Approval of Capital Cost and determination of tariff for 4th Control Period from CoD to FY 2023-24 for 220 kV Snail-Hatkoti D/C Transmission Line

Himachal Pradesh Power Transmission Corporation Limited
(HPPTCL)

Himachal Pradesh Electricity Regulatory Commission
February 26, 2024

BEFORE THE HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION AT SHIMLA

PETITION NO: 41/2023

CORAM

Sh. DEVENDRA KUMAR SHARMA
Sh. YASHWANT SINGH CHOGAL
Sh. SHASHI KANT JOSHI

In the matter of:

Approval of Capital Cost and determination of tariff for 4th Control Period from CoD to FY 2023-24 for 220 kV Snail-Hatkoti D/C Transmission Line under the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011 and subsequent amendments to the 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 fourth control period from COD to FY 2023-24 for 220 kV Snail- Hatkoti D/C transmission line under the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulation, 2011 and subsequent amendments to the Tariff Regulations carried thereafter, 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, consumers and consumer representatives through various representations and having had formal interactions with the officers of the HPPTCL and having considered the documents available on record, hereby 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 220 kV Snail- Hatkoti D/C transmission line 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 the Tariff) Regulations, 2019 and the HPERC Transmission Regulations, 2011 along with subsequent amendments framed by the Commission. Detailed reasons and approach adopted by the Commission with regard to approval of capital cost and ARR for 220 kV Snail- Hatkoti D/C transmission line have been summarized in the detailed Order.

-Sd/-	**-Sd/-**	**-Sd/-**
(SHASHI KANT JOSHI)	**(YASHWANT SINGH CHOGAL)**	**(DEVENDRA KUMAR SHARMA)**
Member	**Member**	**Chairman**

Shimla
Dated:26th February, 2024

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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 11thSeptember,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 provisions 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. These Regulations were amended in 2013, 2018 and 2023 as (First Amendment) Regulations, 2013 on 1st November, 2013, (Second Amendment) Regulations, 2018 on 22nd November, 2018 and (Third Amendment) Regulations, 2023 on 2nd June, 2023 respectively (The Regulations and the 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 2014-2015 to FY 2015-2016 and Mid Term Review for Third Control Period FY 2016-2017 to FY 2018-19. On 29th June, 2019, the Commission issued the MYT Order for the fourth Control Period (FY 2019-20 to FY 2023-24). Thereafter, the Commission issued the final True-up Order for second Control Period (FY 2014-15 to FY 2018-19) on 28th December, 2022.

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. 2422 dated 12th December, 2022 directed the Petitioner to submit details regarding first set of deficiencies identified in the Petition, the reply was submitted by the Petitioner on dated 06th February, 2023. Subsequently, the Commission issued a second set of deficiencies vide letters No. 84 dated 11th April, 2023 and the reply was submitted by the Petitioner on 05th July, 2023. Besides, Technical Validation Sessions were also held with the Petitioner from time to time.

1.4.3 On the detailed scrutiny of the Petition, further 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	Filling No. 200 of 2022	06th Feb, 2023
2	Filling No. 200 of 2022	05th July, 2023

1.5 Public Hearings

1.5.1 The Interim Order inter alia, included directions 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 Indian Express	28th July, 2023
2.	Amar Ujala	28th July, 2023

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.	Indian Express	04th August, 2023
2.	Divya Himachal	04th August, 2023

1.5.3 The stakeholders were requested to file their objections by 05th September, 2023. The HPPTCL was required to submit replies to the suggestions/ objections to the Commission by 12th September, 2023 with a copy to the objectors on which the objectors were required to submit their response by 18th September, 2023.

1.5.4 The Commission decided to conduct the public hearing and, therefore, issued a public notice informing the public about the scheduled date of public hearing as 20th September, 2023 and which had to be postponed to 25th September, 2023, due to administrative reasons. All the parties, who had filed their objections/ suggestions, were informed about the date, time and venue of the public hearing for presenting their case.

1.5.5 The Commission has considered the submissions made by the Petitioner and the various objections raised by stakeholders carefully 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 25th September, 2023 for the Petition of approval of capital cost and determination of tariff for the period starting from COD to FY 2023-24 for 200 kV D/C Snail-Hatkoti transmission line

2.1.2 Accordingly, the public hearing was conducted on 25th Sep, 2023 in the Commission. Comments/Suggestions were received from M/s HPPCL, M/s HPSEBL and M/s SJVNL. Issues raised by the stakeholders in their written submissions, along with replies given by the Petitioner and views of the Commission on the issues raised are summarized in the following paragraphs.

Stakeholders' Submissions

2.1.3 HPPCL & HPSEBL has suggested that the equity allocation should be considered at the originally approved percentage of 20%, as specified in the approved Detailed Project Report (DPR). Accordingly Return on Equity (ROE) may be approved @ 20% equity.

Petitioner's Response

2.1.4 The Petitioner has submitted that HPERC Tariff Regulations, 2011 allows for considering actual debt and equity deployment, with equity not exceeding 30%. The actual debt-equity ratio is 28.22(D):45.92(E):25.86(Grant).

Commission's Observations

2.1.5 The Commission is of the view that since the funding of the asset was secured in accordance with the DPR on which CEA has also accorded its approval, it is prudent to consider the debt, grant and equity ratio as per the original DPR. Also, the Petitioner was not able to authenticate higher allocation of debt and equity with documentary proof. Further, the Petitioner was to avail 40% grant from GoI as per the DPR. But, the same has not been availed fully and the Petitioner has also not provided any reasons/justification to do so. Burden of not availing the grant cannot be passed on to the Consumers of the State. In absence of any submissions in this regard, the Commission has considered grant of 40% as deemed to be availed by the Petitioner. The Commission is considering the same principle in respect of the tariff determination in case of the Renewable Energy projects as well where any permissible grant is deemed to have been availed even if it is not taken by the project. Accordingly, the Commission has considered the debt, grant and equity ratio of 40:40:20 for project funding.

Stakeholders' Submissions

2.1.6 HPPCL has submitted that HPSEBL should be considered as the beneficiary w.e.f. 01.05.2022 onwards. Consequently, the billing of the transmission line should be directly sent to HPSEBL by HPPTCL, rather than HPPCL. This recommendation/suggestion is made on basis of agreements i.e. PPAs of HPPCL with HPSEBL dated 28.04.2022 & 29.03.2023 and Transmission Service Agreement (TSA) for the transmission network Snail – Hatkoti- Gumma network dated 26.07.2022. Further the Directorate of Energy on behalf of GoHP for 13% share may also be considered one of the beneficiaries for this asset.

The SJVN Ltd. Has further highlighted that the Petitioner through the instant Petition has prayed the Commission that the ARR as claimed may be allowed to be recovered directly from HPPCL and M/s SJVN from the date of operationalization of LTA/date of power evacuation as per their respective LTA capacity. In this regard SJVN Ltd. has submitted the following:

i. The transmission system for evacuation of power from Natwar Mori HEP was to be implemented by PTCUL, which involved construction of 220 KV Mori –Dehradun D/C Transmission Line with Twin Zebra conductor (116 KM Approx.) under UITP projects approved by Hon'ble CERC as deemed ISTS scheme. However, the work for the construction of associated transmission system had not been taken up by M/s PTCUL. Further, during 3rd NRPC (TP) meeting held on 19.02.2021, evacuation of power from 60 MW Natwar Mori HEP (NMHEP) was discussed under agenda on System Strengthening Scheme for evacuation of power from hydro projects in Yamuna Basin along with other Agenda Items and an alternative arrangement for evacuation of power from Natwar Mori, in consultation with HPPTCL was finalized. The proposal involved "LILO of one circuit of the existing 220 KV Snail-Hatkoti line of HPPTCL at Natwar Mori switchyard (about 25 km).

ii. The transmission of NMHEP power was not part of the plan for the asset originally. The transmission line was developed under the scheme for creation of transmission infrastructure for evacuation of HEPs coming up in the Pabbar Basin in the State. The said transmission line was designed to evacuate power from different power stations of Himachal Pradesh with a total capacity of 250 MW. Hence, the transmission charges payable by NMHEP should be for 60 MW in the system of 250 MW capacity i.e. only 24 % of the total transmission charges.

iii. Power from NMHEP was to be transmitted to Dehradun over ISTS from 220 kV Mori Substation of PTCUL. Due to delay in the commissioning of the PTCUL system, SJVN approached HPPTCL for allowing wheeling of NMHEP power over its network in Himachal Pradesh. HPPTCL's system was and is likely to operate well within its designed and planned capacity and had ample margins. It is highlighted that HPPTCL's system had achieved COD even before SJVN approached HPPTCL to evacuate the power from NMHEP.

iv. In view of the above, SJVN Ltd. has requested that the recovery should be in line with the utilization of the line.

Petitioner's Response

2.1.7 The Petitioner has submitted that the onus of payment of transmission charges lies with M/s HPPCL since LTA dated 22.10.2020 has been executed between HPPTCL &HPPCL to which HPSEBL is not a party. Further, HPPTCL is not a party to the PPA (Power Purchase Agreement) executed between HPSEBL & HPPCL. Therefore, in view of PPA/Contractual Agreement between HPPCL/HPSEBL/DOE the issue of bearing transmission charges for HPPTCL System may be resolved mutually.

In reply to submission of SJVN Ltd., the Petitioner has submitted that the transmission charges shall be levied on the beneficiaries as per Regulation 33 of HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011, as amended from time to time.

