

**Approval of Capital Cost and determination
of tariff for 400/220/66 kV GIS Pooling Sub
Station Wangtoo (Sherpa Colony) for the
period from COD to FY 2023-24**

**Himachal Pradesh Power Transmission
Corporation Limited (HPPTCL)**



**Himachal Pradesh Electricity Regulatory
Commission
September 28, 2022**

**BEFORE THE HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION AT
SHIMLA
PETITION NO: 29/2022**

CORAM
**Sh. DEVENDRA KUMAR SHARMA
Sh. BHANU PRATAP SINGH
Sh. YASHWANT SINGH CHOGAL**

In the matter of:

Approval of capital cost and determination of tariff for the period starting from COD (29th September, 2019) to FY 2023-24 for 400/220/66 kV GIS Pooling Sub-station at Wangtoo (Sherpa Colony) under the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011 and subsequent amendments to the Tariff Regulations carried thereafter and under Section 62, read with Section 86 of the Electricity Act, 2003.

AND

In the matter of:

Himachal Pradesh Power Transmission Corporation Ltd. (HPPTCL).....Petitioner

ORDER

The Himachal Pradesh Power Transmission Corporation Limited (hereinafter called the 'HPPTCL' or 'Petitioner') has filed a petition with the Himachal Pradesh Electricity Regulatory Commission (hereinafter referred to as 'the Commission' or 'HPERC') for approval of capital cost and determination of tariff for the period starting from COD to FY 2023-24 for 400/220/66 kV GIS Pooling Sub-station at Wangtoo (Sherpa Colony) under the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011 and subsequent amendments (hereinafter referred to as 'HPERC Transmission Tariff Regulations, 2011') and under Section 62, read with Section 86 of the Electricity Act, 2003. (hereinafter referred to as "the Act").

The Commission having heard the applicant, interveners and stakeholders through various representations and having had formal interactions with the officers of the HPPTCL and having considered the documents available on record, herewith accepts the

application with modifications, conditions and directions specified in the following Tariff Order.

The Commission has determined the Capital Cost and Aggregate Revenue Requirement (ARR) for 400/220/66 kV GIS Pooling Sub-station at Wangtoo (Sherpa Colony) in accordance with the guidelines laid down in Section 61 of the Electricity Act, 2003, the National Electricity Policy, the National Tariff Policy, CERC (Terms and Conditions of Tariff) Regulations, 2019 and the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011 along with its amendments. Details of prudence check and approach adopted by the Commission with regard to approval of capital cost and ARR for Sub-station and transmission line are summarized in the detailed Order.

It is also to be highlighted that the Petitioner took significant time in responding to the clarification and queries raised by the Commission. On several occasions, the information provided was either incomplete or did not address the query of the commission adequately. As a result, even post the written submissions, clarifications were sought verbally from the Petitioner. The delay in submission and lack of complete information remained a major bottleneck which resulted in delay of this Tariff Order.

Sd/-

(YASHWANT SINGH CHOGAL)
Member

Sd/-

(BHANU PRATAP SINGH)
Member

Sd/-

(DEVENDRA KUMAR SHARMA)
Chairman

Shimla

Dated: September 28 , 2022

Table of Contents

1.	INTRODUCTION	6
1.1	Himachal Pradesh Electricity Regulatory Commission	6
1.2	Himachal Pradesh Power Transmission Corporation Ltd.	7
1.3	Multi Year Tariff Framework.....	8
1.4	Interaction with the Petitioner	8
1.5	Public Hearings	9
2.	STAKEHOLDER OBJECTIONS.....	11
2.1	Introduction	11
3.	APPROVAL OF CAPITAL COST	16
3.1	Introduction	16
3.2	Summary of the Project	17
3.3	Energy flow and Nature of Asset	19
3.4	Capital Cost.....	23
3.5	Overheads (IDC and Departmental Charges)	30
3.6	Project Funding.....	35
3.7	Additional Capitalisation.....	37
4.	APPROVAL OF ARR AND TARIFF	40
4.1	Background.....	40
4.2	Depreciation.....	40
4.3	Interest on Loan	42
4.4	Return on Equity	45
4.5	O&M Expenses.....	47
4.6	Interest on Working Capital.....	50
4.7	Aggregate Revenue Requirement	51
4.8	Transmission Charges.....	52

List of Tables

Table 1: Communication with the Petitioner.....	9
Table 2: List of Newspapers for Public Hearing	9
Table 3: List of Newspapers for Public Notice by Commission	9
Table 4: Current Asset details	17
Table 5: Details of existing beneficiaries.....	20
Table 6: Details of future beneficiaries	20
Table 7: Power Evacuation through Wangtoo transmission system	22
Table 8: Summary of Contract Value and Amendments.....	23
Table 9: Capital Cost comparison (INR Cr.)	24
Table 10: Capital Cost claimed by the Petitioner (INR Cr.).....	24
Table 11: Commission’s analysis of Contract Value and Amendments	25
Table 12: Awarded Cost vis-à-vis Completed Cost (INR Cr.)	27
Table 13: Breakup in variation of final cost vis-à-vis Cost post 8 th Amend.(INR Cr.).....	27
Table 14: DPR vs Awarded vs Capital Cost (INR Cr.).....	28
Table 15: Hard Cost (including land cost) (INR Cr.)	29
Table 16: IDC and Departmental charges claimed by Petitioner (INR Cr.).....	30
Table 17: Reasons for time overrun as submitted by Petitioner	31
Table 18: Revised Benchmark IDC – Sub-Station	34
Table 19: Approved IDC (INR Cr.)	34
Table 20: Approved Departmental Charges (DC) (INR Cr.)	35
Table 21: Approved Capital Cost (INR Cr.)	35
Table 22: Project funding proposed by Petitioner.....	36
Table 23: Details of Loan Borrowed (INR Cr.)	36
Table 24: Project Funding approved vis-à-vis claimed	37
Table 25: Additional Capitalisation - FY 2019-20	37
Table 26: Approved Additional Capitalisation – FY 2019-20 (Rs. Cr.).....	38
Table 27: Additional Capitalisation approved by Commission (INR Cr.).....	39
Table 28: Funding of additional capitalisation approved by Commission	39
Table 29: Depreciation claimed by Petitioner (INR Lakhs).....	40
Table 30: Depreciation approved by Commission (INR Lakhs).....	42
Table 31: Interest on Loan claimed by Petitioner (INR Lakhs)	43
Table 32: Interest on Loan approved by Commission (INR Lakhs)	45
Table 33: RoE claimed by Petitioner (INR Lakhs).....	46
Table 34: RoE approved by Commission (INR Lakhs)	47
Table 35: O&M Expenses claimed by Petitioner (INR Lakhs).....	48
Table 36: Normative O&M Expenses	49
Table 37: O&M Expenses approved by Commission (INR Lakhs).....	49
Table 38: Interest on Working Capital claimed by Petitioner (INR Lakhs).....	50
Table 39: Interest on Working Capital approved by Commission (INR Lakhs).....	51
Table 40: Summary of ARR claimed by Petitioner (INR Lakhs)	51
Table 41: Summary of ARR approved by Commission (INR Lakhs)	52

1. INTRODUCTION

1.1 Himachal Pradesh Electricity Regulatory Commission

1.1.1 The Himachal Pradesh Electricity Regulatory Commission (hereinafter referred to as 'HPERC' or 'the Commission') constituted under the Electricity Regulatory Commission Act, 1998 came into being in December, 2000 and started functioning with effect from 6th January, 2001. After the enactment of the Electricity Act, 2003 on 26th May, 2003, the HPERC has been functioning as a statutory body with a quasi-judicial and legislative role under Electricity Act, 2003.

1.1.2 Functions of the Commission

As per Section 86 of the Electricity Act, 2003, the State Commission shall discharge the following functions, namely

- a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State. Provided that where open access has been permitted to a category of consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;
- b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;
- c) facilitate intra-state transmission and wheeling of electricity;
- d) issue licences to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;
- e) promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licence;
- f) adjudicate upon the disputes between the licensees, and generating companies and to refer any dispute for arbitration;
- g) levy fee for the purposes of this Act;
- h) specify State Grid Code consistent with the Indian Electricity Grid Code specified with regard to grid standards;

- i) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;
- j) fix the trading margin in the intra-state trading of electricity, if considered, necessary; and
- k) Discharge such other functions as may be assigned to it under this Act.

1.1.3 The State Commission shall advise the State Government on all or any of the following matters, namely

- a) promotion of competition, efficiency and economy in activities of the electricity industry;
- b) promotion of investment in electricity industry;
- c) reorganization and restructuring of electricity industry in the State;
- d) Matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by State Government.

1.2 Himachal Pradesh Power Transmission Corporation Ltd.

1.2.1 Himachal Pradesh Power Transmission Corporation Limited (hereinafter referred to as 'HPPTCL' or 'the Petitioner') is a deemed licensee under first, second and fifth provision of Section 14 of the Electricity Act, 2003 (hereinafter referred to as 'the Act') for transmission of electricity in the State of Himachal Pradesh.

1.2.2 The Government of Himachal Pradesh (hereinafter referred to as 'GoHP' or the 'State Government' formed HPPTCL through a notification vide its notification No. MPP-A-(1)-4/2006-Loose, dated 11th Sep,2008.

1.2.3 HPPTCL was entrusted with the following work / business with immediate effect:

- a) All new works of construction of Sub-Stations of 66 kV and above
- b) All new works of laying/ construction of transmission lines of 66 kV and above
- c) Formulation, updating, execution of Transmission Master Plan for the state for strengthening of Transmission network and evacuation of power including new works under schemes already submitted by the Himachal Pradesh State Electricity Board (HPSEB) under this plan to the Financial Institutions for funding and where loan agreements have not yet been signed
- d) All matters relating to planning and co-ordinations of the transmission related issues with CTU, CEA, Ministry of Power, State Government and HPSEBL
- e) Planning and co-ordination with the IPPs/ CPSUs/ State PSUs/ Other Departments or organizations or agencies of the Central Government

and State Government, HPSEBL and HPPCL with regard to all transmission related issues

- 1.2.4 HPPTCL was declared the State Transmission Utility (STU) by the GoHP vide its order dated 10th June, 2010 and as a result thereof the Commission recognized HPPTCL as a deemed "Transmission Licensee" as per the Commission's Order dated 31st July, 2010 in Petition No. 32 of 2010 filed by HPPTCL under Sections 14 and 15 of the Act, for grant of Transmission Licensee in the State of Himachal Pradesh. Prior to FY 2010-11, the transmission tariff was being determined as a part of the tariff orders applicable to HPSEBL system.

1.3 Multi Year Tariff Framework

- 1.3.1 The Commission follows the principles of Multi Year Tariff (MYT) for determination of tariffs, in line with the provision of Section 61 of the Act.
- 1.3.2 The MYT framework is also designed to provide predictability and reduce regulatory risk. This can be achieved by approval of a detailed capital investment plan for the Petitioner, considering the expected network expansion and load growth during the Control Period. The longer time span enables the Petitioner to propose its investment plan with details on the possible sources of financing and the corresponding capitalization schedule for each investment.
- 1.3.3 The Commission had specified the terms and conditions for the determination of tariff in the year 2004, based on the principles as laid down under Section 61 of the Electricity Act 2003.
- 1.3.4 Thereafter, the Commission had notified the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011. The regulations notified were amended as (First Amendment) Regulations, 2013 on 1st November, 2013 and (Second Amendment) Regulations, 2018 on 22nd November, 2018 (The Regulations and its subsequent amendments combined shall be herein after referred to as 'HPERC Transmission Tariff Regulations, 2011').
- 1.3.5 The Commission issued the first Multi-Year Tariff (MYT) Order for HPPTCL for the period FY 2011-12 to FY 2013-14 on 14th July, 2011 and thereafter for the second Control Period (FY 2014-15 to FY 2018-19) on 10th June, 2014. The Commission has also issued the Tariff Order on True Up for the FY 2014-15 to FY 2015-16 and Mid Term Review for Third Control Period FY 2016-17 to FY 2018-19. Thereafter, on 29th June, 2019, the Commission issued the MYT Order for the fourth Control Period (FY 2019-20 to FY 2023-24).

1.4 Interaction with the Petitioner

- 1.4.1 Since the submission of the Petition, there have been a series of interactions between the Petitioner and the Commission, both written and oral, wherein the Commission sought additional information/clarifications and justifications on various issues, critical for the analysis of the Petition.

- 1.4.2 Based on preliminary scrutiny of the petition, the Commission vide letter No. HPERC/F(1)-24/2021-1983-84 dated 27th Oct, 2022 directed the Petitioner to submit details regarding first set of deficiencies identified in the petition, which were submitted by the Petitioner vide M.A. No. 01/2022 dated 4th Mar, 2022 . Subsequently, the Commission issued another set of deficiency letters, whose replies were submitted by the Petitioner by MA No. 95/2022 dated 18th May, 2022 and MA No. 122/2022 dated 02nd July, 2022 respectively. The Petitioner has also submitted the replies on comments of HPPCL & HPSEBL vide MA No.109/2022 dated 20th June, 2022 and MA No. 117/2022 dated 30th June, 2022
- 1.4.3 Based on the detailed scrutiny of the petition, various clarifications/information were sought by the Commission from time to time. The following submissions made by the Petitioner in response there to, have been taken on record:

Table 1: Communication with the Petitioner

Sl.	Submission of the Petitioner	Date
1	MA No. 01/2022	04.03.2022
2	MA No. 95/2022	18.05.2022
3	MA No. 122/2022	02.07.2022
4	MA No. 109/2022 Reply on HPPCL Comments	20.06.2022
5	MA No. 117/2022 Reply on HPSEBL Comments	30.06.2022

1.5 Public Hearings

- 1.5.1 The interim order, inter alia, included direction to the Petitioner to publish the application in an abridged form and manner as per the "disclosure format" attached with the interim order for the information of all the stakeholders in the State. As per the direction, the Petitioner published the public notice in the following newspapers.

