

**Approval of Capital Cost and Determination
of Tariff for 4th Control Period from CoD to
FY 2023-24 for 400/220 kV System of
400/220/33 kV GIS Sub-station at Lahal
(Asset-1) and 400 kV D/C Lahal - Chamera
Transmission Line (Asset-2)**

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



**Himachal Pradesh Electricity Regulatory
Commission
SEPTEMBER 10, 2024**

**BEFORE THE HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION AT
SHIMLA**

PETITION NO: 99/2024

Decided on : 10 SEPTEMBER 2024

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 400/220 kV System of 400/220/33 kV GIS Sub-station at Lahal (Asset-1) and 400 kV D/C Lahal - Chamera Transmission Line (Asset-2) under the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulation, 2011 as amended from time to time 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' or 'Applicant') has filed the present Petition with the Himachal Pradesh Electricity Regulatory Commission (hereinafter referred to as 'the Commission' or 'HPERC') for the Approval of Capital Cost and Determination of Tariff for 4th Control Period from CoD to FY 2023-24 for 400/220 kV System of 400/220/33 kV GIS Sub-station at Lahal (Asset-1) and 400 kV D/C Lahal - Chamera Transmission Line (Asset-2) under the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Transmission Tariff) Regulation, 2011, as amended from time to time and under Section 62, read with section 86 of the Electricity Act, 2003.

The Petitioner took significant time in responding to the clarifications and queries raised by the Commission. On several occasions, the information provided was either incomplete or did not address the query of the commission adequately. As a result, even post the written submissions, clarifications were sought verbally from the Petitioner. The Commission has heard the Petitioner, interveners and representations of the stakeholders. The Commission has also held formal interactions with the officers of the HPPTCL and has considered the documents available on record.

After considering the Petition filed by the Applicant, the facts presented by the Applicant in its subsequent filings, the responses of the Applicant to the objections and documents available on record, the Commission in exercise of powers vested in it under Section 86 of the Electricity Act, 2003 and 12(1) of HPERC Tariff Regulation, 2011 along with its subsequent amendments, passed the following Order for determining the capital cost and transmission tariff for 400/220 kV System of 400/220/33 kV GIS Sub-station at Lahal (Asset-1) and 400 kV D/C Lahal - Chamera Transmission Line (Asset-2) from COD to FY2023-24. While determining the capital cost and Aggregate Revenue Requirement (ARR) for 400/220kV system of 400/220/33 kV Pooling Station at Lahal along with 400 kV D/C Transmission from Lahal Pooling station to Chamera Pooling Station of PGCIL the Commission has also taken into consideration the guidelines laid down in Section 61 of the Electricity Act, 2003, the National Electricity Policy, the National Tariff Policy, CERC Tariff Regulations, 2019 and HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011, as amended from time to time. Details of prudence check and approach adopted by the Commission with regard to approval of capital cost and ARR for Sub-station and Transmission line are summarized in the detailed Order contained in Chapters 1 to 4 (Pages 6 to 67).

-sd-

(SHASHI KANT JOSHI)
Member

Shimla

Dated: 10 SEPTEMBER 2024

-sd-

**(YASHWANT SINGH
CHOGAL)**
Member (Law)

-sd-

**(DEVENDRA KUMAR
SHARMA)**
Chairman

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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 5th January, 2001. After the enactment of the Electricity Act, 2003 on 25th 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 is also empowered under the Electricity Act, 2003 to 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 notification No. MPP-A-(1)-4/2006-Loose, dated 11th September, 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 order dated 10th June, 2010 and as a result thereof, the Commission has 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 Electricity Act, 2003 (hereinafter to be referred to as 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 MYT Regulations notified in the year 2011 were amended as (First Amendment) Regulations, 2013 on 1st November, 2013 and (Second Amendment) Regulations, 2018 on 22nd November, 2018 (The Regulations and its subsequent amendments combined shall be herein after referred to as "HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations 2011" or "HPERC 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. Thereafter, on 29th June, 2019, the Commission has issued the MYT Order for the fourth Control Period (FY 2019-20 to FY 2023-24).

1.4 Interaction with the Petitioner

1.4.1 The HPPTCL has filed the application/Petition for approval of Capital Cost and determination of Tariff for the period from COD to FY 2023-24 for 400/220 kV System of 400/220/33 kV GIS Sub-station at Lahal (Asset-1) and 400 kV D/C Lahal - Chamera Transmission Line (Asset-2) on 26th March, 2023. Based on various observations/deficiencies pointed out by the Commission, the HPPTCL has submitted further details and clarifications.

1.4.2 The Commission admitted the Petition submitted by the HPPTCL vide Interim Order dated 10.04.2024. There have been a series of interactions between the HPPTCL 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. In addition, the Petitioner submitted the Interlocutory Application along with the affidavit on 14th June, 2023.

1.4.3 Based 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	HPERC-F(1)-56/2023-334 dated 17.05.2023	Filing No. 62 of 2023 dated 05.09.2023
2	HPERC-F(1)-56/2023-2925 dated 15.12.2023	Filing No. 62 of 2023 dated 13.03.2024

1.5 Public Hearings

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

Table 2: List of Newspapers for publication of Stakeholders comments

Sl.	Name of News Paper	Date of Publication
1.	Amar Ujala	02.05.2024
2.	The Tribune	05.05.2024

1.5.2 The Commission published a 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.	Hindustan Times	15.05.2024
2.	Amar Ujala	15.05.2024

1.5.3 The stakeholders were requested to file their objections by 07th June, 2024. The HPPTCL was required to submit replies to the suggestions/ objections to the Commission by 14th June, 2024 with a copy to the objectors on which the objectors were required to submit rejoinder by 18th June, 2024.