Commission's Observations

2.1.8 The recovery of the Transmission charges shall be governed as per the HPERC Transmission Tariff Regulations, 2011 as amended from time to time, and HPERC (Grant of Connectivity, Long-Term and Medium-Term Intra-State Open Access and Related Matters), Regulations, 2010, as amended from time to time. The concerned stakeholders are directed to decide the matter accordingly, among themselves and in case of no resolution, the matter may be taken up separately with the Commission as it is not directly related to this Petition.

Stakeholders' Submissions

2.1.9 The HPPCL has suggested that the IDC should only be considered for the months approved in the Detailed Project Report (DPR) and the IDC beyond the timelines stipulated in the DPR should not be approved.

Petitioner's Response

2.1.10 The Petitioner has submitted that the stakeholder has merely submitted a general statement stating the time overrun or the IDC should be disallowed and, therefore, the request of Respondent is devoid of any merit.

Commission's Observations

2.1.11 The matter with respect to approval of IDC has been discussed in detail in the Section 3.5 'Chapter 3: Approval of Capital Cost' of this Order.

Stakeholders' Submission

2.1.12 The HPPCL has emphasized that the deviations from the approved timeline for the project could lead to unforeseen delays and budgetary challenges. Therefore, any time overrun and its impact beyond the initially approved timeline should not be considered or approved.

The SJVN Ltd further highlighted that there is enhancement in the actual cost compared to initial awarded price, however, the same is less than the cost approved by the BOD and CEA. It was submitted that the same cannot be the justification for cost overrun. The contract was awarded through open tender, and it is assumed that the same is based on the requirements as envisaged in the DPR and was as per market rates. The justification of the cost overrun should be provided against the awarded cost.

Petitioner's Response

2.1.13 The Petitioner has submitted that the detailed justifications for cost overrun have already been submitted by the Petitioner at Para 4.5 of the Original Petition which is also supported with the BOD approvals. The comparison of DPR cost, initial award cost & final award cost has been already submitted as Table-7 of Para 4.5.12 of the Petition and has prayed the Commission to allow the entire cost over-run and approve the same.

The Petitioner has provided detailed reasons for project delays, such as site-specific challenges and external factors like GST and the COVID-19 pandemic. The Petitioner has asserted that these reasons were beyond their control and accordingly the entire time-overrun may kindly be approved.

Commission's Observations

2.1.14 The matter with respect to time overrun has been discussed in detail in the 'Chapter 3: Approval of Capital Cost' of this Order.

Stakeholders' Submissions

2.1.15 The HPPCL has recommended that charges outside the scope of the approved DPR should not be approved or considered, as they may introduce unforeseen financial complexities. The HPPCL has also highlighted that the Departmental charges not originally included in the Detailed Project Report (DPR) may not be approved or considered.

Petitioner's Response

2.1.16 The Petitioner has submitted that the Departmental Charges (DC) are legitimate non-budgeted expenses which are not directly related to primary service, and do arise during the normal course of project implementation. These expenses are generally considered to be at 11% of the Project Cost and have been historically allowed by the Commission, as part of the project cost.

Commission's Observations

2.1.17 The Commission agrees to the observation of the stakeholder to some extent. But, there is definitely a cost pertaining to site overseeing, headquarter etc. which can be called supervision charges instead of department charges. These supervision charges are incidental to the construction of the Project and therefore, have to be allowed reasonably. Based on the submissions of the Petitioner, the supporting documents and the auditor's certificate, the Commission has considered the DC in line with the capital cost certified by the Auditor. The matter has been discussed in detail in Section 3.5 of 'Chapter 3: Approval of Capital Cost' of this Order.

Stakeholders' Submission

2.1.18 The HPPCL has suggested that O&M charges should be determined based on actual data, rather than benchmark Central Electricity Regulatory Commission (CERC) figures, as the transmission line has been operational since November 2020.

Petitioner's Response

2.1.19 With regard to consideration of O&M expenses on actual basis rather than the CERC norms, the Petitioner submits that the Commission in the Order dated November 1, 2021 in Petition No. 98 of 2020 in the matter of approval of Capital Cost and tariff for 33/220kV GIS sub-station at Karian along with 220kV D/C transmission line to PGCIL pooling sub-station at Chamera-II has approved the normative O&M expenses for the period from FY 2018-19 to FY 2023-24 based on the normative O&M expenses specified in the CERC (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as "CERC Tariff Regulations, 2019") with the ruling that any variation in O&M expenses shall be reviewed and considered at the time of true up. Accordingly, based on the methodology as adopted by the Commission, the Petitioner has requested for the approval of the O&M Expenses on similar lines.

Commission's Observations

2.1.20 It is to be noted that the actual audited O&M expenses are available only for FY 2020-21 (less than half year) and FY 2021-22 which are insufficient to identify any trend. In absence of actual audited O&M expenses for sufficient years to ascertain the O&M trends, the Commission has relied upon the normative O&M expenses prescribed in the CERC Tariff Regulations, 2019.

Stakeholders' Submissions

2.1.21 The HPPCL has suggested that the 40% grant considered in the original DPR should be considered while determining the capital cost.

Petitioner's Response

2.1.22 The Petitioner has submitted that HPPTCL was eligible for the grant of Rs. 12 Crore which forms 40% of DPR Cost. The Petitioner has mentioned that against eligible grant of Rs 12 Crore, HPPTCL has availed grant of only Rs 9.37 Crore on actual basis as on COD i.e. 02.11.2020.

Commission's Observations

2.1.23 The matter with respect to grant has been discussed in detail in the section 3.6 of 'Chapter 3: Approval of Capital Cost' of this Order.

Stakeholders' Submissions

2.1.24 The HPPCL has suggested that the HPERC may pass the order that DoE may pay 13% Share (12% Royalty +1% LADF) directly to the HPPTCL. Further, if the obligation of the HPPCL for GoHP free power is at the ex-bus of the generator then the HPPCL will not be liable for the transmission charges corresponding to such capacity and the HPPTCL may accordingly revise the LTA of Sawra Kuddu HEP.

Petitioner's Response

2.1.25 The Petitioner has submitted that with regard to making DoE, a respondent in the case on behalf of GoHP, the Commission may take an appropriate view in the matter.

Commission's Observations

2.1.26 The issue raised by the respondent HPPCL is not directly related to this Petition. However, the Commission agrees with the objector that in case of the GoHP free power, the DoE, looking after the GoHP free power, shall directly execute Long Term Access (LTA) Agreement with the Petitioner and shall pay to the Petitioner. Further, in case of any dispute, this matter can be taken up separately through appropriate Petition under relevant provisions of the HPERC Regulations and the Electricity Act, 2003 for adjudication before this Commission.

Stakeholders' Submissions

2.1.27 The HPSEBL as well as the SJVN Ltd have highlighted that the effective date for the project execution was 11.04.2017, the work was to be executed within 12 months i.e., 10.04.2018, however, the project was commissioned on 02.11.2020 i.e. in approximately 30.5 months, so there is time over run for completion of the project. Therefore, there has been huge variation of Departmental charges and IDC charges as compared to the DPR of the project and as per actual on COD. The increase in IDC from 0.36 cr. Mentioned in DPR to the claimed amount of 2.35 cr. due to time over run should not be transferred to the beneficiaries.

Petitioner's Response

2.1.28 The Petitioner has submitted the reasons for the project delays, such as site-specific challenges and external factors like GST and the COVID-19 pandemic. The Petitioner argued that these reasons were beyond their control and has requested for the approval of the entire time-overrun.

Commission's Observations

2.1.29 The matter with respect to time overrun has been discussed in detail in the 'Chapter 3: Approval of Capital Cost' of this Order in detail.

Stakeholders' Submissions

2.1.30 The SJVN Ltd. has highlighted that the GoHP vide letter dated 04.03.2023 has conveyed approval regarding Restructuring and deferment of ADB loan extended to the HPPTCL under the Himachal Pradesh clean energy transmission investment programme. The approved structure of restructuring is as under:-

i. 80% of the disbursed loan will be converted into interest free loan.

ii. 10% of the disbursed loan will be kept as interest-bearing loan @10% rate of interest.

iii. 10% of the disbursed loan will be converted into equity.”

Petitioner’s Response

2.1.31 The Petitioner has submitted that the GoHP vide its letter dated 04.03.2023 has approved restructuring and Deferment of ADB loan extended to the HPPTCL under Himachal Pradesh Clean Energy Transmission Investment Programme. Said relief granted by the GoHP applies only to the ADB funded projects. The Petitioner has submitted that the subject Asset is executed under GEC-1 as per on-lending agreement between the HPPTCL &the GoHP which has been extended by KfW through the DEA, GoI through the GoHP.

Commission’s Observations

2.1.32 The Commission has noted the submissions of the Petitioner. The matter with respect to project funding has been discussed in detail in the section 3.6 of ‘Chapter 3: Approval of Capital Cost’ of this Order.

3. APPROVAL OF CAPITAL COST

3.1 Introduction

3.1.1 The HPPTCL has submitted a Petition for approval of Capital Cost and determination of tariff for the 4th Control Period from CoD to FY 2023-24 for 220 kV Snail-Hatkoti D/C Transmission Line in accordance with the provisions of the HPERC Transmission Regulations, 2011.

