

**BEFORE THE
HON'BLE BIHAR ELECTRICITY REGULATORY COMMISSION
VIDYUT BHAWAN -II, PATNA**

**Petition
For
True - up for FY 2020-21,
Annual Performance Review (APR) for FY 2021-22,
Approval of Business Plan along with Determination of Annual Revenue
Requirement (ARR) for the Control Period FY 2022-23 to FY 2024-25,
Determination of Transmission Tariff for the FY 2022-23**

**For
Bihar Grid Company Limited
(BGCL)
Patna**



Bihar Grid

**Sr. General Manager (O&M, Commercial)
2nd Floor, Alankar Place,
Boring Road,
Patna - 800 001
December 10, 2021**

BEFORE, THE BIHAR ELECTRICITY REGULATORY COMMISSION,

IN THE MATTER OF

Filing of the Petition for True-up of FY 2020-21 and Annual Performance Review (APR) for FY 2021-22 under Bihar Electricity Regulatory Commission (Multi Year Transmission Tariff and SLDC Charges) Regulations, 2018, approval of Business Plan along with Determination of Annual Revenue Requirement (ARR) for the Control Period FY 2022-23 to FY 2024-25, Determination of Transmission Tariff for the FY 2022-23 under Bihar Electricity Regulatory Commission (Multi Year Transmission Tariff and SLDC Charges) Regulations, 2021 along with the other guidelines and directions issued by the Bihar Electricity Regulatory Commission from time to time and under Section 61, 62, 64 and 86 of the Electricity Act, 2003 read with the relevant guidelines.

AND

IN THE MATTER OF

BIHAR GRID COMPANY LIMITED (hereinafter referred to as "BGCL" or "Petitioner" which shall mean for the purpose of this Petition, the Licensee), having its registered office at 2nd Floor, Alankar Place, Boring Road, Patna - 800001.

The Petitioner respectfully submits as under:


1. BGCL is filing this Petition for True-up of FY 2020-21, Annual Performance Review (APR) for FY 2021-22 as per Regulation 11.3 of Bihar Electricity Regulatory Commission (Multiyear Transmission Tariff and SLDC Charges) Regulations, 2018 and approval of Business Plan along with Determination of Annual Revenue Requirement (ARR) for the Control Period FY 2022-23 to FY 2024-25, Determination of Transmission Tariff for the FY 2022-23 as per Regulation 11.3 of Bihar Electricity Regulatory Commission (Multiyear Transmission Tariff and SLDC Charges) Regulations, 2021 along with

Handwritten signature

procedures outlined in the respective governing Regulations thereof.

2. This Petition has been prepared in accordance with the provision of Sections 61, 62 and 64 of the Electricity Act, 2003 along with provisions contained in Bihar Electricity Regulatory Commission (Multi Year Transmission Tariff and SLDC Charges) Regulations, 2018 and Bihar Electricity Regulatory Commission (Multi Year Transmission Tariff and SLDC Charges) Regulations, 2021.
3. The Petitioner condones the delay in filing of this Petition as the same is prepared after publication of Bihar Electricity Regulatory Commission (Multi Year Transmission Tariff and SLDC Charges) Regulations, 2021 (Suo Moto Order of Hon'ble Commission dated 28.10.2021). The Petitioner has intimated the same to the Hon'ble Bihar Electricity Regulatory Commission (hereinafter referred to as "**Hon'ble Commission**") vide Letter dated 09.11.2021 (Copy attached as **Annexure A**). The Petitioner requests the Hon'ble Commission to admit the instant Petition and pass a suitable Order.
4. BGCL along with this Petition is submitting the Regulatory Formats (**Annexure B** of the Petition) with relevant data and information to the extent applicable and would make available any further information/additional data required by the Bihar Electricity Regulatory Commission during the course of the proceedings.

Date: December 10, 2021



Md. Nasim Iqbal
Sr. General Manager
(O&M, Commercial)

CONTENTS

1	Background	1
1.1	Development of Intra State Transmission Network.....	1
1.2	Formation of BGCL.....	1
1.3	Transmission License for BGCL.....	2
1.4	Current Projects entrusted with BGCL.....	2
1.5	Main Functions and Duties of BGCL.....	2
2	Capital Expenditure for ABT metering	4
3	True - Up for 2020-21.....	8
3.1	Background	8
3.2	Performance of Transmission System - Transmission Availability Factor (TAF) and Transmission Loss	8
3.3	Capital Expenditure and Capitalisation.....	9
3.4	Schedule of Capitalization	11
3.5	Gross Fixed Assets.....	13
3.6	Depreciation.....	13
3.7	Interest on Loan Capital and Finance Charges	15
3.8	Operations and Maintenance Expenses	16
3.8.1	Employee Expenses.....	17
3.8.2	Repairs & Maintenance (R&M) Expenses	17
3.8.3	Administration and General (A&G) Expenses.....	18
3.9	Return on Equity	18
3.10	Interest on Working Capital.....	20
3.11	Gain/ Loss Sharing	22
3.12	Contribution to Contingency Reserve.....	23
3.13	Non- Tariff Income.....	25
3.14	Transmission Availability and Transmission Loss Incentive	26

3.15	Annual Transmission Charges/ ARR for True up of 2020-21	28
4	Annual Performance Review for FY 2021-22.....	31
4.1	Introduction.....	31
4.2	Performance of Transmission System	31
4.2.1	Transmission System Availability.....	31
4.2.2	Transmission Losses.....	31
4.2.3	Transformer Failure Rate	32
4.3	Schedule of Capitalization	32
4.4	Capitalization.....	34
4.5	Funding of Capitalization	34
4.6	Gross Fixed Assets.....	34
4.7	Depreciation.....	35
4.8	Interest on Loan Capital and Finance Charges	36
4.9	Operations and Maintenance Expenses	38
4.9.1	Employee Expenses.....	39
4.9.2	Repair and Maintenance Expenses	40
4.9.3	Administrative and General Expenses.....	41
4.10	Return on Equity	42
4.11	Interest on Working Capital.....	43
4.12	Contribution to Contingency Reserve	44
4.13	Non- Tariff Income.....	46
4.14	Annual Revenue Requirement for the FY 2021-22.....	46
5	Business Plan for the Control Period FY 2022-23 to FY 2024-25	48
5.1	Introduction.....	48
5.2	Power Scenario in Bihar	48
5.2.1	Power Scenario	48
5.2.2	Generation Capacity Addition	50
5.2.3	Transmission Capacity in the State.....	50
5.2.4	Key challenges for Transmission business.....	51

5.3	Business Plan For BGCL For Control Period FY 2022 - 2025.....	52
5.3.1	Key Objectives.....	52
5.3.2	Capital Investment Plan	53
5.3.3	Mode of Financing.....	59
5.3.4	Rate of Interest on Loan.....	60
5.3.5	Rate of Return on Equity	61
5.3.6	Operation and Maintenance Expenses	61
5.3.7	Depreciation	65
5.3.8	Interest on Working Capital.....	66
5.3.9	Contribution to Contingency Reserve	67
5.3.10	Performance Targets	68
5.3.11	Non-Tariff Income.....	68
5.3.12	Annual Revenue Requirement	69
6	Annual Revenue Requirement for the FY 2022-23 to FY 2024-25.....	71
6.1	Introduction.....	71
6.2	Performance of Transmission System	71
6.2.1	Availability of Transmission System.....	71
6.2.2	Transformer Failure Rate	71
6.3	Schedule of Capitalization	72
6.4	Capitalization.....	73
6.5	Gross Fixed Assets.....	74
6.6	Funding of Capitalization	74
6.7	Depreciation	75
6.8	Interest on Loan Capital and Finance Charges	75
6.9	Operations and Maintenance Expenses	77
6.9.1	Employee Expenses.....	79
6.9.2	Repair and Maintenance Expenses	80
6.9.3	Administrative and General Expenses	81
6.10	Return on Equity	82
6.11	Interest on Working Capital.....	83

6.12	Contribution to Contingency Reserve.....	84
6.13	Non- Tariff Income.....	85
6.14	Annual Revenue requirement for the Control period FY 2022-23 to FY 2024-25.....	85
6.15	Revenue Gap/Surplus and Transmission Tariff determination for FY 2022-23	86
7	Compliance of Directives	88
8	Prayers to the Hon'ble Commission	93
	List of Annexures	95

TABLE INDEX

Table 1 - Development of Intra State Transmission Network.....	1
Table 2 - Year wise Capital Expenditure for ABT metering	6
Table 3 - Scheme wise Capital Expenditure and Capitalisation	9
Table 4 - CWIP statement for the FY 2020-21.....	10
Table 5 - Details of Assets Capitalized during the FY 2020-21 (Part 1 of 2)	11
Table 6 - Details of Assets Capitalized during the FY 2020-21 (Part 2 of 2)	12
Table 7 - Gross Fixed Assets for the FY 2020-21.....	13
Table 8 - Computation of Weighted average Rate of Depreciation.....	14
Table 9 - BGCL claim of Depreciation for the FY 2020-21	14
Table 10 - BGCL claim of Interest on Loan for the FY 2020-21.....	15
Table 11 - BGCL claim of Employee Expenses for the FY 2020-21	17
Table 12 - BGCL claim of Repairs & Maintenance (R&M) Expenses for FY 2020-21	17
Table 13 - BGCL claim of Administration and General (A&G) Expenses for the FY 2020-21	18
Table 14 - Computation of Grossed up Rate of Return on Equity	20
Table 15 - BGCL claim of Return on Equity for the FY 2020-21.....	20
Table 16 - Computation of Rate of Interest on Working Capital for the FY 2020-21.....	21
Table 17 - BGCL claim of Interest on Working Capital for the FY 2020-21.....	22
Table 18 - Gain/ Loss Sharing for the FY 2020-21	23
Table 19 - BGCL claim of Contribution to Contingency Reserve for the FY 2021-22.....	24
Table 20 - BGCL submission of Non- Tariff Income for the FY 2020-21	25
Table 21 - Transmission Availability for the FY 2020-21	26
Table 22 - BGCL claim of Transmission Availability Incentive for the FY 2020-21.....	27
Table 23 - BGCL claim of Transmission Loss Incentive for the FY 2020-21.....	28
Table 24 - BGCL claim of ARR for True up of FY 2020-21	28
Table 26 - BGCL estimate of Asset Capitalization for the FY 2021-22 Phase IV (Part 1 of 2)	32
Table 27 - BGCL estimate of Asset Capitalization for the FY 2021-22 Phase IV (Part 2 of 2)	32
Table 28 - BGCL claim of CWIP Statement for the FY 2021-22	34
Table 29 - BGCL claim of Gross Fixed Assets for the FY 2021-22	34
Table 30 - BGCL claim of Depreciation for the FY 2021-22.....	35
Table 31 - BGCL claim of Interest on Loan for the FY 2021-22.....	38
Table 32 - Computation of Average CPI (past 3 years)	39
Table 33 - BGCL claim of Employee Expenses for the FY 2021-22	40

Table 34 - Computation of Average % factor (R&M expenses to GFA).....	40
Table 35 - BGCL claim of Repair and Maintenance Expenses for the FY 2021-22.....	41
Table 36 - Computation of Average WPI (past 3 years).....	42
Table 37 - BGCL claim of Administrative and General Expenses for the FY 2021-22.....	42
Table 38 - BGCL claim of Return on Equity for the FY 2021-22.....	43
Table 39 -Effective Tax rate	43
Table 40 - BGCL claim of Interest on Working Capital for the FY 2021-22.....	44
Table 41 - BGCL claim of Contribution to Contingency Reserve for the FY 2021-22.....	45
Table 42 - BGCL claim of ARR for the APR of FY 2021-22	46
Table 43 - Year on Year Generation portfolio of the state of Bihar (in MW)	50
Table 44 - Transmission Network details in the state of Bihar.....	50
Table 45 - Assets commissioned/ likely to be commissioned during FY 2019-22 (Phase IV Part 1 of 2).....	53
Table 46 - Assets estimated to be commissioned during FY 2022-25 (Phase IV Part 1 of 2)....	55
Table 47 - Assets commissioned/ likely to be commissioned during FY 2019-22 (Phase IV Part 2 of 2).....	55
Table 48 - Assets estimated to be commissioned during FY 2022-25 (Phase IV Part 2 of 2)....	57
Table 49 - Assets estimated to be commissioned during FY 2022-25 (Phase IV Part 2 of 2 Suppl.).....	58
Table 50 - Cost Estimate of Works pertaining to Part 2 of 2 (Supplementary)	58
Table 51 - Scheme wise Capitalization Plan for the period FY 2020-25	59
Table 52 - Mode of Financing during the period FY 2020-25 - Debt Addition.....	60
Table 53 - Mode of Financing during the period FY 2020-25 - Debt Addition.....	60
Table 54 - Computation of Average CPI Index (past 3 years).....	62
Table 55 - Employee Expenses for the Control Period FY 2022-25	63
Table 56 - Computation of Average % factor (R&M expenses to GFA)	63
Table 57 - Repair and Maintenance Expenses for the Control Period FY 2022-25	64
Table 58 - Computation of Average CPI Index (past 3 years).....	65
Table 59 - Administration and General Expenses for the Control period FY 2022-25.....	65
Table 60 - BGCL estimate of Performance Targets for the Control Period FY 2022-25.....	68
Table 62 - BGCL estimate of Asset Capitalization for the period FY 2022-25 Phase IV (Part 1 of 2).....	72
Table 63 - BGCL estimate of Asset Capitalization for the period FY 2022-25 Phase IV (Part 2 of 2).....	72

Table 64 - BGCL estimate of Asset Capitalization for the period FY 2022-25 Phase IV (Part 2 of 2(Supplementary))	73
Table 65 - CWIP statement for the period FY 2022-25	73
Table 66 - BGCL estimate of Gross Fixed Assets for the period FY 2022-25	74
Table 67 - BGCL estimate of Depreciation for the period FY 2022-25	75
Table 68 - BGCL estimate of Interest on Loan for the period FY 2022-25	77
Table 69 - Computation of Average CPI (past 3 years)	79
Table 70 - BGCL estimate of Employee Expenses for the period FY 2022-25.....	79
Table 71 - Computation of Average % factor (R&M expenses to GFA)	80
Table 72 - BGCL estimate of Repair and Maintenance Expenses for the period FY 2022-25 ..	81
Table 73 - Computation of Average WPI (past 3 years).....	81
Table 74 - BGCL estimate of Administrative and General Expenses for the period FY 22-25	82
Table 75 - BGCL estimate of Return on Equity for the period FY 2022-25	83
Table 76 - BGCL estimate of Interest on Working Capital for the period FY 2022-25	84
Table 77 - BGCL estimate of Contribution to Contingency Reserve for the period FY 22-25.	85
Table 78 - BGCL estimate of Annual Revenue requirement for the Control period FY 2022-25	86
Table 79 - True up Revenue Surplus including Carrying Cost	87
Table 80 - BGCL claim of Transmission Charges for the FY 2022-23	87
Table 81 - BGCL submission to Directives	88

1 Background

1.1 Development of Intra State Transmission Network

Considering the rapid load growth and the upcoming generating stations in the State of Bihar, a comprehensive study was carried out by POWERGRID in 2011-12 in association with the then Bihar State Electricity Board (BSEB) and Central Electricity Authority (CEA). As per the study, transmission and system strengthening schemes were planned and categorised in following three parts:

Table 1 - Development of Intra State Transmission Network

Part	Scheme Details
1	Bihar Sub-Transmission Phase-II extension scheme
2a	Strengthening scheme: Phase-1: Schemes identified for year 2012-13, 2013-14 and 2014-15 under Phase-III
2b	Strengthening Scheme: Phase-2: Schemes identified for year 2015-16 & additional strengthening for year 2016-17 under Phase-IV
3	Generation Linked Scheme: Transmission System for evacuation of power from Lakhisarai, Pirpainti and Buxar generation projects (identified for year 2016-17) under Phase-V

1.2 Formation of BGCL

In order to develop the aforesaid Intra-State Transmission System in the State of Bihar, Bihar State Power Holding Company Limited (BSP(H)CL) and Power Grid Corporation of India Limited (POWERGRID) formed a 50:50 Joint Venture Company in the name of Bihar Grid Company Limited (BGCL) on January 4, 2013 under the provisions of the Companies Act, 1956.



1.3 Transmission License for BGCL

The Transmission Licence was issued to BGCL on June 21, 2013 vide Letter No. BEREC/Case No.7/2013-792-01-Tr.L. The Hon'ble Commission while granting the approval of transmission license in Case No. 7 of 2013 directed as follows:

"Therefore, the application of the Bihar Grid Company Limited for grant of licence to the applicant BGCL for transmission of electricity as a transmission licensee in the State of Bihar is approved. After compliance of conditions laid down in the Regulations 13, 14 and 15 of BEREC (Licencing for Transmission of Electricity) Regulations, 2007 by the Bihar Grid Company Limited, the Commission would issue the Licence. The BGCL shall pay the initial and annual licence fee to the Bihar Electricity Regulatory Commission in accordance with BEREC (Fees, Fines and Charges) Regulations, 2006.

The licence shall be issued for 25 (twenty five) years with effect from the date of issue of the licence. Bihar Grid Company Limited shall submit requisite documents as specified in Regulations 13, 15 and 16 of the BEREC (Licencing for Transmission of Electricity) Regulations, 2007. Bihar Grid Company Limited shall abide by all terms and conditions of the licence and any other terms and conditions which Commission considers necessary to remove the difficulty in giving effect to any of the provision of the BEREC (Licencing for Transmission of Electricity) Regulations, 2007."

1.4 Current Projects entrusted with BGCL

While it was initially envisaged that BGCL should undertake the development of transmission and system strengthening schemes as identified above, however, works under Part-1 and Part-2 (a) were undertaken by BSPTCL on priority basis. Therefore, BGCL is implementing works under Part-2 (b) of the above-mentioned schemes and Detailed Project Report (DPR) for the same has been approved by the Hon'ble Commission vide Order dated January 4, 2014 and July 22, 2015 in Case No. 20 of 2013 and Case No. 14 of 2015, respectively.

1.5 Main Functions and Duties of BGCL

The main functions and duties of BGCL are as follows:





-
- a) To undertake planning and coordination activities in regard to Intra-State Transmission, works connected with the inter-State Transmission System in the State of Bihar, to introduce open access in transmission on payment of transmission charges. To ensure development of an efficient, coordinated and economical system of Intra-State Transmission lines for smooth flow of electricity from a generating station to load centres and to provide non-discriminatory open access as per requirement. Other functions as may be assigned to the company by law or otherwise by Government or Government Authority concerning the operation of the Power System.
 - b) To plan, acquire, develop, establish, built, take over, erect, lay, operate, run, manage, renovate, modernize, electrical transmission lines and/or networks through various voltage lines and associated sub-stations, including cables, wires, meters, computers and materials connected with transmission, ancillary services, telecommunication and tele-metering equipment etc.
 - c) To make available the entire transmission capacity of the Project to BSP(H)CL on a commercial basis subject to the conditions laid down in the Inter-State Transmission Services Agreement (ITSA).
 - d) To derive its revenue by recovery of transmission charges from transmission system users. The Company shall be primarily in the business of transmission of electricity and it shall be vested with the transmission assets, interest in property, rights and liabilities. The Company shall act as a Transmission Licensee under the Provisions of Section 14 of the Electricity Act, 2003.
 - e) To define its own 'Safety policy ' keeping in view the motto of ' ZERO ACCIDENT GOAL'.

2 Capital Expenditure for ABT metering

In order to achieve the effective implementation of Availability Based Tariff (ABT) and Deviation Settlement Mechanism (DSM) in the state according to Central Electricity Regulatory Commission (Deviation Settlement Mechanism and related matters) (Fifth Amendment) Regulations, 2014, BGCL is also required to install ABT meters to enable SLDC to perform its various activities/ works within the defined timelines as mandated by the Scheduling, Accounting, Metering and Settlement of Transactions (SAMAST) report published by the Forum of Regulators (FOR) in July 2016. The SAMAST document lays down 365 days-time frame for completion of all the activities and works including ABT meter installation.

In order to extract the requisite purpose as defined in the FOR report, it is essential that the entire Transmission network of the state have ABT meters installed at the interface points. Furthermore, the Hon'ble Commission in pursuance of the SAMAST report by FOR had repeatedly directed BSPTCL (STU) to submit the compliance report/ implementation status of the activities as per the checklist in the SAMAST report. Constrained by the non-compliance, the Hon'ble Commission initiated the Suo moto proceedings against BSPTCL vide Case No.: 15/2017.

It is pertinent to mention that as per the checklist for SAMAST implementation in the state, the SLDC is to file an application before the Central Government/ PSDF to attain the requisite funding to proceed with the implementation of the scheme. The same has been reflected in the observations made by the Hon'ble Commission in respect of funding of the scheme in the Order dated 07.07.2020. The relevant extracts from the said Order is reproduced below:

“Commission vide its order dated 11.05 2018 directed the BSPTCL to follow up with NLDC for PSDF funding and complete the boundary metering and AMR system within timeline as envisaged under checklist of activities of SAMAST.”

It is pertinent to highlight that transmission activities in the state of Bihar is carried out by BSPTCL and BGCL. Since, BSPTCL is the STU, it can approach NLDC to attain the requisite grants from PSDF. However, BGCL is not bestowed with such



powers as vested into the STU, it is constrained to flex its arm for grant available under SAMAST guidelines.

It is further submitted that during the Tariff proceedings of FY 2021-22 (wrt Case No. 29/2020), the Petitioner had requested the Hon'ble Commission to direct BSPTCL to seeks funds on behalf of BGCL for the implementation of ABT metering. However, the same has not been approved by the Hon'ble Commission in the Order dated 12.03.2021. The Petitioner submits that in the absence of funds from STU and recognizing that implementing the scheme only in BSPTCL transmission network is futile, the Petitioner has pursued the implementation of the ABT metering in its network as well. In this connection, BSPTCL vide its letter dated 21.09.2020 had also asked BGCL to implement the ABT metering system in its own network.

In view of the aforesaid, BGCL is eligible to claim the capital expenditure for ABT metering as per the Regulation 4.2 of the Bihar Electricity Regulatory Commission (Procedure for filing Capital investment and Capitalisation plan) Regulations, 2018 which states as follows:

"4. Assessment of Distribution & Transmission Licensees Infrastructure Requirements

.....

.....