1.5.4 The Commission decided to conduct a public hearing and, therefore, issued a public notice informing the public about the scheduled date of public hearing as 24th June, 2024. All the parties, who had filed their objections/ suggestions, were

also informed about the date, time and venue for presenting their case during the public hearing.

- 1.5.5 The Commission has undertaken detailed scrutiny of the submissions made by the Petitioner and the various objections raised by stakeholders for the purpose of issuance of this Order.

2. STAKEHOLDER OBJECTIONS

2.1 Introduction

2.1.1 As detailed out in Chapter-1 of this Order, the Commission through Public Notice in various newspapers informed the public/stakeholders about the date for filing comments/ objections as 07th June, 2024 and the date of public hearing as 24th June, 2024.

2.1.2 Accordingly, the public hearing was conducted at HPERC office on 24th June, 2024. Himachal Pradesh State Electricity Board Ltd. (HPSEBL) and M/s GMR Bajoli Holi submitted their comments/ suggestions in the matter before the Commission. Issues raised by stakeholders in their written and oral submissions, along with replies given by the Petitioner and views of the Commission are summarized in the following paras:

Stakeholders' Submissions

2.1.3 With regard to Asset-1, M/s GMR Bajoli Holi has submitted that the Petitioner has claimed a time overrun of 37 months and an increase of Rs. 13.68 Crore in cost from the initial award cost to M/s L&T. However, the Petitioner has failed to provide any justification/information regarding the increase in cost. Therefore, the additional cost sought by the Petitioner should not be allowed.

Petitioner's Response

2.1.4 The Petitioner clarified that the detailed reasons for escalation and award from Rs. 155.76 Cr. plus USD 111,900 to Rs. 175.32 Cr. plus USD 132,042 have already been provided in the original Tariff Petition. Further, the Petitioner has also mentioned that the supporting documents regarding same have also been provided in the Petition and in reply to various deficiency notes. The Petitioner has also highlighted that prudence check before allowing any expenditure is undertaken by the Commission.

Commission's Observations

2.1.5 The Commission has undertaken detailed scrutiny of the various cost aspects associated with the transmission assets and has taken into consideration the supporting documents submitted by the Petitioner with respect to the award as well as increased cost. While approving the capital cost of the asset, the Commission has also considered the amendments issued to the turnkey contractor along with approvals obtained viz-a-viz the amendments including their respective justifications. The same is detailed under Chapter 3 of this Order.

Stakeholders' Submissions

2.1.6 For time overrun, M/s GMR Bajoli Holi has highlighted that as per the HPPTCL, there has been a delay on account of various factors including hindrances caused by locals, inclement weather conditions, increase in scope of work etc. which were allegedly beyond its reasonable control. However, in terms of the documents submitted, there has been no disclosure of any measures taken by the HPPTCL to mitigate the impact of these events. Accordingly, the HPPTCL is required to explain whether any mitigating measures were taken to offset the impact of delay. In the absence of this, IDC incurred due to the foregoing delay ought to be disallowed.

Petitioner's Response

2.1.7 The Petitioner has submitted that various supporting documents demonstrating the impact of such events and the correspondence carried out in support of the efforts to mitigate the impact of such events have been submitted along with the original Petition as well as in response to various deficiency notes raised by the Commission. The Petitioner has requested the Commission to condone the delay and approve the time overrun in execution of the transmission assets.

Commission's Observations

2.1.8 The Commission has taken due cognizance of the submissions of the stakeholder as well as the submissions of the Petitioner with respect to the delay in implementation of the project. Detailed scrutiny with respect to the reasons for delay has been undertaken before the approval for IDC and departmental charges as also detailed in Chapter 3 of this Order.

Stakeholders' Submissions

2.1.9 M/s GMR Bajoli Holi has highlighted that there is a gap of two years between the award of contract and effective date which has not been justified. The Petitioner has stated that the delay in execution of the contract was on account of delay on part of L&T in submitting performance guarantee in terms of the bidding document and that the land for the project could only be handed over in August 2016 due to resistance by the locals which impacted the land handover process.

2.1.10 M/s GMR Bajoli Holi has pointed out that the Commission in Order dated 17.11.2023 in Petition No. 28 of 2023 (Para 3.7.25) ("Order dated 17.11.2023") for the approval of capital cost for the 220/33 kV system of 400/220/33 kV pooling station at Lahal has considered similar submissions by the Petitioner and inter alia had observed that delay in execution/amendment of contract cannot be entirely attributable to uncontrollable factors and that such delays ought to be avoided. Further, the Commission had advised HPPTCL to undertake due diligence in preparing the DPR and to build a strong project management team to oversee project milestones and to take corrective action in case of delays. Accordingly, the

Commission had considered the delay on account of force majeure events such as inclement weather conditions while disregarding other circumstances pleaded by HPPTCL for the delay allowing sharing of excess amount of IDC between HPPTCL and the beneficiaries in equal ratio i.e. 50:50.

2.1.11 In this regard, the Stakeholder has submitted that the delay caused by HPPTCL on account of delay in execution of contract ought to be disregarded and the additional IDC incurred for this period ought to be disallowed.

Petitioner's Response

2.1.12 The Petitioner has submitted that the detailed reasons for a gap of two years in award of contract and effective date of contract have already been provided in response of Query 14 of the Deficiency Note dated 17.05.2023 raised by the Commission and has requested to condone the delay and approve the time overrun in the execution of assets.