Table 2: List of Newspapers for Public Hearing

Sl.	Name of News Paper	Date of Publication
1.	The Tribune	08.05.2022
2.	Amar Ujala	08.05.2022

- 1.5.2 The Commission published a public notice inviting suggestions and objections from the public on the tariff petition filed by the Petitioner in accordance with Section 64(3) of the Act which was published in the newspapers as mentioned in the table:

Table 3: List of Newspapers for Public Notice by Commission

Sl.	Name of News Paper	Date of Publication
1.	The Tribune (Chandigarh & Jalandhar Editions)	13.05.2022
2.	Himachal Dastak (Himachal Edition)	13.05.2022

- 1.5.3 The stakeholders were requested to file their objections by 15th June, 2022. HPPTCL was required to submit replies to the suggestions/ objections to the Commission by 22nd June, 2022 with a copy to the objectors on which the objectors were required to submit rejoinder by 30th June , 2022.
- 1.5.4 The Commission decided to conduct public hearing and therefore issued a public notice informing the public about the scheduled date of public hearing as 2nd July, 2022 which was extended to 4th July, 2022 due to some administrative reasons. In order to resolve the objections raised by the Commission in the first public hearing, a second public hearing was held on 16th July 2022. All the parties, who had filed their objections/ suggestions, were also informed about the date, time and venue for presenting their case in the public hearing.
- 1.5.5 The Commission has undertaken detailed scrutiny of the submissions made by the Petitioner and the various objections raised by stakeholders for the purpose of issuance of this Order.

2. STAKEHOLDER OBJECTIONS

2.1 Introduction

- 2.1.1 As detailed out in Chapter-1 of this Order, the Commission through Public Notice in various newspapers informed the public/stakeholders about the date for filing comments/ objections and date of public hearing as 4th July, 2022 for the Petition of approval of Capital Cost and determination of tariff for the period starting from COD to FY 2023-24 for 400/220/66 kV GIS Pooling Sub-station at Wangtoo (Sherpa Colony).
- 2.1.2 Accordingly, the public hearing was conducted on 4th July, 2022. During the hearing, the Petitioner was unable to clarify all the queries of the Commission to satisfaction . Therefore, the Commission scheduled a subsequent public hearing on 16th July, 2022 to provide another opportunity for providing requisite response to the queries of the Commission.
- 2.1.3 HPSEBL and HPPCL have submitted their comments/ suggestions before the Commission. Issues raised by HPSEBL and HPPCL in their written submission, along with replies given by the Petitioner and views of the Commission are summarized in the following paragraphs:

Stakeholders' Submission

- 2.1.4 HPPCL highlighted that the debt equity ratio as per DPR is 80:20. However HPPTCL has claimed the same as 70.56:29.44 as per actuals. The debt equity ratio of 80:20 as per DPR may be considered.

Petitioner's Response

- 2.1.5 The Petitioner has requested the Commission to approve the debt: equity ratio as claimed considering the submissions made in the Petition and subsequent replies.

Commission's Observations

- 2.1.6 The Petitioner's submissions and the requisite documents provided in support of its claim have been studied in detail by the Commission and appropriate treatment has been done as discussed in detail in Chapter 3, Section 3.7 of this Order.

Stakeholders' Submission

- 2.1.7 HPPCL submitted that M/s Tidong HEP has also been granted the LTA of the asset. As such M/s Tidong HEP may also be made party to this original petition and the charges may be shared with them as well.

Petitioner's Response

- 2.1.8 The Petitioner has requested the Commission to take an appropriate view in the matter

Commission's Observations

- 2.1.9 The Petitioner is directed to enter into Transmission Service Agreements (TSA) with the stakeholders/beneficiaries of the project and accordingly recover the charges from the beneficiaries in accordance with applicable transmission tariff regulations.

Stakeholders' Submission

- 2.1.10 The commercial date of operation of instant asset is mentioned as 29th Sep, 2019 and HPPTCL has taken almost two years to file the present petition. Clarification may be provided with regard to delay in filing.

Petitioner's Response

- 2.1.11 The Petitioner submitted that the delay was on account of events beyond the control of the Petitioner i.e. outbreak of COVID-19 which resulted in closure of offices and partial deployment of staff in offices. The Petitioner humbly requests the Commission to condone delay in filing of the petition.

Commission's Observations

- 2.1.12 The Commission has taken note of the submissions of the Stakeholder and the Petitioner. Owing to the extraordinary circumstances with outbreak of COVID-19 and lockdown imposed by the GoI and respective State Governments across India, the works and activities across offices were delayed. Therefore, the Petitioner is condoned for the delay in filing of the current petition however going forward the Petitioner is directed to adhere to the timelines as prescribed in relevant CERC/HPERC Tariff Regulations

Stakeholders' Submission

- 2.1.13 The audited capital cost as on COD (29th Sep, 2019) of the scheme inclusive of IDC and Departmental charges is INR 414.56 Cr. and as on 31st Mar, 2020 is INR 480.74 Cr. Capital cost of the instant asset was envisaged as INR 356.16 Cr. (including IDC & Departmental Charges) as per the original scope of the work defined in the DPR. The comparison of DPR cost vis-à-vis actual cost is as follows:

Particulars	DPR Cost (INR Cr.)	Actual Cost as on CoD (29.09.2019) (INR Cr.)	Variation in DPR Cost (INR Cr.)
Hard Cost	305.52	339.09	+33.57
IDC	18.64	50.51	+31.87
Departmental Charges	32.00	24.96	-7.04
Total	356.16	414.56	+58.40

The Petitioner may explain the reasons for such huge variation in the total cost of project vis-à-vis the DPR cost.

Petitioner's Response

2.1.14 The Petitioner submitted that the reason for variation has already been detailed out in the instant Petition. Further, in response to Query 2 of the Deficiency letter dated 27th Oct, 2021 raised by the Commission, the Petitioner vide reply dated 3rd Jan, 2022 has submitted the detailed response for the variation in Project Cost (including IDC and DC) as envisaged in the DPR vis-à-vis actual cost as on COD.

Commission's Observations

2.1.15 The submissions of the Petitioner have been scrutinized in detail and the final approved capital cost has been discussed in Section 3.5 of this Order

Stakeholders' Submission

2.1.16 The contract for Design, Engineering, Manufacturing etc. & Commissioning of 400/220/66 kV GIS Pooling Sub-Station Wangtoo at Sherpa Colony was awarded on turnkey basis to M/s L&T Construction Ltd. on 15th Oct, 2013 in a competitive bidding process. The time period for execution of project from the date of contract was 30 months i.e. for 400/220kV portion of the substation. However, the project achieved COD on 29th Sep, 2019 with a delay of 41 months resulting in cost overrun of the project. This has resulted in higher IDC. The Departmental Charges claimed by HPPTCL are on the lower side than the approved in original DPR as on COD. The Petitioner may explain the reasons for the same.

Petitioner's Response

2.1.17 No Reply.

Commission's Observations

2.1.18 The approval of IDC and Departmental Charges have been discussed in detail in the Section 3.6 of this Order

Stakeholders' Submission

2.1.19 The Additional Capital Expenditure of INR 64.81 Cr. towards works which were part of original scope of work have been claimed after COD on 29th Sep, 2019 upto 31st Mar, 2020 by the Petitioner, however, the funding of additional capital expenditure, a debt of INR 79.334 Cr. & equity of INR (-) 14.52 Cr. has been shown. The source of equity received of INR 14.52 Cr. has not been mentioned. Further, INR 3.27 Cr. has been received by the Petitioner in FY 2020-21 from the IPPs towards bay cost construction & usage of one 66kV bay at Wangtoo Substation for evacuation of power in joint mode. This amount has been shown deducted from the additional capital expenditure during the year.

Petitioner's Response

2.1.20 With regards to negative equity funding towards the Additional Capital Expenditure of INR 64.81 Cr., the Petitioner has submitted that the refinancing of equity has been carried out during the FY 2019-20 and the Debt: Equity ratio with respect to Additional Capital Expenditure during FY 2019-20 has been submitted on actual basis duly certified by the Auditor. The Petitioner request the Commission to approve the Debt: Equity ratio for FY 2019-20 as claimed by the Petitioner considering the submissions made in the Petition. Further, it is submitted that amount of INR 3.27 Cr. has been received by HPPTCL in FY 2020-21 towards bay construction charges and same has been adjusted as detailed out under Section 4.7.7 of the Petition.

Commission's Observations

2.1.21 The funding approved by the Commission for the purpose of ARR determination has been discussed in detail in the Section 3.7: Project Funding of this Order.

Stakeholders' Submission

2.1.22 In terms of the CERC Sharing Regulations, 2020, CTU (POWERGRID) has been assigned to identify the transmission assets on all India basis to be included under these regulations and the details of assets covered under different components of the transmission charges for the respective DICs & submit the same to the Implementing Agency (NLDC) for notification of transmission charges on monthly basis. Accordingly, CTU has issued the list of categorisation of Interconnecting Transformers (ICT) and downstream bays at various POWERGRID substations as per CERC Sharing Regulations 2020. Wangtoo Substation has been & will be used for drawl of power by HPSEBL. Therefore, based on the similar methodology, the usage of the Interconnecting Transformers (ICT) of Wangtoo GIS Substation of HPPTCL for the drawl of power by HPSEBL in that area will be included in the Transformer Component of the State. The Regulation (13) of the CERC Sharing Regulations 2020 stipulates that an intra state transmission system for which tariff is approved by the CERC shall be included for sharing of transmission charges of DICs in accordance with the said regulations. The present petition of HPPTCL is for the approval of the capital cost & tariff determination from COD on 29th Sep, 2019 to FY 2023-24 by the HPERC and after approval of the tariff, HPPTCL will have to approach the Hon'ble CERC for approval of the tariff post which the same may be considered for sharing of transmission charges under the CERC Sharing Regulations 2020.

The instant Pooling Sub-station is incidental to inter-state transmission network and Petitioner in the petition has mentioned that ISTS certification of the asset on the basis of actual load flows in FY 2020-21 will be submitted to NRPC. HPPTCL may be directed to seek the NRPC certification at the earliest & process of inclusion of this asset through CTU for recovery of transmission charges. The Commission may direct whether HPSEBL's drawl of power from this drawl point or injection by other identified IPPs having sale power

arrangement outside the State may have to bear the tariff in the ratio of actual flow of power till recovery of tariff of this asset in terms of CERC Sharing Regulations, 2020.

Petitioner's Response

2.1.23 In response to the query of the Commission, the reply of which was given vide letter dated 13th May, 2022, the Petitioner has submitted that the work of certification of non ISTS assets was withdrawn after issuance of CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020. Therefore, on account of change in Regulations (ibid), the Petitioner expresses its inability in getting the assets incidental to inter-state Transmission system certified as inter-state or intra-state asset. However, once the tariff is determined by the Commission, the Petitioner shall approach Hon'ble CERC for appropriate recovery of transmission charges through POC mechanism in line with CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020.

With regard to sharing of tariff in the ratio of actual power flow, the Petitioner has requested the Commission to take an appropriate view in the matter.

Commission's Observations

2.1.24 As highlighted by the Petitioner in its response, the Petitioner is directed to file suitable application before the Hon'ble CERC for recovery of the ARR approved in this Order for the period FY 2019-20 to FY 2023-24 under the POC mechanism in line with CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020.

3. APPROVAL OF CAPITAL COST

3.1 Introduction

3.1.1 HPPTCL has submitted a petition for determination of capital cost for 400/220/66 kV GIS Pooling Sub-station at Wangtoo (Sherpa Colony) in line with the provisions of the HPERC Transmission Tariff Regulations, 2011.

3.1.2 As per Regulation 14 of the HPERC Transmission Tariff Regulations, 2011, the Capital Cost of Project is described as under:

14. Capital cost of the project

(1) The capital cost for a project shall include-

(a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;

(b) capitalised initial spares subject to the ceiling norms as per regulation 15;

(c) additional capital expenditure determined under regulation 16:

Provided that the assets forming part of the project, but not in use, shall be taken out of the capital cost.