4.2 The Transmission licensee(s) shall make assessment of Infrastructure Requirement to meet the demand (MW) and energy requirement(MU) referred in 4.1 above so that demand forecasted by the Distribution licenses are met uninterruptedly and reliably.

While making assessment, Transmission licensee(s) shall also take into consideration the following along with other relevant factors -

- (i) Duties and Obligation of Transmission Licensee provided in the Act;*
- (ii) Prescribed limits of loading of Lines, Cables, Transformers etc;*
- (iii) Prescribed performance parameters of equipments such as Voltage regulation, Reactive energy flow, Power factor etc. by Central Electricity Authority (CEA)/CERC/BERC*
- (iii) Implementation of Technical loss reduction initiatives and other improvement programmes;*
- (iv) Different schemes of Government for capacity addition/ improving operational efficiency/Electrification/System strengthening.*
- (v) Assets which are going to complete their useful life*
- (vi) Demand of prospective Open access consumers*
- (vii) The impact of the provisions of the Act and possible switch over of consumers to open access and captive generation." (Emphasis Supplied)*



In accordance with the above Regulation, the Petitioner has implemented ABT metering works and the estimated Year wise Capitalization Plan for the FY 2021-22 and FY 2022-23 is depicted in the table below:

Table 2 - Year wise Capital Expenditure for ABT metering

Particulars	No.s		Cost (in Rs. Crore)	
	FY 2021-22	FY 2022-23	FY 2021-22	FY 2022-23
ABT Metering of Part 1&2 - Phase 1	87	0	5.98	0
ABT Metering of Part 1&2 (incl. Suppl.) - Phase 2	0	331	-	11.66
Total	87	331	5.98	11.66

The detailed Cost breakup and along with Cost estimate of aforesaid works is annexed as **Annexure - C**. The Hon'ble Commission is kindly requested to allow the installation of ABT meter installation as mandated by Hon'ble CERC Regulations and approve the Capitalization of works amounting to Rs. 5.98 Crore and Rs. 11.66 Crore during the FY 2021-22 and FY 2022-23 respectively. The impact of the same on Tariff is covered under the APR for FY 2021-22 and ARR for FY 2022-25 Chapters that follow.



TRUE-UP of ARR for the
FY 2020-21

3 True – Up for 2020-21

3.1 Background

The Hon'ble BERC in the Order dated 20.03.2020 has approved ARR for FY 2020-21 to the tune of Rs. 513.51 Crore. Further, in the Order dated 12.03.2021, the Hon'ble BERC has approved Rs. 382.29 Crore while conducting the Review of Annual Performance for the FY 2020-21. The Petitioner herein, submits the claim towards each and every item of the ARR before this Hon'ble Commission for conducting the True-up for the period FY 2020-21 in accordance with the Regulatory provisions and the principles. The following considerations have been made by the Petitioner for the True up for FY 2020-21:

- a. Opening Value of GFA and WIP for FY 2020-21 are considered as respective closing values for FY 2019-20 (as claimed by the Petitioner in the Tariff Petition for FY 2021-22)
- b. Actual Capital Expenditure and Capitalization of assets is considered as per books of accounts.
- c. Elements of ARR are calculated based on the normative parameters in line with the principles of Tariff Regulations 2018.

Details of the claims under various elements of the Annual Revenue Requirement (ARR) for the True-up for FY 2020-21 is explained in the subsequent sections.

3.2 Performance of Transmission System - Transmission Availability Factor (TAF) and Transmission Loss

The Tariff Regulations 2018 stipulate the Normative Transmission System Availability Factor (NATAF) of 98% for the control period FY 2019-20 to FY 2021-22. The Petitioner submits that the Annual Transmission Availability of the BGCL system for the FY 2020-21 is 99.76%.

The Hon'ble Commission as per the Order dated 20.03.2020 has approved Transmission Loss trajectory to be 2% for the FY 2020-21. The Petitioner submits that



the actual Annual Transmission Losses in the BGCL network for the FY 2020-21 is 1.27%.

The Month-wise Transmission Availability and Transmission Loss along with the incentives allowable in accordance with the Tariff Regulations 2018 is detailed out in the upcoming sections.

3.3 Capital Expenditure and Capitalisation

The Petitioner submits that the Hon'ble Commission vide Order dated 28.01.2020 had given in-principle approval of the Capital Investment Plan of Rs. 2091.88 Crore (in accordance with the Revised Cost Estimate - II proposed by the Petitioner) for Phase IV Part 1 of 2.

The Hon'ble Commission vide Order dated 28.07.2017 and further vide Order dated 20.03.2020 had approved Capital Investment Plan of Rs. 1688.36 Crore for Phase IV Part 2 of 2. In addition, the Hon'ble Commission vide Order dated 20.03.2020 also gave in-principle approval of the Supplementary works proposed along with Phase IV Part 2 of 2 amounting to Rs. 111.14 Crore.

The Capital Investment Plan as approved by the Hon'ble Commission w.r.t. BGCL Network is summarized below:

Table 3 - Scheme wise Capital Expenditure and Capitalisation

Particulars	Approved Cost	Remarks
Phase IV Part 1 of 2	2,091.88	Order dated 20.03.2020
Phase IV Part 2 of 2	1,688.36	Order dated 20.03.2020
Phase IV Supplementary works	111.14	Order dated 20.03.2020
Total	3,891.39	

It is submitted that the Capital expenditure along with the details of capitalisation for FY 2020-21 as per books of accounts is summarised in the CWIP statement that shall follow in subsequent paras. The breakup of the Hard and the Soft cost of the assets commissioned during the FY 2020-21 is annexed as **Annexure - D**. The Petitioner submits that the Hon'ble Commission while approving Capitalization during the True up for FY 2019-20 observed as follows:



“4.4.25 However, considering that BGCL has already undertaken the capital cost of Rs.2,091.89 Crore, the Commission is inclined to provide BGCL a final opportunity to provide justification of each factor of cost escalation of the works undertaken in Phase IV Part I. Hence, the Commission directs BGCL to submit detailed information and justification along with supporting documents to substantiate the amount actually incurred on each factor of deviation as elaborated in earlier section of this Order in next Truing up in which Project get completed.”


In accordance with the above and submissions made before the Hon’ble Commission during the Review proceedings (Case No. 04/2021); the Petitioner has claimed the Capitalization for the FY 2020-21 based upon the claims made by the Petitioner during FY 2019-20.

In such regard, the Petitioner has considered the opening CWIP values correspond to the Closing CWIP values as claimed by the Petitioner in the True up petition for FY 2019-20. The Petitioner further submits that Land at Dumraon has been Capitalised in the Books of Accounts of Petitioner in earlier financial year but same was not considered under capitalisation in MYT petition as asset on it was not declared DOCO, however, in compliance of MYT Regulations, the asset at Dumraon is Capitalised in the FY 2020-21 after the asset has been declared DOCO. Accordingly, expenses on Land amounting to Rs. 2.16 Cr are also considered in capitalisation in this petition alongwith the capitalised cost of entire asset. Summary of the Capital Cost for the FY 2020-21 is provided in the table below:

Table 4 - CWIP statement for the FY 2020-21

(in Rs Crore)

S.No.	Particulars	Approved by the Hon’ble Commission in the Order dated 20.03.2020	BGCL claim
1	Opening CWIP without IEDC and IDC	1,331.81	717.02
2	Opening IDC	66.29	72.36
3	Opening IEDC	163.63	69.58
4	Opening CWIP (1+2+3)	1,561.73	858.97
5	Capital investment during the year(without IDC and IEDC)	48.65	929.02
6	IDC addition	100.72	107.80
7	IEDC addition	6.72	79.34
8	Total (5+6+7)	156.09	1,116.17



S.No.	Particulars	Approved by the Hon'ble Commission in the Order dated 20.03.2020	BGCL claim
9	Asset capitalisation without IDC & IEDC	1,380.46	264.45
10	IDC capitalised	167.01	21.09
11	IEDC capitalised	170.35	11.47
12	Total Capitalisation (9+10+11)	1,717.82	297.01
13	Closing CWIP without IDC and IEDC (1+5-9)	-	1,381.60
14	Closing IDC (2+6-10)	-	159.08
15	Closing IEDC (3+7-11)	-	137.45
16	Closing CWIP (13+14+15)	-	1,678.13

The Audited Accounts of BGCL for the FY 2020-21 is annexed as **Annexure E**.

The Petitioner thereby submits before the Hon'ble Commission to approve the CWIP and Capitalization for the FY 2020-21 as per the table above.

3.4 Schedule of Capitalization

The Petitioner submits that the Assets capitalized during FY 2020-21 in accordance with the Audited Accounts for the FY 2020-21 have been listed along with the Date of Commercial Operation in the table below:

Table 5 - Details of Assets Capitalized during the FY 2020-21 (Part 1 of 2)

S. No.	Transmission Element (Part 1 of 2)	Date of Commercial Operation
Transmission Lines		
	LILO of 220 kV D/C Biharsharif (BSPTCL) - Begusarai (BSPTCL) at Mokama TL	
1.	LILO Portion 220 kV D/C Line _ Mokama (BGCL) - Biharsharif (BSPTCL) Circuit 1	20-09-2020
2.	LILO Portion 220 kV D/C Line _ Mokama (BGCL) - Biharsharif (BSPTCL) Circuit 2	20-09-2020
3.	LILO Portion 220 kV D/C Line _ Mokama (BGCL) - BTPS (Begusarai) Circuit 1	20-09-2020
4.	LILO Portion 220 kV D/C Line _ Mokama (BGCL) - BTPS (Begusarai) Circuit 2	20-09-2020
5.	132 kV D/C Line _ Mokama (BGCL) - Hatidah (BSPTCL) Circuit 1	24-09-2020
6.	132 kV D/C Line _ Mokama (BGCL) - Hatidah (BSPTCL)	24-09-2020

S. No.	Transmission Element (Part 1 of 2)	Date of Commercial Operation
	Circuit 2	
New 220/132/33 kV GIS substations		
7.	220/132 kV 160 MVA Transformer-2 of GIS, Mokama (Hathidah New)	24-09-2020
8.	132/33 kV 80 MVA Transformer-2 of GIS, Mokama (Hathidah New)	01-10-2020
9.	GIS - 220 kV / 132 kV / 33kV_Mokama (Hathidah New)	01-10-2020
Bay Extension Work		
10.	Hathidah Bay Extension (2 x 132 kV Bay AIS)	24-09-2020

Table 6 - Details of Assets Capitalized during the FY 2020-21 (Part 2 of 2)

S. No.	Transmission Element (Part 2 of 2)	Date of Commercial Operation
Transmission Lines		
	LILO of 220 kV D/C Ara (PG) - Nadokhar (BSPTCL) at Dumraon New TL	
1.	LILO Portion 220 kV D/C Line_Ara (PG) - Dumraon New (BGCL) Ckt-I	13-12-2020
2.	LILO Portion 220 kV D/C Line_Ara (PG) - Dumraon New (BGCL) Ckt-II	13-12-2020
3.	LILO Portion 220 kV D/C Line_Nadokhar (BSPTCL) - Dumraon New (BGCL) Ckt-I	13-12-2020
4.	LILO Portion 220 kV D/C Line_Nadokhar (BSPTCL) - Dumraon New (BGCL) Ckt-II	13-12-2020
5.	132 kV D/C Line_Dumraon New (BGCL) - Dumraon (BSPTCL) Ckt-II	10-01-2021
New 220/132/33 kV GIS substations		
6.	GIS - 220 kV / 132 kV / 33kV_Dumraon New	10-01-2021
7.	220/132 kV 160 MVA Transformer-1 of GIS, Dumraon New	01-01-2021
8.	132/33 kV 80 MVA Transformer-1 of GIS, Dumraon New	10-01-2021
Bay Extension Work		
9.	Dumraon Bay Extension (2 x 132 kV Bay AIS)	10-01-2021

The Petitioner submits that few assets planned to be capitalized during the FY 2020-21 as per the submissions made for the Review of FY 2020-21 could not attain Capitalization in actual on account of reasons beyond the control of the Petitioner. The key reasons attributable to such delay include the time required for land acquisition, local law, order issues and unprecedented rainfall/floods in certain

[Handwritten Signature]

areas and the COVID pandemic & subsequent lockdowns. In view of the same, the Petitioner requests the Hon'ble Commission to approve the capitalisation of the projects.

3.5 Gross Fixed Assets

The Petitioner has considered the Opening GFA as per the Closing GFA submitted by the Petitioner in the True up Petition for FY 2019-20. The additions to GFA is considered as per the Audited Accounts for FY 2020-21. Accordingly, the Petitioner requests the Hon'ble Commission to approve the GFA for FY 2020-21 as depicted in the table below:

Table 7 - Gross Fixed Assets for the FY 2020-21

(in Rs Crores)

S.No.	Particulars	FY 2020-21	
		Approved by BERG in the Order dated 20.03.2020	BGCL claim
1	Opening GFA	2133.66	1,740.22
2	Net Additions	1757.72	299.19
A	Capex Addition		266.63
B	IDC Addition		21.09
C	IEDC addition		11.47
5	Closing GFA	3891.38	2,039.42

3.6 Depreciation

According to Regulation 23 Tariff Regulations 2018, Depreciation shall be computed as follows:

“(i) Depreciation shall be calculated for each year of the control period on the original cost of the fixed assets of the corresponding year. No advance shall be granted against depreciation.

(ii) Depreciation shall not be allowed on assets funded by capital subsidies, beneficiary contributions or grants.

(iii) Depreciation shall be calculated annually on the basis of assets capitalised and put to use based on the straight line method over the useful life of the asset and at the rate not exceeding the rate specified by the Central Electricity Regulatory Commission from time to time as provided in Appendix-III of these Regulations.

The residual value of assets shall be considered as 10% and depreciation shall be allowed to a maximum of 90% of the original cost of the asset. The Transmission Licensee or SLDC, as the case may be, shall submit separate detail of fully depreciated



asset along with year of commissioning and year of attaining ninety percent depreciation with the tariff petition.

Provided that freehold land shall not be treated as a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset.

Provided further that the cost of lease hold land shall be amortised evenly within the leased period.

(iv) The original capital cost of the asset shall include Additional Capitalisation on account of Foreign Exchange Rate Variation as allowed by the Government / Bihar Electricity Regulatory Commission.

(v) Depreciation shall be chargeable from the first year of operation of the asset. For part of the year, depreciation shall be charged on pro rata basis.

(vi) A provision of replacement of assets shall be made in the capital investment plan.

The Petitioner also submits herein that the weighted average rate of depreciation for the assets capitalized on/ before 31.03.2020 is computed to be 4.97% while for the assets commissioned during the FY 2020-21, the weighted average rate of depreciation is computed on a pro rata basis (i.e. based upon the actual DOCO of the capitalized asset) which comes out to be 3.29 %. The computation of the weighted average Rate of depreciation is illustrated in the table below:

Table 8 - Computation of Weighted average Rate of Depreciation

(in Rs. Crores)

S.No.	Particulars	Value
1	Opening GFA as per Audited Accounts	1,781.99
2	Opening land	58.10
3	Net opening depreciable assets (1-2)	1,723.90
4	Depreciation of opening depreciable assets	85.64
5	Weighted average rate of depreciation on opening assets (4/3)	4.97%
6	Addition to Depreciable GFA (excluding land) as per Audited Accounts	297.03
7	Depreciation on asset additions during the year	9.79
8	Weighted average prorata depreciation on asset additions during the year (7/6)	3.29%

In accordance with the Rate of Depreciation computed as above, the Depreciation claimed by the Petitioner is Rs. 95.40 Crore as shown in the table below:

Table 9 - BGCL claim of Depreciation for the FY 2020-21

(in Rs. Crore)

S.No.	Particulars	Approved for the FY 2020-21 (as per Order dated 20 Mar 2020)	BGCL claim for the FY 2020-21

[Signature]

S.No.	Particulars	Approved for the FY 2020-21 (as per Order dated 20 Mar 2020)	BGCL claim for the FY 2020-21
1	Net Opening GFA (without land)	2078.98	1,723.45
2	Additions during the year	1717.82	299.19
3	Less: land during the year	52.71	2.16
4	Net Additions (2-3)	1665.11	297.03
5	Closing GFA (1+4)	3744.09	2,020.48
6	Average GFA (1+5)/2	2911.54	1,871.97
7	Weighted average Rate of depreciation on opening assets	5.13%	4.97%
8	Weighted average Rate of depreciation on asset additions during the year	3.34%	3.29%
9	Depreciation (1*7+4*8)	162.27	95.40

3.7 Interest on Loan Capital and Finance Charges

Regulation 24 of Tariff Regulations 2018 stipulates the provisions in the matter of Interest and Finance charges on Loan Capital.

The Petitioner has considered Gross Opening Loan as the Normative Closing loan as claimed by the Petitioner in the True up Petition for the FY 2019-20. Further, the debt: equity ratio for the Capital Expenditure for the projects under Part 1 of 2, Part 2 of 2 shall be 80:20 in accordance with the Business Plan approved by the Hon'ble Commission vide respective Orders. As such, the normative loan addition shall be 80% of the Capitalization claimed for the FY 2020-21.

The weighted average rate of Interest on Actual Loans for assets capitalized through REC and PFC loans comes out to be 10.72% and 9.52%. The overall weighted average of Interest for the FY 2020-21 comes out to be 10.23%. The detailed working of the same is annexed as **Annexure F**.

In view of the above submissions, the Interest on Loan Capital claimed for the FY 2020-21 is Rs. 131.88 Crore, the working of which is explained below:

Table 10 - BGCL claim of Interest on Loan for the FY 2020-21

(in Rs. Crore)

S.No	Particulars	Approved in the Order dated 20.03.2020 for FY 2020-21	BGCL claim for the FY 2020-21
.			

Fidson

S.No	Particulars	Approved in the Order dated 20.03.2020 for FY 2020-21	BGCL claim for the FY 2020-21
1	Opening Loan (Normative)	1488.51	1,216.94
2	Additions (@80% of GFA additions)	1374.26	239.35
3	Repayment	162.27	95.40
4	Net Closing Loan (Normative) (1+2-3)	2700.50	1,360.89
5	Average Loan (1+4)/2	2094.51	1,288.92
6	Weighted average rate of Interest (%)	10.24%	10.23%
7	Interest on Loan (5x6)	214.48	131.88

3.8 Operations and Maintenance Expenses

Regulation 21 of Tariff Regulations 2018 provides for the mechanism by which Operations and Maintenance Expenses shall be allowed to the Transmission Licensee.

However, the Hon'ble Commission w.r.t Operation and Maintenance Expenses, in the Order dated 20.03.2020 observed as follows:

"The Commission in Tariff Order dated 20.03.2020 (Para 7.8) had opined to determine the O&M norms for the next control period (i.e. from FY 2022-23 onwards) as the parameters required for determination of O&M norms i.e. No. of substations, No. of bays, length of lines in Ckt KM, etc. and full operational O&M expenses were not available and the same could be arrived after the capitalisation and commissioning of the assets (Phase IV Part 1 of 2, Phase IV Part 2 of 2 and supplemental works) which are spread over the Control period of FY 2020-21 to FY 2022-23."

The Petitioner submits that since the asset development pertaining to Part 1 and Part 2 of 2 were under development during the FY 2020-21, the norms could not be determined, therefore, the Petitioner herein submits that it shall claim the O&M Expenses viz. Employee Expenses, Repairs & Maintenance (R&M) Expenses and Administration & General (A&G) Expenses at actuals as per the Books of Accounts for the FY 2020-21. The Hon'ble Commission is requested to approve the same.



3.8.1 Employee Expenses

The employee expenses primarily include costs towards salaries, dearness allowances, bonus, staff welfare and medical benefits, leave travel and earned leave encashment, and the terminal benefits in the form of pension, gratuity etc.

In continuation to the arguments placed in the preceding sections and approved by Hon'ble Commission, the Petitioner claim towards Employee Expenses for the FY 2020-21 as per the Books of Accounts is depicted below for the kind consideration of the Hon'ble Commission:

Table 11 - BGCL claim of Employee Expenses for the FY 2020-21
(in Rs. Crore)

Particulars	Approved in the Order dated 20.03.2020 for FY 2020-21	BGCL claim for the FY 2020-21
Base Employee Expenses	9.03	
Indexation %	4.22%	
Inflationary increase	0.38	
Employee expenses	9.41	11.29

3.8.2 Repairs & Maintenance (R&M) Expenses

The Repair and Maintenance Activities are primarily directed towards the upkeep of the transmission system and related office works.

In continuation to the arguments placed in the preceding sections, the Petitioner claim towards Repair and Maintenance Expenses for the FY 2020-21 as per the Books of Accounts is depicted below for the kind consideration of the Hon'ble Commission:

Table 12 - BGCL claim of Repairs & Maintenance (R&M) Expenses for FY 2020-21
(in Rs. Crore)

Particulars	Approved in the Order dated 20.03.2020 for FY 2020-21	BGCL claim for the FY 2020-21
Average GFA (Net of Land)	2,911.54	
Average % of R&M expenses to average GFA	0.427%	



Particulars	Approved in the Order dated 20.03.2020 for FY 2020- 21	BGCL claim for the FY 2020- 21
R&M expenses	12.43	20.46

3.8.3 Administration and General (A&G) Expenses

Administration and General expenses mainly comprise costs towards rent charges, telephone and other communication expenses, professional charges, conveyance and travelling allowances and other debits.

In continuation to the arguments placed in the preceding sections, the Petitioner claim towards 3.8.3 Administration and General Expenses for the FY 2020-21 as per the Books of Accounts is depicted below for the kind consideration of the Hon'ble Commission:

**Table 13 - BGCL claim of Administration and General (A&G) Expenses for the FY 2020-21
(in Rs. Crore)**

Particulars	Approved in the Order dated 20.03.2020 for FY 2020- 21	BGCL claim for the FY 2020- 21
Base A & G Expenses	3.82	
WPI Inflationary index %	2.98%	
Add: Inflationary increase	0.11	
A&G expenses	3.93	7.68

3.9 Return on Equity

Regulation 22 of Tariff Regulations 2018 in the matter of Return on Equity stipulates the following:

"22. Return on Equity

(a) Return on equity shall be computed on 30% of the capital cost or actual equity, whichever is lower:

Provided that assets funded by beneficiary contribution, capital subsidies/ grants and corresponding depreciation shall not form part of the capital cost. Actual equity invested in the Transmission Licensee or SLDC, as the case may be, as per book value shall be considered as perpetual and shall be used for computation in this Regulation:



Provided further that the premium if any raised by the Licensee while issuing share capital and investment of internal resources created out of its free reserves, for the funding of the Scheme, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the distribution system, and are within the ceiling of 30% of capital cost approved by the Commission.