Commission's Observations

2.1.13 The Commission has taken due cognizance of the submissions of the stakeholder as well as the submissions of the Petitioner with respect to the delay in implementation of the project. Detailed scrutiny with respect to the reasons for delay has been undertaken and approval for IDC and Departmental Charges has been provided as detailed in Chapter 3 of this Order.

Stakeholders' Submissions

2.1.14 M/s GMR Bajoli Holi has highlighted that the IDC claimed by HPPTCL for Asset 1 and Asset 2 is contrary to DPR and documents on record.

2.1.15 The Stakeholder has highlighted that as per the the HPPTCL's submissions, IDC has been computed by considering an interest rate of 10% which is contrary to the DPR which states that the interest rate to be considered is 4.64%. The reason / justification provided by HPPTCL for considering interest rate as 10% is that it had computed IDC in the DPR basis the LIBOR rate of 4.64%. However, the actual interest paid to GoHP as per the "On-Lending Agreement" dated 03.12.2014 ("Loan Agreement") is 10%. Apart from the Loan Agreement, no other justification for increase in the rate of interest to 10% has been provided.

2.1.16 Additionally, in terms of Petitioner's own calculations in the DPR for Asset 1 and Asset 2, HPPTCL has computed IDC for the period April 2014 to March 2017 (Asset 1) and April 2016 to March 2018 (Asset 2) considering the LIBOR rate. Therefore, HPPTCL is taking contradictory stands and is seeking interest rate of 10% while applying rate of 4.64% in its own calculations. Also, M/s GMR Bajoli Holi has submitted that in Petitioner's reply dated 04.09.2023 to the queries raised by the Commission, the IDC considered by HPPTCL for Asset 1 is less than 10% for FY 2019-2020, FY 2020-2021 and FY 2021-2022 which clearly indicates that HPPTCL has itself not considered the rate of interest as 10% in its computation of IDC. The Stakeholder has,

accordingly, requested the Commission to consider the rate of 4.64% for computation of IDC and to disallow the additional cost claimed by the HPPTCL by considering interest rate of 10%.

Petitioner's Response

- 2.1.17 The Petitioner has submitted that the detailed submission with regard to variation in Interest Rate for computation of IDC in DPR vis-à-vis actual IDC has already been provided as part of the Petition.
- 2.1.18 Additionally, the Petitioner has conveyed that the loan under Himachal Pradesh Clean Energy Transmission Investment Program (HPCETIP) extended by GoHP to the Petitioner has already been restructured with the approval of Council of Ministers, as also communicated to the Commission vide letter dated 10th June 2023. The Petitioner has proposed that the effect of restructuring of loan on interest during construction and finance charges shall be taken care during truing-up process.

Commission's Observations

- 2.1.19 The Commission has considered the various submissions made by the Petitioner with respect to the Loan Agreements. It is observed that the Petitioner has taken the loan against ADB funding through a supplementary agreement signed with GoHP at a rate of 10%. Further, in response to queries raised in the matter, the Petitioner has also clarified that the funds were additionally sought from Himachal State Cooperative Bank. The Commission has undertaken detailed scrutiny with respect to the loan drawn by the Petitioner through GoHP and Himachal State Cooperative Bank as part of the prudence check which is detailed in the subsequent chapters (Chapter 3) for arriving at the IDC for the transmission project.

Stakeholders' Submissions

- 2.1.20 M/s GMR Bajoli Holi has submitted that as per Amendment No. 1 of Transmission Line dated 11.08.2021 of Contract dated 02.04.2018 for the construction of Transmission Line, there was an increase in cost from Rs. 115.46 Crore to Rs. 117.76 Crore. In terms of the Schedule of Quantities and Prices annexed with Amendment No. 1, there is a significant increase in the quantity of design, fabrication, and supply of special structures / towers which ultimately resulted in deviation in amount of Rs. 4.55 Crore. However, the reason for the same is unclear especially when the design, fabrication, and supply of special structures / towers were within the scope of work of the Contract dated 02.04.2018.
- 2.1.21 Further, the Stakeholder has highlighted that in Amendment No. 2 of the Transmission Line dated 19.01.2022 of the said contract, a significant increase in cost by Rs. 22.30 Crore is observed due to following:
- (a) Lead Concrete M10 which increased from 500 CUM to 2970 CUM, an increase of 594% entailing an additional cost of approximately Rs. 4.21 Crore.

(b) Rubble Masonry work in cement from 1300 CUM to 40283.566 CUM (an increase of 3098%), leading to a deviation in cost of approximately Rs. 16.76 Crore.

(c) CC 1:4:8 from 1200 CUM to 4060.305 CUM leading to a deviation in cost of approximately Rs. 3.70 Crore.

2.1.22 The Stakeholder has pointed out that the Commission, in Order dated 17.11.2023 in Petition No. 27 of 2023 (Para 3.5.5), had observed that HPPTCL has significant experience in project construction and can anticipate delays at the initial stage of preparation of DPR and should have considered and accounted for the foregoing deviations in the present case as well. The stakeholder has added that the foregoing increase is exponential and HPPTCL has failed to provide any justification for the same. The Stakeholder has submitted that the present Petition is silent on the need for the foregoing amendments, including significant increase in the project cost from Rs. 115.46 Crore to Rs. 140.77 Crore and in absence of such information, this entire additional cost ought to be disallowed from the capital cost of Asset 2.