(2) The capital cost admitted by the Commission, after prudence check, shall form the basis for determination of tariff:

Provided that the prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Commission from time to time:

Provided further that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the reasonableness of the capital expenditure, financing plan, interest during construction, use of efficient technology, cost over-run and time over-run, and such other matters as may be considered appropriate by the Commission for determination of tariff:

Provided further that where the implementation agreement and the transmission service agreement entered into between the transmission licensee and the long-term transmission customer provides for ceiling of

actual expenditure, the capital expenditure admitted by the Commission shall take into consideration such ceiling for determination of tariff:

"Provided further that in case of the existing projects, the capital cost admitted by the Commission prior to the start of the control period and the additional capital expenditure projected to be incurred for the respective years of the control period, as may be admitted by the Commission, shall form the basis for determination of tariff:"

- 3.1.3 The Commission has reviewed the proposed capital cost for 400/220/66 kV GIS Pooling Sub-station at Wangtoo (Sherpa Colony) and ARR for each year by the Petitioner from COD until the end of the Control Period i.e. FY 2023-24. Multiple set of deficiencies in the petition were shared with the Petitioner to realistically validate the claim of the petitioner along with reasons for cost and time overrun, beneficiary details, etc.
- 3.1.4 The original Petition lacks significant detailing and supporting information to ascertain the capital cost for the sub-station. Information provided in the Petition was inadequate or lacked adequate justifications w.r.t. increase in actual cost vis-à-vis awarded cost, time and cost overrun, details of off-takers, schedule of debt disbursement etc. for which the Commission sought additional submissions and supporting documents from the Petitioner through deficiency letters for the purpose of reviewing the capital cost and ARR. In some of the responses, the information provided by the Petitioner to the queries of the Commission remained incomplete and/or could not be validated through appropriate supporting documents.
- 3.1.5 The Commission has undertaken detailed prudence check and adequate assumptions, wherever required, for approving the capital cost of sub-station. The scrutiny and prudence check undertaken by the Commission for approval of capital cost of 400/220/66 kV GIS Pooling Sub-station at Wangtoo (Sherpa Colony) has been discussed in the following paragraphs.
- 3.1.6 Relevant technical details and configuration of the Sub-station as submitted by the Petitioner are tabulated as follows:

Table 4: Current Asset details

Name of Sub-Station	Type	Voltage level kV	No. of Transformers	No. of Bays				COD
				765 KV	400 KV	220 KV	66 kV	
400/220/66 kV GIS Substation Wangtoo	GIS	400	7	-	9	-	-	29 th September, 2019
		220	2	-	-	9	-	
		66	-	-	-	-	7	

3.2 Summary of the Project

Petitioner Submission

- 3.2.1 The Petitioner submitted that the beneficiaries of the system include M/s Taranda Hydro Power Private Limited (Rala HEP having capacity of 13MW), M/s Panchhor Hydro Private Limited (Wanger-Homte HEP of 24.60MW) and M/s Ramesh Hydro Power Private Limited (Silti-Masrang of 24MW). Each

beneficiary has been provided one no. of 66 kV bay at Wangtoo Substation for evacuation of power in joint mode. Rala HEP is selling its power to M/s Tata Power Delhi Distribution Limited and has signed LTOA (Long Term Open Access Agreement) with HPPTCL for usage of STU system. Wanger-Homte HEP has executed Power Purchase Agreement (PPA) with HPSEBL and its power is being purchased by HPSEBL at inter-connection point as defined in the Agreement. Further, Silti-Masrang HEP is yet to be commissioned and the Petitioner has not received the LTA/MTOA application from the HEP, hence the said HEP is not impleaded in the current Petition.

- 3.2.2 Furthermore, HPSEBL's intrastate system is connected to Wangtoo Substation through S/C LILO of 220 kV D/C Bhaba-Kunihar transmission line and is being used by HPSEBL for both drawl and injection.
- 3.2.3 Subsequent to BOD of the Petitioner and CEA approval, the contract for Design, Engineering, Manufacturing, Fabrication, Testing at Manufacturing works, Transportation to site, Insurance, Storage, Erection, Testing and Commissioning of 400/220/66 kV GIS Pooling Station at Wangtoo (Sherpa Colony) was awarded on Turnkey basis to M/s L&T Construction Ltd. The Petitioner further submitted that the contract was awarded after carrying out due competitive bidding process.
- 3.2.4 The effective date of the Contracts (Services & Supply Contract) was 15th Oct, 2013. The time period for execution of project from effective date of contract was 30 months. However, the project achieved COD on 22nd Sep, 2019 with a delay of approximately 41 months.
- 3.2.5 HPPTCL submitted that the capital cost of the instant project was envisaged as INR 356.16 Cr. (including IDC and DC) as per the scope of work defined in the original DPR. The same was approved by the CEA vide letter dated 14th March, 2012.
- 3.2.6 The Petitioner submitted that audited capital cost of the project as on COD is INR 414.56 Cr. including IDC and Departmental charges and the completed cost as on 31st Mar, 2020 is INR 480.74 Cr.

Commission's Analysis

- 3.2.7 The Commission observed that the construction work on the project commenced on 15th Oct, 2013. The beneficiaries of the project include hydro generating stations located within the State which are selling power both within and outside the State. It is observed that while the Petitioner has signed open access agreements with few of the generators, for remaining beneficiaries it is yet to enter into the agreements. The Petitioner is directed to enter into the agreements with all the beneficiaries as the project has already been commissioned and the recovery of tariff can only be assured after executing the same.
- 3.2.8 As per the DPR, the project was originally envisaged at a cost of INR 356.16 Cr. and accordingly the BOD approval for construction of 400/220/66 kV GIS Pooling Sub-station at Wangtoo (Sherpa Colony) was received in the 10th BoD Meeting held on 9th Feb, 2011. Further, CEA accorded its approval to the project on 14th Mar, 2012.

- 3.2.9 The project was envisaged at a debt-equity ratio of 80:20 as per the DPR. HPPTCL had secured funding for the project under the transmission scheme funded from Asian Development Bank (ADB).
- 3.2.10 As per the contract agreements submitted by the Petitioner, the contract for supply and services for Sub-station was awarded on 24th Jul, 2013 to M/s L&T Constructions Ltd. Subsequently, eight amendments were issued to the contract which covered aspects of GST impact, change in scope, delay, etc. which have been discussed in detail in the subsequent paras.
- 3.2.11 The delay in COD of the project was around 41 months primarily on account of factors such as delay in handing over of site, local hindrances, inclement weather conditions, delay in getting requisite approvals, change in scope, etc. as submitted by the Petitioner.
- 3.2.12 The project achieved COD on 29th Sep, 2019, the letter of intimation of COD has been submitted by the Petitioner in this regard. Accordingly, based on the submission of the Petitioner, the Commission has considered the COD as 29th Sep, 2019.
- 3.2.13 The actual cost of the project as per the claim of the Petitioner is INR 414.56 Cr. as on COD against which an Auditor's certificate has been submitted.
- 3.2.14 The Petitioner submitted that the evacuation of power of various SHPs is to be done through the project with the primary beneficiary being HPSEBL.
- 3.2.15 It is observed that the Petitioner has not undertaken capital investment approval for the transmission schemes as per the requirement of HPERC Transmission Tariff Regulations, 2011. Absence of scheme-wise capital investment approval for the transmission works results in difficulties in determining reasonable capital cost and applicability of transmission charges. The Petitioner is directed to undertake scheme-wise approval for such capital investments for all future schemes.
- 3.2.16 The Commission has analysed the Petition and the supporting annexures in detail and found several deficiencies in the information provided. In order to undertake in-depth analysis, the Commission in its various discrepancy letters sought additional information and supporting documents such as approvals of the BOD/competent agencies, details of awards/ contracts, correspondences, documents against project funding, payments made to contractors, and COD certificate, etc.

3.3 Energy flow and Nature of Asset

Petitioner Submission

- 3.3.1 The Petitioner submitted that 400/220/66 kV Pooling Sub-station of capacity 220/400 kV, 2X315 MVA and 66/220 kV, 2X80/100 MVA has been constructed with an anticipated evacuation capacity of ~350 MW.
- 3.3.2 As per the Petitioner, currently there are four beneficiaries of the project viz. HPPCL Kashang HEP (65 MW), Taranda Hydro Power Limited (13 MW), Rala HEP (13 MW) and Panchhor Hydro Power Pvt. Ltd. (24.60 MW). Further, HPSEBL has utilised 316 MW of peak power from the Sub-station through its

Kunihar circuit. The Petitioner also submitted that more beneficiaries are expected to join in the future.

Commission's Analysis

3.3.3 The Commission in one of its deficiency letter sought updated details from the Petitioner on the current and future beneficiaries of the project. In its response, the Petitioner submitted that currently there are four LTOA beneficiaries of the project listed as follows:

Table 5: Details of existing beneficiaries

Sl.	Name of Beneficiary	Quantum (MW)	Type of Agreement signed
1	HPPCL (Kashang HEP)	65	LTOA executed on dated 10.01.2020
2	Taranda Hydro Power Pvt. Ltd. (Rala HEP)	13	LTOA executed on dated 26.02.2019
3	Panchhor Hydro Power Pvt. Ltd. (Wanger Homte HEP)	24.60	M/s Panchhor has signed Connection Agreement with HPPTCL on 06.08.2014. Further, HPSEBL has executed PPA with IPP for purchase of power and Connection Point has been defined as 66/220/400kV Wangtoo Substation as per Connection Agreement. Hence, Transmission charges for usage of said system will be borne by HPSEBL and signing of TSA in this regard is in process
4	HPSEBL	HPSEBL has utilized approximately 316 MW of Peak Power from Wangtoo Substation through its Kunihar Circuit.	Signing of TSA with HPSEBL is in process. TSA to be signed with HPSEBL with a proposed capacity of 830 MVA (630 MVA for 400/220 kV level + 200 MVA for 220/66 kV level)

3.3.4 The details of future beneficiaries as submitted by the Petitioner are provided as follows:

Table 6: Details of future beneficiaries

Sl.	Name of Beneficiary	Quantum (MW)	Status
1	Ramesh Hydro Power Pvt. Ltd. (Selti – Masrang HEP)	24	Selti-Masrang HEP has signed Connection Agreement with HPPTCL on 15.12.2018. The project is under execution stage and details with respect to agreement with HPSEBL/other utility is not available at the moment.
2	Tidong Power Generation Pvt. Ltd. (Tidong HEP)	100	Projects has applied for LTA for its respective capacities and its LTA application are under process.
3	HPPCL (Kashang HEP)	130	
4	Raura II	24	Brua HEP, Shaung HEP and Raura-II HEP's have signed joint Connection Agreement with
5	Brua HEP	9	

Sl.	Name of Beneficiary	Quantum (MW)	Status
6	Shaung HEP	3	HPPTCL on 02.07.2021, whereas Raura HEP has signed Connection Agreement with HPPTCL on 23.06.2016. The projects have been granted connectivity at 66kV Urni Substation and shall be connected to Wangtoo Substation through 66kV Urni-Wangtoo Transmission line. These generators have signed PPAs with HPSEBL for selling their power and signing of TSA with HPSEBL is in process.
7	Raura HEP	12	

- 3.3.5 The Commission with regard to the TSA with HPSEBL sought status update from the Petitioner regarding signing and the proposed timeline of conclusion of the process. The Petitioner submitted that the TSA signing is under process and is expected to conclude shortly. The Commission directs the Petitioner to timely take up the matter with HPSEBL and sign the TSA on priority.
- 3.3.6 The Commission sought information with regards to nature of line and sought supporting documents regarding the Sub-station being part of Intra or Inter-State transmission system. In response, the Petitioner submitted that the work of certification of non-ISTS lines was withdrawn with effect from the notification of CERC (Sharing of ISTS Charges and Losses) Regulations, 2020 from 11th November, 2020. Therefore, on account of change in Regulations, assets incidental to inter-state transmission system cannot be certified as interstate or intrastate.
- 3.3.7 From the review of the DPR it is inferred that the Sub-station was constructed for evacuation of power from hydro plants such as Kashang (65 MW), Tidong (100 MW), Raura (20 MW), Selti (24 MW), Masrang and 11 other power houses. Furthermore, as per the DPR, it was decided that the generating companies shall be paying the Annual Transmission Charges to HPPTCL as beneficiaries of the generating stations were not identified.
- 3.3.8 Since, the TSAs for the Sub-station are not yet in place and the Petitioner itself has communicated, as discussed in the previous chapter, that once the tariff is determined, the Petitioner shall approach Hon'ble CERC for appropriate recovery of transmission charges through POC mechanism in line with CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020.
- 3.3.9 Hence, in light of the submissions, the Petitioner is directed to take up the matter with appropriate authority /agencies for recovery of the approved ARR from the beneficiaries as also highlighted in Chapter 4 of this Order.
- 3.3.10 The maximum capacity that can be handled by Sub-station is 315 MVA under n-1 contingency condition for 400/220 kV transformer and 100 MVA under n-1 contingency condition for 220/66 kV Transformer. Under present generation scenario, power being evacuated through 66/220/400 kV is provided as follows:

Table 7: Power Evacuation through Wangtoo transmission system

Sl.	Name of the Project	Voltage level from which generation is coming	Transmission system
1	Rala HEP (13 MW)	66 kV	1 No. 66kV bay at Wangtoo Substation has been constructed for Rala HEP, Wanger Homte HEP and Silti Masrang HEP in joint mode. However, as on date Silti Masrang HEP is not commissioned. Presently, Rala HEP is selling its power outside HP and Wanger Homte is selling its power to HPSEBL
2	Wanger Homte (24.5 MW)	66 kV	
3	Raura HEP (12 MW)	66 kV	Under interim arrangement, the power of IPP is being evacuated through second circuit of 220kV Kashang-Bhaba transmission line (charged at 66kV level) with interconnection point as Tower No.61. Power of said generator is being purchased by HPSEBL.
4	Kashang HEP (65 MW)	220 kV	The Power of Kashang HEP is being transmitted through 220kV Kashang-Wangtoo Transmission line (Circuit-1) to 66/220/400kV Wangtoo Substation. Earlier HPPCL was selling its power through trading but now HPPCL has entered into a formal agreement with HPSEBL on 1 st May, 2022 to sell power directly for a period of ~one year.
5	Brua HEP (9MW)	220 kV	Under interim arrangement, these IPP's are connected through solid tap at Tower No. 52 of Circuit-2 of Kashang Bhaba line (charged at 66kV level) and power is being transmitted to 66/220/400kV Wangtoo Sub-station via 22/66/220kV Bhoktoo Substation. Both IPP's are selling their power to HPSEBL.
6	Shaung HEP (3MW)	220 kV	
7	Shyang HEP (3MW)	220 kV	These IPP's have 22/66/220kV Bhoktoo as interconnection point and said power is being transmitted through 220kV Kashang-Bhaba line (Circuit-I) to 66/220/400kV Wangtoo sub-station. Power of Shyang and Tangling HEP is being purchased by HPSEBL under PPA arrangement.
8	Tangling HEP (5MW)	220 kV	