(b) The return on the equity invested shall be allowed from the date of start of commercial operation and after put to use:

(c) Return on equity shall be computed at the rate of 15.5% for the project which is commissioned w.e.f. 01.04.2015 and further incentive equivalent to 0.5% will be allowed in the form of RoE, if the project is completed within schedule as per the Annexure A or original schedule period as the case may be. However, Return on Equity for the project commissioned prior to 01.04.2015 shall be allowed at the rate of 14%."

The Regulation 27 of the Tariff Regulations 2018 provides for the Gross up of the Rate of Return on Equity as specified under Regulation 22. The relevant excerpts are shown below:

"27. Tax on Return on Equity

1) The base rate of return on equity as allowed by the Commission under Regulation 22 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned the transmission licensee or SLDC, as the case may be. The actual tax on income from other business including deferred tax liability (i.e. income on business other than business of transmission or SLDC, as the case may be) shall not be considered for the calculation of effective tax rate.

2) Rate of return on equity shall be rounded off to two decimal places and shall be computed as per the formula given below:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

Where "t" is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of licensee/SLDC paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess."



The Petitioner submits that it has been paying the Tax u/s 115BAA of the Income Tax Act 1961 as per which the effective Tax rate is 25.17%, the working of which is demonstrated below:

Table 14 - Computation of Grossed up Rate of Return on Equity

Particulars	Formula	Value
Base tax rate	A	22%
Surcharge	B	10%
Health and Education Cess	C	4%
Effective Tax rate	$D=A*(1+B)*(1+C)$	25.17%
Rate of Return on Equity	$E=15.50\%/(1-D)$	20.71%

It is submitted that the actual Tax paid as per the Audited Accounts for the FY 2020-21 is Rs. 42.00 Crores.

Furthermore, the Normative Opening Equity is considered as the Normative Closing Equity claimed by the Petitioner during the True up Petition for the FY 2019-20. Accordingly, the Return on Equity claimed by the Petitioner for the FY 2020-21 is shown in the table below:

Table 15 - BGCL claim of Return on Equity for the FY 2020-21

(in Rs. Crore)

S.No.	Particulars	Approved by the Hon'ble Commission in the Order dated 20.03.2020	BGCL claim
1	Opening Equity	417.54	347.21
2	Additions during the year	343.56	59.84
3	Closing Equity (1+2)	761.11	407.05
4	Average Equity (1+3)/2	589.32	377.13
5	Base Rate of Return on Equity%	15.50%	15.50%
6	Tax on Rate of Return on Equity	17.472%	25.17%
7	Rate of Return on Equity%	18.782%	20.71%
8	Return on Equity (4*5)	110.68	78.11

3.10 Interest on Working Capital

Regulation 26 of Tariff Regulations 2018 in the matter of Interest on Working Capital stipulates the following:

"26. Interest on working capital

(a) The Transmission Licensee shall be allowed interest on the estimated level of working capital for the financial year, computed as follows:



- (i) Receivables equivalent to two (2) month of transmission charges calculated on target availability level.
- (ii) O&M Expenses of one (01) month.
- (iii) Maintenance spares @ 15% of O&M expenses for one month.

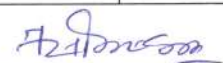
Less:

- (iv) Depreciation, return on equity and contribution to contingency reserves equivalent to two months.
- (v) Amount of security deposits from Transmission System users, if any, held during the year except the security deposits held in the form of Bank Guarantee from Transmission System Users.
- (b) Interest on working capital shall be on normative basis and rate of interest shall be equal to the State Bank one-year Marginal Cost of Funds-based Lending Rate ('MCLR') as of the date on which petition for determination of tariff is filed plus 150 basis points. The rate of interest for the purpose of Truing-up shall be the weighted average MCLR of the concern Financial Year plus 150 basis points.
- (c) Interest shall be allowed on the amount held as security deposit from Transmission System Users at the Bank Rate as at the date on which the application for determination of tariff is filed. The interest allowed shall be subject to true up at weighted average Bank Rate of the concern Financial Year.
- (d) If the State Government is providing resource gap grant and/or subsidy, the working capital shall be reduced by two months equivalent of that amount."

In line with the provisions of the Tariff Regulations 2018, for the True-up of FY 2020-21, the Rate of Interest claimed is the weighted average MCLR plus 150 basis points. The computation of the Rate of Interest is demonstrated below:

Table 16 - Computation of Rate of Interest on Working Capital for the FY 2020-21

S.No.	Date of MCLR Revision	Date applicable from	Date applicable to	Applicable no of days	SBI MCLR Rates*
1	10.03.2021	10-03-2021	31-03-2021	22	7.00%
2	10.02.2021	10-02-2021	09-03-2021	28	7.00%
3	10.01.2021	10-01-2021	09-02-2021	31	7.00%
4	10.12.2020	10-12-2020	09-01-2021	31	7.00%
5	10.11.2020	10-11-2020	09-12-2020	30	7.00%
6	10.10.2020	10-10-2020	09-11-2020	31	7.00%
7	10.09.2020	10-09-2020	09-10-2020	30	7.00%
8	10.08.2020	10-08-2020	09-09-2020	31	7.00%
9	10.07.2020	10-07-2020	09-08-2020	31	7.00%
10	10.06.2020	10-06-2020	09-07-2020	30	7.00%
11	10.05.2020	10-05-2020	09-06-2020	31	7.25%
12	10.04.2020	10-04-2020	09-05-2020	30	7.40%
13	10.03.2020	01-04-2020	09-04-2020	9	7.75%
14	Weighted Average MCLR				7.07%
15	Rate of interest on Working				8.57%



S.No.	Date of MCLR Revision	Date applicable from	Date applicable to	Applicable no of days	SBI MCLR Rates*
	Capital				

*Source: <https://sbi.co.in/web/interest-rates/interest-rates/mclr-historical-data>

Based upon the Working capital requirements as envisaged in the provisions of the Tariff Regulations 2018 and the Rate of Interest as above, the Petitioner's claim towards Interest on Working Capital is worked out as depicted in the table below:

Table 17 - BGCL claim of Interest on Working Capital for the FY 2020-21
(in Rs. Crore)

S.No.	Particulars	Approved by the Commission in the Order dated 20.03.2020	BGCL claim for FY 2020-21
1	O&M expenses (1 month)	5.46	3.29
2	Maintenance spares @15% of 1 month of O&M Exp	0.82	0.49
3	Receivables - 2 months	90.49	56.34
4	Less: Dep, RoE and contribution to contingency reserve (for 2 months)	45.34	29.71
5	Total working capital (1+2+3-4)	54.60	30.41
6	Rate of interest	9.50%	8.57%
7	Interest on working capital (6x5)	5.19	2.61

The Petitioner requests the Hon'ble Commission to approve the Interest on Working Capital amounting to Rs. 2.61 Crore as above.

3.11 Gain/ Loss Sharing

Regulation 10 of the Tariff Regulations 2018 establish a mechanism for pass through of Gains/ Losses on account of controllable factor as follows:

"10. Mechanism for sharing of gains or losses on account of controllable factors

10.1 The approved aggregate gain or loss to the Licensee or SLDC, as the case may be, on account of controllable factors shall be dealt with separately for aggregate gain and aggregate loss in the following manner:

(a) Aggregate gain:

(i) Two-third of the amount of such gain shall be a pass through as an adjustment in the tariff of the Licensee or SLDC, as the case may be,, as specified in these Regulations



and as may be determined in the Order of the Commission passed under these Regulations;

(ii) The balance one-third of the amount of such gain shall be on account of Licensee or SLDC, as the case may be, and such amount shall be utilized at the discretion of Licensee or SLDC, as the case may be.

(b) Aggregate Loss:

(i) One-third of the amount of such loss shall normally be a pass through as an adjustment in the tariff of the Licensee or SLDC, as the case may be, as specified in these Regulations and as may be determined in the Order of the Commission passed under these Regulations, provided the Commission is satisfied that such loss is not on account of deliberate action of the Licensee or SLDC, as the case may be;

(ii) The balance two-third of the amount of such loss shall be on account of Licensee or SLDC and shall be absorbed by the Licensee or SLDC, as the case may be."

The Petitioner submits that it has considered Working Capital as a controllable factor. Therefore, as per the above Regulations, the Petitioner computes the Gain to be shared as shown in the table below:

Table 18 - Gain/ Loss Sharing for the FY 2020-21

(in Rs. Crore)

Particulars	Formula	Value
Normative Interest on Working Capital	A	2.61
Actual Interest on Working Capital	B	0
Interest on Working Capital gains/ (losses)	C=A-B	2.61
2/3rd of Gains to be passed through as an adjustment in Tariff	D=2/3*C	1.74

3.12 Contribution to Contingency Reserve

Regulation 28 of the Tariff Regulations 2018 provided as follows w.r.t. Contingency Reserve:

"28. Contribution to Contingency Reserve

(a) If the Transmission Licensee or SLDC, as the case may be, has made an appropriation to the Contingency Reserve, a sum not less than 0.25 per cent and not more than 0.5 per cent of the original cost of fixed assets shall be allowed annually towards such appropriation in the calculation of ARR.

Provided that where the amount of such Contingency Reserves exceeds five (5) per cent of the original cost of fixed assets, no further contribution shall be allowed.

Provided further that such contribution shall be invested in securities authorised under the Indian Trusts Act, 1882 within a period of six months of the close of the Year.



(b) The Contingency Reserve shall not be drawn upon during the term of the license except to meet such charges as may be approved by the Commission, such as following:

(i) Expenses or loss of profits arising out of accidents, strikes or circumstances which the management could not have prevented;

(ii) Expenses on replacement or removal of plant or works other than expenses required for normal maintenance or renewal;

(iii) Compensation payable under any law for the time being in force and for which no other provision is made:

Provided that such drawal from contingency reserve shall be computed after making due adjustment for any other compensation that may have been received by the Licensee as part of an insurance cover:

(c) No diminution in the value of contingency reserve as mentioned above shall be allowed to be adjusted as a part of tariff."

The Petitioner in accordance with the said Regulation claims Contribution to Contingency Reserve at 0.25% of the Average GFA for the FY 2020-21 as depicted in the table below:

Table 19 - BGCL claim of Contribution to Contingency Reserve for the FY 2021-22
(in Rs. Crore)

S.No.	Particulars	Approved by the Commission in the Order dated 20.03.2020	BGCL claim for FY 2020-21
1	Opening GFA		1,740.22
2	Closing GFA		2,039.42
3	Average GFA		1,889.82
4	% factor		0.25%
5	Contribution to Contingency Reserve	-	4.72

It is pertinent to be mention that the contingency reserves once approved by the Hon'ble Commission shall be invested in securities authorised under the Indian Trusts Act, 1882 within a period of six months.

The Petitioner further submits that during months of July-Nov 2020, the 220/ 132/ 33 kV Amnour substation of BGCL got flooded due to damage of embankment at Gandak River near Gopalganj and heavy rains in Bihar caused flash floods in the state. In order to save further damages in future, as a preventive measure, the Petitioner was constrained to undertake works to protect ingress of water and GIS Sub-station, etc by strengthening of boundary wall by providing RCC retaining wall along the boundary wall. Further, approach road leading to the same substation also



submerged during the floods, which made substation inaccessible. Therefore, the Petitioner had no other option left and in such a contingency to maintain supply in future, undertook road works for road elevation and thus operations at substation may be continued in future.

Considering the contingent nature of work, the Petitioner submits that it has already awarded works amounting to Rs. 2.22 Crore including taxes (Copy of Board Resolution is attached as **Annexure - G**). The Petitioner submits that it shall invest balance reserves in the securities after the approval of the Hon'ble Commission.

3.13 Non- Tariff Income

The Petitioner submits that the actual Non-Tariff Income accounted in books of accounts stands at Rs 32.97 Crores for FY 2020-21 which includes Delayed Payment Surcharge of Rs 27.21 Crore.

The Petitioner further submits that while computing the actual Non-Tariff Income of BGCL for FY 2020-21, the financing cost for corresponding receivables has to be reduced as accrued DPS is considered as NTI. The Petitioner has already incurred Expenses on such outstanding receivables and DPS is levied as financing cost of such receivables, however, the Petitioner is allowed only 2 months of receivables in allowance of Working Capital. For the receivables beyond the period, DPS is applicable and as DPS is considered to be additional income for the Petitioner financing cost of such receivables are allowed in line with the Judgment of Hon'ble APTEL dated July 12, 2011 in case No. 142 & 147 of 2009.

The Petitioner submitted that the Hon'ble Commission in its Order dated 20.03.2020, has also considered the above approach which is in line with the Judgment dated 12.07.2011 of the Hon'ble APTEL in Appeal no. 142 & 147 of 2009, while approving the Non-Tariff Income of the Petitioner herein for the true-up for FY 2018-19. The Non-Tariff Income submitted by the Petitioner is summarised below:

Table 20 – BGCL submission of Non- Tariff Income for the FY 2020-21
(in Rs. Crore)



S.No.	Particulars	Approved by the Commission in the Order dated 20.03.2020	BGCL submission for the FY 2020-21
1	Surcharge on transmission charges (@1.25% per month)		27.21
2	Interest from Bank		4.64
3	Interest from Others		0.84
4	Liquidated Damages Recovered		0.14
5	Sale of Scrap		0.14
6	Sale of Tender paper		-
7	Total Non-Tariff Income (1+2+3+4+5)		32.97
8	Principal amount on which DPS is charged (1/15%)		181.38
9	Rate of Interest for funding Principal of DPS		8.57%
10	Less: Interest on funding of Principal DPS (7x8)		15.55
11	Net Non-Tariff Income (7-10)	3.73	17.42

3.14 Transmission Availability and Transmission Loss Incentive

According to Regulation 16.3 of Tariff Regulations 2018, the Normative Annual Transmission System Availability Factor is 98%. The Petitioner submits that the System has achieved 99.76% Annual Transmission Availability. Month-wise Transmission Availability of the BGCL system is depicted in the table below:

Table 21 - Transmission Availability for the FY 2020-21

Month	No. of days	Transmission Availability (in %)
Apr-19	30	99.99
May-19	31	99.92
Jun-19	30	99.997
Jul-19	31	99.92
Aug-19	31	99.82
Sep-19	30	99.90
Oct-19	31	99.97
Nov-19	30	99.99
Dec-19	31	99.89
Jan-20	31	98.01
Feb-20	28	99.74
Mar-20	31	99.98
Annual Transmission Availability		99.76%



The Regulation 16.3 defines the incentive allowable to the Petitioner. The extract of the same is reproduced below:

“16.3 The Transmission Licensee shall be entitled to incentive on achieving annual availability beyond the target availability, in accordance with the following formula: -

Incentive = Annual Transmission Charges x (Annual availability achieved – Target Availability) / Target Availability;

Where,

Annual transmission Charges shall correspond to Aggregate Revenue Requirement for each year of the Control Period for the particular Transmission Licensee within the State:

Provided that no incentive shall be payable above the availability of 99.75 % for AC system and 98.5 % for HVDC system.”

In accordance with the above provisions, since the Petitioner has achieved Availability greater than 99.75%, the incentive claimed is capped upto the level of 99.75% for the FY 2020-21 as shown in the table below:

Table 22 – BGCL claim of Transmission Availability Incentive for the FY 2020-21
(in Rs. Crore)

Particulars	FY 2020-21
Normative Transmission Availability (%)	99.00%
Actual Transmission Availability (%)	99.76%
Annual Transmission charges (in Rs. Cr)	338.05
Incentive (in Rs. Cr.)	2.56

According to the Regulation 38 of the Tariff Regulations 2018, the Petitioner is eligible for incentive towards achieving Transmission Loss. The relevant extracts of the Regulations are reproduced below:

“38. Incentive/Disincentive

38.1 The Transmission Licensee shall be entitled to incentive/disincentive on account of deviation from target availability as well as transmission Loss target set by commission. However, the incentive/disincentive on account of deviation from transmission loss target shall be +/- 0.01% of ARR for deviation of 0.01% of transmission loss limited to +/- 2% of the ARR.

The transmission charges referred to in Regulation 33 of these Regulations are inclusive of such incentives and disincentives on account of availability of system.”



In accordance with the above, the Hon'ble Commission is requested to approve the Incentive towards Transmission Loss as claimed by the Petitioner for the FY 2020-21 as depicted in the table below:

Table 23 - BGCL claim of Transmission Loss Incentive for the FY 2020-21

Particulars	FY 2020-21
Normative Transmission losses	2.00%
Actual Transmission Losses	1.27%
Difference	0.73%
Transmission Loss Incentive (in Rs. Crore)	2.48

3.15 Annual Transmission Charges/ ARR for True up of 2020-21

The Petitioner submits that the Annual Transmission Charges have been arrived by aggregating all the expenses as illustrated in the previous sections *i.e.* Depreciation, Interest on Loan, O&M expenses, Return on Equity, Incentive on attaining Normative Transmission Availability and Interest on Working Capital. The Total Expenses Less Non-Tariff Income comprise Annual Transmission Charges or Annual Revenue Requirement. The Petitioner herein has claimed ARR for the True-up of FY 2020-21 as detailed in the table below. For the sake of comparative analysis, the ARR approved by the Hon'ble Commission in the MYT Order dated 15.02.2019 and the Order dated 20.03.2020 is also illustrated in the table below.

Table 24 - BGCL claim of ARR for True up of FY 2020-21

(in Rs. Crore)

S.No.	Particulars	FY 2020-21		
		As per MYT Order dated 15.02.2019	As per Order dated 20.3.2020	BGCL claim for the True-up of ARR
1	O&M expenses (a+b+c)	57.28	25.77	39.43
a.	Employee Expenses	5.70	9.41	11.29
b.	R&M expenses	49.03	12.43	20.46
c.	A&G Expenses	2.54	3.93	7.68
2	Depreciation	143.89	162.27	95.40
3	Interest and finance charges	197.85	214.48	131.88
4	Interest on working capital	4.84	4.04	2.61
5	Return on equity	105.38	110.68	78.11
6	Incentive for TAF	-	-	2.56
7	Contribution to Contingency Reserve	-	-	4.72
9	Gain/ (Loss) Sharing	-	-	(1.74)

Handwritten signature

S.No.	Particulars	FY 2020-21		
		As per MYT Order dated 15.02.2019	As per Order dated 20.3.2020	BGCL claim for the True-up of ARR
10	Incentive on Transmission loss	-	-	2.48
12	Gross Annual Revenue Requirement	509.23	517.24	355.47
13	Less: Non-Tariff Income	2.59	3.73	17.42
14	Net Annual Revenue Requirement	506.66	513.51	338.05
15	Revenue realized during the year			460.20
16	Gap/ (Surplus) (14-15)			(122.15)
17	Gap/ (Surplus) Adjustment of Prev. years			(53.32)
18	Net Gap/ (Surplus) (16-17)			(175.46)

The Petitioner respectfully submits before the Hon'ble Commission to approve Rs. 338.05 Crore towards ARR for the True-up of FY 2020-21.

Falgun 2020

ANNUAL
PERFORMANCE REVIEW
(APR) for the FY 2021-22

4 Annual Performance Review for FY 2021-22

4.1 Introduction

The Hon'ble Commission approved the Annual Revenue Requirement of Rs. 541.71 Crore for the FY 2021-22 in the Tariff Order dated 12.03.2021. In the instant petition, the Petitioner submits the revised estimates of the expenses for the Annual Performance Review for the FY 2021-22 as per the Tariff Regulations 2018 for the kind consideration of the Hon'ble Commission.

4.2 Performance of Transmission System

4.2.1 Transmission System Availability

Regulation 16 of Tariff Regulations 2018 stipulates the following:

"Normative Annual Transmission System Availability Factor (NATAF):

16.1 The Normative Annual Transmission System Availability Factor for recovery of full transmission charges shall be as under:

<i>(a) for full recovery of transmission charges</i>		
1.	<i>AC System</i>	<i>98%</i>
2	<i>HVDC System</i>	<i>95%</i>
<i>(b) For Incentive Consideration</i>		
3	<i>AC System</i>	<i>99%</i>
4	<i>HVDC System</i>	<i>96%</i>

Accordingly, the Petitioner submits that Transmission System Availability is considered at 98% as per the Tariff Regulations 2018 for FY 2021-22.

4.2.2 Transmission Losses

The Hon'ble Commission has approved Transmission Loss trajectory at 2% for the FY 2021-22 vide Order dated 15.02.2019. The relevant extracts of the said Order is reproduced below:

"Commission's Analysis

The Commission has considered the transmission system availability at 98% (AC System) for full recovery of transmission charges and for incentive at 99% (AC System) in terms of BERC (Multi Year Transmission Tariff and SLDC charges) Regulations, 2018.

The Commission has approved transmission loss target at 2.00% for the control period in the Business Plan (Chapter 6). The Commission accordingly considers

[Signature]

the transmission loss target at 2.00% for each year of the control period of FY 2019-20 to FY 2021-22."

Accordingly, the Petitioner submits that Transmission Loss target is considered at 2% for the FY 2021-22.

4.2.3 Transformer Failure Rate

The Petitioner submits that it would be able to maintain its operational efficiency through proactive measures. Therefore, the transformer failure rate is assumed to be NIL.