Petitioner's Response

2.1.23 The Petitioner has submitted that it has provided detailed justification with regard to issuance of amendments in the original Petition wherein it has been submitted that the amendments were issued on account of variation and quantity after detailed engineering review and implementation of GST. The Petitioner has further submitted that substantial variation was due to variation in service contract in Second Amendment resulting from increase in revetment works as per actual site conditions. The Petitioner has also submitted that additional clarification was sought by the Commission with regards to amendment issued to M/s Apar Industries limited in the case of Asset-2 against which the clarification along the supporting documents has already been submitted vide response dated 4th September 2023.

Commission's Observations

2.1.24 The Commission has scrutinized the details of increase in cost during the construction of Asset-2. The Commission has also sought the basis of such escalation from the Petitioner along with the supporting documents and proper justification. In order to approve the capital cost of the Asset, the Commission has considered the various amendments issued to the turnkey contractor and enquired regarding the approvals provided by Competent Authority viz-a-viz the need for amendments. The same is detailed under Chapter 3 of this Order.

Stakeholders' Submissions

2.1.25 M/s GMR Bajoli Holi has submitted that the delay of 31 months covering the period from 31.05.2018 (i.e., scheduled date for completion of project) to 11.01.2023 (i.e., COD) is due to delay in acquisition of private land, delay due to cutting of forest trees, change in route alignment, delay due to forest

trees cutting, Covid-19 pandemic, snowfall etc., which were allegedly beyond the control of the Petitioner. However, the HPPTCL has only attempted to justify the delay for the period September, 2018 to February, 2020 and has also sought condonation for the delay for the period July, 2020 to January, 2023 and to provide supporting documentation at a later stage. The Stakeholder has requested that the Petitioner's request should not be considered as it is obligated to provide appropriate justifications for the delay in completion of the project adding that in the absence of supporting documentation establishing that HPPTCL has acted prudently and has taken appropriate measures to mitigate the delays, the Commission should reject the request of the Petitioner.

Petitioner's Response

2.1.26 The Petitioner has submitted that at the time of filing of Petition, the case for Extension of Time (EOT) was under consideration and therefore, a request was made by the Petitioner to allow submission of the justification at a later time. Now, the case for extension of time has been finalized and approved on 20.09.2023 and the Petitioner has already submitted the supporting documents substantiating the delay from July, 2020 to January, 2023.

2.1.27 The Petitioner has further submitted that as per the award for the construction of 400 kV D/C Lahal Chamera Transmission line, the effective date for supplies & erection Contract was 01.06.20218 and the scheduled period for completion of the Contract was 24 months i.e. 31.05.2020. The Petitioner has reiterated the reasons for delay as under:

Reasons for delay	Delay	Effective Delay
Delay in initial approval of check survey due to public hinderance and heavy landslides	28.09.2018 to 08.01.2019 (3.5 Months)	3.5 Months
Delay in acquisition of private land location due to land compensation issues	6 Months (w.e.f. 18.10.2019 to May 2020)	6 Months
Change in route alignment T-94 to T-96	3.5 Months (w.e.f. 15.11.2019 to 25.02.2020)	Nil
Delay due to COVID – 19	3 Months (w.e.f. 23.03.2020 to 30.06.2020)	1 Months
Delay due to forest trees cutting	14 months (March 2019 to May 2020)	7 Months
Blockage of Road	14.01.2020 to 21.05.2020 3.5 Months	3.5 Months
Delay due to heavy snow fall	16.12.2019 to 15.02.2020 (2 Months)	2 Months
		17.5 Months

2.1.28 The Petitioner has highlighted that the reasons of delay are uncontrollable in nature due to which the scheduled completion of project was shifted by 17.5 months to 10.09.2021.

2.1.29 The Petitioner has submitted the following reasons for grant of EOT upto 14.05.2022:-

- Delay in handing over of locations.
- Increase in quantity of RRM works.
- Testing and Commissioning.
- Delay on account of tree cutting.

2.1.30 The Petitioner has further submitted the following reasons for grant of EOT upto 10.01.2023:-

- Delay in handing over of tower locations due to public hinderance.
- Delay in stringing between tower locations T-13 to T-22 due to administrative reasons.
- Stoppage of construction of Mindra Link Road leading to delay in transportation of material for the construction.
- Delay due to felling of trees.
- Delay in approval of shutdown of 220 kV S/C Budhil Chamera line by NRLDC between T-8 and T-9.
- Charging of 400 kV D/C Transmission line Lahal-Chamera of HPPTCL.

2.1.31 The Petitioner submitted that owing to the above reasons, Extension of time was accorded to the turnkey contractor upto 03.01.2023 without penalty and for the period with effect from 04.01.2023 to 10.01.2023, an amount of Rs. 0.68 Cr. was recovered against Liquidated Damages (LD) for balance period of delay i.e. with effect from 04.01.2023 to 10.01.2023.

Commission's Observations

2.1.32 The Commission has taken into consideration the reasons for delay in construction and has scrutinized the same based on the documentation submitted by the Petitioner. In order to approve the capital cost of the Asset, the Commission has considered the reasons and duration of delays during the construction and analyzed them with regard to controllable and uncontrollable aspects. The detailed analysis with respect to the same is detailed under Chapter 3 of this Order.

Stakeholders' Submissions

2.1.33 M/s GMR Bajoli Holi has highlighted that the Commission, in its Order dated 12.08.2011 ("Order dated 12.08.2011") in Petition No. 97/2020 in 'Approval of Capital Cost and determination of tariff for 220 kV D/C Charor-Banala Transmission line for the Period from COD to FY 2023-24 (FY20-FY24)', had penalised the Petitioner on account of inability to provide sufficient reasons / justification for the increase in cost and has requested the Commission to disallow increased cost against the transmission assets covered under the present Petition on similar grounds.