3.4 Capital Cost

Petitioner's submission

- 3.4.1 The Petitioner submitted that originally the contract was awarded based on the DPR approved by the BOD. The cost of construction of Sub-station was envisaged at INR 356.16 Cr. (including IDC and DC) as per the DPR.
- 3.4.2 Based on the DPR for the Wangtoo Sub-Station, bids were invited and contract for implementation of the project was awarded to M/s L&T Constructions Ltd. at a cost of INR 309.94 Cr. The scheduled construction period for the substation was 30 months. The Petitioner further submitted that due to delay on account of various factors, the COD for Sub-station got delayed and was finally achieved on 29th Sep, 2019.
- 3.4.3 Further, the initial contract was amended eight times, the details of which are provided as follows:

Table 8: Summary of Contract Value and Amendments

Sl.	Particulars	Supply Contract (INR Cr.)	Services Contract (INR Cr.)	Total (INR Cr.)
1	Initial Award Price	233.82	76.12	309.94
2	1 st Amendment	0.18	-	0.18
3	2 nd Amendment	13.02	9.67	22.69
4	3 rd Amendment	7.45	0.22	7.67
5	4 th Amendment	-9.42	33.43	24.01
6	5 th Amendment	0.48	1.46	1.94
7	6 th Amendment	-0.07	-	-0.07
8	7 th Amendment	0.68	0.14	0.82
9	8 th Amendment	-11.74	-9.89	-21.63
	Total	234.39	111.15	345.54

- 3.4.4 The Petitioner submitted that the increase in hard cost is primarily on account of change in scope of work based on detailed engineering review, impact of inclusion of GST, enhancement in the contract value due to delay in handing over of land, Entry Tax which was paid additionally and Price Variation which was payable as per contracts towards Supply, Erection and Electrical Works.
- 3.4.5 The Petitioner submitted that the amendments were issued on account of variety of factors some of which include enhancement in scope, delay in handing over of project site, implementation of GST, etc.
- 3.4.6 The following table provides comparison of the original DPR cost, the awarded cost (post 8th Amendment) and actual cost incurred against the project:

Table 9: Capital Cost comparison (INR Cr.)

Particulars	Capital Cost – DPR	Awarded Cost (Post 8 th Amendment)	Capital Cost – Actual (As on COD)
Supply	191.03	234.39	243.45
Services	16.56	111.15	88.99
Other Costs (Inclusive of Entry Tax)	97.92	-	6.67
Departmental Charges	32.01	-	24.96
Interest During Construction	18.64	-	50.51
Total	356.16	345.54	414.56

3.4.7 The Petitioner submitted that the Sub-Station was energised on 29th September, 2019.

3.4.8 The Petitioner has claimed a total capital cost of Sub-station as INR 414.56 Cr as on COD and completed cost of the project (including additional cost post COD) as INR 480.74 Cr. as on 31st Mar, 2020.

3.4.9 The following table provides the total capital cost claimed by the Petitioner for the Sub-station as on COD and as on 31st Mar, 2020 (Completed Cost):

Table 10: Capital Cost claimed by the Petitioner (INR Cr.)

Particulars	Capital Cost (As on CoD)	Additional Cost post CoD	Capital Cost (As on 31.03.2020)
Hard Cost			
Supply	243.45	2.97	246.42
Services	88.99	46.28	135.26
Cost of land and site erection	0.96	-	0.96
Entry Tax	4.47	-	4.47
Tender, Miscellaneous, Testing, Site Development	0.19	0.09	0.28
Shifting of existing 22 kV Line	0.92	-	0.92
Installation of transformer	0.13	-	0.13
Departmental Charges	24.96	-	26.32
Interest During Construction (IDC)	50.51	15.47	65.98
Total	414.56	64.81	480.74

3.4.10 The Petitioner further submitted that while finalizing the Annual Audited accounts for FY 2019-20, the actual O&M expenses of INR 1.36 Cr. were erroneously booked under 'Departmental Charges' head thus Departmental Charges of INR 1.36 Cr. forms part of additional capitalisation from COD to 31st Mar, 2020. Therefore, while working out the ARR, the Petitioner has reduced the same from Departmental Charges head in Capital Cost and has considered it as part of actual expenses while claiming the ARR for FY 2019-20. Accordingly, the additional capex claimed by the Petitioner during FY 2019-20 has been adjusted by INR 1.36 Cr.

Commission's Analysis

- 3.4.11 The Commission has done a detailed scrutiny of the various components of the capital cost. As part of the prudence check, the Commission sought additional information and supporting documents including auditor certificate, approvals of BOD, reasons for price variation, details of awards/ contracts, correspondences, payments made to contractors, COD certificate, etc. The Petitioner was also asked to submit the relevant approvals taken for the project from the Commission/ HPPTCL Board.
- 3.4.12 Based on the DPR submitted by the Petitioner, the capital cost of the Sub-station as per the DPR is INR 356.16 Cr. inclusive of Departmental Charges (DC) and Interest During Construction (IDC). The scheme for construction of Sub-station at Wangtoo (Sherpa Colony) was approved in the 10th BOD Meeting of the Petitioner held on 9th February, 2011.
- 3.4.13 As per the copy of contracts provided by the Petitioner, the Supplies and Services contract of the Sub-station was awarded to M/s L&T Construction Ltd. at a consolidated cost of INR 309.94 Cr. with INR 233.82 Cr. towards Supplies contract and INR 76.12 Cr. towards Services contract respectively.
- 3.4.14 Post the award of contract, eight no. of amendments were issued against the contract on account of multiple reasons. A summary of the amendments along with reasons as sought in additional clarifications has been provided as follows:

Table 11: Commission's analysis of Contract Value and Amendments

Sl.	Particulars	Date of Notification	Supply Contract (INR Cr.)	Services Contract (INR Cr.)	Total (INR Cr.)	Reason for Amendment
1	Initial Award Price	24.07.2013	233.82	76.12	309.94	
2	1 st Amendment	14.11.2017	0.18	-	0.18	<ul style="list-style-type: none"> Amendment in quantity for Online DGA and Drying System Addition of One No. of Spare Auto Transformer
3	2 nd Amendment	16.02.2018	13.02	9.67	22.69	Variation on account of implementation of GST
4	3 rd Amendment	17.12.2018	7.45	0.22	7.67	Delay in handing over of site
5	4 th Amendment	23.03.2019	(9.42)	33.43	24.01	Deviation in quantity in Supply and Services contract
6	5 th Amendment	04.05.2019	0.48	1.46	1.94	<ul style="list-style-type: none"> Enhancement in capacity of LT Transformer (250 to 630 KVA) Laying of RCC including centering, complete shuttering in retaining breast walls
7	6 th Amendment	06.07.2019	(0.07)	-	(0.07)	Reversal of additional GST levied in 5 th amendment
8	7 th Amendment	19.08.2019	0.68	0.14	0.82	Inclusion of Differential protection relay as additional item
9	8 th Amendment	02.01.2020	(11.74)	(9.89)	(21.63)	Refund on account of changes in sales tax and reversal due to delay

Sl.	Particulars	Date of Notification	Supply Contract (INR Cr.)	Services Contract (INR Cr.)	Total (INR Cr.)	Reason for Amendment
						on account of handing over of site
	Total		234.39	111.15	345.54	

- 3.4.15 From the review of the supporting documents provided in respect of the various amendments, it was observed that the delay in handing over of the site was on account of delay in obtaining requisite forest clearance due to resistance from Local Panchayat in issuance of No Objection Certificate (NOC). The Petitioner vide letter dated 11th Nov, 2013 had requested the SDM, Kinnaur regarding holding a meeting of Block level Committee for NOC for FCA regarding construction of Wangtoo Substation. Only subsequent to this, the project site could be handed over by 23rd Jan, 2015 after a delay of 465 days i.e. over 15 months. Owing to such delay, M/s L&T India Ltd. vide letters dated 12th May, 2015, 31st Jul, 2015, and 29th Mar, 2015 had communicated the delay in handing over of the project site and inability to fulfil the contractual obligations owing to substantial increase in the market price levels during the intervening period. M/s L&T India Ltd. further referring to the specific provisions of the General Conditions of Contract (GCC) requested HPPTCL to compensate for the price escalations. In view of the same, the enhancement claimed was approved by Asian Development Bank (ADB) and accordingly 3rd Amendment was issued with enhanced price vide letter dated 17th Dec, 2018.
- 3.4.16 With regards to Amendment no. 4, it was observed that after carrying out detailed engineering of the project, the scope of civil works increased with respect to awarded work in the areas of excavation, reinforcement works, road works, fire wall works, cable trench works, boundary wall works and drain works. Further, after carrying out the detailed engineering there was a change in scope which in turn led to net off reduction in supply portion due to deletion of various Sub-station components envisaged earlier in the scope of work of original contract.
- 3.4.17 Amendment no. 5 was issued as the capacity of Station Transformer was increased from 250 kVA to 630 kVA considering the auxiliary power requirement of Sub-station worked out during the design stage. M/s L&T Constructions Ltd. had submitted the calculation of capacity of Station Transformer vide letter dated 26th Sep, 2017 and the same was examined & approved by AGM & Head Transmission Designs, HPPTCL.
- 3.4.18 In Amendment no. 8 issued on 2nd Jan, 2020 an amount of INR 21.63 Cr. was reduced from award price post 7th amendment. Clarifications sought from Petitioner in this regard showed that the price was reduced primarily due to exclusion of cost allowed earlier in 3rd Amendment on account of delay in handing over of site and the provisions of contract with respect to changes in sales tax.
- 3.4.19 Further scrutiny into the matter showed that a provision was added to Amendment 8 wherein it was established that additional expenditure incurred on account of Central Sales Tax (CST), Entry Tax, Extra cost due to delay in

land handover and Price Variation (PV) shall be paid extra as per actual based on production of documentary proof. The Commission has corroborated the same from the copy of the Amendment 8 submitted by the Petitioner.

3.4.20 Further, the Petitioner submitted that an additional amount of INR 4.47 Cr. as entry tax was also incurred thereby enhancing the overall completion cost of the project. The Commission has reviewed the tax invoice submitted by the Petitioner in this regard.

3.4.21 Auditor certificate against the claimed capex of the project was sought along with the reasons for the increased claim. The Commission observed a significant variation in final awarded cost (post 8th amendment) and completion cost (claimed in the Petition) with respect to cost towards services and supply contract as shown in the following table:

Table 12: Awarded Cost vis-à-vis Completed Cost (INR Cr.)

Particulars	Awarded Cost (Post 8 th Amendment)	Capital Cost (As on 31.03.2020)	Variation
Supply	234.39	246.42	12.03
Services	111.15	135.26	24.11
Total	345.54	381.68	36.14

3.4.22 Justification was sought for such a significant variation observed in the final cost. As discussed in the previous paras that Amendment no. 8 had the provision of considering the additional cost on account of delay in handing over of site and price variations based on actuals. The following table provides the breakup of variation in final cost incurred by the Petitioner vis-à-vis awarded cost post 8th amendment with respect to Supplies and Services contract.

Table 13: Breakup in variation of final cost vis-à-vis Cost post 8th Amend.(INR Cr.)

Particulars	Awarded Cost (Post 8 th Amendment)
Supply	
Price Variation (PV)	4.73
Cost due to delay in land handover	7.67
Expenditure incurred at field unit	0.05
Services	
Price Variation (PV)	19.97
Service Tax	4.18
Expenditure incurred at field unit	0.54

3.4.23 The Commission has reviewed the supporting documents such as copies of the letters of approval of Price Variation (PV) by HPPTCL, invoices etc. submitted against the additional cost claimed under each head and found them to be in order. With regards to Price Variation (PV) of INR 19.97 Cr. claimed under the services contract, proofs/bills/ approvals for amount equivalent to INR 19.15 Cr. only were made available by the Petitioner. Hence, the Commission has disallowed an amount of INR 0.82 Cr. (INR 19.97

Cr.- INR 19.15 Cr.) under the services head forming part of the overall hard cost.

3.4.24 The following table provides the comparison of original DPR cost, awarded cost and capital cost as on COD based on Auditor's certificate:

Table 14: DPR vs Awarded vs Capital Cost (INR Cr.)