4.3 Schedule of Capitalization

The Petitioner submits that it had earlier envisaged to capitalize the entire portfolio of projects (Part 1 of 2 and Part 2 of 2) by FY 2021-22, however, due to reasons beyond the control of the Petitioner particularly Covid induced lockdowns during the FY 2020-21 and FY 2021-22, certain items of the Capital works planned to be capitalized during the FY 2021-22 could not attain Capitalization which has led to a no. of works being spilled into the FY 2022-23. The Hon'ble Commission is requested to take cognizance of this fact and approve the projected Capitalization as depicted below for the FY 2021-22:

Table 25 – BGCL estimate of Asset Capitalization for the FY 2021-22 Phase IV (Part 1 of 2)

S. No.	Transmission Element	Date of Commissioning/ Likely Commissioning
Transmission Lines		
1.	LILO of one circuit of 132 kV D/C Khagaul - Digha TL at Bihta with ACSR Panther Conductor	
1(a)	LILO portion 132 kV S/C Line _ Khagaul (BSPTCL) - Bihta (BSPTCL) Circuit 1	21-22
1(b)	LILO portion 132 kV S/C Line _ Digha (BSPTCL) - Bihta (BSPTCL) Circuit 1	21-22
New 220/132/33 kV GIS substations		
2.	132/33 kV 80 MVA Transformer-2 of GIS, Dumraon New	09-09-2021
Bay Extension Works		
3.	Bihita Bay Extension (2x132 kV GIS)	21-22

Table 26 - BGCL estimate of Asset Capitalization for the FY 2021-22 Phase IV (Part 2 of 2)

S. No.	Transmission Element	Date of Commissioning/ Likely Commissioning
Transmission Lines		



S. No.	Transmission Element	Date of Commissioning/ Likely Commissioning
1.	LILO of 400 kV D/C Nabinagar-II - Patna (PG) Transmission Line at Jakkanpur (New)	21-22
2.	LILO of 400 kV D/C (Quad), ckt 3& 4, of Patna - Balia line, at Naubatpur (New)	21-22
3.	LILO of 220 kVD/C Ara (PG) - Khagaul (BSPTCL) line at Naubatpur (New)	21-22
4.	220 kV D/C Naubatpur (New) - Bihta(BSPTCL) Transmission line.	21-22
5.	132kV D/C Naubatpur (New) - Masaurhi (BSPTCL)	21-22
6.	220 kV D/C Naubatpur (New) - Bhusaula (New) Transmission line	21-22
7.	LILO of 132 kV S/C Jakkanpur/Mithapur - Fatuha TL at Jakkanpur new (being re-conducted with HTLS by BSPTCL)	21-22
8.	132 kV D/C_Line Dumraon (New) - Dumraon (BSPTCL) Ckt 1. (ACSR Zebra Conductor)	21-22
9.	132 kV D/C Dumraon (new)-Buxar (BSPTCL) TL	21-22
10.	LILO of D/C 132 KV Ara (BSPTCL) - Jagdishpur (BSPTCL) at Dumraon New TL	21-22
New 220/132/33 kV GIS substations		
11.	2X500MVA + 1X160 MVA + 3X80MVA, 400/220/132/33 kV GIS station at Jakkanpur	21-22
12.	1X160MVA Transformer at Dumraon	21-22
13.	2X500 MVA + 1X160MVA + 2X80MVA , 400/220/132/33 kV New GIS station at Naubatpur	21-22
14.	2X100MVA, 220/33 kV New GIS at Bhusaula	21-22
Bay Extension Works		
15.	132kV Buxar (BSPTCL)	21-22
16.	220kV Bihta GIS (BSPTCL)	21-22
17.	132 KV Masuarhi (BSPTCL)	21-22

In addition to above Capital works, during the FY 2021-22, the Petitioner proposes to undertake implementation of ABT meters pertaining to Part 1 projects as discussed in preceding chapter. Accordingly, 87 meters are to be commissioned with an overall outlay of Rs. 5.98 Crore for the FY 2021-22. The Petitioner requests the Hon'ble Commission to approve the same.



4.4 Capitalization

The Petitioner submits that the capitalization for FY 2021-22 as per the following table:

Table 27 - BGCL claim of CWIP Statement for the FY 2021-22
(in Rs. Crore)

S.No.	Particulars	Approved in Tariff order date 12.03.2021	Projected for FY 2021-22
1	Opening CWIP	439.98	1,381.60
2	Opening IDC	15.27	159.08
3	Opening IEDC	51.31	137.45
4	Sub Total (Opening)	506.55	1,678.13
5	Capital investment during the year	293.32	29.28
6	IDC addition during the year	33.36	87.41
7	IEDC addition during the year	34.2	17.58
8	Sub Total (Additions)	360.88	134.28
9	Asset capitalisation without IDC & IEDC	733.30	1,169.81
10	IDC capitalised	48.63	201.46
11	IEDC capitalised	85.50	135.26
12	Total Capitalisation (7+8+9)	867.43	1,506.53
13	Closing CWIP (1+4-7)	-	241.07
14	Closing IDC (2+5-8)	-	45.04
15	Closing IEDC (3+6-9)	-	19.77
16	Sub Total (Closing)	-	305.88

4.5 Funding of Capitalization

The Petitioner submits that the Capital Expenditure is being funded with a Debt - Equity ratio of 80:20. While Phase IV (part 1 of 2) has loan agreement with REC, Phase IV (Part 2 of 2) has loan agreement with PFC.

4.6 Gross Fixed Assets

The Petitioner submits the estimated Gross Fixed Assets for the FY 2021-22 as follows:

Table 28 - BGCL claim of Gross Fixed Assets for the FY 2021-22
(in Rs. Crore)



S.No.	Particulars	Approved in Tariff order date 12.03.2021	Projected for FY 2021-22
1	Opening GFA	2,919.69	2,039.42
2	Additions to GFA	867.43	1,506.53
3	Closing GFA (1+2)	3,787.12	3,545.94

4.7 Depreciation

Regulation 23 of Tariff Regulations, 2018 stipulates the following:

- “
- i. Depreciation shall be calculated for each year of the control period on the original cost of the fixed assets of the corresponding year. No advance shall be granted against depreciation.
 - ii. Depreciation shall not be allowed on assets funded by capital subsidies, beneficiary contributions or grants.
 - iii. Depreciation shall be calculated annually on the basis of assets capitalised and put to use based on the straight line method over the useful life of the asset and at the rate not exceeding the rate specified by the Central Electricity Regulatory Commission from time to time as provided in Appendix-III of these Regulations.
The residual value of assets shall be considered as 10% and depreciation shall be allowed to a maximum of 90% of the original cost of the asset. The Transmission Licensee or SLDC, as the case may be, shall submit separate detail of fully depreciated asset along with year of commissioning and year of attaining ninety percent depreciation with the tariff petition.
Provided that freehold land shall not be treated as a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset.
Provided further that the cost of lease hold land shall be amortised evenly within the leased period.
 - iv. The original capital cost of the asset shall include Additional Capitalisation on account of Foreign Exchange Rate Variation as allowed by the Government / Bihar Electricity Regulatory Commission.
 - v. Depreciation shall be chargeable from the first year of operation of the asset. For part of the year, depreciation shall be charged on pro rata basis.
 - vi. A provision of replacement of assets shall be made in the capital investment plan.”

The Petitioner submits that depreciation is based on the capitalisation schedule of the assets. The Weighted average rate of depreciation for the opening GFA and for the Additions is considered to be 4.97% and 3.29% respectively which is considered for the True up for the FY 2020-21. Accordingly, the overall depreciation worked out for FY 2021-22 is summarised in the table below:

Table 29 - BGCL claim of Depreciation for the FY 2021-22

(in Rs. Crore)

H. Johnson

Sl. No.	Particulars	Approved in Tariff order date 12.03.2021	Projected for FY 2021-22
1	Opening GFA (without land)	2,861.14	2,020.48
2	Additions during the year	867.43	1,506.53
3	Less: land during the year	-	-
4	Closing GFA (1+2-3)	3,728.57	3,527.01
5	Average GFA (1+4)/2	3,294.85	2,773.75
6	Weighted average Rate of depreciation on opening assets	5.17%	4.97%
7	Weighted average Rate of depreciation on asset additions during the year	3.92%	3.29%
8	Depreciation (1*6+(2-3)*7)	181.92	150.01

4.8 Interest on Loan Capital and Finance Charges

According to Regulation 24 of Tariff Regulations 2018, Interest and Finance Charges is to be computed as follows:

“

- a) The Transmission Licensee or SLDC, as the case may be, shall provide detailed loan-wise, project wise and utilization-wise details of all the loans.
- b) If the equity actually deployed is more than 30 % of the capital cost, equity in excess of 30 % shall be treated as normative loan:
Provided that where equity actually deployed is less than 30% of the capital cost, the actual loan shall be considered for determination of interest on loan:
- c) Actual loan or normative loan, if any, shall be referred as gross normative loan in this Regulation.
- d) The normative loan outstanding as of 1st April of control period shall be computed by deducting the cumulative repayment as approved by the Commission (basis as mentioned below) up to 31st March of current period (a year before control period) from the gross normative loan.
- e) The repayment for the control period shall be deemed to be equal to the depreciation allowed for the year.
- f) Notwithstanding any moratorium period availed by the Transmission Licensee or SLDC, as the case may be, the repayment of the loan shall be considered from the first year of the control period as per annual depreciation allowed.
- g) The rate of interest shall be the weighted average rate of interest calculated on the basis of actual loan portfolio at the beginning of each year of the control period, in accordance with terms and conditions of relevant loan agreements, or bonds or nonconvertible debentures:
Provided that if no actual loan is outstanding but normative loan is still outstanding, the last available weighted average rate of interest shall be applicable.
Provided further that if no actual loan is outstanding but normative loan is still outstanding and the last available weighted average rate of interest is also not

[Handwritten Signature]

available, rate of interest equal to the State Bank one-year Marginal Cost of Funds-based Lending Rate ('MCLR') shall be applicable.

Provided further that the interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest:

Provided also that exception shall be made for the existing loans which may have different terms as per the agreements already executed if the Commission is satisfied that the loan has been contracted for and applied to identifiable and approved projects:

- h) The Transmission Licensee or SLDC, as the case may be, shall make every effort to refinance the loan as long as it results in net benefit to the beneficiaries.

Provided that the cost associated with such refinancing shall be eligible to be passed through in tariffs and the benefit on account of refinancing of loan and interest on loan shall be shared in the ratio of 50:50 between the Transmission Licensee or SLDC and the beneficiaries.

Provided further that the Transmission Licensee shall submit the calculation of such benefit to the Commission for its approval.

- i) The Transmission Licensee shall enable tracking of the loans converted into grants under schemes like BRGF, PSDF, APDRP, RAPDRP, RGGVY, DDUGVY, RSVP, etc or any other loan from the Central or State Government by providing information and data regularly to the Commission, for enabling the Commission to recover from Transmission Licensee or SLDC, as the case may be, the amount of interest on loans which have been passed on to the beneficiaries in the earlier years and have been converted into grant subsequently so that the recovered amount is passed on to the beneficiaries.

- j) Addition to loan during the year for interest purpose will be restricted to the quantum of assets capitalized and put to use.

- k) The excess interest during construction on account of time and/or cost overrun as compared to the approved completion schedule and capital cost or on account of excess drawal of the debt funds disproportionate to the actual requirement based on Scheme completion status, shall be allowed or disallowed partly or fully on a case to case basis, after prudence check by the Commission. The transmission licensee shall endeavour to adhere the time schedule for various transmission system in accordance with Annexure-A appended for these regulations.

Provided that where the excess interest during construction is on account of delay attributable to an agency or contractor or supplier engaged by the Transmission Licensee, any liquidated damages recovered from such agency or contractor or supplier shall be taken into account for computation of capital cost:

Provided further that the extent of liquidated damages to be considered shall depend on the amount of excess interest during construction that has been allowed by the Commission.

- l) The above interest computation shall exclude interest on loan amount, normative or otherwise, to the extent of capital cost funded by Consumer Contribution, Deposit Works, Grants or Capital Subsidy."

The Petitioner submits rate of Interest has been considered as per the actual long term Loan portfolio as on 31.03.2021. As such, the Rate of Interest considered for



True-up of FY 2020-21 i.e. 10.23% has been considered for the Review for FY 2021-22. Accordingly, the Interest and finance charges for the FY 2021-22 are summarised below:

Table 30 - BGCL claim of Interest on Loan for the FY 2021-22
(in Rs. Crore)

S.No.	Particulars	Approved in Tariff order date 12.03.2021	Projected for FY 2021-22
1	Opening Loan	2,030.39	1,360.89
2	Additions (@80% of GFA additions)	693.94	1,205.22
3	Repayment	181.92	150.01
4	Net Closing Loan (1+2-3)	2,542.41	2,416.11
5	Average Loan (1+4)/2	2,286.40	1,888.50
6	Weighted average rate of Interest (%)	10.33%	10.23%
7	Interest on Loan (5x6)	236.19	193.23

4.9 Operations and Maintenance Expenses

As per Regulation 21 of Tariff Regulations 2018,

“(a) The Commission shall stipulate a separate trajectory of norms for each of the components of O&M expenses viz., Employee cost, Repair and Maintenance (R&M) expense and Administrative and General (A&G) expense.

Provided that such norms may be specified for a specific Transmission Licensee or a class of Transmission Licensees.

(b) Norms shall be defined in terms of number of personnel per ckt/km (for different categories of transmission lines for e.g. 400 kV, 220 kV, 132 kV etc. Lines) and number of personal per bay (for different categories of bay for e.g. 400 kV, 220 kV, 132 kV etc. Bays) along with annual expenses per personnel for Employee expenses; combination of A&G expense per personnel and A&G expense per substation for A&G expenses and R&M expense as percentage of gross fixed assets for estimation of R&M expenses.

(c) One-time expenses such as expense due to change in accounting policy and arrears paid due to pay commission recommendation shall be excluded from the norms in the trajectory.

(d) The unforeseen expenses beyond the control of the Transmission Licensee such as pay revision, shall be excluded from the norms in the trajectory.

(e) The One-time expenses and the expenses beyond the control of the Transmission Licensee shall be allowed by the Commission over and above normative Operation & Maintenance Expenses after prudence check.

(f) The norms in the trajectory shall be specified over the control period with due consideration to productivity improvements.

(g) The norms shall be determined at constant prices of base year and escalation on account of inflation shall be over and above the baseline.



(h) The Transmission Licensee specific trajectory of norms shall be identified by the Commission on the basis of absolute and relative analysis.

(i) In absolute analysis, Transmission Licensee's audited accounts of operations for last three years, expenses claimed for control period, historically approved cost, and prudence check shall be used by the Commission to estimate values of norms."

The Hon'ble Commission vide Order dated 20.03.2020 and Order dated 12.03.2021 has opined that since many Transmission projects are under way and subsequently full network details were not available, therefore the norms for the computation of O&M Expenses could not be determined. In light of the same, the Petitioner herein shall follow the methodology adopted by the Hon'ble Commission towards the O&M Expenses.

4.9.1 Employee Expenses

The employee expenses primarily include costs towards salaries, dearness allowances, bonus, staff welfare and medical benefits, leave travel and earned leave encashment, and the terminal benefits in the form of pension, gratuity etc.

Regulation 21.1 stipulates the following:

"Employee cost shall be computed as per the approved norm escalated by consumer price index (CPI), adjusted by provisions for expenses beyond the control of the Transmission Licensee and one time expected expenses, such as recovery/adjustment of terminal benefits, implications of pay commission, arrears and Interim Relief, governed by the following formula:

$$EMP_n = (EMP_b * CPI \text{ inflation}) + Provision$$

Where:

EMP_n : Employee expense for the year n

EMP_b : Employee expense as per the norm

CPI inflation : is the average increase in the Consumer Price Index (CPI) for immediately preceding three years"

Provision: Provision for expenses beyond control of the Transmission Licensee and expected one-time expenses as specified above. Till the norms are specified by the Commission the employee cost shall be determined on the basis of actual historical cost."

As per the aforesaid regulations, the CPI index for the preceding three years has been shown in the table below:

CPI index

Table 31 - Computation of Average CPI (past 3 years)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Annual Average CPI Index	284.42	299.92	322.50	338.69

Fzitor.com

Particulars	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
CPI Inflation (YOY)		5.45%	7.53%	5.02%
Average		6.00%		

The Petitioner submits the revised employee expenses for the FY 2021-22 based upon the Average CPI Inflation Index (preceding 3 years) and the Employee Expenses claimed for the true-up of FY 2020-21 as shown in the table below:

Table 32 - BGCL claim of Employee Expenses for the FY 2021-22

(in Rs Crore)

Particulars	Approved in Tariff order date 12.03.2021	Projected for FY 2021-22
Base Employee expenses	4.54	11.29
Indexation %	5.35%	6.00%
Inflationary increase	0.24	0.68
Employee expenses	4.78	11.97

4.9.2 Repair and Maintenance Expenses

The Repair and Maintenance Activities are primarily directed towards the upkeep of the transmission system and related office works.

As per Regulation 21.2 of the Tariff Regulations 2018, R&M will be calculated as follows

“Repairs and Maintenance expense shall be calculated as percentage (as per the norm determined) of Opening Gross Fixed Assets excluding land cost for the year governed by following formula:

$$R\&M_n = K_b * GFA_n$$

Where:

R&M_n : Repairs & Maintenance expense for nth year


GFA_n : Opening Gross Fixed Assets for nth year

K_b : Percentage point as per the norm”

The Petitioner submits that the Hon’ble Commission vide Order dated 12.03.2021 while determining ARR for the FY 2021-22, had allowed the R&M Expenses based upon the factor derived by considering the actual R&M expenses against the actual GFA. Following the similar methodology, the Petitioner herein considers the factor as per the True-up values of the previous years as shown in the table below:

Table 33 - Computation of Average % factor (R&M expenses to GFA)

Particulars	FY 2018-19	FY 2019-20	FY 2020-21*
Average GFA (Net of Land)	1,110.75	1,554.84	1,872.41



Particulars	FY 2018-19	FY 2019-20	FY 2020-21*
R&M expenses	6.07	8.52	20.46
% of R&M expenses to GFA (2/1)*100	0.55%	0.55%	1.09%
Average % of R&M expenses to average GFA	0.73%		

*BGCL claim for the True up of FY 2020-21

The Petitioner submits the claim towards R&M expenses on the basis of the factor derived above as shown in the following table:

Table 34 – BGCL claim of Repair and Maintenance Expenses for the FY 2021-22
(in Rs Crore)

S.No.	Particulars	Approved in Tariff order date 12.03.2021	Projected for FY 2021-22
1	Average GFA (excluding land)	3,294.85	2,020.48
2	% Factor on GFA	0.467%	0.73%
3	R&M Expenses (1x2)	15.40	14.73

4.9.3 Administrative and General Expenses

Administration and General expenses mainly comprise costs towards rent charges, telephone and other communication expenses, professional charges, conveyance and travelling allowances and other debits.

As per Regulation 21.3 of the Tariff Regulations 2018, A&G Expenses shall be computed as follows:

“A&G expense shall be computed as per the norm escalated by wholesale price index (WPI) and Consumer Price Index (CPI) in the ratio 60:40 and adjusted by provisions for confirmed initiatives (IT etc. initiatives as proposed by the Transmission Licensee and validated by the Commission) or other expected one-time expenses, and shall be governed by following formula:

$$A\&G_n = (A\&G_b * WPI \text{ inflation}) + \text{Provision}$$

Where:

A&G_n: A&G expense for the year n

A&G_b: A&G expense as per the norm

WPI inflation: is the average increase in the Wholesale Price Index (WPI) for immediately preceding three years

Provision: Cost for initiatives or other one-time expenses as proposed by the Transmission Licensee and validated by the Commission. Till the norms of A&G expenses is specified by the Commission, the actual historical cost will be considered for determination of A&G expenses.”

As per the aforesaid regulations, the Average WPI index for the preceding three years has been shown in the table below:

Prithvi

Table 35 - Computation of Average WPI (past 3 years)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Annual Average WPI Index	114.88	119.79	121.80	123.38
CPI Inflation (YOY)		4.28%	1.68%	1.29%
Average			2.42%	

Accordingly, based upon the derived Inflation Index in accordance with the Tariff Regulations 2018, the Petitioner projects the A&G Expenses as follows:

**Table 36 - BGCL claim of Administrative and General Expenses for the FY 2021-22
(in Rs Crore)**

Sl. No.	Particulars	Approved in Tariff order date 12.03.2021	Projected for FY 2021-22
1	Base A & G Expenses	3.13	7.68
2	Inflationary index %	2.96%	2.42%
3	Add: Inflationary increase	0.09	0.19
4	A&G expenses	3.22	7.87

4.10 Return on Equity

As per Regulation 22 of Tariff Regulations 2018, Return on Equity is to be computed as follows:

“

- a) *Return on equity shall be computed on 30% of the capital cost or actual equity, whichever is lower:
Provided that assets funded by beneficiary contribution, capital subsidies/ grants and corresponding depreciation shall not form part of the capital cost. Actual equity invested in the Transmission Licensee or SLDC, as the case may be, as per book value shall be considered as perpetual and shall be used for computation in this Regulation:
Provided further that the premium if any raised by the Licensee while issuing share capital and investment of internal resources created out of its free reserves, for the funding of the Scheme, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the distribution system, and are within the ceiling of 30% of capital cost approved by the Commission.*
- b) *The return on the equity invested shall be allowed from the date of start of commercial operation and after put to use:*
- c) *Return on equity shall be computed at the rate of 15.5% for the project which is commissioned w.e.f. 01.04.2015 and further incentive equivalent to 0.5% will be allowed in the form of RoE, if the project is completed within schedule as per the Annexure A or original schedule period as the case may be. However, Return on Equity for the project commissioned prior to 01.04.2015 shall be allowed at the rate of 14%.”*



The Petitioner also submits that the Rate of Return on Equity has been considered at 20.71% assuming 25.17% as the effective MAT rate inclusive of surcharge and cess. Accordingly, the Return on Equity has been tabulated below:

Table 37 - BGCL claim of Return on Equity for the FY 2021-22
(in Rs Crores)

Sl. No.	Particulars	Approved in Tariff order date 12.03.2021	Projected for FY 2021-22
1	Opening Equity	583.11	407.05
2	Add: Equity During the year	173.49	301.31
3	Closing equity balance (1+2)	756.60	708.35
4	Average equity $\{(1+3)/2\}$	669.85	557.70
5	Base Rate of Return on equity %	15.5%	15.50%
6	Tax Rate	0.00%	25.17%
7	Pretax Rate of Return on equity % $\{(5)/(1-(6))\}$	15.50%	20.71%
8	Return on Equity (4*7)	103.83	115.52

The working of Tax rate is shown in the table below:

Table 38 -Effective Tax rate

Particulars	Ref	Rate
MAT	A	22%
Add: Surcharge	B	10%
Add: Cess	C	4%
Tax rate	$A*(100\%+B)*(100\%+C)$	25.17%

4.11 Interest on Working Capital

Regulation 26 of Tariff Regulations 2018, stipulates the following methodology for computing the Interest on Working Capital:

"

- a. The Transmission Licensee shall be allowed interest on the estimated level of working capital for the financial year, computed as follows:
- Receivables equivalent to two (2) month of transmission charges calculated on target availability level.
 - O&M Expenses of one (01) month.
 - Maintenance spares @ 15% of O&M expenses for one month.