3.1.2 As per Regulation 14 of the HPERC Transmission Tariff Regulations, 2011, the Capital Cost of the 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 to70% 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 for220kV D/C Snail-Hatkoti transmission line and the ARR proposed 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 claims of the Petitioner viz. reasons for cost and time overrun, additional capital expenditure, amendments to contract along with relevant approvals, Interest During Construction (IDC), beneficiary details etc.

3.1.4 The original Petition lacked significant detailing and supporting information to ascertain the capital cost for the line. The information provided in the Petition was inadequate or lacked justifications w.r.t capital cost, increase in actual cost vis-à-vis awarded cost, time and cost overrun, missing documents and approvals, schedule of debt disbursal 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 for the 220kV D/C Snail-Hatkoti transmission line. In some of the cases, the information provided by the Petitioner in response 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 the transmission line. The scrutiny and prudence check undertaken by the Commission for approval of capital cost of 220kV D/C Snail-Hatkoti transmission line has been discussed in the following paragraphs.

3.1.6 Relevant technical details and configuration of the transmission line as submitted by the Petitioner is tabulated as follows:

Table 4: Asset Details

Name of Transmission line	S/C or D/C	Type of Conductor	Voltage level kV	Line Length (Km)	COD
220 kV DC line from Snail to 220 kV switching Sub Station at Hatkoti	D/C	Twin Moose	220 kV	26.8	2nd November, 2020

3.2 Summary of the Project

Petitioner Submissions

3.2.1 The Petitioner has submitted that the Board of Director's (BoD) of the HPPTCL had approved the proposal for construction of 220 kV D/C Snail-Hatkoti transmission line in the 32nd Board Meeting held on 28th December, 2016 vide agenda item No. 32.05. Thereafter, the CEA accorded the approval of the scheme vide letter dated23rd May, 2018.

3.2.2 The project is part of the Green Energy Corridor–I (GEC-I) initiative, designed to facilitate the evacuation of hydro-generated power, including small hydroelectric projects (HEPs), located near the Tons River in close proximity to Snail. Currently, the transmission line is being utilized by the Himachal Pradesh Power Corporation Limited (HPPCL) to evacuate 111 MW of power from its Sawra Kuddu hydro generating plant. This arrangement was established through a Long-Term Agreement (LTA) executed on October 19, 2020. Furthermore, the Satluj Jal Vidyut Nigam Limited (SJVNL) has also executed an LTA on June 1, 2022, for the evacuation of 60 MW of power from its Natwar Mori hydroelectric plant. This LTA became operational on September 30, 2022.

3.2.3 The HPPTCL has submitted that the capital cost of the instant project was envisaged as Rs. 30.03 Cr. including IDC of Rs. 0.36 Cr. as per the scope of work defined in the original DPR.

3.2.4 The Petitioner has submitted that competitive bidding was carried out to award the project on Turnkey basis to M/s Shyam Indus Power Solution Pvt Ltd. vide LOA nos. HPPTCL/KfW/ 220 kV D/C Snail-Hatkoti/2016-17/6314 and HPPTCL/KfW/ 220 kV D/C Snail-Hatkoti/2016-17/6315-21 dated 28.11.2016 at the bid price of Rs.17.99 Cr. The awarded contract primarily included supply, erection, and commissioning cost of the project. The Petitioner further submitted that the above contract was amended three times and the final revised awarded cost was Rs.25.61 Cr.

3.2.5 The effective date of the contract was 11thApril, 2017. The time period for execution of project from effective date of contract was 12 months i.e. till 10th April, 2018. The Petitioner submitted that the project completion date was extended from 10th April, 2018 to 2nd November 2020 vide Letter No. HPSLDC/SLDC-07(Connectivity_Volume-5)/2020-21-7837-40 dated 30th December, 2020.

3.2.6 The COD of the project was finalised on 2nd November 2020 with the capital cost as on COD as Rs 36.20 Cr.

3.2.7 The Petitioner has also submitted that the implementation of the project got delayed on account of reasons purely beyond the control of the Petitioner. Primary reasons of delay highlighted by the Petitioner included requirement of special foundation design, special design for towers due to hard rock strata, requirement of additional revetment/protection works at various tower locations etc. Further, the progress of works was also impacted by introduction of GST, outbreak of COVID-19 pandemic etc. The reasons for delay and cost enhancement have been discussed in detail in the subsequent Sections.

3.2.8 The following table provides the overall capital cost of Snail – Hatkoti transmission line as submitted by the Petitioner:

Table 5: DPR vs Claimed cost (Rs. Cr.)

Particulars	DPR Cost	Claimed
Cost of 220 kV D/C Line including Departmental charges	29.67	33.85
Interest During Construction	0.36	2.35
Total	**30.03**	**36.20**

3.2.9 The Petitioner has submitted that the initial contract consisting of Supply and Services was amended three times, the details of which are provided as follows:

Table 6: Summary of Contract Value and Amendments

Particulars	Supply Contract(Rs. Cr.)	Services Contract (Rs. Cr.)	Total (Rs. Cr.)
Initial Award Price	**12.71**	**5.28**	**17.99**
1st Amendment	13.47	5.41	18.88
2nd Amendment	14.41	11.04	25.45
3rd Amendment	14.55	11.06	25.61

3.2.10 The following table provides the breakup and variation of actual capital cost submitted by the Petitioner vis-à-vis the cost as per DPR:

Table 7: Details of Cost Variation in Total Project Cost (Rs. Cr.)

Particulars	DPR Cost	Claimed	Variation	% Variation
Supply	15.10	14.24	(0.86)	(5.71) %
Services	10.96	11.04	0.09	0.78%
Land, Site supervision and site admin.	-	0.75	0.75	-
MoEF-NPV, Compensation	2.75	3.51	0.76	27.77%
Contingency	0.86	-	(0.86)	(100) %
Others	-	2.41	2.41	-
Departmental Charges (DC)	-	1.91	1.91	-
Interest during construction (IDC)	0.36	2.35	1.99	560%
Total	**30.03**	**36.21**	**6.18**	**20.57%**

Commission's Analysis

3.2.11 The Commission observes that 220 kV D/C Snail- Hatkoti transmission line is part of Green Energy Corridor–I (GEC-I) planned for evacuation of hydro generation including from small HEP's which were coming up on Tons River located close to Snail and that currently the line is being utilized by the HPPCL to evacuate 111 MW power from its Sawra Kuddu hydro generating plant for which LTA was executed on 19.10.2020. Further the Commission observed that the SJVNL has also executed LTA on 01.06.2022 for evacuation of 60 MW power from its upcoming hydro generating station Natwar Mori HEP and the same has been operationalized w.e.f. 30.09.2022.

3.2.12 As per the DPR, the project was originally envisaged at a cost of Rs.30 Cr. and accordingly the BOD approval for construction of 220 kV Snail-Hatkoti transmission line was received in the 32ndmeeting held on 28thDec, 2016 vide agenda item no 32.05. Further, the CEA accorded its approval to the project vide letter dated 23rdMay, 2018.

3.2.13 With regard to the prior approval for the Project granted by the Commission, the Petitioner submitted that the Commission in its response vide letter dated 14.07.2020 has remarked that since the project was in the advanced stage of development, there was no point in seeking the in-principal approval for the said scheme at such an advanced stage and a project specific Petition may be filed.

3.2.14 As per the Petitioner submissions, it is established that while the project was commissioned on 02.11.2020, but initially the power only from the Sawra Kuddu HEP was being transmitted through the designated transmission line, whose Long-Term Agreement (LTA) was signed on 22.10.2020. Subsequently, an LTA was signed with SJVNL’s Natwar Mori, HEP on 01.06.2022, with the operationalization date for the said HEP LTA set as 30.09.2022. The agreed LTA system encompasses the 400/220kV Gumma Sub-station (including the KfW funded 400/220kV Additional Gumma), the 220kV D/C Hatkoti-Gumma transmission line, the 220kV Hatkoti Switching Station, and the 220kV Snail-Hatkoti transmission line.

3.2.15 As per the contract agreements submitted by the Petitioner, the contract for supply and services for the transmission line was awarded on turnkey basis to M/s Shyam Indus Power Solution Pvt Ltd. vide LOA nos. HPPTCL/KfW/ 220 kV D/C Snail-Hatkoti/2016-17/6314 and HPPTCL/KfW/ 220 kV D/C Snail-Hatkoti/2016-17/6315-21 dated 28.11.2016. Subsequently, three amendments were issued to the contract which covered aspects of change in scope, delay, etc. which have been discussed in detail in the subsequent Section.

3.2.16 The delay in COD of the project was around 30.5 months primarily on account of factors such as site-specific requirements of various tower locations like special foundation design, special design for towers, hard rock strata, requirement of additional revetment/protection works at various tower locations etc. Further, the progress of works was also impacted by introduction of GST and outbreak of COVID-19 pandemic.

3.2.17 The Commission, in order to establish the capital cost of the project, sought the auditor certificate for the project from the Petitioner as the same was not submitted along with the Petition. In reply to the First Deficiency Letter, the Petitioner submitted the relevant certificate with audited capital cost as Rs 36.20 Cr.

3.2.18 The Commission has analysed the Petition and the supporting documents submitted in detail and found several deficiencies in the information provided. In order to undertake in-depth analysis, the Commission in its various deficiency 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 Submissions

3.3.1 The Petitioner has submitted that the project is part of Green Energy Corridor–I (GEC-I) planned for evacuation of hydro generation including Small HEP's which shall come up on Tons River located close to Snail.

3.3.2 Currently, the line is being utilized by the HPPCL to evacuate 111 MW power from its Sawra Kuddu hydro generating plant for which LTA was executed on 19.10.2020.