Particulars	Capital Cost – DPR	Awarded Cost (Post 8 th Amendment)	Capital Cost - Auditor Certificate (As on COD)	Capital Cost - Auditor Certificate (As on 31.03.2020)
Supplies	191.03	234.39	243.45	246.42
Services	16.56	111.15	88.99	135.26
Price Contingencies	8.37	-	-	-
Cost of Land and erection	42.50	-	0.96	0.96
LILO on both circuits	20.00	-	-	-
Construction of Residential Colony	12.51	-	-	-
Contingency @3%	8.73	-	-	-
ESS, Rehabilitation and Resettlement	5.82	-	-	-
Entry Tax	-	-	4.47	4.47
Tender Expenses/Advertisement	-	-	0.02	0.02
Miscellaneous expenses	-	-	0.002	0.002
Testing and soil investigation charges	-	-	0.13	0.18
Other expenses including shifting of line, site development etc.	-	-	1.09	1.13
Departmental Charges	32.01	-	24.96	26.32
Interest During Construction	18.64	-	50.51	65.98
Total	356.16	345.54	414.56	480.74

3.4.25 The treatment of Interest During Construction (IDC) and Departmental Charges (DC) has been discussed in detail in the subsequent paras.

3.4.26 Justification was sought from Petitioner with respect to additional testing and Soil investigation charges and site development charges booked as part of the completed project cost vis-à-vis cost as on COD considering that such expenses are usually incurred prior to construction of the project.

3.4.27 The Petitioner in its reply submitted that as per the Environmental Management Plan (EMP) of ADB, HPPTCL was required to carry out tests for monitoring of parameters pertaining to environment (air quality, water

quality, noise levels) which were carried out upto December 2020 as per the terms and conditions agreed in the EMP. Accordingly, expense of INR 12.29 lakhs corresponding to testing works carried out in line with EMP were incurred upto COD.

3.4.28 Further, an expenditure of INR 5.45 lakhs was incurred after COD to 31st March 2020 on account of the following:

- (i) Expenses against test for quality of surface and ground water pollution
- (ii) Expense against test of quality of ambient air and noise pollution

3.4.29 With regards to other expenses (site development) submitted of INR 3.51 lakhs post COD, the Petitioner submitted that the expenses were for installation of Internet leased line at 66/220/400kV Wangtoo substation and hiring of private land for dumping of muck being generated at site of 400/220/66kV Wangtoo Substation.

3.4.30 From the submissions of the Petitioner, it is understood that the cost was enhanced on account of multiple factors including deviation in scope of work for supplies and civil works with consequent deviation in quantity of equipment deployed, delay in handing over of site, implementation of GST and other relevant reasons.

3.4.31 Accordingly, based on the analysis of the submissions of the Petitioner, the Commission approves the hard cost as on COD as follows:

Table 15: Hard Cost (including land cost) (INR Cr.)

Particulars	Awarded Cost	Claimed (As on COD)	Approved (As on COD)
Supplies	234.39	243.45	243.45
Services	111.15	88.99	88.17
Cost of Land and erection	-	0.96	0.96
Entry Tax	-	4.47	4.47
Tender Expenses/ Advertisement	-	0.02	0.02
Miscellaneous expenses	-	0.002	0.002
Testing and soil investigation charges	-	0.17	0.17
Other expenses including shifting of line, installation of transformer etc.	-	1.04	1.04
Total	345.54	339.10	338.28

3.4.32 The Petitioner in subsequent communications and replies to the deficiencies, submitted that the scope of work as approved in the DPR, awarded contract and following amendments has been completed on ground by M/s L&T Construction Ltd. and there is no work pending against the scope of original contract and subsequent amendments.

- 3.4.33 From the analysis of the copies of amendments submitted by the Petitioner, it is observed that Amendment No. 8 was issued on 2nd Jan, 2020 i.e. post COD of the project. Acknowledging that the amendment was issued post COD, any variation in capital cost as on COD vis-à-vis awarded cost should have been included in the final amendment. Rather, the Petitioner has claimed additional expenditure on account of Price Variation and delay in handing over of site over and above the final cost post 8th amendment as discussed in the previous paras. Therefore, going forward, the Petitioner is directed to emphasise more on planning and ensure that necessary approvals are taken beforehand for all upcoming projects in a timely manner so to avoid issuing multiple amendments as is observed in the current project.

3.5 Overheads (IDC and Departmental Charges)

Petitioner's submission

- 3.5.1 The Petitioner submitted that the Interest During Construction (IDC) and Departmental Charges (DC) have been claimed based on actuals. A total delay of 41 months took place during construction of sub-station.
- 3.5.2 The construction of Sub-station was delayed on account of unavoidable factors such as delay on account of handing over of site, inclement weather conditions, hindrance by locals, delay in getting requisite approvals, delay in grant of shut down etc.
- 3.5.3 The rate of interest for calculation of IDC has been considered in accordance with rate of interest charged by ADB/GoHP on similar projects.

Commission's Analysis

- 3.5.4 The following table provides the IDC and Departmental Charges as per original DPR and actual claimed by Petitioner as on COD:

Table 16: IDC and Departmental charges claimed by Petitioner (INR Cr.)

Particulars	DPR Cost	Claimed (As on COD)
IDC	18.64	50.51
Departmental charges	32.01	24.96
Total	50.64	75.46

- 3.5.5 The Interest During Construction (IDC) is significantly higher vis-à-vis the cost ascertained in the DPR while actual Departmental Charges are marginally lower as on COD. Justification was sought from the Petitioner in this regard against which the Petitioner submitted written replies discussed in subsequent paragraphs.
- 3.5.6 The Petitioner submitted that the increase in IDC is on account of following factors:
- The IDC at the DPR stage was computed on the basis of LIBOR interest rate of 4.64% as against the actual interest rate of 10% which

is to be paid to GoHP as per the loan agreement. This led to the computation of lower IDC at DPR stage.

- Considering 10% as Rate of Interest, the IDC as per provisions of DPR works out to be INR 40.17 Cr.
- Considering the enhancement in hard cost as per reasons discussed above the effective IDC works out to be INR 43.33 Cr. The balance increase was on account of uncontrollable factors.

3.5.7 The Petitioner claimed that the reduction in Departmental Charges as on COD vis-a-vis envisaged in DPR is on account of efficient project management.

3.5.8 The Commission in its deficiency letter sought detailed justification from the Petitioner to quantify the time delay on account of the various factors as submitted. Accordingly, as per the submission of the Petitioner, the major reasons of time overrun included the following:

Table 17: Reasons for time overrun as submitted by Petitioner

Sl.	Reason for Delay	Time Period	Description
1	Delay on account of handing over of site	465 days	At the time of award of contract, the forest clearance for the site was pending on account of resistance from Local Panchayat in issuance of No Objection Certificate (NOC). This was coupled with resistance from other local bodies and mass strikes called by locals in handing over of the site.
2	Hindrance by Locals	216 days	Post the transfer of land to the contractor, the work was affected due to mass agitations carried out by local panchayat, threats from local sub-contractors creating problems in execution of project for non-fulfillment of their demands. Owing to these prevailing conditions the work was hindered. Only after numerous mutual discussions that the work could be resumed.
3	Inclement Weather Conditions	240 days	<ul style="list-style-type: none"> • Owing to extreme weather conditions such as continuous heavy rainfall, extremely low temperature and snowfall, events of cloud burst and landslide, the execution of the project was hampered and delayed. • On 27.05.2017, the Sub-station was exposed to severe cloud burst as a result of which the switchyards were completely filled with sludge and store area was filled with storm water. After clearing the mud, it was found out that the imported 220 kV Bus Bar was damaged and needed replacement leading to delay in execution of project. Further, the event of cloud burst damaged the Wangtoo-Kafnoo road at multiple sections which caused a major hindrance in transportation of construction material and machinery • On 10.02.2019, a major landslide near Nathpa blocked the section of National Highway

Sl.	Reason for Delay	Time Period	Description
			<p>affecting the transportation.</p> <ul style="list-style-type: none"> Further, the retaining wall of 400 kV yard was damaged partially affecting the area demarcated for ICT foundation. This resulted in shifting the proposed area for ICT foundation to a new location causing further delay.
4	Delay in approvals from National Highway (NH) department regarding transportation of Power Transformers	174 days	<ul style="list-style-type: none"> The design/methodology to transport 9 nos. of power transformers (400/220kV and 220/66kV) over Solding and Wangtoo Bridge was approved by Chief Engineer NH/HPPWD on 18.08.2016. When transportation of transformers was about to commence, the NH department vide letter dated 09.10.2018 directed HPPTCL to get additional approvals from empaneled consultants from MoRTH and IIT/NIT, The same were obtained on 5.11.2018 and 1.12.2018 respectively. After obtaining the additional approvals, 400/220 kV Transformers were transported over Solding and Wangtoo Bridge by 30.12.2018. Further, transportation of two transformers (220/66 kV) was stopped by NH Department over the Solding Bridge as the gross weight of each of the transformer was over 169 MT and approval of MoRTH was required to transport the transformers The matter was taken afresh with NH Department who proposed to construct an alternate road parallel to Solding Bridge to ensure traffic movement in case of emergency. After carrying out the load test on 11.04.2019, the transformers could finally be transported.
5	Increase in Scope	295 days	<p>After carrying out detailed engineering review of the project, the scope of civil works increased with respect to awarded work in the areas of Excavation, Reinforcement Works, Road Works, Fire Wall works, Cable Trench works, Boundary Wall works and Drain works.</p>
6	Delay in grant of shutdown	30 days	<ul style="list-style-type: none"> The erection works with respect to 400/220/66 kV GIS Pooling Sub-station at Wangtoo were completed on 30.08.2019. In order to complete the LILO of 400 kV D/C Karcham Wangtoo KalaAmb line shutdown was proposed for 11.09.2019 and 12.09.2019 and the same was put up for consideration and approval in 162nd OCC meeting vide email dated 05.08.2019 The proposal was rejected in the OCC meeting as JSW declined to provide their consent for the shutdown. After continuous persuasion with JSW, the shutdown was approved for 27.09.2019 and 28.09.2019 for one circuit. Accordingly, the LILO work was completed and

Sl.	Reason for Delay	Time Period	Description
			Sub-station was commissioned on 29.09.2019

- 3.5.9 As per the original DPR, the time period of construction was envisaged to be 24 months against which the Petitioner has submitted that a normative time period of 30 months has been considered in all its workings.
- 3.5.10 The Commission sought justification from the Petitioner in this regard against which the Petitioner submitted that project execution period was enhanced to 30 months in the contract award vis-à-vis 24 months as envisaged in the DPR keeping in view the existence of difficult terrain at the project site of the Sub-station. Further, as per the prevalent CERC (Terms and Conditions of Tariff) Regulations, 2009 vide Appendix-II under Regulation 15, the ideal timelines for execution/completion of similar Transmission Projects for 400 kV A/C Sub-station in difficult terrain has been specified as 30 Months. In view of the same, the project execution time of 30 months is considered in the awarded contract which is well within the standard stipulated time period.
- 3.5.11 The actual time taken to complete the project was ~6 years with delay of 41 months as submitted by the Petitioner.
- 3.5.12 The Petitioner with regards to the delay in works by the contractor submitted a record of the communications taken place internally between the Petitioner and the contractor along with supporting documents against each of the reasons for delay submitted by the Petitioner.
- 3.5.13 The Commission has verified the normative time period of construction from the CERC (Terms and Conditions of Tariff) Regulations, 2009. Against a tentative time period of 30 months for construction, it is observed that the project was completed in a period of ~6 years. Of the overall delay, a majority part (~1+ year) is attributable towards delay in handing over of site to the contractor at the time of initiation of the project construction. This initial delay of over one year could have been avoided by the Petitioner if the process for forest clearances would have been undertaken prior to award of the project. Therefore, the delay in handing over site cannot be treated as uncontrollable.
- 3.5.14 The other reasons provided by the Petitioner for time overrun include hindrance by locals, inclement weather conditions, delay in approval from NH Department for transportation of equipment, increase in scope, delay in grant of shutdown etc.
- 3.5.15 Based on reasons stated by the Petitioner, part of the delay could be considered under force majeure or delay not attributable to the Petitioner, however, it would be unreasonable to consider that each individual activity led to the overall delay of more than 41 months in project execution. The Commission is of the view that other activities could be undertaken in parallel and the delay could have been shortened/ averted by proper planning and follow up at the Petitioner end. In this regard, the Commission directs the Petitioner to build a strong project management team to oversee such projects with proper mechanisms in place to flag delays at each milestone

and take corrective actions for the same. Accordingly, the Commission feels it appropriate to allow sharing of excess amount of IDC and DC between the Petitioner and beneficiaries in equal ratio (50:50).

3.5.16 In view of revision in hard cost as well as change in interest cost considered in the DPR, the Commission has computed a revised benchmark for the IDC. For assessing the benchmark IDC for the sub-station, with project duration of 30 months, the Commission has assumed 60% debt disbursement in first two years with 30% disbursement in each year and remaining 40% debt disbursement in the last six months of project execution. The phasing of debt disbursement has been assumed in accordance with the Detailed Project Report (DPR) of the project.

3.5.17 The benchmark IDC for Sub-station as computed is summarized as follows:

Table 18: Revised Benchmark IDC – Sub-Station

Particulars	Unit	Year I	Year II	Year III*	Total
Debt disbursement	%	30%	30%	40%	100%
Opening Debt (a)	INR Cr.	-	99.02	198.04	
Addition during the year (b)	INR Cr.	99.02	99.02	132.02	
Closing Debt (c)	INR Cr.	99.02	198.04	330.06	
Average Debt (d=(a+c)/2)	INR Cr.	49.51	148.53	264.05	
Interest rate (e)	%	10.00%	10.00%	10.00%	
Total IDC (f=d*e)	INR Cr.	4.95	14.85	13.20	33.01

*Considered for 6 months

3.5.18 The Petitioner has claimed an IDC amount of INR 50.51 Cr. against the project as on COD. The Petitioner has submitted the computation and the auditors certificate in this regard.