Petitioner's Response

2.1.34 The Petitioner has submitted that the 220KV D/C Charor-Banala transmission line is a separate asset altogether and the facts and circumstances of that specific case cannot be applied to present case. The Petitioner has added that even otherwise, the Commission shall be carrying out the prudence check while allowing any cost.

Commission's Observations

2.1.35 The Commission has taken into consideration the costs involved in construction of the current asset and the past practices adopted by the Commission while approving the Capital Cost of transmission assets. The Commission has dealt with each cost aspect duly taking into consideration the supporting documents and justification submitted by the Petitioner. The same is detailed under Chapter 3 of this Order.

Stakeholders' Submissions

2.1.36 M/s GMR Bajoli Holi has pointed out that the Transmission system comprising the Lahal SS and Lahal-Chamera Line caters to various HEPs (including GMR BHHEP) in the State of Himachal Pradesh wherein power is not supplied within the State of Himachal Pradesh citing that GMR BHHEP's 100 % power (discount 12% Free power to the State) is getting evacuated through the Permanent Evacuation System and such flow of power is permanent in nature due to the PPA executed with the Delhi International Airport and UPPCL located in NR. M/s GMR Bajoli Holi has further highlighted that the Lahal Substation element of HPPTCL (HP STU) currently under the supervision would be utilized by JSW Kutehr (240 MW) where power will also be evacuated outside the State of Himachal Pradesh as they have a PPA with Haryana Discoms. The JSW Kutehr project is expected to be commissioned during FY2024-2025. It is added that the generation plant would also utilize the Lahal-Chamera Line (which is the third element of the Permanent Evacuation System) through the Lahal Substation (the second element of the Permanent Evacuation System). Accordingly, the HPPTCL should approach the CERC for determination of transmission tariff for Asset-1 and Asset-3 under the applicable Regulations.

Petitioner's Response

2.1.37 The Petitioner has submitted that it has made necessary submissions in the Petition and the subsequent replies to deficiency notes raised in the matter and necessary directions, as deemed fit by the Commission, may be issued in this matter.

Commission's Observations

2.1.38 The Commission has reviewed the list of beneficiaries of the Transmission asset and has issued necessary directions to the Petitioner Chapter 3 of this Tariff Order.

Stakeholders' Submissions

2.1.39 The HPSEBL has submitted that as per the Petition, this transmission project was constructed to evacuate potential of approx. 914 MW of hydro generation in Bharmour area of Ravi basin which include Bajoli Holi(180MW), Kutehar(240MW), Bara Bhangal (200MW), Harsar(70MW), Bharmour(45MW) and other upcoming small HEP's. However, currently these assets are being

used by Bajoli Holi Hydro Power Private Ltd. (BHPPL) and HPSEBL only by executing TSA/LTA with the capacity utilisation of Bajoli Holi HEP being 180MW and that of HPSEBL being 31MW and accordingly, the Annual Transmission Charges are proposed to be recovered on pro-rata basis of the maximum of the contracted demand and actual demand whichever is higher. In this regard, the HPSEBL has suggested that the Petitioner may approach Hon'ble CERC for consideration of these asset under ISTS as major portion of power flowing through the system is going outside the state.

Petitioner's Response

2.1.40 The Petitioner has requested the Commission to allow the recovery of ARR as transmission charges directly from various beneficiaries as per Clause No. 33 of HPERC HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011 along with its subsequent amendments.

Commission's Observations

2.1.41 The Commission has reviewed the list of beneficiaries of the Transmission assets and has issued necessary directions to the Petitioner in this Tariff Order.

3. APPROVAL OF CAPITAL COST

3.1 Introduction

- 3.1.1 HPPTCL has submitted a Petition for determination of capital cost for 400/220 kV system of 400/220/33 kV Pooling Station at Lahal and 400 kV D/C Transmission Line from COD to FY 2023-24 in line with the provisions of the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011.
- 3.1.2 Regulation 14 of the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011, provides as under:-

"14. Capital cost of the project

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

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

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

(c) additional capital expenditure determined under regulation 16:

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

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

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

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

Provided further that where the implementation agreement and the transmission service agreement entered into between the transmission licensee and the long-term transmission customer provides for ceiling of actual expenditure, the capital expenditure admitted by the Commission shall take into consideration such ceiling for determination of tariff:

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

- 3.1.3 The Commission has reviewed the proposed capital cost for 400/220 kV system of 400/220/33 kV Pooling Station at Lahal and 400 kV D/C Transmission Line from COD until the end of the Control Period i.e., FY 2023-24. The Petitioner has submitted separate ARR for 400/220 kV system of 400/220/33 kV Pooling Station at Lahal referred to as Asset-1 and 400 kV D/C Transmission Line from Lahal Pooling Station to Chamera Pooling Station of PGCIL referred to as Asset-2.
- 3.1.4 The original Petition for determination of capital cost and ARR for 400/220 kV system of 400/220/33 kV Pooling Station at Lahal and 400 kV D/C Transmission Line from COD till FY 2023-24 lacked detailing and supporting information to ascertain the capital cost for the Sub-Station and Transmission line. Information provided in the Petition was inadequate for which the Commission sought additional submissions and supporting documents from the Petitioner through the deficiency letters for the purpose of reviewing the capital cost and ARR. 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 Also, it is observed that the current Petition is for the approval of capital cost of the 400/220 kV system of 400/220/33 kV Pooling Station at Lahal which has been conceptualized and bid out on comprehensive basis (inclusive of 220/33 kV system). As part of the submissions, the Petitioner was unable to provide actual information specific to the 400/220 kV system i.e., cost break-up, auditor certificate, etc. (as on date of commissioning) resulting in assumptions at various stages while approving the capital cost. In the absence of adequate details, the Commission has relied on the various submissions and adequate appropriations which have been considered suitable for approval of the capital cost and determination of tariff.
- 3.1.6 The scrutiny and prudence check undertaken by the Commission for approval of the capital cost of 400/220kV system of 400/200/33 kV Pooling Station at Lahal and 400 kV D/C Transmission Line has been discussed in the following paragraphs.