Less:

- Depreciation, return on equity and contribution to contingency reserves equivalent to two months.

[Handwritten Signature]

- v. Amount of security deposits from Transmission System users, if any, held during the year except the security deposits held in the form of Bank Guarantee from Transmission System Users.
- b. Interest on working capital shall be on normative basis and rate of interest shall be equal to the State Bank one-year Marginal Cost of Funds-based Lending Rate ('MCLR') as of the date on which petition for determination of tariff is filed plus 150 basis points. The rate of interest for the purpose of Truing-up shall be the weighted average MCLR of the concern Financial Year plus 150 basis points.
- c. Interest shall be allowed on the amount held as security deposit from Transmission System Users at the Bank Rate as at the date on which the application for determination of tariff is filed. The interest allowed shall be subject to true up at weighted average Bank Rate of the concern Financial Year.
- d. If the State Government is providing resource gap grant and/or subsidy, the working capital shall be reduced by two months equivalent of that amount. "

The Petitioner submits that one year SBI MCLR as on 15th October 2021 was 7.00% as per **Annexure H**. Accordingly, the Interest on Working Capital has been considered as 8.50%. (SBI MCLR: 7.00% +150 basis points)

Table 39 – BGCL claim of Interest on Working Capital for the FY 2021-22
(in Rs Crores)

S. No.	Particulars	Approved in Tariff order dated 12.03.2021	Projected for FY 2021-22
1	O&M expenses (1 month)	1.95	2.88
2	Maintenance spares @15% of 1 month O&M expenses (1x15%)	0.29	0.43
3	Receivables - 2 months	90.28	81.03
4	Less: Depreciation, RoE and contribution to contingency reserve for 2 months	47.63	45.42
5	Less: Amount of sec deposit held from consumers during the year	-	-
6	Working capital requirement (1+2+3-4-5)	44.90	38.93
7	Rate of interest	8.50%	8.50%
8	Interest on working capital (6x7)	3.82	3.31

4.12 Contribution to Contingency Reserve

Regulation 28 of the Tariff Regulations 2018 provided as follows w.r.t. Contingency Reserve:

"28. Contribution to Contingency Reserve



(a) If the Transmission Licensee or SLDC, as the case may be, has made an appropriation to the Contingency Reserve, a sum not less than 0.25 per cent and not more than 0.5 per cent of the original cost of fixed assets shall be allowed annually towards such appropriation in the calculation of ARR.

Provided that where the amount of such Contingency Reserves exceeds five (5) per cent of the original cost of fixed assets, no further contribution shall be allowed.

Provided further that such contribution shall be invested in securities authorised under the Indian Trusts Act, 1882 within a period of six months of the close of the Year.

(b) The Contingency Reserve shall not be drawn upon during the term of the license except to meet such charges as may be approved by the Commission, such as following:

(i) Expenses or loss of profits arising out of accidents, strikes or circumstances which the management could not have prevented;

(ii) Expenses on replacement or removal of plant or works other than expenses required for normal maintenance or renewal;

(iii) Compensation payable under any law for the time being in force and for which no other provision is made:

Provided that such drawal from contingency reserve shall be computed after making due adjustment for any other compensation that may have been received by the Licensee as part of an insurance cover:

(c) No diminution in the value of contingency reserve as mentioned above shall be allowed to be adjusted as a part of tariff."

The Petitioner in accordance with the said Regulation claims Contribution to Contingency Reserve at 0.50% of the Average GFA for the FY 2021-22 as depicted in the table below:

Table 40 - BGCL claim of Contribution to Contingency Reserve for the FY 2021-22
(in Rs. Crores)

S.No.	Particulars	Approved by the Commission in the Order dated 12.03.2021	BGCL claim for FY 2020-21
1	Opening GFA		2,039.42
2	Closing GFA		3,545.94
3	Average GFA		2,792.68
4	% factor		0.25%
5	Contribution to Contingency Reserve	-	6.98

[Handwritten Signature]

4.13 Non- Tariff Income

The Petitioner submits that for the FY 2021-22, it has considered the Non-Tariff Income as per the Non Tariff Income claimed in the True up for FY 2020-21 as per the methodology adopted by the Hon'ble Commission in the Order dated 12.03.2021.

4.14 Annual Revenue Requirement for the FY 2021-22

Accordingly, the Petitioner submits the Annual Fixed Charges for the FY 2021-22 as follows:

Table 41 - BGCL claim of ARR for the APR of FY 2021-22

(in Rs. Crores)

S. No.	Particulars	Approved in Tariff order dated 20.03.2020	Projected for FY 2021-22
1	O&M expenses (a+b+c)	23.40	34.57
a.	Employee cost	4.78	11.97
b.	R&M expenses	15.40	14.73
c.	A&G Expenses	3.22	7.87
2	Depreciation	181.92	150.01
3	Interest and finance charges	236.19	193.23
4	Interest on working capital	3.82	3.31
5	Return on Equity	103.83	115.52
6	Contribution to Contingency Reserve	-	6.98
7	Gross Annual Revenue Requirement	549.16	503.61
8	Less: Non-Tariff income	7.45	17.42
9	Net ARR (1+2+3+4+5+6-8)	541.71	486.19

The Petitioner requests the Hon'ble Commission to kindly approve the ARR of Rs. 486.19 Crore for the Review of FY 2021-22.

H. Jaisankar

BUSINESS PLAN FOR
THE CONTROL PERIOD
FY 2022-23 TO FY 2024-25

5 Business Plan for the Control Period FY 2022-23 to FY 2024-25

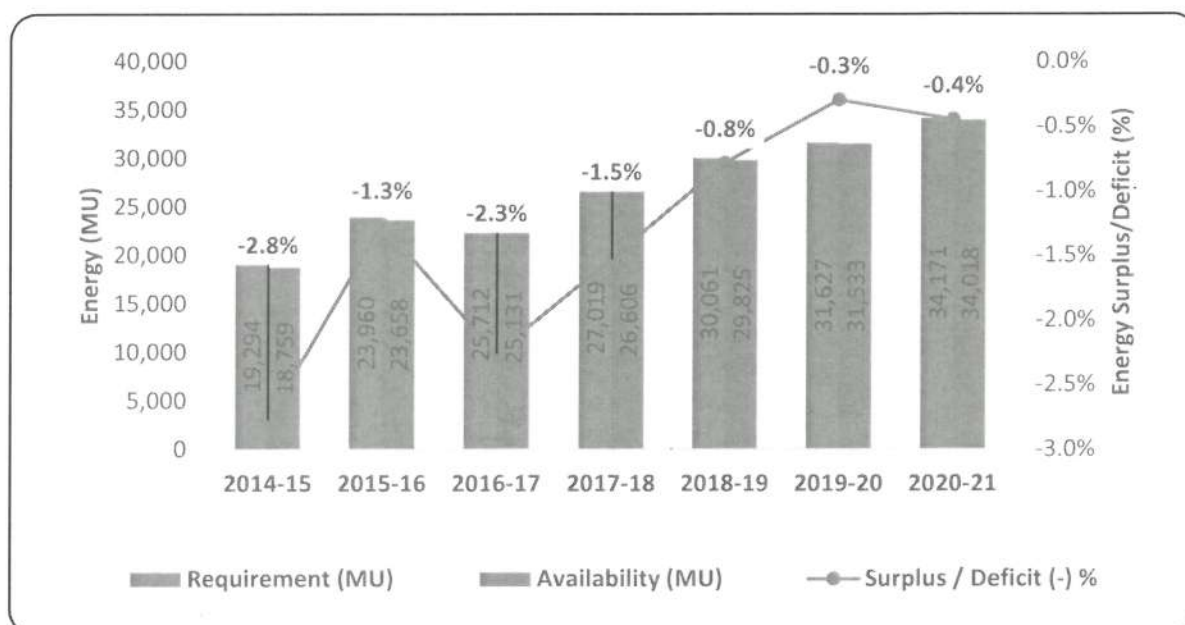
5.1 Introduction

The Hon'ble Commission vide Order dated 15.02.2019 has approved the Business Plan of BGCL for the Control Period FY 2019-20 to FY 2021-22. The current financial year FY 21-22 shall mark the end of the Control Period FY 2019-22. The Business Plan as well as the MYT Petition for the upcoming Control Period *i.e.* FY 2022-23 to FY 2024-25 shall be governed by Bihar Electricity Regulatory Commission (Multi Year Transmission Tariff and SLDC Charges) Regulations, 2021 (hereinafter referred to as "*Tariff Regulations 2021*").

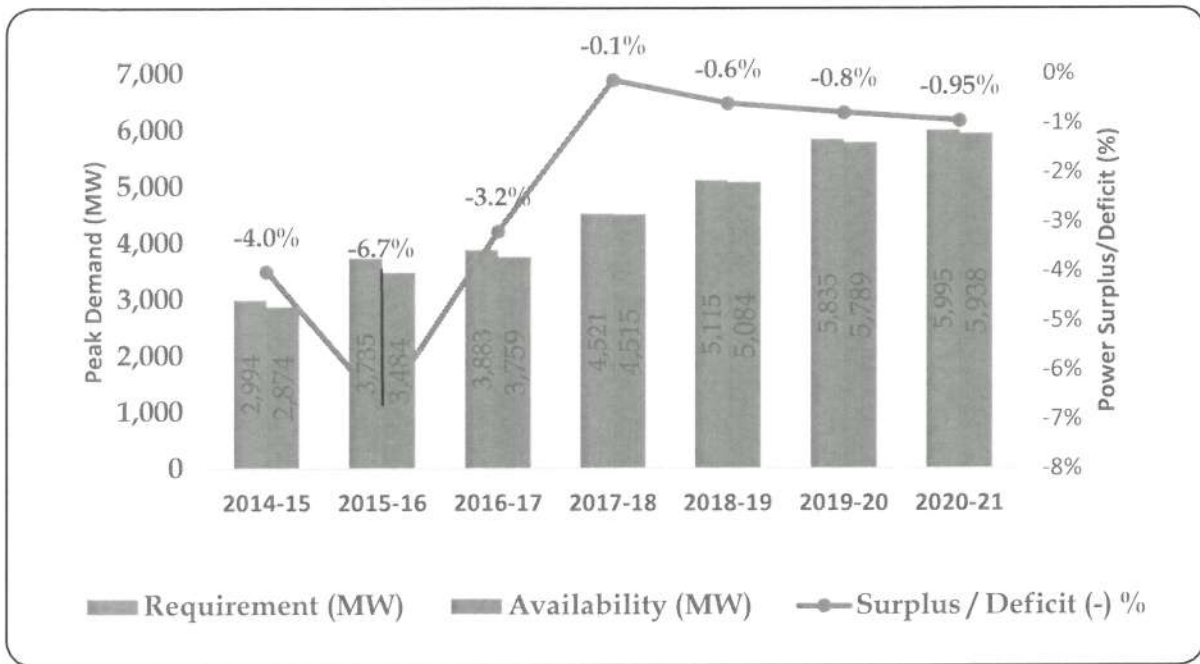
5.2 Power Scenario in Bihar

5.2.1 Power Scenario

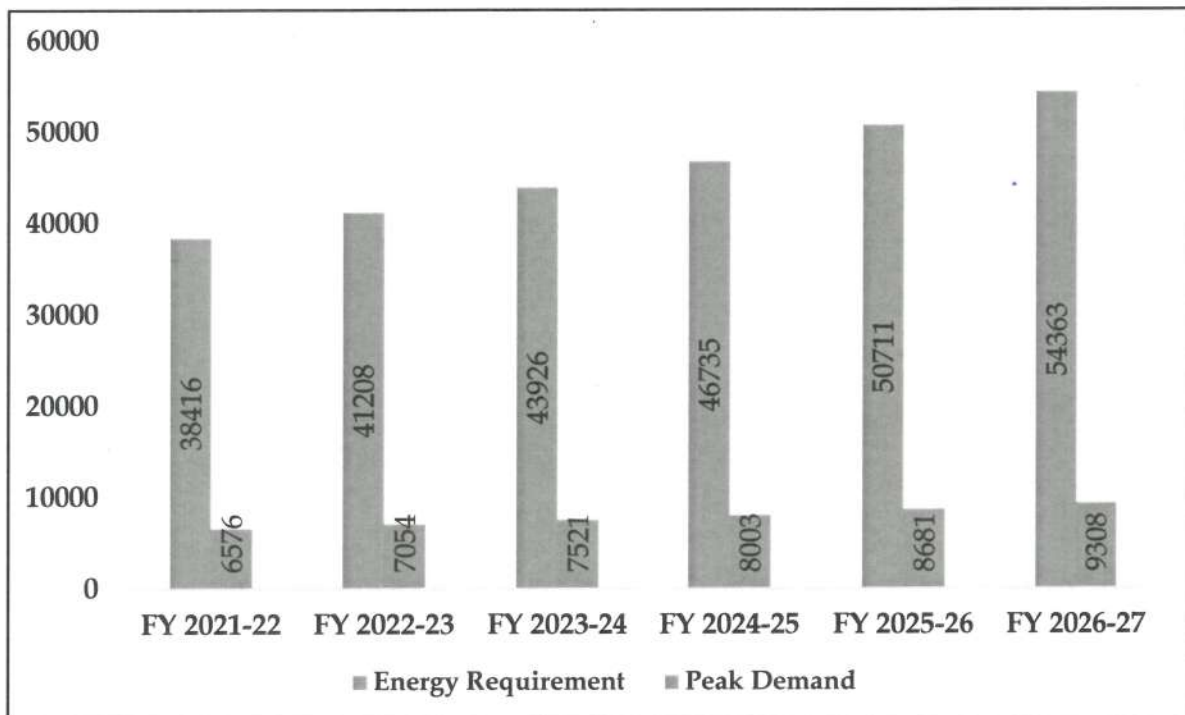
The power supply availability has improved significantly in the past ten years in the state of Bihar. The overall deficit in FY 2009-10 in terms of energy availability was ~14%, which has changed to deficit of only 0.4% in FY 2020-21. Similarly, the deficit in peak demand in FY 2009-10 was 33%, which has dropped significantly to 0.95% in FY 2020-21. The year-on-year power supply availability in terms of energy and MW in the state of Bihar in the past seven years is provided in the chart below:



[Signature]



Going forward, CEA in its 19th Electric Power Survey (EPS) has projected the peak demand (MW) and Energy requirement (MU) for the upcoming years as follows:



Handwritten signature

5.2.2 Generation Capacity Addition

Considering the very limited power generating capacity in the State, the Government of Bihar has taken several initiatives to bridge the demand supply position in the state. The same has been outlined in the "Power for All" report for the state. As per the report, the state is likely to witness capacity addition through Independent Power Projects (IPPs), State Sector Projects and shares from Central Projects. As evident from the table below, the generation capacity has increased substantially by 27% and 17% during past 2 years. Accordingly, the total generation portfolio for FY 2020-21 *vis-à-vis* Generation portfolio during the previous years as per Power for All report is provided below:

Table 42 - Year on Year Generation portfolio of the state of Bihar (in MW)

Particulars	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21
State Sector					
State Thermal	210.00	210.00	-	-	-
State Hydro	-	-	-	-	-
Central Generating Station					
CGS Thermal	2,531.24	2,714.33	3,849.33	4,638.39	5,578.00
CGS Hydro	129.43	110.00	110.00	110.00	110.00
IPPs Project	109.10	502.52	536.45	972.77	1,016.16
JV/Partnership					
NCE/RNES	70.70	70.70	70.70	70.70	70.70
Total	3,050.47	3,607.55	4,566.48	5,791.86	6,774.86

5.2.3 Transmission Capacity in the State

The transmission of power in the State of Bihar primarily takes place at 400kV, 220KV and 132 KV voltage levels and is managed and operated by 2 Transmission Licensees, BSPTCL (also STU) and BGCL. The transmission network of the State Transmission system currently operates a portfolio of 154 substations with a total capacity of approximately 23,590 MVA and transmission lines of approximately 16,661.47 kms. The voltage-wise network details for the state of Bihar are provided in the table below:

Table 43 - Transmission Network details in the state of Bihar

Grid Sub stations	No.of sub stations	Transformation Capacity (MVA)
220/132/33 KV	26	10220
220/132 KV	2	660

[Handwritten Signature]

132/33 KV	126	12710
Total	154	23590

Transmission Lines	No. of Transmission lines	Line length (ckm)
400 KV	0	0
220 KV	88	4754.15
132 KV	362	11907.32
Total	450	16661.47

By the end of the Control Period FY 2022-25, the transmission capacity in the intra-state transmission licensees is further expected to increase to cater the ever-growing consumer demand.

5.2.4 Key challenges for Transmission business

Transmission network serves as an important link between the Generation and Distribution segments of electricity supply business. The issues and challenges pertaining to the Transmission business are mostly in terms of keeping up with the growth needs of the other two segments. The growth in the demand along with increasing electrification at distribution end drive the need to meet the peak demand and energy requirement by arranging supply from internal and external generation sources for which the transmission system has to be strengthened adequately and timely for maintaining grid stability and supply quality. Overall the challenges in the transmission segment are summarised below:

- Taking into account the tremendous growth that is expected to take place during the ensuing MYT control period in terms of power availability and retail sales, the Transmission segment has to cope up by suitably enhancing the growth rate of infrastructure additions and undertaking appropriate R&M schemes. Thus, keeping pace with the ever increasing power requirements would be a major business challenge for the Transmission Company during the ensuing MYT control period.
- The Open Access regulations were issued by the Hon'ble Commission in 2018 according to which the eligible person (Licensee, Generating Company, Consumer etc.) is allowed for non-discriminatory open access to the intra-

F. J. Prasad

state transmission system subject to availability of adequate transmission capacity. With the growth of the power market, the open access consumers may put a challenge before the Transmission Company in terms of providing access to transmission facilities. Transmission Company has to take care of additional capacity that might be required to accommodate such needs as such open access consumers may not necessarily be existing customers.

- At execution level, the key challenge for Transmission Company lie with managing the multiple clearances related to projects, lands and right of way issues efficiently to ensure that all the schemes are approved and implemented without any time and cost overrun.
- Replacement of ageing assets is necessary to maintain reliability of supply. Further, to maintain safety and reliability in operation of transmission system, it's important to improve the condition monitoring and augment or refurbish the network and control/ switchgear equipment.

5.3 Business Plan of BGCL For Control Period FY 2022 - 2025

The Petitioner, in compliance with Section 5.1 of the Bihar Electricity Regulatory Commission (Multiyear Transmission Tariff and SLDC Charges) Regulations 2021 has prepared the Business Plan for the three-year control period beginning FY 2022-23 to FY 2024-25. The Objective of the Business Plan is to project the capital investments, expected financing and operations and maintenance costs, other nontariff income as well as set the performance targets for the three-year control period.

5.3.1 Key Objectives

The key objectives outlined considered for developing the business plan are as follows:

- Strategic Planning: The major objective of creation of the business plan is to analyse and identify the major requirements in the future. Accordingly, forecasts have been made in terms of capacity addition, financing



requirements and performance standards achievable under the given constraints. With the level of economic growth, the State of Bihar is experiencing, it becomes utmost important to project the growth in transmission network infrastructure commensurate with the energy demand required for fuelling the economic growth targets of the State.

- **Regulatory Compliance:** The business plan has been created in congruence with all relevant regulations and directions issued by Hon'ble Commission.
- **Operational Targets:** The Business Plan is prepared so as to be useful for the Managing Board, associated stakeholders, the Hon'ble Commission and various government bodies. The future projections in the Plan would help the BGCL, in decision making and taking proactive actions, and thus improving the overall operational efficiency of the transmission infrastructure.

5.3.2 Capital Investment Plan

Phase IV Part 1 of 2

The Petitioner submits that a major portion of Phase IV (Part 1 of 2) work has attained completion / likely to be completed by the end of the Control period FY 2019-22 and the detailed list of the transmission elements are provided in the table below.