3.5.19 As discussed in preceding paras, the Commission has allowed 50% of the excess IDC vis-à-vis claimed over and above the revised benchmark IDC computed assuming no time delay.

Table 19: Approved IDC (INR Cr.)

Particular	Benchmark	Claimed (As on COD)	Difference	Approved = Actual -50% of difference
Wangtoo Sub-station	33.01	50.51	17.50	41.76

3.5.20 The Departmental Charges (DC) as per DPR was INR 32.01 Cr. against which actual DC of INR 24.96 Cr. has been claimed by the Petitioner as on COD.

3.5.21 In view of the fact that actual DC is lower than the DPR as well as the normative departmental charges (@11% of hard cost) considered by HPPTCL during the budget estimation, the Commission has considered the actual Departmental Charges as proposed by the Petitioner.

Table 20: Approved Departmental Charges (DC) (INR Cr.)

Particular	Claimed	Approved
Departmental Charge (DC)	24.96	24.96

3.5.22 In line with the Hard Cost, IDC and Departmental Charges approved in preceding sections, the approved project cost as on COD vis-à-vis the project cost claimed by the Petitioner towards Wangtoo Sub-station is summarized in the following table:

Table 21: Approved Capital Cost (INR Cr.)

Particulars	Claimed (As on COD)	Approved (As on COD)
Supplies	243.45	243.45
Services	88.99	88.17
Cost of Land and erection	0.96	0.96
Entry Tax	4.47	4.47
Tender Expenses/Advertisement	0.02	0.02
Miscellaneous expenses	0.002	0.002
Testing and soil investigation charges	0.17	0.17
Other expenses including shifting of line, site development etc.	1.04	1.04
Departmental Charges	24.96	24.96
Interest During Construction	50.51	41.76
Total	414.56	405.00

3.6 Project Funding

Petitioner Submission

3.6.1 The Petitioner has quoted the Regulation 18 of the HPERC Transmission Tariff Regulations, 2011, which provides as follows:

"18. Debt-equity ratio

For the purpose of determination of the tariff, the equity and outstanding debt as determined for the base year by the Commission shall be considered as given. However, for any fresh capitalization of assets, the Commission shall apply a debt equity ratio of 70:30 on the capitalised amount as approved by the Commission for each year of the control period:

Provided that where equity employed is in excess of 30%, the amount of equity for the purpose of tariff shall be limited to 30% and the balance amount shall be considered as loan. The interest rate applicable on the equity in excess of 30% treated as loan has been specified in regulation 20. Where actual equity employed is less than 30%, the actual equity shall be considered."

- 3.6.2 The debt has been sourced from ADB with the disbursement being done by GoHP with a total debt drawn of INR 292.52 Cr. as on CoD. Further, the Petitioner has submitted that it has infused equity amounting to INR 122.04 Cr. translating into debt-equity ratio of 70.56:29.44.
- 3.6.3 The Petitioner has submitted that as the equity infused is well within the normative equity allowed under the HPERC Transmission Tariff Regulations, 2011, the actual debt equity ratio has been considered for working out the components of Annual Revenue Requirement.
- 3.6.4 Additionally, the Petitioner has submitted that it has received consumer contribution of INR 3.27 Cr. with an additional amount of INR 0.13 Cr. on account of accumulated interest. It has submitted that as consumer contribution was received in FY 2020-21, it has been adjusted in the respective year instead of COD.
- 3.6.5 The Petitioner, for the purpose of calculation of ARR, has considered the actual debt equity ratio as on COD after excluding the consumer contribution.
- 3.6.6 The following table provides the project funding of the project as claimed by the Petitioner:

Table 22: Project funding proposed by Petitioner

Particulars	Capital Cost (As on COD) (INR Cr.)	Actual Debt: Equity Ratio	Debt: Equity Ratio claimed
Debt	292.52	70.56%	70.56%
Equity	122.04	29.44%	29.44%
Project Cost	414.56	100.00%	100.00%

Commission's Analysis

- 3.6.7 Based on the submissions of the Petitioner and in accordance with the original DPR of the project, the Petitioner has secured a loan from ADB at a debt equity ratio of 80:20. The Commission has reviewed the submissions of the Petitioner viz. loan agreement, sanction letter, actual disbursement, etc. to assess the project funding.
- 3.6.8 In reply to the Commission queries, the Petitioner has submitted the loan disbursement documents, review of which revealed that the loan was disbursed in two tranches. The following table provides the disbursement details and loan amount borrowed by the Petitioner.

Table 23: Details of Loan Borrowed (INR Cr.)

Particulars	Tranche I	Tranche II	Total
Loan Disbursement	206.47	130.26	336.73

- 3.6.9 As discussed above, as per the DPR the project was originally envisaged at a debt equity ratio of 80:20. This was coupled by the fact that the Petitioner had received approval for the project from the competent authority i.e. BOD and the CEA. Further, there were no supporting documents with respect to equity received for the transmission asset. Accordingly, the Commission has

considered the debt equity ratio as 80:20 considering that funding was allowed in accordance with the DPR and the requisite approvals.

3.6.10 Further, an amount of INR 3.27 Cr. has been provided as consumer contribution by M/S Taranda Hydro Power towards the project. In response to additional queries raised by the Commission, the Petitioner has submitted that an amount of INR 13.23 lakhs has been received towards interest accumulated on the instalments received from the consumers. Accordingly, the Commission has considered INR 3.40 Cr. towards consumer contribution and has adjusted the same in the overall capital cost.

3.6.11 The approved project funding for Sub-station is summarized as follows:

Table 24: Project Funding approved vis-à-vis claimed

Particulars	Claimed (As on COD)		Approved (As on COD)	
	Capital Cost	% of Funding	Capital Cost	% of Funding
Consumer Contribution	-	-	3.40	-
Debt	292.52	70.56%	321.27	80.00%
Equity	122.04	29.44%	80.32	20.00%
Total Cost	414.56	100.00%	405.00	100.00%

3.7 Additional Capitalisation

Petitioner Submission

3.7.1 The Petitioner submitted that additional capitalisation during FY 2019-20 i.e. from COD till 31st Mar, 2020 is towards works which were part of original scope of work and payments have been made post COD. The same have been claimed in accordance with Regulation 16(1) of HPERC Transmission Tariff Regulations, 2011.

3.7.2 The Petitioner has claimed additional capitalisation of INR 64.81 Cr. with breakup provided as follows:

Table 25: Additional Capitalisation - FY 2019-20

Particulars	Claimed (FY2019-20)
Supplies	46.28
Services	2.97
Other Expenses	0.09
IDC	15.47
Total Cost	64.81

3.7.3 The additional capex/capitalisation proposed in FY 2019-20 is towards the balance payments made to the contractors against the original scope of work,

and IDC. The Petitioner has appropriately adjusted the O&M expenses booked erroneously as discussed in the earlier sections.

- 3.7.4 The Petitioner has further proposed additional capitalisation of INR 0.015 Cr. in FY 2020-21, INR 0.80 Cr. in FY 2021-22 and INR 0.20 Cr. in FY 2022-23.

Commission's Analysis

- 3.7.5 The Petitioner in FY 2019-20 has claimed additional capitalisation comprising of cost towards supplies, services, IDC etc. The Petitioner qualified that the proposed capex for FY 2019-20 is towards the balance payments made to the contractors against the original scope of work from COD till 31st Mar, 2020. Considering, the additional capex towards supplies, services and other minor expenses were part of the original scope of work, the Commission approves the additional capitalisation under these heads.
- 3.7.6 It was further asked in the additional discrepancy letters shared with the Petitioner with regard to the proposed works under additional capex as to whether they have been completed on ground to which the Petitioner provided its confirmation.
- 3.7.7 With regards to IDC, the Commission believes that the Petitioner's claim of IDC post COD is unwarranted as IDC as the name suggests is applicable during the time of construction until the time of COD of the project. Hence, the Commission disallows the Petitioner's claim of IDC post COD as part of additional capitalisation approved for FY 2019-20. The IDC approved for the project has been discussed above in the relevant section of this Order.
- 3.7.8 The following table provides the additional capex approved for FY 2019-20:

Table 26: Approved Additional Capitalisation – FY 2019-20 (Rs. Cr.)

Particulars	Claimed	Approved
Supplies	46.28	46.28
Services	2.97	2.97
Other Expenses	0.09	0.09
IDC	15.47	-
Total Cost	64.81	49.34

- 3.7.9 For additional capitalisation proposed for FY 2020-21, FY 2022-23 and FY 2023-24, the Commission in its discrepancy letters shared with the Petitioner sought details of whether the additional capex proposed was part of the original scope of work or done additionally. In reply, the Petitioner submitted that the additional capex was not part of the original scope of work. Further, additional capex proposed till FY 2021-22 has been completed on ground. Accordingly, the Commission approves the additional capex as shown in the table below based on the analysis of documentary evidence submitted by the Petitioner in support of its claim.
- 3.7.10 The following table provides, the year-wise additional capitalisation as claimed and approved by the Commission:

Table 27: Additional Capitalisation approved by Commission (INR Cr.)

Name of Work	Year	Claimed	Approved
Additional Capitalisation on capex undertaken from COD to 31.03.2020	FY 2019-20	64.81	49.34
Supply installation and Commissioning of E1 to serial converter for establishment of optic fibre channel link between 400/220 kV Kala Amb Sub-station to HPSLDC	FY 2020-21	0.011	0.011
Purchase of Two Nos of 415 V, 400 Amps 4 pole manual changeover switch 22/0.433 kVA ancillary transformer to ACDB at 400/220/66kV Wangtoo sub-station, Distt. Kinnaur		0.004	0.004
Estimate for construction of barricading alongside PWD road at 400/220/66 kV GIS Sub-station Wangtoo	FY 2021-22	0.696	0.696
Providing protection for Tower ST-2 at 400/220/66 kV GIS Wangtoo Sub-Station		0.030	0.030
Construction of R.R. Masonry Breast Wall for Leg D of Tower No. 2 (Constructed by HPPTCL) for HPSEBL Katgaon Feeder Dist.. Kinnaur		0.019	0.019
Supply of T&P for O&M of projects under PIU Bhabnagar, Distt. Kinnaur		0.052	0.052
Construction of Breast Wall/Crate Wall on hill side to prevent sliding at different locations at 400 /220/66 kV GIS Wangtoo Sub-Station	FY 2022-23	0.20	0.20
Total		65.82	50.35

3.7.11 The funding of the above approved additional capitalization has been considered in line with the funding approved for the overall project as discussed in the earlier sections.

3.7.12 The approved funding for additional capitalisation for the Sub-station is summarized as follows:

Table 28: Funding of additional capitalisation approved by Commission

Particulars	Additional Capitalisation				% of Funding
	FY20	FY21	FY22	FY23	
Consumer Contribution	-	-	-	-	-
Debt	39.47	0.01	0.64	0.16	80.00%
Equity	9.87	0.003	0.16	0.04	20.00%
Total	49.34	0.02	0.80	0.20	100.00%

4. APPROVAL OF ARR AND TARIFF

4.1 Background

4.1.1 The Petitioner has proposed projections for FY 2019-20 to FY 2023-24 in accordance with the HPERC Transmission Tariff Regulations, 2011 and its subsequent amendments. As per the submission of the Petitioner, ARR for each year of the Control Period has been divided into following elements:

- O&M Expenses;
- Depreciation;
- Interest and Financing Charges;
- Interest on Working Capital;
- Return on Equity

4.1.2 The Commission has examined the petition and the subsequent submissions made by the Petitioner in response to the deficiency letters for the purpose of approving the elements of ARR for the period from COD to FY 2023-24. The Commission has considered the provisions of HPERC Transmission Tariff Regulations, 2011, Capital cost certificate by statutory auditor, CERC (Terms and Conditions of Tariff) Regulations, 2019 and approved capital expenditure and funding plan for the Sub-station and accordingly approved the ARR for each year.

4.1.3 In this chapter, the Commission has discussed the methodology for computing each component of the ARR for Wangtoo Sub-station of HPPTCL including O&M expenses, interest on loan, depreciation, return on equity, working capital requirement and interest, etc. for approving the total ARR for each year from COD till FY 2023-24. The methodology followed and approved values for each component of the ARR is detailed in the subsequent paras.