3.2 Summary of the Project

Petitioner Submissions

- 3.2.1 The Petitioner has submitted that scheme for construction of 400/220 kV system of 400/220/33 kV Pooling Station at Lahal and 400 kV D/C Transmission Line from Lahal Pooling Station to Chamera Pooling Station was approved by 19th Board of Directors meeting on 24.06.2013.
- 3.2.2 The major beneficiaries expected from the said project included large HEPs i.e., 180 MW Bajoli Holi, 240 MW Kutehr, etc. along with various small HEPs awarded to IPPs in the area.
- 3.2.3 The approval of 400/220 kV substation (Asset-1) was granted by CEA at a meeting convened on 11.11.2020 which was considerably later than the start of execution of project. Accordingly, the proposal was accepted and approved by members of NRPC at 3rd meeting held on 19.02.2021. With respect to 400 kV D/C Twin Moose Transmission Line (Asset-2), the CEA approval was granted on 24.05.2016 at a cost of INR 138.97 Cr.
- 3.2.4 The DPR for construction of 400/220 kV system at Lahal Pooling station was prepared at the cost of INR 249 Cr., which included IDC of INR 13 Cr. and departmental charges at rate of 11%. As per the DPR of 400 kV transmission line from Lahal to Chamera, the project cost was INR 138.97 Cr. inclusive of IDC of INR 4.22 Cr. and departmental of 6.8%. The DPR of 400 kV transmission line was envisaged to evacuate 914 MW power from Bharmour valley of Ravi Basin.
- 3.2.5 The Petitioner has submitted that the BoD has provided its approval dated 07.06.2012 for various works undertaken under ADB Tranche -II including 400/220 kV Lahal Pooling Station and 220 kV Transmission line from Lahal to Budhil HEP.
- 3.2.6 The Petitioner has also mentioned that 400/220 kV system of 400/220/33 kV Lahal Pooling Station (Asset 1) was charged on 11.01.2023 with a capital cost as on CoD of INR 244.51 Crore (inclusive of IDC and DC) while the 400 kV Transmission line from Lahal to Chamera (Asset 2) was completed on 11.01.2023 with a capital cost as on CoD of INR 151.63 Crore (inclusive of IDC and DC).
- 3.2.7 Relevant technical detail and configuration of the Sub-Station as submitted by the Petitioner in the Petition is tabulated as follows:

Table 4: Sub-Station details

Name of Sub-Station	Type of Sub-station	Voltage level KV	No. of Bays				COD
			765 KV	400 KV	220 KV	33 kV	
400/220 kV, 2X315 MVA System of 400/220/33 kV GIS Pooling Station at Lahal	GIS	400/220	-	4	5	-	11 th January 2023

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

Table 5: Transmission Line details

Name of Transmission line	Type of line (AC/HVDC)	S/C or D/C	Name of Sub-Conductors	Voltage level kV	Line Length (Km)	COD
400kV Transmission Line from 400/220/33 kV Lahal Sub-station of HPPTCL to Chamera Pooling Station of PGCIL	AC	D/C	Twin Moose	400	35.307	11 th January 2023

3.2.9 The Petitioner has submitted that proposal for construction of 400/220 kV system was clubbed with the proposal of construction of 220/33 kV system (with estimated cost of INR 67.40 Cr. as per the DPR, including INR 8.98 Cr. for the 220 kV Transmission line. The cost also included an IDC of INR 2.18 Cr. and Departmental charges of INR 5.43 Cr.) and accordingly, an integrated 400/220/33 kV Pooling Station was constructed in order to evacuate power from small and large hydro power plants operating in the region till Chamera-II Pooling Station of PGCIL.

3.2.10 Furthermore, a single tender was floated for the construction of complete 400/220/33 KV pooling station at Lahal. Another tender was floated for 400 kV double circuit line from the 400/220/33 kV pooling station at Lahal to Chamera Pooling Station of PGCIL. Each contract was awarded in two parts i.e., supplies and erection part. The contract was awarded on Turnkey basis for the combined Sub-station (400/220/33 kV) at USD 1,11,900 and INR 232.44 Cr (including services and supplies) and for the transmission line at INR 115.46 Cr (including services and supplies).

3.2.11 Further, the Petitioner has submitted the breakup of the capital cost of Sub-station and transmission line as on COD as follows:

Table 6: Abstract of Capital Cost (INR Cr.)

Particulars	Capital Cost –DPR	Capital Cost* - Petition
Sub-Station		
Hard Cost	213.68	194.01
Departmental charges	22.39	12.77
IDC	13.03	37.73
Sub-Total	249.10	244.51
Transmission Line		
Hard Cost	122.06	132.93
Departmental charges	12.69	5.55
IDC	4.22	13.15
Sub-Total	138.97	151.63

Particulars	Capital Cost –DPR	Capital Cost* - Petition
Total	388.07	396.14

*Capital cost claimed as on COD

3.2.12 The Petitioner has submitted that total cost of Transmission line has been escalated due to two Amendments on account of Quantity variation, GST implication, masonry work, etc. and the cost of Sub-station has been increased due to impact of GST, Quantity variation, supply and service of differential relays, etc.