3.3.3 Additionally, the SJVNL has also executed LTA on 01.06.2022 for evacuation of 60 MW power from upcoming generating station Natwar Mori HEP which was operationalized w.e.f. 30.09.2022.

Commission's Analysis

3.3.4 From the review of the submissions of the Petitioner and the DPR, it is established that this project is part of the Green Energy Corridor–I (GEC-I), designed to facilitate the evacuation of hydro-generated power, including small hydroelectric projects (HEPs), located near the Tons River in close proximity to Snail.

3.3.5 The Commission sought status on the existing beneficiaries, along with the corresponding transmission arrangements. In response, the Petitioner has submitted that the 220kV D/C Snail Hatkoti Transmission line is currently being used by HPPCL to evacuate 111 MW power from its Sawra Kuddu Hydro generating plant. This utilization is governed by an LTA signed on 22.10.2020, which became operational on 30.10.2020. Additionally, the Petitioner indicated that SJVN executed an LTA on 01.06.2022 to evacuate 60 MW power from its Natwar Mori Hydro generating plant, which became operational on 30.09.2022.

3.3.6 The Commission further inquired about the inter/intra-state status of the Snail-Hatkoti transmission line. The Petitioner in reply has submitted that the instant transmission line was constructed to evacuate power from Sawra Kuddu HEP (111MW) and Paudital Lassa (24MW) HEP. It was further informed that this line would also be used by Natwar Mori HEP once its LTA becomes operational. Sawra Kuddu HEP is transmitting its power through the line to the HPSEBL.

3.3.7 With respect to future beneficiaries, the Petitioner has submitted there are no other beneficiaries in respect of the said asset.

3.3.8 The project was originally envisaged for power evacuation for multiple small HEPs from which the recovery of transmission charges was to be done. The matter of recovery of ARR by the Petitioner has been discussed in detail in Chapter 4 of this Order.

3.4 Capital Cost

Petitioner's submission

3.4.1 The Petitioner has submitted that as per the award, the project execution was to start from 28th November, 2016 and works were to be completed within 12 months i.e. by 23rd November, 2017.The project completion date was extended from 28th November, 2016 to 2nd November, 2020 due to reasons such as sites specific requirements of various tower locations like special foundation design, special design for towers, hard rock strata, requirement of additional revetment/protection works at various tower locations etc. Further, progress of works was also impacted by introduction of GST, outbreak of COVID-19 pandemic etc.

3.4.2 The Petitioner has submitted that the project i.e. 220 kV D/C transmission line from Snail to Hatkoti was tendered through competitive bidding, resulting in the award of the project on a turnkey basis to M/s Shyam Indus Power Solution Pvt Ltd. The contracts were granted under LOA nos. HPPTCL/KfW/220 kV D/C Snale-Hatkoti/2016-17/6314 and HPPTCL/KfW/220 kV D/C Snale-Hatkoti/2016-17/6315-21 on 28.11.2016 for supplies and erection, respectively. The effective date for both contracts was 11.04.2017, and the approved project schedule indicated a 12-month execution period, ending by 10.04.2018. Due to uncontrollable factors, elaborated upon later, the project achieved COD on 02.11.2020, resulting in a delay of approximately 30.5 months.

3.4.3 The scope of work included a comprehensive list of engineering, manufacturing, testing, and supply tasks related to various components of the project, such as towers, conductors, insulators, and more. The contract underwent three amendments: the first due to the implementation of GST, the second attributed due to further design changes impacting quantities, affecting aspects like survey, foundation, erection, painting, testing etc, and the third due to changes in tower design leading to altered quantities. Further, the details of the same are provided as follows:

Table 8: Summary of Contract Value and Amendments

Sl.	Particulars	Supply (Rs. Cr.)	Services (Rs. Cr.)	Total (Rs. Cr.)
1.	Initial Award Price	12.71	5.28	17.99
2.	1st Amendment	13.47	5.41	18.88
3.	2nd Amendment	14.41	11.04	25.45
4.	3rd Amendment	14.55	11.06	25.61

3.4.4 The provisional capital cost as on COD of the scheme inclusive of IDC and Departmental charges wasRs.30.03 Cr. With respect to the project cost ofRs.30.03 Cr., the Petitioner has submitted that there has been variation between the actual cost incurred excluding the IDC as on COD and the cost envisaged in the DPR.

3.4.5 The following table provides a comparative view with respect to the Supply and Services cost as envisaged in the DPR and awarded cost post 3rd amendment:

Table 9: Comparison - Awarded Cost (Rs. Cr.)

Particulars	Capital Cost – DPR	Initial Contract Award (A)	Awarded Cost (Post 1st-3rd Amendment) (B)	Variation vis-à-vis Award Price (B-A)
Supply	15.10	12.71	14.55	1.84
Services	10.96	5.28	11.06	5.78
Total	**26.06**	**17.99**	**25.61**	**7.62**

3.4.6 The Petitioner has submitted that the final awarded cost after all amendments is Rs. 25.61 Crore which is below the DPR cost of Rs. 26.06 Crore (considering only cost against supply & erection).

3.4.7 The Petitioner submitted that the variation in cost from Rs 5.28 Cr is primarily because of increase in cost against items such as painting of towers, excavation for foundations in all kind of soil/rock, RCC & Coping with M15 Concrete, RCC with M20 Concrete, Random Rouble Masonry Work, Dry Stone Masonry etc. These items are shown separate from head 'Revetment Work' on account of large deviations in said items as per actual site requirement.

3.4.8 The Petitioner has submitted that project cost envisaged in DPR was Rs.30.03 Cr., which due to time and cost overrun attributable to various force majeure conditions, increased to Rs.36.21Cr. as on date of energization.

3.4.9 The capital cost claimed by the Petitioner has been provided as follows:

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

Particulars	DPR	Claimed
Supply	15.10	14.24
Services	10.96	11.04
Land, Site supervision and site admin.	-	0.75
MoEF-NPV, Compensation	2.75	3.51
Contingency	0.86	-
Others	-	2.41
Departmental Charges (DC)	-	1.91
Interest during construction (IDC)	0.36	2.35
Total	**30.03**	**36.21**

Commission's Analysis

3.4.10 The Commission observed that the project cost as per DPR was Rs.30.03 Cr. which included Rs. 26.06 Cr. towards Supply and Services cost, Rs 2.75 Cr.

towards MoEF-NPV Compensation, Rs 0.36 Cr towards IDC and Rs 0.86 Cr towards contingency charges. From an initial scrutiny, the Commission observed a significant increase in actual cost vis-à-vis the DPR cost. Accordingly, a detailed scrutiny of the increase in the hard cost of the transmission line was undertaken.

3.4.11 On initial scrutiny, it was observed that the Petitioner has failed to submit the auditor certificate to certify the capital cost of the project. Accordingly, the Petitioner was directed to submit supporting capital cost certificate from the Statutory Auditor. The Petitioner in reply submitted the desired certificate with Rs 36.21 Cr as the capital cost of the project as on COD.

3.4.12 The Commission through various deficiency letters sought additional information and supporting documents including approvals of BOD, details of awards/ contracts, correspondences, payments made to contractors, COD certificate, etc.

3.4.13 The Commission with respect to the selection process of contractor observed that the competitive bidding mechanism was followed by the Petitioner which is in line with the applicable kfW procedures and accordingly the prices were discovered for supplies and services contracts of the project.

3.4.14 The awarded contract was amended three times owing to factors such as change in design, replacement of material, enhancement in scope, etc. The commission also asked the Petitioner to submit the CEA/BOD approvals for amendments which were submitted by the petitioner.

3.4.15 The following table summarizes the awarded cost and revisions thereafter:

Table 11: DPR vs Awarded Cost (Rs. Cr.)

Particulars	Original Award	Amendment (1)	Amendment (2)	Amendment (3)
Date of Contract / amendment	28th Nov, 2016	5th Feb, 2018	19th Oct, 2019	3rd May 2021 (Supplies Part), 26th March 2021 (Services Part)
Supply	12.71	13.47	14.41	14.55
Services	5.28	5.41	11.04	11.06
Total	**17.99**	**18.88**	**25.45**	**25.61**
Reason for amendment		*Increase due to implementation of GST*	***Supply:*** *Variation in quantity due to change in the design of towers.* ***Services:*** *Change in scope of civil works to be done including Survey, Benching work, Foundation work, Reinforcement*	***Supply:*** *Deviation in material required to build the towers due to site constraints at tower locations T-1 & T-23. The tower design was modified by reducing the base width as per requisite space which required re-designing/ Truncation of towers as per site constraints*

Particulars	Original Award	Amendment (1)	Amendment (2)	Amendment (3)
			and Concreting, Erection, Painting, Testing &Commissioning work and Revetment works	***Erection:** Variation in quantity due to change in design consisting of leg extension, installation of insulator strings, steel for reinforcement etc.*

3.4.16 The Petitioner has stated that implementation of GST, changes in quantity due to change in design of towers where the reasons for amendment of supply contracts. Further, with respect to deviation in services part, there was a change in the quantity of certain works such as survey, benching work, foundation work, reinforcement and concreting, erection, painting, testing &commissioning work and revetment works. In one of the responses to the Commission's clarification, the Petitioner submitted that dewatering of pits during concreting, providing stone packing at Weep Holes also resulted in deviation in revetment works beyond 15% of the awarded cost.

