION1912.0073220 kVLILO OF ONE CIRCUIT OF 220 kV D/C UKAI (TH) - ACHHALIA LINE (WHICH IS NOT TO BE LILO AT 220 kV VIRPORE) AT 220 kV BALETHI SUBSTATION300.0074220 kV220 kV D/C KOSAMBA - BALETHI LINE AL - 59 CONDUCTORS700.0075220 kVLILO OF 220 kV S/C KOSAMBA - ICHCHHAPORE LINE AT GSEG ALONG WITH OTHER MISCELLANEOUS WORK (HIGH AMPACITY CONDUCTOR)160.0076220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C PALANPUR - KHERALU LINE AT 220 kV SISRANA/SATLASANA S/S (2x D/C OR M/C TOWER)482.00	70	220 кV		2	2.00
72220 kVSiddheshwar substation1912.0073220 kVLILO of one circuit of 220 kV D/C Ukai (Th) - Achhalia Line (which is not to Be LILO at 220 kV Virpore) at 220 kV Balethi substation300.0074220 kV220 kV D/C Kosamba - Balethi Line AL - 59 conductors700.0075220 kVLILO of 220 kV S/C Kosamba - Ichchhapore Line at GSEG along with other Miscellaneous work (High Ampacity Conductor)160.0076220 kVLILO of Both circuit of 220 kV D/C Palanpur - Kheralu Line at 220 kV Sisrana/Satlasana s/s (2x D/C or M/C tower)482.00	71	220 кV	220 kV Dehgam - Kanbha line	50	0.00
73220 kVBE LILO AT 220 kV VIRPORE) AT 220 kV BALETHI SUBSTATION300.0074220 kV220 kV D/C KOSAMBA - BALETHI LINE AL - 59 CONDUCTORS700.0075220 kVLILO OF 220 kV S/C KOSAMBA - ICHCHHAPORE LINE AT GSEG ALONG WITH OTHER MISCELLANEOUS WORK (HIGH AMPACITY CONDUCTOR)160.0076220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C PALANPUR - KHERALU LINE AT 220 kV SISRANA/SATLASANA s/s (2x D/C OR M/C TOWER)482.00	72	220 кV		19	12.00
75220 kVLILO OF 220 kV S/C KOSAMBA – ICHCHHAPORE LINE AT GSEG ALONG WITH OTHER MISCELLANEOUS WORK (HIGH AMPACITY CONDUCTOR)160.0076220 kVLILO OF BOTH CIRCUIT OF 220 kV D/C PALANPUR - KHERALU LINE AT 220 kV SISRANA/SATLASANA s/s (2x D/C OR M/C TOWER)482.00	73	220 KV		30	0.00
75       220 kV       MISCELLANEOUS WORK (HIGH AMPACITY CONDUCTOR)       16       0.00         76       220 kV       LILO OF BOTH CIRCUIT OF 220 kV D/C PALANPUR - KHERALU LINE AT 220 kV       48       2.00	74	220 кV	220 кV D/C Kosamba - Balethi line AL – 59 conductors	70	0.00
76 220 KV SISRANA/SATLASANA S/S (2x D/C or M/C tower) 48 2.00	75	220 KV		16	0.00
77 220 KV LILO OF 220 KV S/C JETPUR - VISAVADAR LINE AT 220 KV BHESAN SUBSTATION 16 0.00	76	220 KV		48	2.00
	77	220 кV	LILO OF 220 KV S/C JETPUR - VISAVADAR LINE AT 220 KV BHESAN SUBSTATION	16	0.00