Table 44 - Assets commissioned/ likely to be commissioned during FY 2019-22 (Phase IV Part 1 of 2)

S. No.	Transmission Element (Part 1 of 2)	Actual / Likely Year of Commercial Operation
Transmission Lines		
1.	220 kV D/C Line _ Haveli Kharagpur - Goradih Circuit 1	26-01-2019
2.	220 kV D/C Line _ Haveli Kharagpur - Goradih Circuit 2	26-01-2019
3.	LILO 132 kV D/C Line _ Goradih - Sultanganj Circuit 1	26-01-2019
4.	LILO 132 kV D/C Line _ Goradih - Sultanganj Circuit 2	26-01-2019
5.	LILO 132 kV D/C Line _ Goradih - Kahalgaon Circuit 1	26-01-2019
6.	LILO 132 kV D/C Line _ Goradih - Kahalgaon Circuit 2	26-01-2019
7.	132 kV D/C Line _ Goradih - Sabour (BSPTCL) Circuit 1	16-06-2019
8.	132 kV D/C Line _ Goradih - Sabour (BSPTCL) Circuit 2	16-06-2019



S. No.	Transmission Element (Part 1 of 2)	Actual / Likely Year of Commercial Operation
9.	220 kV D/C Line _ Patna (PG) - Khagaul (BSPTCL) Circuit 1	08-08-2019
10.	220 kV D/C Line _ Patna (PG) - Khagaul (BSPTCL) Circuit 2	08-08-2019
11.	132 kV D/C Line _ Jehanabad (BSPTCL) - Khijir Sarai (BGCL) Circuit 1	26-02-2020
12.	132 kV D/C Line _ Jehanabad (BSPTCL) - Khijir Sarai (BGCL) Circuit 2	26-02-2020
13.	LILO Portion 220 kV D/C Line _ Mokama (BGCL) - Biharsharif (BSPTCL) Circuit 1	20-09-2020
14.	LILO Portion 220 kV D/C Line _ Mokama (BGCL) - Biharsharif (BSPTCL) Circuit 2	20-09-2020
15.	LILO Portion 220 kV D/C Line _ Mokama (BGCL) - BTPS (Begusarai) Circuit 1	20-09-2020
16.	LILO Portion 220 kV D/C Line _ Mokama (BGCL) - BTPS (Begusarai) Circuit 2	20-09-2020
17.	132 kV D/C Line _ Mokama (BGCL) - Hatidah (BSPTCL) Circuit 1	24-09-2020
18.	132 kV D/C Line _ Mokama (BGCL) - Hatidah (BSPTCL) Circuit 2	24-09-2020
19.	LILO 132 kV S/C Line _ Khagaul (BSPTCL) - Bihta (BSPTCL) Circuit 1	21-22
20.	LILO 132 kV S/C Line _ Digha (BSPTCL) - Bihta (BSPTCL) Circuit 1	21-22
New 220/132/33 kV GIS substations		
21.	220/132 kV 160 MVA Transformer 2 of GIS, Narhat (Nawada)	19-01-2020
22.	220/132 kV 160 MVA Transformer 2 of GIS, Khirjisarai (Gaya Manpur)	22-08-2019
23.	220/132 kV 160 MVA Transformer 2 of GIS, Sheikhopur Sarai	08-11-2019
24.	132/33 kV 50 MVA Transformer 2 of GIS, Goradih (Sabour)	21-12-2019
25.	220/132 kV 160 MVA Transformer 2 of GIS, Haveli Kharagpur (Jamalpur)	19-01-2020
26.	220/132 kV 160 MVA Transformer-2 of GIS, Mokama (Hathidah New)	24-09-2020
27.	132/33 kV 80 MVA Transformer-2 of GIS, Mokama (Hathidah New)	01-10-2020
28.	GIS - 220 kV / 132 kV / 33kV_Mokama (Hathidah New)	01-10-2020
29.	132/33 kV 80 MVA Transformer-2 of GIS, Dumraon New	09-09-2021
Bay Extension Work		
30.	Sabour Bay Extension (2 * 133 kV Bay AIS)	16-06-2019
31.	Patna Bay Extension (2 * 220 kV Bay GIS)	08-08-2019
32.	Khagaul Bay Extension (2 * 220 kV Bay GIS)	08-08-2019

Azizur Rahman

S. No.	Transmission Element (Part 1 of 2)	Actual / Likely Year of Commercial Operation
33.	Jehanabad Bay Extension (2x132 kV AIS)	26-02-2020
34.	Hatidah Bay Extension (2 x 132 kV Bay AIS)	24-09-2020
35.	Bihita Bay Extension (2x132 kV GIS)	21-22

It is submitted that despite the best efforts put in by the Petitioner, few assets planned to attain capitalization during the Control Period FY 2019-20 have spilled over to FY 2022-23. As such, the remaining Transmission elements of Part 1 of 2 that are proposed to attain Capitalization during the Control period FY 2022-25 are listed below (along with the Cost estimate) for the kind consideration of the Hon'ble Commission:

Table 45 - Assets estimated to be commissioned during FY 2022-25 (Phase IV Part 1 of 2)

S.No.	Transmission Element	Likely Year of Commissioning	Cost Estimate (in Rs. Crore)
Substations			
1.	132/33 kV 50 MVA Transformer 3 of GIS, Khirjisarai (Gaya Manpur)	22-23	9.99
2.	220/132 kV 160 MVA Transformer 2 of GIS, Goradih (Sabour)	22-23	18.53
3.	132/33 kV Transformer-1 50 MVA of GIS, Mokama (Hatidah)	22-23	9.99
4.	220/132 kV 160 MVA Transformer 1 of GIS, Mokama (Hatidah)	22-23	18.53

Phase IV Part 2 of 2

The Petitioner submits that the following items under Part 2 of 2 are proposed to attain completion/ completed during the previous Control period FY 2019-20 to FY 2021-22:

Table 46 - Assets commissioned/ likely to be commissioned during FY 2019-22 (Phase IV Part 2 of 2)

S. No.	Transmission Element (Part 2 of 2)	Actual / Likely Year of Commercial Operation
Transmission Lines		
1.	LILO Portion 220 kV D/C Line_Ara (PG) - Dumraon New (BGCL) Ckt-I	13-12-2020
2.	LILO Portion 220 kV D/C Line_Ara (PG) - Dumraon New (BGCL) Ckt-II	13-12-2020



S. No.	Transmission Element (Part 2 of 2)	Actual / Likely Year of Commercial Operation
3.	LILO Portion 220 kV D/C Line_Nadokhar (BSPTCL) - Dumraon New (BGCL) Ckt-I	13-12-2020
4.	LILO Portion 220 kV D/C Line_Nadokhar (BSPTCL) - Dumraon New (BGCL) Ckt-II	13-12-2020
5.	132 kV D/C Line_Dumraon New (BGCL) - Dumraon (BSPTCL) Ckt-II	10-01-2021
6.	LILO of 400 kV D/C Nabinagar-II - Patna (PG) Transmission Line at Jakkanpur (New)	21-22
7.	LILO of 400 kV D/C (Quad), ckt 3& 4, of Patna - Balia line, at Naubatpur (New)	21-22
8.	LILO of 220 kV D/C Ara (PG) - Khagaul (BSPTCL) line at Naubatpur (New)	21-22
9.	220 kV D/C Naubatpur (New) - Bihta (BSPTCL) Transmission line.	21-22
10.	132kV D/C Naubatpur (New) - Masaurhi (BSPTCL)	21-22
11.	220 kV D/C Naubatpur (New) - Bhusaula (New) Transmission line	21-22
12.	LILO of 132 kV S/C Jakkanpur/Mithapur - Fatuha TL at Jakkanpur new (being re-conducted with HTLS by BSPTCL)	21-22
13.	132 kV D/C_Line Dumraon (New) - Dumraon (BSPTCL) Ckt 1. (ACSR Zebra Conductor)	21-22
14.	132 kV D/C Dumraon (new)-Buxar (BSPTCL) TL	21-22
15.	LILO of D/C 132 KV Ara (BSPTCL) - Jagdishpur (BSPTCL) at Dumraon New TL	21-22
New 220/132/33 kV GIS substations		
16.	GIS - 220 kV / 132 kV / 33kV_Dumraon New	10-01-2021
17.	220/132 kV 160 MVA Transformer-1 of GIS, Dumraon New	01-01-2021
18.	132/33 kV 80 MVA Transformer-1 of GIS, Dumraon New	10-01-2021
19.	2X500MVA + 1X160 MVA + 3X80MVA, 400/220/132/33 kV GIS station at Jakkanpur	21-22
20.	1X160MVA Transformer at Dumraon	06-09-2021
21.	2X500 MVA + 1X160MVA + 2X80MVA , 400/220/132/33 kV New GIS station at Naubatpur	21-22
22.	2X100MVA, 220/33 kV New GIS at Bhusaula	21-22
Bay Extension Work		
23.	Dumraon Bay Extension (2 x 132 kV Bay AIS)	10-01-2021
24.	132kV Buxar (BSPTCL)	21-22
25.	220kV Bihta GIS (BSPTCL)	21-22
26.	132 KV Masuarhi (BSPTCL)	21-22



Further, the remaining Transmission elements of Part 2 of 2 that are proposed to attain Capitalization during the Control period FY 2022-25 are listed below (along with the Cost estimate) for the kind consideration of the Hon'ble Commission:

Table 47 - Assets estimated to be commissioned during FY 2022-25 (Phase IV Part 2 of 2)

S.No.	Transmission Element	Likely Year of Commissioning	Cost Estimate (in Rs. Crore)
Transmission Lines			
5.	LILO of one Ckt of 132kV D/C Purnea-Naugachia/ Khagaria line at Katihar (BSPTCL)	22-23	23.90
6.	LILO of 220 kV S/C Khagaul (BSPTCL) - Sipara (BSPTCL) TL at Jakkanpur (New)	22-23	14.21
7.	132kV D/C Naubatpur (New) - Palliganj (BSPTCL)	22-23	30.50
8.	LILO of 220 kV D/C Sipara (BSPTCL) - Bihta (BSPTCL) TL at Jakkanpur (new).	22-23	17.55
9.	LILO of 132 kV D/C Jakkanpur - Sipara TL at Jakkanpur new (being re-conducted with HTLS by BSPTCL)	22-23	41.19
Substations			
10.	2X160 MVA + 1X50MVA, Transformer at Jakkanpur	22-23	25.51
11.	1X160MVA Transformer at Naubatpur	22-23	10.05
Bay Extension			
12.	132kV Palliganj (BSPTCL)	22-23	14.74
13.	132kV Katihar (BSPTCL)	22-23	6.05

Phase IV Part 2 of 2 (Supplementary Projects)

The Petitioner submits that Patna is experiencing overvoltage in the order of 420-430kV mainly during off-peak demand. Thus, in order to keep operational flexibility and control over voltages, it has been planned to install suitable bus reactors at 400 KV levels in STU system in Patna. Therefore, 2x125MVA bus reactors planned at 400 kV level at new substations Jakkanpur and Naubatpur.

The petitioner further submits that augmentation of 220/132kV Chapra S/s with 220/132kV, 160MVA 3rd ICT along with associated bays was approved in 18th Standing Committee Meeting of Eastern Region held on 13th June 2016. Additionally, in the 19th Standing Committee Meeting of Eastern Region held on 1st



September 2017, reactive compensation at 400/ 220/ 132 kV intrastate substation of Bihar was approved and it was decided to install 420kV, 2x125MVA bus reactor at 400/220/132kV Naubatpur GIS S/s, 400/220/132kV Jakkanpur GIS S/s and Baktiyarpur 400/220/132 GIS S/S (To be implemented by BSPTCL).

Accordingly, the said works were planned to be completed during the ongoing control period FY 2019-22. However, due to reasons beyond the control of the Petitioner, the Reactor works could not attain completion during the current period. The Petitioner therefore has planned to undertake such works in the first year of the Control period *i.e.* FY 2022-23. The Petitioner further submits that the following elements along with Cost estimate are proposed to be implemented as part of this scheme:

Table 48 - Assets estimated to be commissioned during FY 2022-25 (Phase IV Part 2 of 2 Suppl.)

Particulars - Transmission Element	Likely Year of Commissioning	Cost Estimate (in Rs. Crore)
420kV, 2x125MVA bus reactor at 400/220/132/33kV GIS Jakkanpur S/s along with associated bays	2022-23	44.84
420kV, 2x125MVA bus reactor at 400/220/132/33kV GIS Naubatpur S/s along with associated bays	2022-23	44.84
220/132kV, 160MVA 3 rd ICT at 220/132/33kV GIS Amnour S/s along with associated bays	2022-23	21.46

The Total Cost estimate under this scheme is as follows:

Table 49 - Cost Estimate of Works pertaining to Part 2 of 2 (Supplementary)

Description	Amount (in Rs. Crore)
Civil works	
i) Infrastructure for substation	0.60
Equipment Cost	
a) Sub-stations	88.78
Total:	89.38
IEDC (12%)	10.73
Contingency (3%)	2.68
Total project Cost	102.8



Description	Amount (in Rs. Crore)
Interest During Construction (IDC)	8.34
Grand Total	111.14

ABT Metering

As submitted in the previous chapters, the Petitioner in order to facilitate the SAMAST guidelines has undertaken works pertaining to implementation of ABT Meters in its transmission network. It is submitted that an estimated 87 no.s would be installed in the BGCL transmission network (Part 1&2, Phase I) during the FY 2021-22. However, the remaining 331 no.s of Meters are proposed to be implemented during the FY 2022-23 at an estimated cost of Rs. 11.66 Crores with overall cost of Rs. 17.64 Crore.

Based on the schemes aforementioned, the Petitioner has summarized the overall capitalisation in the table below for kind consideration of the Hon'ble Commission:

Table 50 – Scheme wise Capitalization Plan for the period FY 2020-25
(in Rs. Crores)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Opening Value of Assets	1,740.22	2,039.42	3,545.94	3,909.46	3,909.46
Addition during the year	299.19	1,506.52	363.52	-	-
Capex Part 1 of 2	150.70	152.17	57.03	-	-
Capex Part 2 of 2	148.52	1,348.37	183.69	-	-
Capex Part 2 of 2 (Supplementary)	-	-	111.14	-	-
ABT metering	-	5.98	11.66	-	-
Closing Value of Assets	2,039.42	3,545.94	3,909.46	3,909.46	3,909.46

5.3.3 Mode of Financing

The petitioner submits that the above stated projects would be executed through domestic funding of which 80% would be through debt and 20% would be through Equity.

The year wise investment schedule is as follows:



Debt:

The Petitioner has tied up loan facilities from PFC and REC and based on the capitalisation schedule, the overall deployment of debt during the period FY 2020-21 to FY 2024-25 on a normative basis is shown in the table below:

Table 51 - Mode of Financing during the period FY 2020-25 - Debt Addition
(in Rs. Crores)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Loan addition during the year	239.35	1,205.22	290.82	-	-

Equity:

Table 52 - Mode of Financing during the period FY 2020-25 - Debt Addition
(in Rs. Crores)

Particulars	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25
Equity addition during the year	59.84	301.30	72.70	-	-

5.3.4 Rate of Interest on Loan

As per Regulations 24 of Tariff Regulations 2021, Rate of Interest on loan is to be set as follows:

“(g) The rate of interest shall be the weighted average rate of interest calculated on the basis of actual loan portfolio at the beginning of each year of the control period, in accordance with terms and conditions of relevant loan agreements, or bonds or non-convertible debentures:

Provided that if no actual loan is outstanding but normative loan is still outstanding, the last available weighted average rate of interest shall be applicable.

Provided further that if no actual loan is outstanding but normative loan is still outstanding and the last available weighted average rate of interest is also not available, rate of interest equal to the State Bank (oneyear tenor) Marginal Cost of Funds-based Lending Rate (‘MCLR’) shall be applicable.

Provided further that the interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest:

Provided also that exception shall be made for the existing loans which may have different terms as per the agreements already executed if the Commission is satisfied that the loan has been contracted for and applied to identifiable and approved projects:”

Handwritten signature

The Petitioner submits that for Phase IV, (part 1 of 2), the loan has been sanctioned from REC with the weighted average rate of interest as on FY 2020-21 being 10.72% and for Phase IV, (part 2 of 2), the loan has been sanctioned from PFC with the weighted average rate of interest being 9.52%.

5.3.5 Rate of Return on Equity

As per Regulation 22 of Tariff Regulations 2021, Return on Equity is to be calculated as follows:

“22. Return on Equity

(a) Return on equity shall be computed on 30% of the capital base or actual equity, whichever is lower:

Provided that assets funded by beneficiary contribution, capital subsidies/ grants and corresponding depreciation shall not form part of the capital base. Actual equity invested in the Transmission Licensee or SLDC, as the case may be, as per book value shall be considered as perpetual and shall be used for computation in this Regulation:

Provided further that the premium if any raised by the Licensee while issuing share capital and investment of internal resources created out of its free reserves, for the funding of the Scheme, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the transmission system, and are within the ceiling of 30% of capital cost approved by the Commission.

(b) The return on the equity invested shall be allowed from the date of start of commercial operation and after put to use:

(c) Return on equity shall be computed at the rate of 15.5% for the project which is commissioned w.e.f. 01.04.2015 and further incentive equivalent to 0.5% will be allowed in the form of RoE, if the project is completed within schedule as per the Annexure A or original schedule period as the case may be. However, Return on Equity for the project commissioned prior to 01.04.2015 shall be allowed at the rate of 14%.”

The petitioner, accordingly, has considered the Rate of Return on Equity as 15.5% for the assets proposed to attain capitalization during the Control period FY 2022-25.

The pre-tax ROE is considered at 20.71% as per Regulations assuming MAT (inclusive of surcharge and cess) at 25.17%.

5.3.6 Operation and Maintenance Expenses

The Petitioner submits that the Operation and Maintenance Expenses have been further categorized under three major heads:



- Employee Expenses
- Repair and Maintenance
- Administrative and General Expenses

Employee Expenses

The employee expenses primarily comprise of Salaries and Wages, Dearness Allowances, perks, performance related pay, bonus, staff welfare and medical benefits, leave travel allowance, earned leave encashment and retirement benefits such as provident fund, gratuity, pension etc.

As per the Regulation 21.1 of Tariff Regulations 2021, the Employee Costs are to be considered as follows:

“21.1 Employee Cost

Employee cost shall be computed as per the approved norm escalated by consumer price index (CPI), adjusted by provisions for expenses beyond the control of the Transmission Licensee and one time expected expenses, such as recovery/adjustment of terminal benefits, implications of pay commission, arrears and Interim Relief, governed by the following formula:

$$EMP_n = (EMP_b * CPI \text{ inflation}) + Provision$$

Where:

EMP_n : Employee expense for the year n

EMP_b : Employee expense as per the norm

CPI inflation: is the average increase in the Consumer Price Index (CPI) for immediately preceding three years

Provision: Provision for expenses beyond control of the Transmission Licensee and expected one-time expenses as specified above.

Till the norms are specified by the Commission the employee cost shall be determined on the basis of actual historical cost.”

As per the aforesaid regulations, the CPI index for the preceding three years has been shown in the table below:

Table 53 - Computation of Average CPI Index (past 3 years)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Annual Average CPI Index	284.42	299.92	322.50	338.69
CPI Inflation (YOY)		5.45%	7.53%	5.02%
Average			6.00%	



The Petitioner submits that the actual employee expenses in the year FY 2020-21 have been Rs 11.29 Crore. Considering the average increase in CPI at 6.00%), the overall employee expenses over the control period are summarised below:

Table 54 - Employee Expenses for the Control Period FY 2022-25
(in Rs. Crore)

Particulars	FY 2022-23	FY 2023-24	FY 2024-25
Base Employee expenses	11.97	12.69	13.45
Indexation %	6.00%	6.00%	6.00%
Inflationary increase	0.72	0.76	0.81
Employee expenses	12.69	13.45	14.25

In this regard, the petitioner submits that the overall projected employee expenses are yet to stabilize since a number of transmission assets are under development phase currently. The Petitioner will therefore approach the Hon'ble Commission to consider the actual employee expenses pursuant to completion of the projects.

Repair and Maintenance Expenses (R&M)

The Repair and Maintenance Activities primarily pertains towards the upkeep of the transmission system and related office works.

As per Regulation 21.2 of the Tariff Regulations 2021, R&M expenses will be computed as follows:

"21.2 Repairs and Maintenance (R&M) Expense

Repairs and Maintenance expense shall be calculated as percentage (as per the norm determined) of Opening Gross Fixed Assets excluding land cost for the year governed by following formula:

$$R\&M_n = K_b * GFA_n$$

Where:

R&M_n : Repairs & Maintenance expense for nth year

GFA_n : Opening Gross Fixed Assets for nth year

K_b: Percentage point as per the norm"

Considering the R&M Expenses to be 0.73% of Gross Fixed Assets as per the average of the past 3 years (depicted below), the Petitioner would like to submit the R&M expenses as follows:

Table 55 - Computation of Average % factor (R&M expenses to GFA)

Particulars	FY 2018-19	FY 2019-20	FY 2020-21*
Average GFA (Net of Land)	1,110.75	1,554.84	1,872.41



Particulars	FY 2018-19	FY 2019-20	FY 2020-21*
R&M expenses	6.07	8.52	20.46
% of R&M expenses to GFA (2/1)*100	0.55%	0.55%	1.09%
Average % of R&M expenses to average GFA	0.73%		

Table 56 - Repair and Maintenance Expenses for the Control Period FY 2022-25
(in Rs. Crore)

S.No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	Average GFA (excluding land)	3,523.33	3,890.53	3,890.53
2	% Factor on GFA	0.73%	0.73%	0.73%
3	R&M Expenses (1x2)	25.69	28.36	28.36

The Petitioner reiterates that the overall projected Repair and Maintenance Expenses are yet to stabilize since a number of the transmission assets are currently under development. The Petitioner will therefore approach the Hon'ble Commission to consider the actual Repair and Maintenance expenses pursuant to completion of the projects.

Administrative and General Expenses (A&G)

Administration and General Expenses mainly comprise costs towards rent charges, telephone and other communication expenses, professional charges, conveyance and travelling allowances and other debits.

As per Regulation 21.3 of the Tariff Regulations 2021, A&G will be calculated as follows:

"21.3 Administrative and General (A&G) Expense

A&G expense shall be computed as per the norm escalated by wholesale price index (WPI) and Consumer Price Index (CPI) in the ratio 60:40 and adjusted by provisions for confirmed initiatives (IT etc. initiatives as proposed by the Transmission Licensee and validated by the Commission) or other expected one-time expenses, and shall be governed by following formula:

$$A\&G_n = (A\&G_b * WPI \text{ inflation}) + \text{Provision}$$

Where:

A&G_n: A&G expense for the year n

A&G_b: A&G expense as per the norm

WPI inflation: is the average increase in the Wholesale Price Index (WPI) for immediately preceding three years.

Provision: Cost for initiatives or other one-time expenses as proposed by the Transmission Licensee and validated by the Commission. Till the norms of A&G



expenses is specified by the Commission, the actual historical cost will be considered for determination of A&G expenses."

As per the above Regulation, the WPI index for the preceding three years has been shown in the table below:

Table 57 - Computation of Average CPI Index (past 3 years)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Annual Average WPI Index	114.88	119.79	121.80	123.38
CPI Inflation (YOY)		4.28%	1.68%	1.29%
Average			2.42%	

Accordingly, the Petitioner submits the A&G Expenses for the Control period FY 2022-25 as follows:

Table 58 - Administration and General Expenses for the Control period FY 2022-25
(in Rs. Crore)

Sl. No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	Base A & G Expenses	7.68	7.87	8.06
2	Inflationary index %	2.42%	2.42%	2.42%
3	Add: Inflationary increase	0.19	0.19	0.19
4	A&G expenses	7.87	8.06	8.25

The Petitioner reiterates that the overall projected Repair and Maintenance Expenses are yet to stabilize since a number of the transmission assets are currently under development. The Petitioner will therefore approach the Hon'ble Commission to consider the actual Repair and Maintenance expenses pursuant to completion of the projects.

5.3.7 Depreciation

The petitioner submits to the Hon'ble Commission that the Depreciation has been estimated in accordance with the Regulation 23 of the Tariff Regulations 2021, which states:

"23. Depreciation

(i) Depreciation shall be calculated for each year of the control period on the original cost of the fixed assets of the corresponding year. No advance shall be granted against depreciation.



(ii) Depreciation shall not be allowed on assets funded by capital subsidies, beneficiary contributions or grants.

(iii) Depreciation shall be calculated annually on the basis of assets capitalised and put to use based on the straight line method over the useful life of the asset and at the rate not exceeding the rate specified by the Central Electricity Regulatory Commission from time to time.