3.4.17 The Commission further sought justification from the Petitioner for deviation in quantity of material for towers. The Petitioner in reply submitted that due to site constraints at tower locations T-1 & T-23, the tower design was modified by reducing the base width as per requisite space. Re-designing/ Truncation of towers as per site constraints also led to the deviation in tower material quantities vis-à-vis awarded quantities.

3.4.18 The Commission in a matter pertaining to a delay of nearly 1 year attributed to foundation work, sought justification as to why this issue was not identified during the planning and pre-feasibility stage, which typically involves preliminary studies for such purposes. In response, the Petitioner submitted that the scheme in question received approval from the BOD during its 32nd meeting held on 28.12.2016. Furthermore, the scheme garnered endorsement from the CEA during the 39th Standing Committee meeting held on 29th May 2017, for an amount of Rs. 30 Crore. The Petitioner emphasized that during the preparation of the Detailed Project Report (DPR) and the contract award phase, the specific tower locations had not been finalized. Notably, the location for T-1 was handed over to the Contractor on 04.01.2018, while the final tower location was finalised on 23.03.2019. Due to these pertinent circumstances, it has been explained that the final studies concerning the survey of the transmission line and soil investigation could only be undertaken subsequent to the identification of tower erection locations. This sequence of events contributed to the delay in identifying foundation-related issues during the planning and pre-feasibility stage. The Commission notes that the delay in the foundation work could potentially have been avoided if a more comprehensive and detailed feasibility study had been conducted during the initial planning stages of the project.

3.4.19 The Commission with regards to cost of completion sought justification for the cost claimed of Rs 1104.15 Lakh as on 02.11.2020 and Rs 1140.17 Lakh as on 31.03.2021. The Commission inquired about the rationale behind not considering the expenditure of Rs 36.02 Lakh as part of Amendment No. 3 which was dated 26.03.2021 i.e. post the COD of the project. This expenditure has been considered as additional CAPEX in FY 21. In response, the Petitioner submitted that the expenditure Rs 36.02 Lakh consisted of expenses towards survey work, soil investigation, protection works at Tower No. T-38 and for replacement of 220kV Polymer Insulators with Disc Insulators and re-sagging of conductor. The Petitioner further clarified that the payments for survey work, soil investigation, and erection were released to M/s Shyam Indus Power Solutions Pvt. Ltd. after the issuance of Amendment No. 3, thereby excluding it from the amendment. Additionally, the payments associated with protection works and insulator replacement were made to a contractor other than M/s Shyam Indus Power Solutions Pvt Ltd., whereas the Letter of Award (LOA) and subsequent contract amendments pertained exclusively to M/s Shyam Indus. Due to said reasons these amounts were not included in Amendment No. 3.

3.4.20 The Petitioner has claimed the cost towards land, site supervision & site administration as Rs 74.57 lakh. From the review of the supporting documents submitted by the Petitioner, the Commission could find documents pertaining to cost adding up to Rs 54.71 Lakh only. Accordingly, the Commission has approved the cost as Rs 54.71 Lakh only towards land, site supervision & site administration expenses.

3.4.21 The Petitioner has claimed an amount of Rs. 3.51 Cr towards expenses for obtaining forest clearance, fruit tree & crop compensation. The Commission in this regard sought justification and breakup from the Petitioner against which the Petitioner submitted that the compensation amount has been deposited to MoEF-NPV and the same was mandatory. The Commission against the claim of Rs 3.51 Cr could only verify documents adding up to Rs 3.50 Cr. Accordingly, the Commission approves Rs 3.50 towards expenses for obtaining forest clearance, fruit tree & crop compensation.

3.4.22 With regards to the remaining components of capital cost such as consultancy charges and misc. expenses etc, the Commission sought relevant supporting documents from the Petitioner which have been submitted. The Petitioner has further provided the auditor certificate in support of these claims and the same have been considered under the “Others” head in Table no. 12 below.

3.4.23 The Commission sought clarifications regarding any instances of Liquidated Damages (LD) or penalties imposed by the Petitioner on the project contractor, including the reasons, dates of levy, and amounts involved, and how these have been treated in the project's capital cost. In response, the petitioner submitted that no LD has been imposed on the contractor.

3.4.24 The Commission further sought the status of the project completion as on31.03.2022, and whether any additional works or services are pending beyond the date. In response, the petitioner confirmed that all the works related to the Transmission project have been successfully completed as of March 31, 2022

3.4.25 From the review of the capital cost claimed, it is noted that the actual cost towards supply and services is lower than the awarded cost (post 3rd Amendment). Accordingly, based on the detailed review of the capital cost based on the documentary evidence submitted by the Petitioner as discussed in the foregoing paragraphs, cost as per auditor certificate etc., the Commission approves the capital cost (hard cost) excluding DC and IDC (discussed in subsequent section)for the transmission line as shown in the table below:

Table 12: Hard Cost approved by Commission (Rs. Cr.)

Particulars	DPR	Claimed	Audited	Approved
Supply	15.10	14.24	14.24	14.24
Services	10.96	11.04	11.04	11.04
Land, Site supervision and site admin	-	0.75	0.75	0.55
MoEF-NPV, Compensation	2.75	3.51	3.51	3.50
Others	0.86	2.41	2.41	2.41
Total	**29.67**	**31.95**	**31.95**	**31.74**

3.5 Overheads (IDC and Departmental Charges)

Petitioner's submissions

3.5.1 The Petitioner submitted that due to various unavoidable reasons of time and cost overruns, actual IDC and Departmental Charges have increased with respect to the cost envisaged in the DPR. The Petitioner submitted that in the DPR, the provision for IDC was kept as Rs. 0.36 Crore, however, the actual IDC as on COD is Rs. 2.35 Crore. It was submitted that while computing IDC in the DPR, the interest cost was considered for only 6 months on a loan amount of only Rs. 7.12 Crore, instead of Rs. 12 Crore (40% of Project Cost of Rs. 30 Crore).

3.5.2 With regards to the Departmental Charges, the Petitioner submitted that Departmental Charges upto 02.11.2020 works out to be Rs. 1.91 Crore which is 5.27% of the total project cost.

Commission's Analysis

3.5.3 The Petition lacks proper details, working and the basis for consideration of IDC and DC submitted by the Petitioner. Accordingly, the Commission sought justification on assumptions for consideration of DC and IDC in the Petition from the Petitioner through the deficiency letters. The Commission in order to authenticate the Petitioners claim also sought the detailed computation of IDC (Excel) considered consisting of date of draw-down of debt, amount of debt, computation of IDC etc. The submissions of the Petitioner have been duly considered while working out the IDC for the project.

3.5.4 The project was envisaged to be completed in 12 months as per the contract awarded by the Petitioner, however, the actual time taken was almost four years which is significantly higher. From the submissions of the Petitioner, the following reasons were identified to be the major reasons for time overrun.

Table 13: Reasons for time overrun

Tower	Period of Delay	Description of Hindrances
T-1	March 2018 to April,2019	The foundation work was delayed due to site-specific requirements of special design foundation as well as tower design. The site was jointly inspected on 08.03.2018, and Inspection Report was circulated on 09.03.2018. Design proposal for the foundation of Tower No.-1 was revised based on site conditions, and further analysis was conducted by Design Unit. After various communications, special foundation design was decided on 10.10.2018. Tower design was modified, and foundation work was completed on 06.07.2019. Erection work and final stringing were completed by August and September 2019 respectively.
T-2	June, 2018 to January, 2019	Location identified had hard rock strata, causing excavation delays. Land dispute was resolved in August 2018. Joint inspection and design solution were performed, and construction executed as per Design Unit recommendations. Foundation and erection works were completed on 06.02.2019and April 2019 respectively.
T-5	October 2017 to January,2019	Rerouting and extra protection work at sliding area led to considerable design and approval delays. Foundation work was completed on 31.05.2019, erection in July 2019, stringing in July 2019.
T-23	May,2018 to February,2019	Initial normal foundation needed modification due to unstable tower location. Expert consultation and revisions led to foundation completion on 27.09.2019, erection in November 2019, stringing in December 2019.
T-36 & T-37	May,2018 to March,2019	Land dispute for T-37 led to its elimination. T-36's location and design were amended accordingly, increasing excavation work. Foundation work completed on 08.11.2019, erection in December 2019, stringing in February 2020.

3.5.5 From fine reading of the submissions of the Petitioner and the supporting documentary proofs, it can be easily inferred that certain delay on account of factors such as change in design, construction on hard strata locations, land disputes, additional protection works could have been very well averted by proper planning at the inception stage of the project by appropriately including the same in the DPR. The Petitioner having significant experience in construction of similar lines in difficult geographies such as in the instant case, should have anticipated such delays and included the same in the DPR stage. The Commission has also observed that in every transmission project being executed by the Petitioner, similar delays are being highlighted.

3.5.6 Accordingly, 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 almost three years 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's end.

3.5.7 In addition, the details provided with respect to time overruns only mentioned various dates when issues emerged or activities were completed. However, it could not be established as to how each activity had impacted the overall timeline of the project and whether other activities could have been planned in a manner where the delay could have been avoided. From, the deeper review of the information submitted by the Petitioner, it can be inferred that delay on account of reasons such as introduction of GST, delays in M-20 rate finalization, Land dispute which tantamounted to majority of the time delay may have been avoided with proper planning. However, at the same time there was delay on account of reasons such as COVID-19, social hindrances, etc. which weren't in the control of the Petitioner. Hence, post detailed review of each of the reasons of delay has calculated the IDC as discussed below.