3.2.13 The Petitioner has also submitted that there was a delay in commissioning of the Substation. From the effective date of contract on 10th July 2016, the time period for execution of the project was till 25th December 2019. The 400/220 KV portion of the Substation could only be completed by 20th March 2020 whereas the Petitioner has claimed COD on 11th January 2023 on account of delay in completion of associated 400 kV Transmission Line. The major reasons for delay included hindrance by locals, inclement weather conditions, delay in transportation of power Transformers, increase in scope and delay in commissioning of associated 400 kV Transmission Line.

3.2.14 In case of the transmission line, the work under supply and services contract was envisaged to be completed by 31st May 2018. However, the transmission line could only be commissioned by 11th January 2023. The major reasons for delay included Public Hinderances, Landslides, Land Acquisition modalities, Change in route alignment, COVID-19 induced lockdown, etc.

3.2.15 The Petitioner has submitted that with regards to the evacuation arrangement of power, the major beneficiary of the substation and the transmission line are Bajoli Holi Hydropower Private Limited and Himachal Pradesh State Electricity Board. The LTA/TSA have been signed with both the parties. There are multiple upcoming beneficiaries of the transmission system such as Kutehr, Holi-II, Dera etc. which have also signed the LTA/Connection Agreement.

Commission's Analysis

3.2.16 The Commission observes that the DPR envisages the cost as INR 249 Cr. for Substation which includes only 400/220 kV, 2X315 MVA Pooling Station at Lahal. The BoD Approval was granted for the 400/220 kV substation for INR 215 Cr. There was no cost approval granted from CEA for 400/220 kV substation. Later, CEA granted permission to charge the substation.

3.2.17 Furthermore, a DPR amounting to INR 138.94 Cr. for 400 kV line from Lahal Pooling Station to Chamera PGCIL Pooling station was envisaged. The BoD approval for Transmission Line was granted for INR 164 Cr.. CEA granted approval for Transmission Line amounting to INR 138.97 Cr,

3.2.18 The combined system (Asset-1 and Asset-2) was expected to primarily evacuate power from Bajoli Holi HEP, Kutehr HEP which were expected to be commissioned during the year 2016-17. The combined evacuation potential from the said Substation and Transmission Line was expected to be 914 MW. The 400/220 kV system of 400/220/33 kV pooling sub-station was constructed in addition to originally planned 220/33 KV system of 400/220/33 kV pooling sub-station at the

Lahal location. For efficient execution, a common tender was floated for the two components i.e., 400/220 KV system and 220/33 KV system.

3.2.19 As per the submission of the Petitioner, the 400/220 kV system was commissioned on 20th March 2020, which was verified by EI certificate submitted along with the Petition. However, owing to the delay in construction of associated 400 kV transmission line (Asset-2) from the Substation to Chamera Pooling Station of PGCIL, the combined asset could not be utilized for evacuation of power. Therefore, it is observed that there is a delay of almost three years from the initial charging of the Substation (Asset-1) and the Commissioning of the Transmission Line (Asset-2).

3.2.20 Furthermore, the Commission inquired regarding the CEA approval of the 400/220 kV system of the Substation. In this regard, the HPPTCL has submitted that CEA approval for the 400/220 kV system of the Substation could not be taken, however, the decision to execute 400/220 kV system along with 220/33 kV system was taken from ADB to ensure cost optimization. Also, the Board of Directors agreed the same in its 19th Meeting held on 24th June 2013. CEA convened a meeting of stakeholders on 11th November 2020 wherein, the matter to grant the permission by POSOCO to HPPTCL for charging 400/220 kV system was agreed.

3.3 Project Implementation

3.3.1 The Petitioner has claimed the COD on 11th January 2023, for both the 400/220 kV system of the Sub-station (Asset-1) and the Transmission Line (Asset-2). As per the supporting documents submitted by the Petitioner, the LOA for the Sub-station (both 400/220 kV and 220/33 kV systems combined) was awarded on 20th September 2014 to M/s. Larsen and Toubro on turnkey basis. As stated in the Petition, the effective date as per the L2 schedule of the contract was 10th July, 2016. The scheduled commissioning period for the complete Sub-Station from the effective date of project execution was 42 months i.e., till 25th December 2019. However as per the DPR, the execution period was 30 months

3.3.2 It has been claimed by the Petitioner that the Sub-station construction was delayed on account of hindrance by locals, inclement weather condition, delay in transportation of transformer and change in scope of the work and the delay on account of Commissioning of associated Transmission Line. There was a delay of 37 Months in commissioning of the Sub-station as per the Petition.

3.3.3 While determining the Capital Cost of 440/220 kV portion and 220/33 kV portion of the Substation, the Commission took due cognizance of the submissions made by the Petitioner with respect to cost bifurcation between 400/220 kV portion and 220/33 kV portion of the Substation. The cost has been divided between the two systems based on bifurcation of BOQ items applicable to respective system. The Auditor's Certificate submitted by the Petitioner is also for the combined substation.

3.3.4 Further, with regard to the Asset-2, the Petitioner had claimed the COD on 11th January, 2023 for the 400 kV Transmission Line. As per the supporting documents submitted by the Petitioner, the LOA for the Transmission line was

awarded on 2nd April 2018 to the JV of M/s. Apar Industries Ltd. and M/s Skipper Ltd. on turnkey basis. The LOA comprised of two parts i.e., Services and Supply. As per the Petition, effective date of as per the L2 schedule of the Contract was 1st June 2018. The works of Transmission line was to be completed in 24 months. Accordingly, the Project was expected to be completed by 31st May 2020.