The residual value of assets shall be considered as 10% and depreciation shall be allowed to a maximum of 90% of the original cost of the asset.

The Transmission Licensee or SLDC, as the case may be, shall submit separate detail of fully depreciated asset along with year of commissioning and year of attaining ninety percent depreciation with the tariff petition.

Provided that freehold land shall not be treated as a depreciable asset and its cost shall be excluded while computing 90% of the original cost of the asset.

Provided further that the cost of lease hold land shall be amortised evenly within the leased period.

(iv) The original capital cost of the asset shall include Additional Capitalisation on account of Foreign Exchange Rate Variation as allowed by the Government / Bihar Electricity Regulatory Commission.

(v) Depreciation shall be chargeable from the first year of operation of the asset. For part of the year, depreciation shall be charged on pro rata basis.

(vi) A provision of replacement of assets shall be made in the capital investment plan.

(vii) The licensee(s) shall submit certified copy of the Asset Register with the list of fully depreciated Transmission lines, substation, transformers, etc. along with the details of disposed off assets and amount received therefore with the tariff petition."

Accordingly, the Petitioner submits that the weighted average rate of depreciation has been considered as per the actual depreciation based upon the Annual Audited Accounts for the FY 2020-21. Therefore, the rate of depreciation on opening GFA is considered at 4.97% and on additions, it is considered at 3.29% for each year of the Control period FY 2022-25.

5.3.8 Interest on Working Capital

The Interest on working capital has been computed as per Regulations 26 of the Tariff Regulations 2021, which states as follows:

"26. Interest on working capital

(a) The Transmission Licensee shall be allowed interest on the estimated level of working capital for the financial year, computed as follows:

(i) Receivables equivalent to two (2) month of transmission charges calculated on target availability level.

(ii) O&M Expenses of one (01) month.

(iii) Maintenance spares @ 40% of R&M expenses for one month.



Provided that for the purpose of Truing-up for any year, the working capital requirement shall be re-computed on the basis of the values of revised normative Operation & Maintenance expenses and actual Revenue from Transmission Charges as reflected in the Audited Accounts excluding incentive, if any, and other components of working capital approved by the Commission in the Truing-up before sharing of gains and losses.

Less:

(iv) Return on equity and contribution to contingency reserves equivalent to two months.

(v) Amount of security deposits from Transmission System users, if any, held during the year except the security deposits held in the form of Bank Guarantee from Transmission System Users.

(b) Interest on working capital shall be on normative basis and rate of interest shall be equal to the State Bank (one-year tenor) Marginal Cost of Funds-based Lending Rate ('MCLR') as of the date on which petition for determination of tariff is filed plus 150 basis points. The rate of interest for the purpose of Truing-up shall be the weighted average MCLR of the concern Financial Year plus 150 basis points.

(c) Interest shall be allowed on the amount held as security deposit (except the security deposit held in the form of Bank Guarantee) from Transmission System Users at the Bank Rate (RBI Base Rate) as at the date on which the application for determination of tariff is filed. The interest allowed shall be subject to true up at weighted average Bank Rate of the concern Financial Year."

The rate of interest on working capital has been considered as 8.50% which has been calculated from SBI MCLR of 7.00 % as on 15th October 2019 and 150 bps as per the Regulation mentioned above. The SBI MCLR has been considered from the link provided as follows:

<https://sbi.co.in/web/interest-rates/interest-rates/mclr-historical-data>

5.3.9 Contribution to Contingency Reserve

As per Regulation 28 of the Tariff Regulations 2021, Contribution to Contingency Reserve is allowed if:

"28. Contribution to Contingency Reserve

(a) If the Transmission Licensee or SLDC, as the case may be, has made an appropriation to the Contingency Reserve, a sum not more than 0.5 per cent of the original cost of fixed assets at the beginning of the year shall be allowed annually towards such appropriation in the calculation of ARR.

Provided that where the amount of such Contingency Reserves exceeds five (5) per cent of the original cost of fixed assets, no further contribution shall be allowed.



Provided further that such contribution shall be invested in securities authorised under the Indian Trusts Act, 1882 within a period of six months of the close of the Year.

(b) The Contingency Reserve shall not be drawn upon during the term of the license except to meet such charges as may be approved by the Commission, such as following:

(i) Expenses or loss of profits arising out of accidents, strikes or circumstances which the management could not have prevented;

(ii) Expenses on replacement or removal of plant or works other than expenses required for normal maintenance or renewal;

(iii) Compensation payable under any law for the time being in force and for which no other provision is made:

Provided that such drawal from contingency reserve shall be computed after making due adjustment for any other compensation that may have been received by the Licensee as part of an insurance cover:

(c) No diminution in the value of contingency reserve as mentioned above shall be allowed to be adjusted as a part of tariff."

In accordance with the above, the Petitioner has claimed towards Contribution to Contingency Reserve at 0.50% of the Average Fixed Assets for each year of the Control period FY 2022-25.

5.3.10 Performance Targets

As per Regulation 11.2 of Tariff Regulations 2021, the Licensee is required to submit the Performance Targets of the transmission system. The Petitioner, therefore, proposes the following Transmission Availability and Transmission Loss targets for each of the control period FY 2022-25:

Table 59 - BGCL estimate of Performance Targets for the Control Period FY 2022-25

Year	Transmission Availability	Transmission Loss
FY 2022-23	98%	2%
FY 2023-24	98%	2%
FY 2024-25	98%	2%

5.3.11 Non-Tariff Income

The petitioner submits that, at present, it is not in a position to envisage Non-Tariff Income. Therefore, in line with the methodology adopted by the Hon'ble Commission in the Order dated 12.03.2021, the Petitioner proposes to consider Non-Tariff Income as per the values submitted in the True up of FY 2020-21.



5.3.12 Annual Revenue Requirement

The Petitioner submits that it has claimed following items of expenditure as part of ARR for the Control Period FY 2022-25:

1. Depreciation
2. Interest on Loan
3. Operation and Maintenance Expenses (O&M Expenses)
 - a. Employee Expenses
 - b. R&M Expenses
 - c. A&G Expenses
4. Interest on Working Capital
5. Return on Equity
6. Contribution to Contingency Reserve

The detailed claim of ARR for the Control Period FY 2022-23 to FY 2024-25 is submitted in the subsequent chapter.



ANNUAL REVENUE
REQUIREMENT (ARR) for
the Control Period
FY 2022-23 to FY 2024-25
and
TRANSMISSION
CHARGES FOR THE
FY 2022-23

6 Annual Revenue Requirement for the FY 2022-23 to FY 2024-25

6.1 Introduction

In accordance with the Business Plan submitted in the preceding sections, the Petitioner herein submits revised estimates of the expenses for the determination of Annual Revenue Requirement (ARR) for the Control period FY 2022-23 to FY 2024-25 in accordance with the Tariff Regulations 2021.

6.2 Performance of Transmission System

Regulation 17.1 (b) stipulates the following:

“The Commission shall monitor the following Quality of Supply parameters during the Control Period:

- a) Transmission System Availability*
- b) Transformer Failure”*

6.2.1 Availability of Transmission System

Regulation 16 of Tariff Regulations 2021 stipulates the following:

“Normative Annual Transmission System Availability Factor (NATAF):

16.1 The Normative Annual Transmission System Availability Factor for recovery of full transmission charges shall be as under:

<i>(a) for full recovery of transmission charges</i>		
1.	<i>AC System</i>	<i>98%</i>
2	<i>HVDC System</i>	<i>95%</i>
<i>(b) For Incentive Consideration</i>		
3	<i>AC System</i>	<i>98.5%</i>
4	<i>HVDC System</i>	<i>97.5%</i>

“

As per the Business Plan, the Petitioner submits the Transmission System Availability to be 98% for each year of the Control Period FY 2022-25.

6.2.2 Transformer Failure Rate

The Petitioner submits that it would be able to maintain its operational efficiency through proactive measures. Therefore, the transformer failure rate is estimated to be NIL for each year of the Control period FY 2022-25.



6.3 Schedule of Capitalization

In accordance with the Business Plan submitted in preceding sections, the Petitioner submits that following elements are projected to get commissioned during the FY the Control Period FY 2022-25:

Phase IV (Part 1 of 2)

Table 60 - BGCL estimate of Asset Capitalization for the period FY 2022-25 Phase IV (Part 1 of 2)

S.No.	Transmission Element	Likely Commissioning	Cost Estimate (Rs. Crore)
Sub Stations			
1	132/33 kV 50 MVA Transformer 3 of GIS, Khirjisarai (Gaya Manpur)	22-23	9.99
2	220/132 kV 160 MVA Transformer 2 of GIS, Goradih (Sabour)	22-23	18.53
3	132/33 kV Transformer-1 50 MVA of GIS, Mokama (Hatidah)	22-23	9.99
4	220/132 kV 160 MVA Transformer 1 of GIS, Mokama (Hatidah)	22-23	18.53

Phase IV (Part 2 of 2)

Table 61 - BGCL estimate of Asset Capitalization for the period FY 2022-25 Phase IV (Part 2 of 2)

S.No.	Transmission Element	Likely Commissioning	Cost Estimate (Rs. Crore)
Transmission Lines			
14.	LILO of one Ckt of 132kV D/C Purnea-Naugachia/ Khagaria line at Katihar (BSPTCL)	22-23	23.90
15.	LILO of 220 kV S/C Khagaul (BSPTCL) - Sipara (BSPTCL) TL at Jakkanpur (New)	22-23	14.21
16.	132kV D/C Naubatpur (New) - Palliganj (BSPTCL)	22-23	30.50
17.	LILO of 220 kV D/C Sipara (BSPTCL) - Bihta (BSPTCL) TL at Jakkanpur (new).	22-23	17.55
18.	LILO of 132 kV D/C Jakkanpur - Sipara TL at Jakkanpur new (being re-conducted with HTLS by BSPTCL)	22-23	41.19
Substations			
19.	2X160 MVA + 1X50MVA, Transformer at Jakkanpur	22-23	25.51
20.	1X160MVA Transformer at Naubatpur	22-23	10.05



Bay Extension			
21.	132kV Palliganj (BSPTCL)	22-23	14.74
22.	132kV Katihar (BSPTCL)	22-23	6.05

Phase IV (Supplementary)

Table 62 - BGCL estimate of Asset Capitalization for the period FY 2022-25 Phase IV (Part 2 of 2(Supplementary))

S.No.	Transmission Element	Likely Commissioning	Estimated Cost (Rs. Cr.)
1	Installation of 420kV, 2x125MVA bus reactor at 400/220/132/33kV GIS Jakkampur S/s along with associated bays	FY 2022-23	44.84
2	Installation of 420kV, 2x125MVA bus reactor at 400/220/132/33kV GIS Naubatpur S/s along with associated bays	FY 2022-23	44.84
3	Installation of 220/132kV, 160MVA 3 rd ICT at 220/132/33kV GIS Chapra S/s along with associated bays	FY 2022-23	21.46

In addition to above Capital works, during FY 2022-23, the Petitioner proposes to undertake implementation of ABT meters pertaining to both Part 1 and Part 2 projects as discussed in preceding chapters. Accordingly, 331 meters are proposed to be commissioned with an overall outlay of Rs. 11.66 Crore for the FY 2022-23. The Petitioner requests the Hon'ble Commission to approve the same.

6.4 Capitalization

Based on the above Capitalization schedule, the Petitioner submits the revised Capitalization details for the Control Period FY 2022-25:

Table 63 - CWIP statement for the period FY 2022-25

(in Rs Crores)

S. No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	Opening CWIP	241.07	-	-
2	Opening IDC	45.04	-	-
3	Opening IEDC	19.77	-	-
4	Sub Total (Opening)	305.88	-	-



S. No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
5	Capital investment during the year	35.29	-	-
6	IDC addition during the year	11.11	-	-
7	IEDC addition during the year	11.24	-	-
8	Sub Total (Additions)	57.64	-	-
9	Asset capitalisation without IDC & IEDC	276.36	-	-
10	IDC capitalised	56.15	-	-
11	IEDC capitalised	31.01	-	-
12	Total capitalisation during the year	363.52	-	-
13	Closing CWIP	-	-	-
14	Closing IDC	-	-	-
15	Closing IEDC	-	-	-
16	Sub Total (Closing)	-	-	-

6.5 Gross Fixed Assets

The Petitioner submits that the Revised Estimates of Gross Fixed Assets as follows:

Table 64 - BGCL estimate of Gross Fixed Assets for the period FY 2022-25
(in Rs Crores)

S.No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	Opening GFA	3,545.94	3,909.46	3,909.46
2	Additions to GFA	363.52	-	-
3	Closing GFA (1+2)	3,909.46	3,909.46	3,909.46

6.6 Funding of Capitalization

The Petitioner submits that the Phase IV Capital Expenditure is being funded with a Debt - Equity ratio of 80:20.

Therefore, all assets due to attain capitalization in the Control period FY 2022-25 shall be funded with Debt; Equity ratio of 80:20.



6.7 Depreciation

The Petitioner has worked out the Depreciation as per Regulation 23 of Tariff Regulations 2021. The Petitioner submits that depreciation is based on the capitalisation schedule of the assets. The Weighted average rate of depreciation for the opening GFA (as on 01st April of each year of the Control period) and for the Additions (during each year of the Control period) is considered to be 4.97% and 3.29% respectively which is considered for the True up for the FY 2020-21. Accordingly, the overall depreciation has been worked out for each year of the Control period FY 2022-25 as summarised in the table below:

Table 65 - BGCL estimate of Depreciation for the period FY 2022-25
(in Rs. Crores)

S. No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	Opening GFA (without land)	3,527.01	3,890.53	3,890.53
2	Additions during the year	363.52	-	-
3	Less: land during the year	-	-	-
4	Closing GFA (1+2-3)	3,890.53	3,890.53	3,890.53
5	Average GFA (1+4)/2	3,708.77	3,890.53	3,890.53
6	Weighted average Rate of depreciation on opening assets	4.97%	4.97%	4.97%
7	Weighted average Rate of depreciation on asset additions during the year	3.29%	3.29%	3.29%
8	Depreciation (1*6+(2-3)*7)	187.19	193.28	193.28

6.8 Interest on Loan Capital and Finance Charges

According to Regulation 24 of Tariff Regulations 2021, Interest and Finance Charges is to be computed as follows:

“ 24. Interest and finance charges on loan capital

- The Transmission Licensee or SLDC, as the case may be, shall provide detailed loan-wise, project wise and utilization-wise details of all the loans.*
- If the equity actually deployed is more than 30 % of the capital cost, equity in excess of 30 % shall be treated as normative loan:
Provided that where equity actually deployed is less than 30% of the capital cost, the actual loan shall be considered for determination of interest on loan:*
- Actual loan or normative loan, if any, shall be referred as gross normative loan in this Regulation.*
- The normative loan outstanding as of 1st April of control period shall be computed by deducting the cumulative repayment as approved by the Commission*



(basis as mentioned below) up to 31st March of current period (a year before control period) from the gross normative loan.

- e) The repayment for the control period shall be deemed to be equal to the depreciation allowed for the year.
- f) Notwithstanding any moratorium period availed by the Transmission Licensee or SLDC, as the case may be, the repayment of the loan shall be considered from the first year of the control period as per annual depreciation allowed.
- g) The rate of interest shall be the weighted average rate of interest calculated on the basis of actual loan portfolio at the beginning of each year of the control period, in accordance with terms and conditions of relevant loan agreements, or bonds or nonconvertible debentures:

Provided that if no actual loan is outstanding but normative loan is still outstanding, the last available weighted average rate of interest shall be applicable. Provided further that if no actual loan is outstanding but normative loan is still outstanding and the last available weighted average rate of interest is also not available, rate of interest equal to the State Bank one-year Marginal Cost of Funds-based Lending Rate ('MCLR') shall be applicable.

Provided further that the interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest:

Provided also that exception shall be made for the existing loans which may have different terms as per the agreements already executed if the Commission is satisfied that the loan has been contracted for and applied to identifiable and approved projects:

- h) The Transmission Licensee or SLDC, as the case may be, shall make every effort to refinance the loan as long as it results in net benefit to the beneficiaries.

Provided that the cost associated with such refinancing shall be eligible to be passed through in tariffs and the benefit on account of refinancing of loan and interest on loan shall be shared in the ratio of 50:50 between the Transmission Licensee or SLDC and the beneficiaries.

Provided further that the Transmission Licensee shall submit the calculation of such benefit to the Commission for its approval.

- i) The Transmission Licensee shall enable tracking of the loans converted into grants under schemes like BRGF, PSDF, APDRP, RAPDRP, RGGVY, DDUGVY, RSVP, etc or any other loan from the Central or State Government by providing information and data regularly to the Commission, for enabling the Commission to recover from Transmission Licensee or SLDC, as the case may be, the amount of interest on loans which have been passed on to the beneficiaries in the earlier years and have been converted into grant subsequently so that the recovered amount is passed on to the beneficiaries.
- j) Addition to loan during the year for interest purpose will be restricted to the quantum of assets capitalized and put to use.
- k) The excess interest during construction on account of time and/or cost overrun as compared to the approved completion schedule and capital cost or on account of excess drawal of the debt funds disproportionate to the actual requirement based on Scheme completion status, shall be allowed or disallowed partly or fully on a case to case basis, after prudence check by the Commission. The transmission



licensee shall endeavour to adhere the time schedule for various transmission system in accordance with Annexure-A appended for these regulations.

Provided that where the excess interest during construction is on account of delay attributable to an agency or contractor or supplier engaged by the Transmission Licensee, any liquidated damages recovered from such agency or contractor or supplier shall be taken into account for computation of capital cost:

Provided further that the extent of liquidated damages to be considered shall depend on the amount of excess interest during construction that has been allowed by the Commission.

- l) The above interest computation shall exclude interest on loan amount, normative or otherwise, to the extent of capital cost funded by Consumer Contribution, Deposit Works, Grants or Capital Subsidy."

Accordingly, the Petitioner has computed the Interest and Financing Charges for each year of the Control Period FY 2022-25 as depicted in the table below:

Table 66 - BGCL estimate of Interest on Loan for the period FY 2022-25
(in Rs Crores)

S. No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	Opening loan	2,416.11	2,519.73	2,326.45
2	Additions during the year	290.82	-	-
3	Repayment	187.19	193.28	193.28
4	Closing Loan (1+2-3)	2,519.73	2,326.45	2,133.17
5	Average Loan (1+4)/2	2,467.92	2,423.09	2,229.81
6	Rate of Interest	10.23%	10.23%	10.23%
7	Interest Charges (5* 6)	252.52	247.93	228.16

6.9 Operations and Maintenance Expenses

As per Regulation 21 of Tariff Regulations 2021:

"21. Operation and Maintenance Expenses

(a) The Commission shall stipulate a separate trajectory of norms for each of the components of O&M expenses viz., Employee cost, Repair and Maintenance (R&M) expense and Administrative and General (A&G) expense.

Provided that such norms may be specified for a specific Transmission Licensee or a class of Transmission Licensees.

(b) Norms shall be defined in terms of number of personnel per ckt/km (for different categories of transmission lines for e.g. 400 KV, 220 KV, 132 KV etc. Lines) and number of personal per bay (for different categories of bay for e.g. 400 KV, 220 KV, 132 KV etc. Bays) along with annual expenses per personnel for Employee expenses; combination of A&G expense per personnel and A&G expense per substation for A&G expenses and R&M expense as percentage of gross fixed assets for estimation of R&M expenses.



(c) One-time expenses such as expense due to change in accounting policy and arrears paid due to pay commission recommendation shall be excluded from the norms in the trajectory.

(d) The unforeseen expenses beyond the control of the Transmission Licensee such as pay revision, shall be excluded from the norms in the trajectory.

(e) The One-time expenses and the expenses beyond the control of the Transmission Licensee shall be allowed by the Commission over and above normative Operation & Maintenance Expenses after prudence check.

(f) The norms in the trajectory shall be specified over the control period with due consideration to productivity improvements.

(g) The norms shall be determined at constant prices of base year and escalation on account of inflation shall be over and above the baseline.

Provided that for the purpose of escalation based on Wholesale Price Index(WPI_n) and Consumer Price Index(CPI_n), WPI_n is to be computed based on the average yearly inflation derived based on the monthly Wholesale Price Index of the respective past three financial years (including the year of Truing-up) as per the Office of Economic Advisor Ministry of Commerce & Industry Government of India and CPI_n is to be computed based on the average yearly inflation derived based on the monthly Consumer Price Index for Industrial Workers (all-India) of the respective past three financial years (including the year of Truing-up) as per the Labour Bureau Government of India, at the time of filing of Petition.

Provided that in case the average yearly inflation derived based on the monthly CPI and WPI indices is negative for a particular year, the same will be excluded from the computation of yearly inflation

(h) The Transmission Licensee specific trajectory of norms shall be identified by the Commission on the basis of absolute and relative analysis.

(i) In absolute analysis, Transmission Licensee's audited accounts of operations for last three years, expenses claimed for control period, historically approved cost, and prudence check shall be used by the Commission to estimate values of norms.

(j) In relative analysis, performance parameters of other Transmission Licensees within the same state or in other states, shall be considered by the Commission to estimate norms."

The Petitioner submits that since a number of Transmission projects are under way and subsequently full network details are not available at present, therefore the norms for the computation of O&M Expenses must not be determined. In light of the same, the Petitioner herein shall follow the methodology adopted by the Hon'ble Commission in the Order dated 12.03.2021 for computation of O&M Expenses pertaining to the ensuing year.

Tridant

6.9.1 Employee Expenses

The employee expenses primarily include costs towards salaries, dearness allowances, bonus, staff welfare and medical benefits, leave travel and earned leave encashment, and the terminal benefits in the form of pension, gratuity etc.

Regulation 21.1 stipulates the following:

“21.1 Employee Cost

Employee cost shall be computed as per the approved norm escalated by consumer price index (CPI), adjusted by provisions for expenses beyond the control of the Transmission Licensee and one time expected expenses, such as recovery/adjustment of terminal benefits, implications of pay commission, arrears and Interim Relief, governed by the following formula:

$$EMP_n = (EMP_b * CPI \text{ inflation}) + Provision$$

Where:

EMP_n : Employee expense for the year n

EMP_b : Employee expense as per the norm

CPI inflation : is the average increase in the Consumer Price Index (CPI) for immediately preceding three years”

Provision: Provision for expenses beyond control of the Transmission Licensee and expected one-time expenses as specified above.