3.5.8 As discussed in the previous section, the Petitioner has claimed IDC of Rs 2.35 Cr against Rs 0.36 Cr as per the DPR. The Petitioner has submitted the auditor's certificate in support of its claim.

3.5.9 With regards to the rate of interest, the Commission sought the supporting documentary proofs in support against which the Petitioner has submitted the loan agreement signed between HPPTCL and GoHP specifying the rate of interest as 10%. Accordingly, the Commission has considered the rate of interest in line with the Petitioners submissions.

3.5.10 In view of revision in hard cost as well as rate of interest, the Commission has computed a revised benchmark for the IDC. A project duration of 12 months as per DPR has been considered to estimate the benchmark IDC.

3.5.11 The Commission has assumed 40% debt disbursement in first six months and remaining 60% debt disbursement in the last six months of project execution in accordance with the DPR. The phasing of debt disbursement has been assumed in accordance with the disbursement observed in similar projects undertaken by Petitioner and the disbursement schedule provided in the DPR of the project.

3.5.12 The benchmark IDC for as computed is summarized as follows:

Table 14: Revised Benchmark IDC – Asset-1

Particulars	Unit	Phase I*	Phase II *	Total
Debt disbursement	%	40%	60%	100%
Opening Debt (a)	INR Cr.	-	5.38	
Addition during the year (b)	INR Cr.	5.38	8.08	
Closing Debt (c)	INR Cr.	5.38	13.46	
Average Debt (d=(a+c)/2)	INR Cr.	2.69	9.42	
Interest rate (e)	%	10.00%	10.00%	

Particulars	Unit	Phase I*	Phase II *	Total
Total IDC (f=d*e)	**INR Cr.**	**0.13**	**0.47**	**0.61**

**Considered for 6 months*

3.5.13 As discussed in preceding paras, commensurate to the delay on account of uncontrollable factors the Commission allows 50% of the excess IDC vis-à-vis actual calculated based on the draw down schedule over and above the revised benchmark IDC computed assuming no time delay. The computation is provided as follows:

Table 15: Approved IDC (INR Cr.)

Particular	Benchmark	Actual calculated	Difference	Approved = Actual -50% of difference
Snail Hatkoti line	0.61	1.93	1.32	1.27

3.5.14 With regards to the Departmental Charges, the Petitioner has submitted that Departmental Charges upto 02.11.2020 works out to be Rs. 1.91 Crore which is 5.27% of the total project cost. The Commission in this regard sought the audited DC from the Petitioner. The Commission has considered the auditor certificate submitted and accordingly, approves the DC in line with the certificate.

3.5.15 The following table provides IDC and DC submitted as per Petition, as per auditor's certificate and now approved by Commission:

Table 16: Approved IDC and Departmental Charges (Rs. Cr.)

Particulars	Claimed-Petition	Audited	Approved
IDC	2.35	2.35	1.27
Departmental charges	1.91	1.91	1.91
Total	**4.26**	**4.26**	**3.17**

3.5.16 In line with the approved hard cost, IDC and DC amount, as discussed in preceding sections, the approved project cost as on COD towards 220 kV Snail- Hatkoti D/C transmission line is summarized in the following table:

Table 17: Approved Capital Cost (Rs. Cr.)

Cost Heads	Claimed	Audited	Approved
Supply	14.24	14.24	14.24
Services	11.04	11.04	11.04
Land, Site supervision and site admin	0.75	0.75	0.55
MoEF-NPV, Compensation	3.51	3.51	3.50

Cost Heads	Claimed	Audited	Approved
Others	2.41	2.41	2.41
IDC	2.35	2.35	1.27
Departmental charges	1.91	1.91	1.91
Total	**36.21**	**36.21**	**34.92**

3.6 Project Funding

Petitioner Submission

3.6.1 The Petitioner has quoted the Regulation 18 of the HPERC MYT Transmission 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 As per the DPR, the scheme was originally envisaged to be funded with the debt grant and equity ratio of 40:40:20in the conceptualisation stage.

3.6.3 As per the Petition, the Petitioner has drawn actual loan from KfW amounting to Rs. 17.27 Crore which is 47.69% of project cost as on COD, grant from MNRE under NCEF fund amounting to Rs 9.37 Crore which is 25.88% of the project cost and the balance has been infused in the form of equity amounting to Rs 9.58 Crore which is 26.46% of the project cost, for the construction of the transmission line. It has been submitted that since the MNRE grant of only Rs. 9.37 Crore was received, therefore, the balance amount had to be infused through equity resulting in variation in the funding of the project vis-à-vis that envisaged in the DPR.

3.6.4 The following table provides the project funding of the project as proposed by the Petitioner:

Table 18: Project Funding proposed by Petitioner (Rs. Cr.)

Particulars	DPR	Actual	Claimed
Debt	40.00%	47.68%	47.68%
Grant	40.00%	25.87%	25.87%

Equity	20.00%	26.45%	26.45%
Total Project Cost	**100.00%**	**100.00%**	**100.00%**

Commission's Analysis

3.6.5 The Commission has examined the information and various documents submitted by the Petitioner with regards to the funding of the Snail-Hatkoti transmission line. It is observed that although the loan for the line was secured from KfW, GoHP acts as the nodal agency.

3.6.6 The project was originally envisaged at a debt, grant and equity ratio of 40:40:20 as provided in the DPR against which the Petitioner has claimed a higher debt and equity infusion. In addition, the Commission sought the loan draw down schedule for the project to establish the actual loan draw down against the project.

3.6.7 The Commission is of the view that since the funding of the asset was secured in accordance with the DPR on which CEA has also accorded its approval, it is therefore prudent to consider the debt, grant and equity ratio as per the original DPR. Further, the project funding for all projects funded by KfW has also been certified by the Board of Directors of the Petitioner wherein the financial assistance through debt, grant and equity has been approved as 40:40:20.Also, the Petitioner has not provided any reasons for not availing the grant for the project as envisaged in the DPR. Accordingly, the Commission has considered the debt, grant and equity ratio of 40:40:20 for project funding and components of the ARR.

3.6.8 It is important to note here that the Commission had sought information on source of funding of equity, date of infusion and amount along with documentary evidence for the equity infused in the project etc. which the Petitioner has failed to submit. The Petitioner submitted that it receives equity from Government of H.P (GoHP) on overall basis at firm level and not on individual projects basis and amount of equity received by HPPTCL is further allocated to various projects on requirement basis.

3.6.9 The Commission also sought the copy of loan agreement, sanction letter, actual loan, grant and equity disbursal from the Petitioner and observed that the equity and debt claimed against the asset is much higher thereby affecting the debt, grant and equity ratio. In the absence of relevant submissions with regards to equity the Commission is bound to consider the debt, grant and equity, ratio as 40:40:20 as per the DPR. The approved funding towards the Snail-Hatkoti transmission line is summarized as follows:

Table 19: Project Funding approved by Commission

Particulars	Claimed		Approved	
	Capital Cost (Rs. Cr)	% of Funding	Total Cost (Rs. Cr)	% of Funding
Capital Cost as on COD	36.21	-	34.92	-
Total Project Cost	**36.21**	**-**	**34.92**	**-**
Debt	*17.27*	*47.68%*	*13.97*	*40%*

Particulars	Claimed		Approved	
	Capital Cost (Rs. Cr)	% of Funding	Total Cost (Rs. Cr)	% of Funding
Grant	*9.37*	*25.87%*	*13.97*	*40%*
Equity	*9.58*	*26.45%*	*6.98*	*20%*

3.6.10 Accordingly, based on the project financing approved in the table above, the Commission has determined the Annual Revenue Requirement (ARR) for each year of the control period starting from COD as discussed in the next chapter.

3.7 Additional Capital Expenditure

Petitioner Submissions

3.7.1 The Petitioner in the Petition has proposed additional capital expenditure in FY 2020-21 & FY 2021-22 amounting to Rs. 0.38 Crore & Rs. 1.17 Crore respectively which are towards completion of works that were part of original scope of work and no additional capital expenditure is envisaged for the rest of the control period.

3.7.2 Accordingly, the Petitioner has claimed additional capital expenditure as per the petition with breakup as follows:

Table 20: Year wise additional capital expenditure (Rs. Cr.)

Particulars	Capital Cost as on CoD	FY 2020-21	FY 2021-22	Total
220 kV Snail-Hatkoti Line	36.21	0.38	1.17	37.75

Commission's Analysis

3.7.3 To verify the claim of additional capitalisation proposed for FY 2020-21 and FY 2021-22, the Commission vide deficiency letters sought details and nature of additional CAPEX and its further classification under supply, services etc. In reply, the Petitioner has submitted that an expenditure of Rs 0.38 Cr occurred on account of civil works for which bills were processed after approval of final deviation, additional protection works for T-38, expenses against press note bill &Departmental Charges. Against expenditure of Rs 1.17 Cr. projected to be incurred during FY 2021-22, the Petitioner submitted that the actual expenditure incurred during said financial year is Rs 58.33 lakh and the same has been certified by the statutory auditor and is reflected in annual accounts for FY 2021-22. The Petitioner has submitted that the additional expenditure was on account of additional civil works undertaken at Tower-38, replacement of 220 kV polymer insulator, testing and commissioning etc.