4.2 Depreciation

Petitioner Submission

4.2.1 The Petitioner has submitted the depreciation for each year of the control period in accordance with the Regulation 23 of the HPERC Transmission Tariff Regulations, 2011 and its subsequent amendments based on the actual capital cost. Consumer Contribution and cost of land has been adjusted to derive the depreciable value of the asset

4.2.2 In accordance with the Regulations, the depreciation for each year has been estimated as shown in the following table:

Table 29: Depreciation claimed by Petitioner (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
-------------	------	------	------	------	------

Particulars	FY20	FY21	FY22	FY23	FY24
Opening GFA	41,456.21	47,937.19	47,611.26	47,691.05	47,711.09
Addition	6,480.98	1.50	79.79	20.04	-
Less: Consumer Contribution	-	327.43	-	-	-
Closing GFA	47,937.19	47,611.26	47,691.05	47,711.09	47,711.09
Average GFA	44,696.70	47,774.23	47,651.16	47,701.07	47,711.09
Less: Freehold Land	96.41	96.41	96.41	96.41	96.41
Depreciable Value	44,600.29	47,677.82	47,554.75	47,604.66	47,614.68
Rate of Depreciation	4.89%	4.92%	4.91%	4.91%	4.91%
Depreciation	1,102.89*	2,344.42	2,337.23	2,338.97	2,339.31

*Depreciation expense pro-rated for FY 2019-20 based on COD (29th Sep, 2019)

Commission's Analysis

4.2.3 The Commission has approved the depreciation in line with provisions of the Regulation 23 of the HPERC Transmission Tariff Regulations, 2011 which reads as follows:

"23. Depreciation

(1) *The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.*

(2) *The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.*

(3)(2-a) *The salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable.*

(4) *Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-I to these regulations for the assets of the transmission system:*

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the asset.

(5) *For transmission project which are in operation for less than 12 years, the difference between the cumulative depreciation recovered and the cumulative depreciation arrived at by applying the depreciation rates specified in this regulation corresponding to 12 years, shall be spread over the period up to 12 years, and the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the asset.*

(6) *For the project in operation for more than 12 years, the balance depreciation to be recovered shall be spread over the remaining useful life of the asset.*

(7) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis."

- 4.2.4 The Commission has examined the depreciation proposed by the Petitioner in detail. The Commission has arrived on Gross Fixed Assets (GFA) for each year based on the capital cost and year wise capitalisation approved in the previous Chapter.
- 4.2.5 The Commission has determined the weighted average depreciation rate based on the asset wise breakup provided by the Petitioner. Accordingly, the weighted average depreciation rate has been considered for the purpose of estimation of depreciation for each year. The actual depreciation shall be allowed at the weighted average depreciation rates as per norms approved in the HPERC Transmission Tariff Regulations, 2011 at the time of true-up.
- 4.2.6 The yearly depreciation approved from COD to FY 2023-24 is summarized in the table below:

Table 30: Depreciation approved by Commission (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
Net Opening GFA	40,499.58	44,996.69	44,998.19	45,077.89	45,097.89
Addition	4,933.75	1.50	79.70	20.00	-
Less: Consumer Contribution	340.23	-	-	-	-
Less: Freehold Land	96.41	-	-	-	-
Depreciable Value	44,996.69	44,998.19	45,077.89	45,097.89	45,097.89
Rate of Depreciation	4.86%	4.86%	4.86%	4.86%	4.86%
Depreciation	1,049.72*	2,186.01	2,187.99	2,190.41	2,190.89

*Depreciation expense pro-rated for 185 days for FY 2019-20 based on COD (i.e. 29th Sep, 2019)

4.3 Interest on Loan

Petitioner Submission

- 4.3.1 The Petitioner submitted the interest on loan in accordance with the Regulation 20 of the HPERC Transmission Tariff Regulations, 2011 and its subsequent amendments.
- 4.3.2 For the purpose of working out the interest, the Petitioner has considered the opening value of loan as on COD as actual loan amounting to 70.56% of the total project cost i.e. INR 414.56 Cr. and additional loan of INR 79.33 Cr in accordance with the additional capitalisation proposed
- 4.3.3 The interest rate of 10% has been considered as per the ADB Loan Agreement read with lending agreement with GoHP
- 4.3.4 The Petitioner further submitted that with respect to repayment of the loan, it has requested the GoHP for deferment of repayment of ADB loan Tranche-I as repayment could not be made by HPPTCL on account of financial strain and grant of extension in Moratorium Period for 5 years from September 2019. However, no reply has been received from GoHP till date.

4.3.5 The Petitioner has considered repayment of loan equivalent to the depreciation proposed for the year. The computation of Interest on Loan has been provided in the following table:

Table 31: Interest on Loan claimed by Petitioner (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
Opening Balance	29,251.88	35,003.40	32,430.83	30,149.46	27,824.51
Addition	7,933.45	(228.15)	55.85	14.03	-
Repayment	2,181.93	2,344.42	2,337.23	2,338.97	2,339.31
Closing Balance	35,003.40	32,430.83	30,149.46	27,824.51	25,485.20
Rate of Interest (%)	10.00%	10.00%	10.00%	10.00%	10.00%
Interest on Loan	1,623.94*	3,371.71	3,129.01	2,898.70	2,665.49

*Interest on Loan pro-rated for FY 2019-20 based on COD (29th Sep, 2019)

Commission's Analysis

4.3.6 Regulation 20 of the HPERC Transmission Tariff Regulations, 2011 stipulates the following:

"20. Interest and Finance Charges

(1) *Interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the schedule of repayment in accordance with the terms and conditions of relevant agreements of loan, bond or non-convertible debentures. Exception can be made for the existing or past 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.*

(2) *The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project:*

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the transmission licensee does not have actual loan then the weighted average rate of interest of the transmission licensee as a whole shall be considered.

Provided further that if the Transmission Licensee as a whole does not have actual loan, then one (1) Year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for one (1) Year period, as may be applicable as on 1st April of the relevant Year plus 200 basis points shall be considered as the rate of interest for the purpose of allowing the interest on the normative loan.

(3) *The interest rate on the amount of equity in excess of 30% treated as notional loan shall be the weighted average rate of the loans of the*

respective years and shall be further limited to the rate of return on equity specified in these regulations:

Provided that all loans considered for this purpose shall be identified with the assets created:

Provided further that the interest and finance charges of re-negotiated loan agreements shall not be considered, if they result in higher charges:

Provided further that the interest and finance charges on works in progress shall be excluded and shall be considered as part of the capital cost:

Provided further that neither penal interest nor overdue interest shall be allowed for computation of tariff.

(4) In case any moratorium period is availed of in any loan, depreciation provided or in the tariff during the years of moratorium shall be treated, as notional repayment of loan during those years and interest on loan capital shall be calculated accordingly.

(5) The transmission licensee shall make every effort to refinance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such refinancing shall be borne by the transmission customers and any benefit on account of refinancing of loan and interest on loan shall be shared in the ratio of 2:1 between the transmission licensee and the transmission customers. Refinancing may also include restructuring of debt.

(6) In respect of foreign currency loans, variation in rupee liability due to foreign exchange rate variation, towards interest payment and loan repayment actually incurred, in the relevant year shall be admissible; provided it directly arises out of such foreign exchange rate variation and is not attributable to the transmission licensee or its suppliers or contractors.

(7) The above interest computation shall exclude the interest on loan amount, normative or otherwise, to the extent of capital cost funded by consumer contribution, deposit work, capital subsidy or grant, carried out by transmission licensee."

- 4.3.7 The Commission has approved the Interest on Loan in accordance with the HPERC Transmission Tariff Regulations, 2011. Further, normative repayment equivalent to the depreciation worked out for the respective year has been considered in line with the provisions of HPERC Transmission Tariff Regulations, 2011 for computing the opening and closing loan balances for each year.
- 4.3.8 The Commission has considered the debt amount as per the funding approved for the project and additional capitalisation in the previous chapter.
- 4.3.9 The rate of interest has been considered based on the Petitioner's submission and interest rates agreed upon by ADB/GoHP with HPPTCL based on the loan documents shared.

- 4.3.10 It is observed that the rate of interest charged from the Petitioner by the GoHP is 10% which is higher than the rate of interest agreed with the ADB. The Petitioner has submitted that the GoHP levies interest rate at 10% on all loans funded by ADB as per the agreement entered by the GoHP with HPPTCL. Since, the ADB provides loan to GoHP which is transferred to the Petitioner for implementation, the rate of interest of 10% is applicable as per the agreement of the Petitioner with GoHP. The Commission is of the view that the rate of 10% is competitive as compared with the rates applicable on other transmission assets of HPPTCL and borrowings by similar utilities in other states from various sources and therefore approves the same for tariff determination.
- 4.3.11 However, considering that the lending agency may be charging at lower rate, the Commission directs the Petitioner to negotiate with GoHP and align the interest rate in line with the rate of interest agreed by GoHP with ADB. Any efforts in this direction will not only lead to better cost optimisation in the form of lower interest costs, but also benefit the consumers of the State of Himachal Pradesh as a whole.
- 4.3.12 The following table provides the Interest on Loan approved by the Commission for each year:

Table 32: Interest on Loan approved by Commission (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
Opening Balance	32,127.48	35,024.76	32,839.95	30,715.72	28,541.31
Addition	3,947.00	1.20	63.76	16.00	-
Repayment	1,049.72	2,186.01	2,187.99	2,190.41	2,190.89
Closing Balance	35,024.76	32,839.95	30,715.72	28,541.31	26,350.42
Rate of Interest (%)	10.00%	10.00%	10.00%	10.00%	10.00%
Interest on Loan	1,697.15*	3,393.24	3,177.78	2,962.85	2,744.59

*Interest on Loan pro-rated for 185 days for FY 2019-20 based on COD (i.e. 29th Sep, 2019)

4.4 Return on Equity

Petitioner Submission

- 4.4.1 The Petitioner submitted that the normative equity of INR 122.04 Cr. has been infused till the CoD of the project and the Petitioner has taken into account the refinancing of equity on actual basis by substituting the same with debt during the period from COD till 31st Mar, 2020. Since, the Petitioner in FY 2019-20 is in loss, no income tax has been considered while claiming ROE. The Petitioner, however, is asked to consider RoE as per actuals at the time of true-up.
- 4.4.2 The RoE proposed by the Petitioner for each year is summarised in the table as follows:

Table 33: RoE claimed by Petitioner (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
Opening Equity	12,204.33	10,751.86	10,654.08	10,678.02	10,684.03
Addition	(1,452.47)	(97.78)	23.94	6.01	-
Closing Equity	10,751.86	10,654.08	10,678.02	10,684.03	10,684.03
RoE (%)	15.50%	15.50%	15.50%	15.50%	15.50%
Return on Equity	899.27*	1,658.96	1,653.24	1,655.56	1,656.02

*Return on Equity pro-rated for FY 2019-20 based on COD (29th Sep, 2019)

Commission's Analysis

4.4.3 Regulation 19 of the HPERC Transmission Tariff Regulations, 2011 stipulates the following:

"19. Return on Equity

(1) Return on equity shall be computed on the equity determined in accordance with regulation 18 and on pre-tax basis at the base rate of 15.5% to be grossed up as per sub-regulation (3) of this regulation:

(2) The rate of return on equity shall be computed by grossing up the base rate with the normal tax rate applicable to the concerned transmission licensee company:

Provided that return on equity with respect to the actual tax rate applicable to the transmission licensee in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up separately for each year of the tariff period along with the tariff petition filed for the next tariff period.

(3) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below:-

(a) Rate of pre-tax return on equity = Base rate / (1-t)

(b) Where t is the applicable tax rate in accordance with sub-regulation (2) of this regulation."

4.4.4 Equity corresponding to the capital cost has been approved by the Commission in the previous Chapter under the section 'Project Funding'. The same has been considered for approving the return on equity. Equity corresponding to additional capitalization has been considered in the subsequent years.

4.4.5 The Commission has considered the rate of return @15.50% for approval of RoE for the Control Period. In case of any extraordinary tax liability arising on the Petitioner during the Control Period, it may be recovered directly from the beneficiary at the effective tax rate applicable to the Petitioner at the end of the year with the detailed calculation to be submitted to the Commission. Nonetheless, the RoE shall be trued up at the end of Control Period based on effective tax rate/ liability.