S. No.	Voltage class	NAME OF TRANSMISSION LINE	Length in Ckt. km	FY 2023-24
78	220 кV	220 KV S/C (400 KV) JETPUR - BHESAN LINE (SPARE S/C LINE OF D/C TOWER TO BE USED IN JETPUR)	60	12.00
79	220 кV	220 kV D/C Bhesan - Patkhilori line AL – 59 conductors	70	0.00
80	220 кV	LILO OF ONE CIRCUIT OF 220 KV AMRELI - BABARA LINE AT 220 KV PATKHILORI	44	1.00
81	220 кV	220 KV D/C Patkhilori - Gomta line	100	0.00
82	220 кV	LILO OF 220 KV S/C HALDARWA - DAHEJ LINE AND 220 KV S/C WAGRA-DAHEJ LINE AT 400 KV SAYKHA (BOTH CKT ON M/C TOWER)	4	0.00
83	220 кV	220 KV D/C SAYKHA-SUVA LINE ON M/C TOWER	10	0.00
84	220 кV	LILO OF 220 KV S/C ICHHAPORE - TALANGPORE LINE AT 220 KV DUMAS	11	0.00
85	220 кV	LILO OF 220 KV S/C GSEG - TALANPORE LINE AT 220 KV DUMAS	11	0.00
86	220 кV	220 KV D/C Moti Gop - Babarzar substation	45	5.00
87	220 кV	LILO OF BOTH CKT OF 220 KV D/C ASOJ - MOGAR LINE AT MANJUSAR WITH UG CABLE	6	2.00
88	220 KV	LILO OF BOTH CIRCUIT OF 220 KV D/C HALDARWA - RELIANCE (IPCL) LINE AT 220 KV RAHIYAD (SUVA) SUBSTATION (M/C TOWER) ALONG WITH 4 NOS OF 220 KV HYBRID LINE BAYS AT SUVA SUBSTATION	4	0.00
89	220 кV	LILO OF 220 KV HALDARWA - DAHEJ LINE AT 220 KV WAGRA SUBSTATION ALONG WITH 2 NOS OF AIS BAYS AT 220 KV WAGRA SUBSTATION	10	0.00
90	220 кV	LILO OF 220 KV S/C NAVSARI - ATUL LINE AT CHIKHLI SUBSTATION	2	0.00
91	220 кV	LILO of 220 kV Talangpore (Sachin) - Navsari and 220 kV Talangpore (Sachin) - Vav line at 765 kV Navsari (new) substation of ISTS	60	12.00
92	220 KV	220 kV D/C Navsari (765 kV) - Talangpore line	20	5.00
93	220 KV	220 kV D/C Navsari (765 kV) - Khajod (proposed s/s) line	30	2.00
94	220 KV	INTERCONNECTION AT LILO POINT OF VAV-NAVSARI LILO AT TALANGPORE FOR VAV - Popada 2nd circuit and Talangpore / 765 kV substation - Navsari 2nd circuit line	1	0.00
95	220 кV	LILO OF BOTH CIRCUITS OF 220 KV D/C KAPP - VAPI LINE (ISTS LINE) AT 400 KV VAPI - II SUBSTATION OF ISTS	8	0.00
96	220 KV	LILO OF 220 KV S/C CHIKHLI - VAPI LINE AT ATUL SUBSTATION	10	0.00
97	220 кV	LILO OF 220 KV S/C CHIKHLI - ATUL - VAPI LINE (ATUL - VAPI SECTION) AT VAPI-II SUBSTATION	40	0.00
98	220 KV	LILO OF 220 KV AKRIMOTA – NAKHATRANA AND 220 KV AKRIMOTA - BHACHUNDA LINES AT 220 KV HAJIPIR / DHORDO / LUNA SUBSTATION (220 KV M/C LINE - AL- 59 CONDUCTOR (WITH OPGW))	100	0.00
99	220 KV	LILO of 220 KV D/C Munjpur - Mehsana line (by using existing 220 kV Sankhari - Mehsana & Veloda - Mehsana line)	60	1.00
100	220 кV	220 KV D/C DHAMA - MUNJPUR LINE (AL-59)	60	0.50
101	220 кV	220 KV D/C Pipavav - Bagasara line	150	0.00
		220 KV TOTAL	7980	271
1	132 кV	LILO OF $132 $ kV S/C Chhota Udepur - Tilakwada line at $220 $ kV Kawant	58	0.00



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S. No.	Voltage class	NAME OF TRANSMISSION LINE	Length in Ckt. km	FY 2023-24
2	132 кV	LILO OF CIRCUIT OF $132 \text{ kV}$ S/C Gondal - Haripur line at $220 \text{ kV}$ Visavadar substation	37	0.50
3	132 кV	LILO of circuit of $132 \text{ kV}$ D/C Mehsana - Patan line at $400 \text{ kV}$ Sankhari substation with AL-59	50	0.50
4	132 кV	132 kV S/C Sankhari (400 kV) - Deesa line	40	0.50
5	132 кV	132 kV Karamsad - Nadiad line	10	0.00
6	132 кV	132 kV Nadiad - Mahemdavad line	10	3.00
7	132 кV	Up-gradation of 132 kV ACSR Panther (340 Amp) conductor with high ampacity conductors (around 800-1000 Amp) (8 nos of lines)	292	7.65
8	132 кV	LILO OF ONE CIRCUIT OF $132 \text{ kV}$ D/C Achhalia – Ankleshwar line at Valia substation	30	0.00
9	132 кV	LILO OF BOTH CIRCUITS OF 132 KV D/C SHIKARPUR WF – SAMAKHIALI LINE AT VONDH SUBSTATION (M/C LINE WITH OPGW)	50	0.50
10	132 кV	132 kV 800 Sq.mm u/g cable from Bhat to Chandkheda by using already available 1.9 Km cable planned for LILO of Ranasan-Sabarmati line at Chandkheda	11	0.00
11	132 кV	LILO OF 132 KV WANKANER- VARSAMEDI LINE NO.2 AT MOTA DAHISARA WITH ACSR PANTHER CONDUCTOR	2	0.00
12	132 кV	LILO OF 132KV S/C RANASAN - VIJAPUR LINE AT 132KV CHILODA S/S WITH ACSR PANTHER CONDUCTOR	8	0.00
13	132 кV	LILO OF BOTH CKT OF $132$ KV D/C SIKKA-JAMNAGAR LINE AT $132$ KV KANSUMRA s/s	16	2.00
14	132 кV	132 kV one ckt of Gondal-Bhayavadhar LILO at Supedi	4	0.00
		Тотаl 132 кV	617	15
		TOTAL EHV	15259	615
		66 KV OF ASSOCIATED SUBSTATION		513
		66 KV Lines under KSY		250
		TOTAL 66 KV LINES		763
		TOTAL		1378

# REACTOR CAPACITOR BANKS & OPGW (Rs. Crores)

NAME OF TRANSMISSION ELEMENT	FY 2023-24	
SUPPLY OF 24F OPGW CABLE WITH H/W	104.65	
SUPPLY OF 48F OPGW CABLE WITH H/W	20.44	
ERECTION OF OPGW CABLE (24 F & 48 F)	84.15	
TOTAL OPGW ON EXISTING LINES	209.24	
INSTALLATION OF 66KV & 11KV CAPACITOR BANKS	16.12	