3.7.4 The Commission sought information regarding the petitioner's claim that all works were completed on the ground as of 31.03.2022 with no further tasks to be undertaken along with justification for lower actual additional capital expenditure of Rs 58.33 lakh against claimed of Rs 1.17 Cr. The Petitioner in response submitted that all works were concluded by 31.03.2022, with the Implementation Agency's contract closed and a No Dues Certificate issued to HPPTCL. The Petitioner has requested to consider an additional capital expenditure of Rs. 58.33 Lakh for FY 2021-22. The Petitioner has further asked for liberty to take up any variation in additional CAPEX at the time of true-up.

3.7.5 In the light of the above, the Commission approves the additional capital expenditure in line with submission of the Petitioner. The same shall be reviewed based on submissions of actual bills at the time of true-up. The following table provides breakup of additional capital expenditure as claimed and approved by the Commission.

Table 21: Approved Additional Capital Expenditure (Rs. Cr.)

Particulars	Claimed		Approved	
	FY 2020-21	FY 2021-22	FY 2020-21	FY 2021-22
Additional Capital Expenditure	0.38	1.17	0.38	0.58

3.7.6 The funding of the approved additional capital expenditure has been considered in line with the overall approved funding of the project in debt grant equity ratio 40:40:20 approved as above.

4. APPROVAL OF ARR AND TARIFF

4.1 Background

4.1.1 The Petitioner has proposed projections for COD to FY 2023-24 as per the HPERC MYT Transmission Regulations, 2011 as amended from time to time. As per the submissions 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 also considered the provisions of HPERC MYT Transmission Regulations, 2011, Audited Annual Accounts, CERC Tariff Regulations, 2019 and approved capital expenditure and funding plan for 220kV D/C Snail-Hatkoti transmission line for the purpose of ARR projections for each year.

4.1.3 In this chapter, the Commission has detailed the methodology for computing each component of the ARR for each year of the Control Period from COD till FY 2023-24 for 220 kV D/C Snail-Hatkoti Transmission line of HPPTCL including O&M expenses, interest on loan, depreciation, return on equity, working capital requirement, etc. . The methodology followed and approved values for each component of the ARR is detailed in the subsequent sections.

4.1.4 The Petitioner has not provided the revised submissions of various components of ARR in the light of submission of revised capital cost. In absence of the same the Commission has approved the various components of ARR based on the approved capital cost and additional capital expenditure approved.

4.2 O&M Expenses

Petitioner Submission

4.2.1 The Petitioner has 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;

Provided that, repair and maintenance expenses determined shall be utilized towards repair and maintenance works only;

Provided further that, the impact of pay revision (including arrears) shall be allowed on actual during the mid-term performance review or at the end of the control period as per actual/ audited accounts, subject to *prudence check and any other factor considered appropriate by the Commission."*

4.2.2 The Petitioner has further submitted that the Commission in the Order dated November 1, 2021 in Petition No. 98 of 2020 in the matter of approval of capital cost and tariff for 33/220kV GIS sub-station at Karian along with 220kV D/C transmission line to PGCIL pooling Sub-station at Chamera-II has approved the normative O&M expenses for the period from FY 2018-19 to FY 2023-24 based on the normative O&M expenses specified in CERC (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as "CERC Tariff Regulations, 2019") ordering that any variation in O&M expenses shall be reviewed and considered at the time of true up. The Commission has followed the above approach considering the following:

- that the O&M expenses for the first year of the project are on a conservative side may be due to partial operations but may increase in upcoming years
- the actual audited O&M expenses for sufficient number of years are not available and it shall be difficult to ascertain a realistic trend for O&M expenses for the upcoming years.

4.2.3 The Petitioner in line with the above approach, has projected O&M expenses considering the norms specified in CERC Tariff Regulations, 2019 and seeks liberty to submit actual at the time of truing up.

4.2.4 The following table provides the O&M expenses claimed by the Petitioner:

Table 22: O&M Expenses claimed by Petitioner (Rs. Lakh)

Particulars	FY21	FY22	FY23	FY24
O&M Expenses (Rs. Lakh per Cktm)	1.368	1.416	1.466	1.517
Line Length (Cktm)	26.80	26.80	26.80	26.80
Total O&M Expenses	**36.66**	**37.95**	**39.29**	**40.66**

Commission's Analysis

4.2.5 The Commission has reviewed the submissions of the Petitioner. In the absence of actual audited O&M expenses for sufficient years to ascertain the O&M trends, the Commission has relied upon the normative O&M expenses prescribed in the CERC Tariff Regulations, 2019. As the Regulations provide for O&M expense based on voltage, circuit and conductor, the following norms have been considered as per the technical details of Snail-Hatkoti transmission line for computation of O&M expenses as per CERC Tariff Regulations, 2019:

Table 23: Normative O&M Expenses

Item	Unit	FY21	FY22	FY23	FY24
Double Circuit (Single Conductor)	Rs. Lakh/Cktm	0.912	0.944	0.977	1.011

4.2.6 Accordingly, the Commission has approved the O&M expenses for each year of the Control Period. Any variation in O&M expenses shall be reviewed and considered at the time of true-up.

4.2.7 The following table provides the O&M expenses approved by the Commission for the Control Period:

Table 24: O&M Expenses approved by Commission (Rs. Lakh)

Particulars	FY21	FY22	FY23	FY24
Normative O&M Expense (Rs. Lakh/Km)	0.912	0.944	0.977	1.011
Line Length (km)	26.80	26.80	26.80	26.80
O&M Expenses	**9.98**	**25.30**	**26.18**	**27.09**

O&M Expense pro-rated for FY2020-21 based on approved COD (2ndNov, 2020)

4.3 Depreciation

Petitioner Submissions

4.3.1 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, as amended from time to time.

4.3.2 In accordance with above Tariff Regulations, the depreciation for the Control Period has been estimated as shown in the following table:

Table 25: Depreciation claimed by Petitioner (Rs. Lakh)

Particulars	FY21	FY 22	FY 23	FY 24
Opening GFA	3620.84	3658.99	3775.99	3775.99
CC/Grants	936.52	936.52	936.52	936.52
Net Opening GFA Less Grant	2684.32	2722.47	2839.47	2839.47
Addition	38.15	117.00	0.00	0.00
Net Closing GFA	2722.47	2839.47	2839.47	2839.47
Average GFA	**2703.40**	**2780.97**	**2839.47**	**2839.47**
Less: Land under full ownership	**58.32**	**108.92**	**108.92**	**108.92**
GFA excluding Land	**2645.08**	**2672.05**	**2730.55**	**2730.55**
Depreciation Rate	4.46%	4.50%	4.52%	4.52%
Depreciation	**117.91**	**120.12**	**123.47**	**123.47**

Commission's Analysis

4.3.3 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."

4.3.4 The Commission has examined the depreciation proposed by the Petitioner in detail. The Commission has arrived Depreciation on Gross Fixed Assets (GFA) for each year based on the approved capitalization for each year in the previous Chapter.

4.3.5 The Commission has determined the effective weighted average depreciation rate based on asset wise depreciation rate prescribed as per the applicable Regulations. Further, the cost of land has been reduced while applying depreciation.

4.3.6 The depreciation expenses approved from FY 2020-21 to FY 2023-24 are summarized in the table below:

Table 26: Depreciation approved by Commission (Rs. Lakh)

Particulars	FY21*	FY22	FY23	FY24
Opening GFA	3,491.56	2,063.12	2,098.12	2,098.12
CC/Grants	1,396.63	-	-	-
Net Opening GFA Less Grant	2,094.94	2,063.12	2,098.12	2,098.12

Addition	22.89	35.00	-	-
Net Closing GFA	2,117.83	2,098.12	2,098.12	2,098.12
Less: Land under full ownership	54.71	-	-	-
GFA excluding Land	2,063.12	2,098.12	2,098.12	2,098.12
Depreciation Rate	4.44%	4.44%	4.44%	4.44%
Depreciation	**37.20**	**92.42**	**93.20**	**93.20**

**Depreciation Expense pro-rated for FY2020-21 based on approved COD (2nd Nov, 2020)*

4.4 Interest on Loan

Petitioner Submissions

4.4.1 The Petitioner has submitted the interest on loan is in accordance with the Regulation 20 of the HPERC Transmission Tariff Regulations, 2011.

4.4.2 For the purpose of working out the Interest on Loan, the Petitioner has considered the opening value of loan as on CoD as actual loan amounting to 47% of the total Project cost i.e., Rs.17.27 Cr. And additional loan of Rs.0.27 Cr along with a repayment of Rs. 16.35 Cr. During FY 2020-21. The Petitioner has considered the interest rate of 10% as per the terms and conditions of loan agreed between GoHP and HPPTCL of the KfW Loan. The computation of Interest on Loan has been provided as follows:

Table 27: Interest on Loan claimed by Petitioner (Rs. Lakh)

Particulars	FY21	FY22	FY23	FY24
Opening Balance	1726.75	1635.54	1597.32	1473.85
Addition	26.71	81.90	0.00	0.00
Repayment	117.91	120.12	123.47	123.47
Closing Balance	1635.54	1597.32	1473.85	1350.38
Rate of Interest (%)	10.00%	10.00%	10.00%	10.00%
Interest on Loan	**168.11**	**161.64**	**153.56**	**141.21**

Commission's Analysis

4.4.3 The Commission has considered the loan amount in line with the project funding approved for Snail-Hatkoti in the previous chapter.

4.4.4 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."

4.4.5 The Commission has approved the Interest on Loan in accordance with the Regulations. 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, as amended from time to time, for computing the opening and closing loan balances for each year.