4.4.6 Based on the above, the return on equity approved by the Commission is summarised in the table as follows:

Table 34: RoE approved by Commission (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
Opening Equity	8,031.87	9,018.62	9,018.92	9,034.86	9,038.86
Addition	986.75	0.30	15.94	4.00	-
Closing Equity	9,018.62	9,018.92	9,034.86	9,038.86	9,038.86
RoE (%)	15.50%	15.50%	15.50%	15.50%	15.50%
Return on Equity	667.93*	1,397.91	1,399.17	1,400.71	1,401.02

*Return on Equity pro-rated for 185 days for FY 2019-20 based on COD (i.e. 29th Sep, 2019)

4.5 O&M Expenses

Petitioner Submission

4.5.1 The Petitioner submitted that as per HPERC Transmission Tariff Regulations, 2011, Operation and Maintenance Expense is computed considering the following methodology:

"(3) The O&M expenses for the nth year of the control period shall be approved based on the formula given below:-

O&Mn = R&Mn + EMPn + A&Gn : Where -

'EMPn' = [(EMPn-1) x (1+Gn) x (CPIinflation)] + Provision (Emp);

'A&Gn' = [(A&Gn-1) x (WPIinflation)] + Provision(A&G);

'R&Mn' = K x (GFA n-1) x (WPIinflation) ;

'K' - is a constant (could be expressed in %). Value of K for each year of the control period shall be determined by the Commission in the MYT Tariff order based on licensee's filing, benchmarking of repair and maintenance expenses, approved repair and maintenance expenses vis-à-vis GFA approved by the Commission in past and any other factor considered appropriate by the Commission;

'CPIinflation' - is the average increase in the Consumer Price Index (CPI) for immediately preceding three years before the base year;

'WPIinflation' - is the average increase in the Wholesale Price Index (WPI) for immediately preceding three years before the base year;

'EMPn' - employee's cost of the transmission licensee for the nth year (employee cost for the base year would be adjusted for provisions for expenses beyond the control of the licensee and one-time expected expenses, such as recovery/ adjustment of terminal benefits, implication of pay revisions, arrears and interim relief.);

'Provision (Emp)'- Provision corresponding to clauses (iii), (iv) and (v) of sub regulation (1-a) of regulation 13, duly projected for relevant year for expenses beyond control of the Transmission Licensee and expected one-time expenses as specified above;

'A&Gn' - administrative and general costs of the transmission licensee for the nth year;

'Provision(A&G)'-Cost for initiatives or other one-time expenses as proposed by the Transmission licensee and approved by the Commission after prudence check;"

'R&Mn' – Repair and Maintenance costs of the transmission licensee for the nth year;

'GFAn-1' – Gross Fixed Asset of the transmission licensee for the n-1th year;

'Gn' - is a growth factor for the nth year. Value of Gn shall be determined by the Commission in the MYT tariff order for meeting the additional manpower requirement based on licensee's filings, benchmarking, approved cost by the Commission in past and any other factor that the Commission feels appropriate;

- 4.5.2 The Petitioner has further submitted that the project has achieved commercial operation in FY 2019-20 and actual O&M expenses have been considered as O&M expenses for FY 2019-20. Further, R&M expenses have been considered based on the k factor submitted in the MYT petition of HPPTCL before the Commission and GFA as per actual cost of the project.
- 4.5.3 From FY 2020-21 onwards, the Petitioner has used the actual expenses for FY 2019-20 as base and determined the Employee, A&G and R&M expenses in accordance with the HPERC Transmission Tariff Regulations, 2011.
- 4.5.4 The Petitioner has further claimed cost towards insurance, manpower training, Tariff filing fees, Consultancy charges etc. as part of the O&M expenses
- 4.5.5 The following table provides the O&M expenses claimed by the Petitioner:

Table 35: O&M Expenses claimed by Petitioner (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
Employee Expenses	108.12	394.37	415.48	437.72	461.15
A&G Expenses	28.22	57.46	240.89	214.53	216.57
R&M Expenses	-	858.78	858.81	860.24	860.60
O&M Expenses	136.33*	1,310.61	1,515.17	1,512.48	1,538.32

**O&M Expense pro-rated for FY 2019-20 based on COD (29th Sep, 2019)*

Expense towards Petition filing, insurance, training and consultancy included in A&G Expenses

Commission's Analysis

- 4.5.6 The Commission has reviewed the submissions of the Petitioner. Considering that actual O&M expenses submitted are for partial year i.e. FY 2019-20 and actual audited O&M expenses for sufficient number of years are not available, it is difficult to ascertain a realistic trend for O&M expenses for the upcoming years. In absence of any accurate benchmark, the Commission has relied upon the normative O&M expenses prescribed in the CERC (Terms and Conditions of Tariff) Regulations, 2019 for the purpose of year wise estimation of O&M expenses for the control period.

- 4.5.7 As the CERC (Terms and Conditions of Tariff) Regulations, 2019 provides for O&M expense based on voltage level, number of circuits and conductor size, the following norms have been considered as per the technical specifications of Wangtoo Sub-station for computation of O&M expense as per CERC (Terms and Conditions of Tariff) Regulations, 2019:

Table 36: Normative O&M Expenses

Item	Unit	FY20	FY21	FY22	FY23	FY24
400 kV	INR Lakhs/bay	32.15	33.28	34.45	35.66	36.91
220 kV	INR Lakhs/bay	22.51	23.30	24.12	24.96	25.84
132 kV and below	INR Lakhs/bay	16.08	16.64	17.23	17.83	18.46

- 4.5.8 Further, the CERC (Terms and Conditions of Tariff) Regulations, 2019 stipulates that O&M expenses for the GIS Sub-station shall be allowed as worked out by multiplying by a factor of 0.70 to the normative O&M expenses for bays as provided in the table above.
- 4.5.9 Accordingly, the Commission has approved the O&M expenses for each year. Any variation in O&M expenses shall be reviewed and considered at the time of true-up.
- 4.5.10 The following table provides the O&M expenses approved by the Commission for each year:

Table 37: O&M Expenses approved by Commission (INR Lakhs)

Item	Unit	FY20	FY21	FY22	FY23	FY24
400 kV	INR Lakhs/bay	32.15	33.28	34.45	35.66	36.91
220 kV	INR Lakhs/bay	22.51	23.30	24.12	24.96	25.84
132 kV and below	INR Lakhs/bay	16.08	16.64	17.23	17.83	18.46
400 kV Bays	No.	9	9	9	9	9
220 kV Bays	No.	9	9	9	9	9
66 kV Bays	No.	7	7	7	7	7
O&M Expenses*	INR Lakhs	213.89*	437.99	453.42	469.27	485.78

*O&M Expenses pro-rated for 185 days for FY 2019-20 based on COD (i.e. 29th Sep, 2019)

O&M Expenses for GIS Sub-station determined by multiplying by factor of 0.70

- 4.5.11 The CERC norms for O&M expenditure do not provide for any additional provision for expenditure towards insurance, consultancy charges, petition filing fees, manpower training etc. Hence, no additional expenses pertaining to the same have been allowed. The same shall be taken up as per actuals post proper due diligence at the time of true-up.
- 4.5.12 The Petitioner is directed to undertake necessary insurance cover for the transmission line at the earliest. Any additional expenditure on account of the same shall be reviewed at the time of true-up as per the submissions of the Petitioner and prudence check.

4.6 Interest on Working Capital

Petitioner Submission

- 4.6.1 The Petitioner has computed interest on working capital as per Regulation 21 and 22 of the HPERC Transmission Tariff Regulations, 2011 and its subsequent amendments thereof.
- 4.6.2 The Petitioner has calculated the interest on working capital considering prevalent SBI MCLR as on 1st April, 2019, 1st April, 2020 and 1st April, 2021 respectively for FY 2019-20, FY 2020-21 and FY 2021-22 plus 300 basis points. SBI MCLR as on 1st April 2021 has been considered for the remaining period.
- 4.6.3 In accordance with the above regulations the interest on working capital claimed is shown as follows:

Table 38: Interest on Working Capital claimed by Petitioner (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
O&M Expenses for 1 month	22.48	109.22	126.26	126.04	128.19
Maintenance Spares (at 15% monthly O&M Expenses)	3.37	16.38	18.94	18.91	19.23
Receivables for 2 months	1,265.44	1,476.32	1,465.96	1,427.15	1,392.18
Total Working Capital	1,291.29	1,601.92	1,611.17	1,572.10	1,539.60
Interest Rate (%)	11.55%	10.75%	10.00%	10.00%	10.00%
Interest on Working Capital	75.39*	172.21	161.12	157.21	153.96

*Interest on Working Capital pro-rated for FY 2019-20 based on COD (29th Sep, 2019)

Commission's Analysis

- 4.6.4 Based on the approved O&M expenses and expected receivables, the Commission has approved the working capital requirements and interest on working capital for the Control Period in accordance with Regulations 21 & 22 of the HPERC Transmission Tariff Regulations, 2011.

- 4.6.5 The Regulation 21 and 22 of HPERC Transmission Tariff Regulations, 2011 is read as follows:

"21. Working Capital- The Commission shall calculate the working capital requirement for the transmission licensee containing the following components: -

(a) O&M expenses for 1 month;

(b) receivables for two months on the projected annual transmission charges; and

(c) maintenance spares @ 40% of repair and maintenance expenses for one month.

"22. Interest Charges on Working Capital- Rate of interest on working capital to be computed as provided hereinafter in these regulations shall be on normative basis and shall be equal one (1) Year State Bank of India (SBI)

MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for one (1) Year period, as may be applicable as on 1st April of the Financial Year in which the Petition is filed plus 300 basis points. The interest on working capital shall be payable on normative basis notwithstanding that the licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures.”

4.6.6 According to the revised provision for computation of interest on working capital, the Commission has considered the rate of interest on working capital as SBI MCLR as on 1st April of each year plus 300 basis points for FY 2019-20, FY 2020-21, FY 2021-22 and FY 2022-23. For FY 2023-24, SBI MCLR as on 1st April, 2022 plus 300 basis points has been considered.

4.6.7 The interest on working capital shall be trued-up based on the actual rates as on 1st April of relevant financial year and the HPERC Transmission Tariff Regulations, 2011. The computation for approved working capital requirement and interest on working capital is shown in the table as follows:

Table 39: Interest on Working Capital approved by Commission (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
O&M Expenses for 1 month	17.82	36.50	37.78	39.11	40.48
Maintenance Spares (at 15% monthly O&M Expenses)	2.67	5.47	5.67	5.87	6.07
Receivables for 2 months	617.05	1,259.17	1,224.19	1,191.14	1,157.11
Total Working Capital	637.55	1,301.14	1,267.64	1,236.11	1,203.66
Interest Rate (%)	11.55%	10.75%	10.00%	10.00%	10.00%
Interest on Working Capital	73.64*	139.87	126.76	123.61	120.37

*Interest on Working Capital pro-rated for 185 days for FY 2019-20 based on COD (i.e. 29th Sep, 2019)

4.7 Aggregate Revenue Requirement

Petitioner Submission

4.7.1 The table given below summarizes the proposed Aggregate Revenue Requirement for each year from COD to FY 2023-24 as claimed by the Petitioner.

Table 40: Summary of ARR claimed by Petitioner (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
Depreciation	1,102.89	2,344.42	2,337.23	2,338.97	2,339.31
Interest on Loan	1,623.94	3,371.71	3,129.01	2,898.70	2,665.49
Return on Equity	899.27	1,658.96	1,653.24	1,655.56	1,656.02
O&M Expenses	136.33	1,310.61	1,515.17	1,512.48	1,538.32
Interest on Working Capital	75.39	172.21	161.12	157.21	153.96
Aggregate Revenue Requirement	3,837.82	8,857.91	8,795.77	8,562.93	8,353.09

Commission's Analysis

4.7.2 Based on the discussions in above sections, the summary of the Aggregate Revenue Requirement (ARR) approved by the Commission for each year is summarised in the table as follows:

Table 41: Summary of ARR approved by Commission (INR Lakhs)

Particulars	FY20	FY21	FY22	FY23	FY24
Depreciation	1,049.72	2,186.01	2,187.99	2,190.41	2,190.89
Interest on Loan	1,697.15	3,393.24	3,177.78	2,962.85	2,744.59
Return on Equity	667.93	1,397.91	1,399.17	1,400.71	1,401.02
O&M Expenses	213.89	437.99	453.42	469.27	485.78
Interest on Working Capital	73.64	139.87	126.76	123.61	120.37
Aggregate Revenue Requirement	3,702.32	7,555.02	7,345.12	7,146.86	6,942.65

4.8 Transmission Charges**Petitioner Submission**

4.8.1 The Petitioner has requested to approach the Commission for recovery of tariff in the future in case the asset is certified as intra-state asset

Commission's Analysis

4.8.2 The Commission sought information with regards to nature of line and sought supporting documents regarding the Sub-station being part of Intra or Inter-State Transmission System. In response, the Petitioner submitted that the work of certification of non-ISTS lines was withdrawn with the effect from the notification of CERC (Sharing of ISTS Charges and Losses) Regulations, 2020 from 11th Nov, 2020. Therefore, on account of change in Regulations, assets incidental to inter-state transmission system cannot be certified as interstate or intrastate.

4.8.3 From the review of the DPR it is inferred that the Sub-station was constructed for evacuation of power from hydro plants such as Kashang (65 MW), Tidong (100 MW), Raura (20 MW), Selti (24 MW), Masrang and 11 other power houses. Furthermore, as per the DPR, it was decided that the generating companies shall be paying the Annual Transmission Charges to HPPTCL as beneficiaries of the generating stations were not identified.

4.8.4 With regards to existing and future beneficiaries of the system, the Petitioner submitted that HPSEBL is the primary beneficiary of the project with future beneficiaries expected to join.

4.8.5 The signing of TSA with HPSEBL is in process wherein the Sub-station capacity has been considered as 830 MVA i.e. the complete capacity of the system (630 MVA for 400/220 kV level + 200 MVA for 220/66 kV level). In further clarifications sought, the Petitioner updated that the TSA signing is

under process and is expected to conclude shortly. The Commission directs the Petitioner to timely take up the matter with HPSEBL and sign the TSA on priority.

- 4.8.6 Further, in response to one of the stakeholders comments, the Petitioner has submitted the following:

"The work of certification of non ISTS assets was withdrawn vide issuance of CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020. Therefore, on account of change in Regulations, the Petitioner expresses its inability in getting the assets incidental to inter-state Transmission system certified as inter-state or intra-state asset. However, once the tariff is determined by the Hon'ble Commission, the Petitioner shall approach Hon'ble CERC for appropriate recovery of transmission charges through POC mechanism in line with CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020."

- 4.8.7 Since, the DPR does not clearly specifies the beneficiaries of the system, TSAs for the Sub-station are not yet in place and the Petitioner itself has communicated that once the tariff is determined, the Petitioner shall approach Hon'ble CERC for appropriate recovery of transmission charges through POC mechanism in line with CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020. Accordingly, the Petitioner is directed to file suitable application before the CERC for recovery of ARR approved in this Order for the period from COD to FY 2023-24 under the CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020.

Sd/-

(YASHWANT SINGH CHOGAL)
Member

Sd/-

(BHANU PRATAP SINGH)
Member

Sd/-

(DEVENDRA KUMAR SHARMA)
Chairman