Till the norms are specified by the Commission the employee cost shall be determined on the basis of actual historical cost.

As per the aforesaid Regulations, the CPI index for the preceding three years has been shown in the table below:

CPI index

Table 67 - Computation of Average CPI (past 3 years)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Annual Average CPI Index	284.42	299.92	322.50	338.69
CPI Inflation (YOY)		5.45%	7.53%	5.02%
Average		6.00%		

The Petitioner submits the revised employee expenses for each year of the Control Period FY 2022-25 based upon the Average CPI Inflation Index and the Employee Expenses for the previous year as shown in the table below:

Table 68 - BGCL estimate of Employee Expenses for the period FY 2022-25
(in Rs Crore)

Particulars	FY 2022-23	FY 2023-24	FY 2024-25
Base Employee expenses	11.97	12.69	13.45

Handwritten signature

Particulars	FY 2022-23	FY 2023-24	FY 2024-25
Indexation %	6.00%	6.00%	6.00%
Inflationary increase	0.72	0.76	0.81
Employee expenses	12.69	13.45	14.25

6.9.2 Repair and Maintenance Expenses

The Repair and Maintenance Activities are primarily directed towards the upkeep of the transmission system and related office works

As per Regulations 21.2 of the Tariff Regulations 2021, R&M will be calculated as follows:

“21.2 Repairs and Maintenance (R&M) Expense

Repairs and Maintenance expense shall be calculated as percentage (as per the norm determined) of Opening Gross Fixed Assets excluding land cost for the year governed by following formula:

$$R\&M_n = K_b * GFAn$$

Where:

R&M_n : Repairs & Maintenance expense for nth year

GFAn : Opening Gross Fixed Assets for nth year

K_b : Percentage point as per the norm”

The Petitioner submits that the Hon’ble Commission vide Order dated 12.03.2021 while approving the ARR for the ensuing year, had allowed the R&M Expenses based upon the factor derived by considering the actual R&M expenses against the actual GFA. Following the similar methodology, the Petitioner herein considers the factor as shown in the table below:

Table 69 - Computation of Average % factor (R&M expenses to GFA)

Particulars	FY 2018-19	FY 2019-20	FY 2020-21*
Average GFA (Net of Land)	1,110.75	1,554.84	1,872.41
R&M expenses	6.07	8.52	20.46
% of R&M expenses to GFA (2/1)*100	0.55%	0.55%	1.09%
Average % of R&M expenses to average GFA	0.73%		

*BGCL claim for the True up of FY 2020-21

The Petitioner submits the claim towards R&M expenses on the basis of the factor derived as above and the GFA as shown in the table below for each year of the Control Period FY 2022-25:

(in Rs Crore)



**Table 70 - BGCL estimate of Repair and Maintenance Expenses for the period FY 2022-25
(in Rs Crore)**

S.No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	Average GFA (excluding land)	3,523.33	3,890.53	3,890.53
2	% Factor on GFA	0.73%	0.73%	0.73%
3	R&M Expenses (1x2)	25.69	28.36	28.36

6.9.3 Administrative and General Expenses

Administration and General expenses mainly comprise costs towards rent charges, telephone and other communication expenses, professional charges, conveyance and travelling allowances and other debits.

As per Regulation 21.3 of the Tariff Regulations 2021, A&G Expenses are to be computed as follows:

“21.3 Administrative and General (A&G) Expense

A&G expense shall be computed as per the norm escalated by wholesale price index (WPI) and Consumer Price Index (CPI) in the ratio 60:40 and adjusted by provisions for confirmed initiatives (IT etc. initiatives as proposed by the Transmission Licensee and validated by the Commission) or other expected one-time expenses, and shall be governed by following formula:

$$A\&G_n = (A\&G_b * WPI \text{ inflation}) + Provision$$

Where:

A&G_n: A&G expense for the year n

A&G_b: A&G expense as per the norm

WPI inflation: is the average increase in the Wholesale Price Index (WPI) for immediately preceding three years

Provision: Cost for initiatives or other one-time expenses as proposed by the Transmission Licensee and validated by the Commission. Till the norms of A&G expenses is specified by the Commission, the actual historical cost will be considered for determination of A&G expenses.”

As per the aforesaid regulations, the Average Wholesale Price index (WPI) for the preceding three years has been shown in the table below:

Table 71 - Computation of Average WPI (past 3 years)

Particulars	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21
Annual Average WPI Index	114.88	119.79	121.80	123.38
CPI Inflation (YOY)		4.28%	1.68%	1.29%
Average			2.42%	

Based upon the Inflation Index derived above in accordance with the Tariff Regulations 2021, the Petitioner has projected the A&G Expenses as follows:



**Table 72 - BGCL estimate of Administrative and General Expenses for the period FY 22-25
(in Rs Crore)**

Sl. No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	Base A & G Expenses	7.68	7.87	8.06
2	Inflationary index %	2.42%	2.42%	2.42%
3	Add: Inflationary increase	0.19	0.19	0.19
4	A&G expenses	7.87	8.06	8.25

6.10 Return on Equity

As per Regulation 22 of Tariff Regulations 2021, Return on Equity is to be computed as follows:

"22. Return on Equity

- a) *Return on equity shall be computed on 30% of the capital cost or actual equity, whichever is lower:*

Provided that assets funded by beneficiary contribution, capital subsidies/ grants and corresponding depreciation shall not form part of the capital cost. Actual equity invested in the Transmission Licensee or SLDC, as the case may be, as per book value shall be considered as perpetual and shall be used for computation in this Regulation:

Provided further that the premium if any raised by the Licensee while issuing share capital and investment of internal resources created out of its free reserves, for the funding of the Scheme, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the distribution system, and are within the ceiling of 30% of capital cost approved by the Commission.

- b) *The return on the equity invested shall be allowed from the date of start of commercial operation and after put to use:*
- c) *Return on equity shall be computed at the rate of 15.5% for the project which is commissioned w.e.f. 01.04.2015 and further incentive equivalent to 0.5% will be allowed in the form of RoE, if the project is completed within schedule as per the Annexure A or original schedule period as the case may be. However, Return on Equity for the project commissioned prior to 01.04.2015 shall be allowed at the rate of 14%."*

The Petitioner also submits that the pre-tax Return on Equity has been considered at 20.71% assuming 25.17% as the effective MAT rate inclusive of surcharge and cess. Accordingly, the Return on Equity has been tabulated below for each year of the Control Period FY 2022-25:

(in Rs Crores)



Table 73 - BGCL estimate of Return on Equity for the period FY 2022-25
(in Rs Crore)

S.No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	Opening Equity	708.35	781.05	781.05
2	Add: Equity During the year	72.70	-	-
3	Closing equity balance (1+2)	781.05	781.05	781.05
4	Average equity $\{(1+3)/2\}$	744.70	781.05	781.05
5	Rate of Return on equity %	15.50%	15.50%	15.50%
6	Tax Rate	25.17%	25.17%	25.17%
7	Pre Tax Rate of Return on equity % $\{5/(1-6)\}$	20.71%	20.71%	20.71%
8	Return on Equity (4*7)	154.25	161.78	161.78

6.11 Interest on Working Capital

Regulation 26 of Tariff Regulations 2021, stipulates the following methodology for the computation of Interest on Working Capital:

“

26. Interest on working capital

(a) The Transmission Licensee shall be allowed interest on the estimated level of working capital for the financial year, computed as follows:

(i) Receivables equivalent to two (2) month of transmission charges calculated on target availability level.

(ii) O&M Expenses of one (01) month.

(iii) Maintenance spares @ 40% of R&M expenses for one month.

Provided that for the purpose of Truing-up for any year, the working capital requirement shall be re-computed on the basis of the values of revised normative Operation & Maintenance expenses and actual Revenue from Transmission Charges as reflected in the Audited Accounts excluding incentive, if any, and other components of working capital approved by the Commission in the Truing-up before sharing of gains and losses.

Less:

(iv) Return on equity and contribution to contingency reserves equivalent to two months.

(v) Amount of security deposits from Transmission System users, if any, held during the year except the security deposits held in the form of Bank Guarantee from Transmission System Users.

(b) Interest on working capital shall be on normative basis and rate of interest shall be equal to the State Bank (one-year tenor) Marginal Cost of Funds-based Lending Rate ('MCLR') as of the date on which petition for determination of tariff is filed plus 150 basis points. The rate of interest for the purpose of Truing-up shall be the weighted average MCLR of the concern Financial Year plus 150 basis points.

(c) Interest shall be allowed on the amount held as security deposit (except the security deposit held in the form of Bank Guarantee) from Transmission System Users at the Bank Rate (RBI Base Rate) as at the date on which the application for determination of tariff is

F. J. J. J.

filed. The interest allowed shall be subject to true up at weighted average Bank Rate of the concern Financial Year.

(d) If the State Government is providing resource gap grant and/or subsidy, the working capital shall be reduced by two months equivalent of that amount. "

The Petitioner submits that one year SBI MCLR as on 15th October 2021 was 7.00%. The same is shown in **Annexure - H**. Accordingly, the Interest on Working Capital has been considered as 8.50%. (SBI MCLR: 7.00% +150 basis points) for each year of the Control Period FY 2021-22.

Table 74 - BGCL estimate of Interest on Working Capital for the period FY 2022-25
(in Rs Crore)

S.No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	O&M expenses (1 month)	3.87	4.17	4.26
2	Maintenance spares @15% of 1 month O&M expenses	0.58	0.63	0.64
3	Receivables - 2 months	107.68	109.94	106.77
4	Less: Depreciation, RoE and contribution to contingency reserve for 2 months	60.01	62.43	62.43
5	Less: Amount of sec deposit held from consumers during the years	-	-	-
6	Working capital requirement	52.12	52.30	49.23
7	Rate of interest	8.500%	8.500%	8.500%
8	Interest on working capital	4.43	4.45	4.18

6.12 Contribution to Contingency Reserve

Regulation 28 of the Tariff Regulations 2018 provided as follows w.r.t. Contingency Reserve:

"28. Contribution to Contingency Reserve

(a) If the Transmission Licensee or SLDC, as the case may be, has made an appropriation to the Contingency Reserve, a sum not less than 0.25 per cent and not more than 0.5 per cent of the original cost of fixed assets shall be allowed annually towards such appropriation in the calculation of ARR.

Provided that where the amount of such Contingency Reserves exceeds five (5) per cent of the original cost of fixed assets, no further contribution shall be allowed.

Provided further that such contribution shall be invested in securities authorised under the Indian Trusts Act, 1882 within a period of six months of the close of the Year.

(b) The Contingency Reserve shall not be drawn upon during the term of the license except to meet such charges as may be approved by the Commission, such as following:

Handwritten signature

- (i) Expenses or loss of profits arising out of accidents, strikes or circumstances which the management could not have prevented;
- (ii) Expenses on replacement or removal of plant or works other than expenses required for normal maintenance or renewal;
- (iii) Compensation payable under any law for the time being in force and for which no other provision is made:
- Provided that such drawal from contingency reserve shall be computed after making due adjustment for any other compensation that may have been received by the Licensee as part of an insurance cover:
- (c) No diminution in the value of contingency reserve as mentioned above shall be allowed to be adjusted as a part of tariff."

The Petitioner in accordance with the said Regulation and the Business Plan claims Contribution to Contingency Reserve at 0.50% of the Average GFA for each year of the Control Period FY 2022-25 as depicted in the table below:

Table 75 - BGCL estimate of Contribution to Contingency Reserve for the period FY 22-25
(in Rs Crore)

S.No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	Opening GFA	3,545.94	3,909.46	3,909.46
2	Closing GFA	3,909.46	3,909.46	3,909.46
3	Average GFA	3,727.70	3,909.46	3,909.46
4	% factor	0.50%	0.50%	0.50%
5	Contribution to Contingency Reserve	18.64	19.55	19.55

6.13 Non- Tariff Income

The Petitioner submits that for each year of the Control period FY 2022-25, it has considered the Non-Tariff Income as per the Non Tariff Income claimed in the True up for FY 2020-21 i.e. Rs. 17.42 Crore in accordance with the methodology adopted by the Hon'ble Commission in the Order dated 12.03.2021.

6.14 Annual Revenue requirement for the Control period FY 2022-23 to FY 2024-25

As per the submissions made in the preceding sections, the ARR claimed for the control period FY 2022-25 is depicted as shown in the table below:

(in Rs. Crore)

[Signature]

Table 76 – BGCL estimate of Annual Revenue requirement for the Control period FY 2022-25

(in Rs Crore)

S.No.	Particulars	FY 2022-23	FY 2023-24	FY 2024-25
1	O&M expenses (a+b+c)	46.46	50.06	51.07
a.	Employee cost	12.69	13.45	14.25
b.	R&M expenses	25.71	28.36	28.36
c.	A&G Expenses	8.06	8.25	8.45
2	Depreciation	187.19	193.28	193.28
3	Interest on loan capital	252.52	247.93	228.16
4	Interest on working capital	4.43	4.45	4.18
5	Return on Equity	154.25	161.78	161.78
6	Contribution to Contingency Reserve	18.64	19.55	19.55
7	Gross Annual Revenue Requirement (1+2+3+4+5)	663.49	677.05	658.02
8	Less: Non tariff income	17.42	17.42	17.42
9	Net Annual Revenue Requirement (6-7)	646.07	659.63	640.59

The Petitioner submits that the abovementioned ARR Charges are projected figures. The actual ARR for the relevant year will be submitted in accordance with applicable Regulations at the time of True-up. The Petitioner prays that the Hon'ble Commission may kindly approve the ARR of Rs. 646.07 Crore, Rs. 659.63 Crore, Rs. 640.59 Crore for the FY 2022-23, FY 2023-24 and FY 2024-25 respectively.

6.15 Revenue Gap/Surplus and Transmission Tariff determination for FY 2022-23

The Petitioner submits before the Hon'ble Commission to pass the impact of the Revenue Surplus accrued during the True-up for FY 2020-21 in the Tariff for FY 2022-23 along with applicable Carrying Cost in accordance with the Regulation 13 of the Tariff Regulations 2021. The relevant extracts of the said Regulation is reproduced below:

“13. True-Up and Annual Performance Review

The Commission shall True-Up expenses of the previous year either as part of the Tariff order or issue Order/s for True-Up of expenses preceding the Tariff order of ensuing year.”.....

.....

.....



(f) Notwithstanding anything contained in regulation 4 of these Regulations, the Revenue gap/surplus arising out of Truing up shall be considered by the Commission while determining the ARR of ensuing year(s). While approving adjustments towards revenue/expenses in future years, arising out of Truing up exercises, the Commission may allow the carrying costs as determined by the Commission of such expenses/revenues. However the revised estimated gap/surplus as a result of APR may or may not be passed in the ARR of ensuing year."

The Petitioner therefore proposes Surplus adjustment pertaining to the True up of FY 2020-21 along with the applicable Carrying cost considering the prevailing Interest Rate. The working of the Surplus computation is illustrated in the table below:

Table 77 - True up Revenue Surplus including Carrying Cost
(in Rs. Crore)

S.No.	Particulars	BGCL claim
1	Surplus / (Gap) of the True-up of ARR for the FY 2020-21	175.46
2	Interest for FY 2020-21 @ 8.57% (half year)	7.52
3	Interest for FY 2021-22 @ 8.50%	14.91
4	Interest for FY 2022-23 @ 8.50% (half year)	7.46
5	Total Carrying Cost (2+3+4)	29.89
5	Total Surplus along with carrying cost to be considered for adjustment (1+5)	205.35

Accordingly, the Annual Transmission Charges claimed by the Petitioner for the period FY 2022-23 is shown in the table below:

(in Rs. Crore)

Table 78 - BGCL claim of Transmission Charges for the FY 2022-23

S.No.	Particulars	BGCL claim
1	Net Annual Revenue Requirement	645.76
2	Add: Total Surplus along with carrying cost to be considered for adjustment	(205.35)
3	Annual Transmission Charges (1+2)	440.72
4	Monthly Transmission Charges	36.73

The Petitioner respectfully submits before the Hon'ble Commission to approve Annual Transmission Charges amounting to Rs. 440.72 Crore and Monthly Transmission Charges amounting to Rs. 36.73 Crore for the FY 2022-23.

Signature

7 Compliance of Directives

The Hon'ble Commission vide Order dated 12.03.2021 had issued certain Directives to the Petitioner in respect of Operational and Financial performance. In the said regard, the Petitioner submits the compliance status of the said Directives as indicated in the table below:

Table 79 - BGCL submission to Directives

S.No.	Directive as per Order dated 12.03.2021	Petitioner's submission	Compliance status
1	<p>Details of Capitalization</p> <p>BGCL is directed to submit the scheme-wise details of actual capitalization including the following:</p> <p>i. Final cost of project versus approved DPR cost versus awarded cost of project</p> <p>ii. Break up of scheme wise actual BoQ quantity vs LoA BoQ quantity (along with supporting reasons for change in quantity)</p> <p>iii. Breakup of scheme wise actual hard cost in consonance with audited values versus LOA hard cost</p> <p>iv. Calculation of interest from the planned date of infusion of debt fund up to planned date of commercial operation versus calculation of interest from the date of infusion of debt fund up to actual date of commercial operation.</p>	<p>The Petitioner has provided the necessary details pertaining to Capital works during the course of previous filings. It shall also endeavour to provide any additional information as desired by the Hon'ble Commission.</p>	Complied

H. Atone



S.No.	Directive as per Order dated 12.03.2021	Petitioner's submission	Compliance status
	<p>v. Detailed working of approved variation due to impact of entry tax, other taxes, foreign exchange rate variation and miscellaneous expenses in MoM of BoD versus these expenses as approved in DPR.</p> <p>vi. Reconciliation with audited value along with supporting documents, of the above mentioned expenses (as mentioned in point v above) separately for each item of deviation .</p>		
2	<p>Summary report</p> <p>It has been observed that BGCL has been submitted multiple times for revision of its project costs. In view of this, the Commission opines a better tracking is needed of the capital projects being executed by BGCL, so that at the end of the year, the Commission is not required to deal with a sudden cost over-run. Thus, BGCL is directed to submit summary report on scheme wise capital expenditure and capitalization based on actual physical progress, bi-yearly.</p>	<p>CWIP & Capitalisation status enclosed as Annexure - I</p>	<p>Complied</p>
3	<p>Online platform for capital project monitoring</p>	<p>Not done</p>	<p>Not Complied</p>

S.No.	Directive as per Order dated 12.03.2021	Petitioner's submission	Compliance status
	<p>BGCL should develop a web based platform/portal such it encompasses features tracking the various schemes being carried out by BGCL in terms of cost, time, scope, actual progress and deviations. BGCL shall update all relevant information on the web based on regular basis and provide access of the same to the office of the Commission. This shall enable the Commission to monitor real time data of capital projects and suggest corrective actions as and when needed.</p>		
4	<p>Adherence to Bihar Electricity Regulatory Commission (Power Regulatory Accounting) Regulations, 2018</p> <p>BGCL is directed to strictly adhere to the provisions of Bihar Electricity Regulatory Commission (Power Regulatory Accounting) Regulations, 2018 including regulation 5 for furnishing of regulatory Audited Accounts and Regulation 9.17 for accounting of all capital expenditure through capital work in progress.</p>	<p>It is submitted that BGCL has prepared the Petition in consonance with the Bihar Electricity Regulatory Commission (Power Regulatory Accounting) Regulations, 2018. It shall also endeavour to provide the Regulatory Accounts to the Hon'ble Commission during the course of Tariff proceedings.</p>	Complied
5	<p>Peak and Average Loading of Transmission Elements</p>	<p>Peak and average loading month wise is enclosed as</p>	Complied



S.No.	Directive as per Order dated 12.03.2021	Petitioner's submission	Compliance status
	BGCL should submit month wise peak and average loading of its Transmission elements to the Commission on quarterly basis.	Annexure- J	
6	<p>Metering & Energy Audit</p> <p>To maintain a transparent energy accounting system and to arrive at monthly energy losses in the transmission system, appropriate energy meters with communication facilities at all the interface points at distribution periphery is necessary. BGCL should submit monthly energy accounting report certified by SLDC and shall incorporate the transmission loss as certified by SLDC in annual audited accounts. BGCL shall also submit a quarterly report on the status of metering and its availability as its elements commissioned during the ongoing Control Period.</p>	Monthly Energy accounting certificate issued by SLDC is enclosed as Annexure - K	Complied
7	<p>Auxiliary consumption</p> <p>In compliance of previous directive no. 4 (Auxiliary consumption and consumption in staff colonies), BGCL stated that no staff colonies have been provided to the employees at GSS and only auxiliary consumption of</p>	Auxiliary consumption details are enclosed as Annexure - L.	Complied



S.No.	Directive as per Order dated 12.03.2021	Petitioner's submission	Compliance status
	substation are billed by Discoms and claimed in Petition under A&G expenses. Hence, BGCL is directed to verify the bills raised by Discoms in accordance to the actual consumption and tariff schedule and rate for relevant category of connection upon serving of bill by Discoms.		

F. Anand

8 Prayers to the Hon'ble Commission

The Petitioner respectfully prays that the Hon'ble Commission may:

- a) Examine the proposal submitted by the Petitioner in the enclosed Petition for a favourable dispensation;
- b) Pass suitable orders with respect to the True Up of FY 2020-21, APR of FY 2021-22, Business Plan for the Control Period FY 2022-23 to FY 2024-25, determination of ARR for each year of the Control Period FY 2022-23 to FY 2024-25 along with Annual Transmission Charges for the FY 2022-23 as submitted in this petition.
- c) Condone any inadvertent omissions, errors, short comings and permit BGCL to add/ change/ modify/ alter this filing and make further submissions as may be required at a future date; and
- d) Pass such Order as the Hon'ble Commission may deem fit and appropriate keeping in view the facts and circumstances of the case.

72/2020

ANNEXURES

List of Annexures

- A. Letter of intimation to BERC regarding delay in filing
- B. Tariff filing Formats
- C. Cost estimate of ABT metering (soft)
- D. Breakup of Hard and Soft Cost of the assets commissioned during FY 2020-21
- E. BGCL Annual Audited Accounts for the FY 2020-21
- F. Computation of Weighted average Rate of Interest
- G. Board Resolution of Contingent works
- H. 1 year SBI MCLR as on 15.10.2021
- I. Status of CWIP
- J. Loading level of transmission elements
- K. Energy Accounting
- L. Auxiliary Consumption

7/2/22