4.4.6 The rate of interest has been considered based on the Petitioner's submission and interest rates agreed upon by KfW/GoHP with HPPTCL based on the loan documents shared.

4.4.7 The following table provides the Interest on Loan approved by the Commission for the Control Period:

Table 28: Interest on Loan approved by Commission (Rs. Lakh)

Particulars	FY21*	FY22	FY23	FY24
Opening Balance	1,396.63	1,374.68	1,305.60	1,212.40
Addition	15.26	23.33	-	-
Repayment	37.20	92.42	93.20	93.20
Closing Balance	1,374.68	1,305.60	1,212.40	1,119.21
Rate of Interest (%)	10.00%	10.00%	10.00%	10.00%
Average Balance	1,385.65	1,340.14	1,259.00	1,165.80
Interest on Loan	**56.57**	**134.01**	**125.90**	**116.58**

**Interest on Loan pro-rated for FY2020-21 based on approved COD (2nd Nov, 2020)*

4.5 Interest on Working Capital

Petitioner Submissions

4.5.1 The Petitioner has computed interest on working capital as per Regulation 21 and 22 of the HPERC Transmission Tariff Regulations, 2011 as amended from time to time.

4.5.2 The Petitioner has calculated the interest on working capital considering prevalent SBI MCLR as on 1st April of FY 2020-21, FY 2021-22 and FY 2022-23 plus 300 basis points. In accordance with the above Regulations the interest on working capital claimed is shown below:

Table 29: Interest on Working Capital claimed by Petitioner (Rs. Lakh)

Particulars	FY21	FY22	FY23	FY24
1/12th of O&M Expense	3.06	3.16	3.27	3.39
Receivables equivalent to 2 months average billing	80.17	80.17	80.06	78.20
Maintenance Spares (15% of O&M Expense of 1 month)	0.46	0.47	0.49	0.51
Less: Consumer Security Deposit	0	0	0	0
Total Working Capital	**83.68**	**83.81**	**83.82**	**82.09**
Interest Rate on Working Capital (SBI MCLR + 300 basis point)	10.75%	10.0%	10.00%	10.00%
Interest on Working Capital	**9.00**	**8.38**	**8.38**	**8.21**

Commission's Analysis

4.5.3 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.

4.5.4 The relevant clauses of the Regulations 21 and 22 of HPERC Transmission Tariff, Regulation, 2011 are reproduced as under:

"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 @ 15% 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."

4.5.5 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, 2021 plus 300 basis points. The computation for approved working capital requirement and interest on working capital is shown in the table as follows:

Table 30: Interest on Working Capital approved by Commission (Rs. Lakh)

Particulars	FY21	FY22	FY23	FY24
1/12th of O&M Expense	0.83	2.11	2.18	2.26
Receivables equivalent to 2 months average billing	25.16	61.41	60.47	59.20
Maintenance Spares (15% of O&M Expense of 1 month)	0.12	0.32	0.33	0.34
Total Working Capital	**26.12**	**63.83**	**62.98**	**61.80**
Interest Rate on Working Capital (SBI MCLR + 300 basis point)	10.75%	10.00%	10.00%	11.50%
Interest on Working Capital	**2.81**	**6.38**	**6.30**	**7.11**

4.6 Return on Equity

Petitioner Submissions

4.6.1 The Petitioner has submitted that an equity amounting to Rs.1.49 Cr has been utilised as on CoD of the project. The RoE proposed by the Petitioner for the Control Period is summarised in the table as follows:

Table 31: RoE claimed by Petitioner (Rs. Lakh)

Particulars	FY21	FY22	FY23	FY24
Opening Equity	957.57	969.02	1004.12	1004.12
Addition	11.45	35.10	0.00	0.00
Closing Equity	969.02	1004.12	1004.12	1004.12
Average Equity	963.29	986.57	1004.12	834.53
RoE (%)	15.50%	15.50%	15.50%	15.50%
ROE	**149.31**	**152.92**	**155.64**	**155.64**

Commission's Analysis

4.6.2 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."

4.6.3 Equity corresponding to the capital cost has been approved by the Commission in the previous Chapter under the Section 'Project funding'. The Commission has considered the approved equity against the scheme for approving the return on equity.

4.6.4 Based on the above submissions, the Commission has considered rate of return @15.50% for approval of RoE for the Control Period. Any tax liability arising on the Petitioner during the Control Period shall be trued-up at the end of Control Period based on effective tax rate/ liability.

4.6.5 Based on the above, the return on equity approved by the Commission is summarised in the table below:

Table 32: RoE approved by Commission (Rs. Lakh)

Particulars	FY21	FY22	FY23	FY24
Opening Equity	698.31	705.94	717.61	717.61
Addition	7.63	11.67	-	-
Closing Equity	705.94	717.61	717.61	717.61
Average Equity	702.13	711.78	717.61	717.61
RoE (%)	15.50%	15.50%	15.50%	15.50%
ROE	**44.43**	**110.33**	**111.23**	**111.23**

O&M Expense pro-rated for FY2020-21 based on proposed COD (2nd Nov, 2020)

4.7 Aggregate Revenue Requirement

Petitioner Submissions

4.7.1 The table given below summarizes the proposed Aggregate Fixed Charges for the Control Period as claimed by the Petitioner.

Table 33: Summary of ARR claimed by Petitioner (Rs. Lakh)

Particulars	FY21	FY22	FY23	FY24
O&M Expenses	36.66	37.95	39.29	40.66
Interest on Loan	168.11	161.64	153.56	141.21
Interest on Working Capital	9.00	8.38	8.38	8.21
Depreciation	117.91	120.12	123.47	123.47
Return on Equity	149.31	152.92	155.64	155.64

Particulars	FY21	FY22	FY23	FY24
Total	481.00	481.01	480.34	469.18
Pro-rata for Number of days in operation	**197.67**	**481.01**	**480.34**	**469.18**

ARR pro-rated for FY2020-21 based on proposed COD (2nd Nov, 2020)

Commission's Analysis

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

Table 34: Summary of ARR approved by Commission (Rs. Lakh)

Particulars	FY21	FY22	FY23	FY24
O&M Expenses	9.98	25.30	26.18	27.09
Interest on Loan	56.57	134.01	125.90	116.58
Interest on Working Capital	2.81	6.38	6.30	7.11
Depreciation	37.20	92.42	93.20	93.20
Return on Equity	44.43	110.33	111.23	111.23
Total	**150.98**	**368.44**	**362.81**	**355.21**

ARR pro-rated for FY2020-21 based on approved COD (2ndNov, 2020)

4.8 Carrying Cost

Petitioner Submissions

4.8.1 The Petitioner has sought approval to charge carrying cost due to delayed tariff recovery for 220 kV D/C transmission line.

4.8.2 The Petitioner has further submitted that as per Regulation 10-A HPERC (Terms and Conditions for Determination of Transmission Tariff) (Second Amendment) Regulations, 2018, the Commission has allowed carrying cost at the rate of one-year average MCLR + 300 basis points to be considered as carrying cost for delayed and differential recoveries.

4.8.3 The Petitioner has claimed, that, due to delayed recoveries, it is facing financial hardship and that the Petitioner is under strain in arranging working capital for ensuring smooth operations.

Commission's Analysis

4.8.4 The Commission observed that the tariff petition was filed in November 2022, as against the CoD of the asset as 2ndNovember 2020, which is a delay of almost two years. Further, the Petitioner has also taken considerable time in responding to the various queries raised by the Commission resulting in further delays. Since, the delay was attributable to the Petitioner, the Commission feels inappropriate to allow any carrying cost as part of the Order.

4.9 Transmission Charges

Petitioner Submissions

4.9.1 The Petitioner has submitted that currently Sawra Kuddu HEP and Natwar Mori HEP are the beneficiary of said Transmission system. It is, therefore, requested that the ARR as claimed above, may kindly be allowed to be directly recovered from HPPCL and M/s SJVNL from date of operationalization of LTA/date of power evacuation as per their respective LTA capacity.

4.9.2 The Petitioner further submitted that as and when other LTA(s) gets operationalized, the charges shall be allowed to be directly recovered on pro-rata basis on the basis of respective LTA capacity.

Commission's Analysis

4.9.3 As discussed in the section 'Energy Flow and Nature of the Assets' above, the project is part of Green Energy Corridor–I (GEC-I) planned for evacuation of hydro generation including Small HEP's that shall come up on Tons river located close to Snail and currently the line is being utilized by HPPCL to evacuate 111 MW power from its Sawra Kuddu hydro generating plant for which LTA was executed on 19.10.2020. Also, it has been given to understand that the power flow from the Natwar Mori HEP has also commenced through this transmission system of the Petitioner.

4.9.4 Accordingly, the Petitioner is directed to recover the transmission charges from the identified long-term /medium-term beneficiaries of the Transmission Asset as per the Regulation 33 of HPERC Transmission Tariff Regulations, 2011:

"33. Allocation of Transmission Service Charge and Losses (1) The Annual Transmission Service Charge (ATSC) shall be shared between the long and medium-term customers of the transmission system on monthly basis based on the allotted transmission capacity or contracted capacity, as the case may be."

The Petition is accordingly disposed off in the above terms.

-Sd/-	-Sd/--	-Sd/-
(SHASHI KANT JOSHI)	**(YASHWANT SINGH CHOGAL)**	**(DEVENDRA KUMAR SHARMA)**
Member	**Member**	**Chairman**

Shimla
Dated: 26th February, 2024.