3.3.5 However, the COD was achieved on 11th January 2023 with a delay of 31 months. The delay was attributed to major following issues:

- The late approval of Check Survey due to Public Hindrances & heavy Landslides
- Acquisition of private land and compensation issues
- Change in alignment of Tower T-94 and T-96
- COVID Lockdown
- Non-Finalization of Gantry Point at PGCIL substation
- Forest trees cutting delays
- Blockage of Road
- Snowfall.

Commission's Analysis

3.3.6 The Commission had sought various proofs from the Petitioner in order to determine the timelines of project implementation. It was observed that the major reason for delay in execution of the Substation was on account on delay in construction of associated Transmission line. The delay was more than 900 days.

3.3.7 Furthermore, the commencement of work of Transmission line works was delayed by 4 years on account of public hinderance and landslides. This resulted in delay in start of check survey and hence, the supply and installation of Transmission line. Further project timelines have been elaborated in Chapter 3 for calculation of Interest During Construction.

3.4 Date of Commercial Operations (COD)

3.4.1 The Petitioner has claimed COD for 400/220 kV system of Substation (Asset-1) and 400 kV Transmission line (Asset-2) on 11th January 2023.

3.4.2 The Petitioner has provided HP State Load Dispatch Center (HPSLDC) Certificate as the supporting document for proof of COD. Furthermore, the Petitioner has submitted in reply to query of the Commission that as per the Regulation 6(1) of CEA (Grid Standards) Regulations, 2010, introduction of an element in the Intra-State Transmission System of State Grid requires concurrence of HPSLDC in the form of Operational Code. The Electrical Inspector Certificate is required for 1st time charging of new element of the transmission system.

3.4.3 In response to the queries of the Commission, the Petitioner also provided a common EI certificate for the Substation (for 400/220 kV system and 220/33 kV system). In addition, the EI certificate accorded the initial charging of the Transmission line on dated 14th December 2022. The COD of each element submitted and accorded by the Electrical Inspector are as summarized below:

Table 7: CODs of the elements of Transmission system

Particulars	COD claimed by Petitioner	Final EIC
Sub-Station	11-Jan-23	20-May-20
Line	11-Jan-23	14-Dec-22

Commission's Analysis

- 3.4.4 As per the documentary proofs submitted by the Petitioner, the Commission has noted that the application for initial charging of Asset-1 and Asset-2 was submitted to HPSLDC, after getting necessary approval from the Chief Electrical Inspector, GoHP for charging both the assets.
- 3.4.5 The documentary proofs against these approval letters have been analysed by the Commission. Accordingly, the Commission has considered 11th January 2023 as the COD for both the assets.

3.5 Energy flow and Nature of Asset

Petitioner Submissions

- 3.5.1 The Petitioner has submitted that the 400/220 kV system of the substation and 400 kV Transmission Line was constructed considering evacuation requirement of 180 MW Bajoli Holi, 240 MW Kutehr, 200 MW Bara Bhangal, Harsar (70 MW), Bharmour 45 MW and other upcoming small HEP's in Bharmour area of Ravi Basin. The total available potential of the Bharmour area was estimated at about 914 MW. This 914 MW of power was planned to be evacuated by constructing 400/220 kV Pooling Sub-station at Lahal. Two number single phase Transformer Banks of 315 MVA capacity were proposed to be installed at 400/220 kV Lahal GIS Sub-station and further connected with Chamera Pooling Station of PGCIL through a 400 kV D/C line (Twin Moose) which in turn would take care of reliability and redundancy in the system to evacuate power in case of outage of any transmission line because of unforeseen conditions. Owing to the other plants being constructed in the vicinity, a 400/220 KV pooling station was added in the same system to evacuate power from 180 MW Bajoli Holi and 240 MW Kutehr Hydro Power Plants amongst others.
- 3.5.2 The proposed system was developed as Integrated Transmission system in the area keeping in view the limited corridor availability wherein too many circuits cannot be constructed. The Petitioner further submitted that the major beneficiaries of the project are Bajoli Holi Hydropower Pvt. Ltd. and Himachal Pradesh State Electricity Board.

Commission's Analysis

- 3.5.3 As per the DPR of the Substation and Transmission Line, the potential in Bharmour valley was estimated to be 914 MW. The major contributors were 180 MW Bajoli Holi, 240 MW Kutehr and 200 MW Bara Bhangal Hydro Power Plants. The power of these projects was to be pooled at the 400/220 KV pooling substation at Lahal from there on it was proposed to be evacuated through 400 KV Lahal Chamera Transmission Line up to Chamera pooling station of PGCIL. It

was expected that the hydro power plants with a total capacity of 485 MW shall be commissioned by the year 2018. The list of beneficiary HEP's of the Transmission assets are as follows:

Table 8: List of Beneficiaries of the Transmission Asset

Name of Firm	Name of Project	Capacity (MW)	Connection/LTA Agreement Status
M/s JSW Energy (Kutehr) Ltd.	Kutehr	240	LTS dated 22.03.2022
M/s GMR Bajoli Holi Pvt. Ltd.	Bajoli Holi HEP	180	LTA signed on 03.09.2015
HPSEBL	IPPs	31	TSA signed on 14.07.2022
M/s Om Energy Generation Pvt. Ltd.	Holi-II	7	Connection Agreement dated 22.04.2015
M/s Dera Hydro Power Pvt. Ltd.	Dera	5	Connection Agreement dated 22.11.2018
M/s Harsar Hydro Projects Ltd.	Harsar Stage-II	22.5	Connection Agreement dated 18.07.2022
M/s Bharmour	Bharmour Stage – I	24	Connection Agreement dated 18.07.2022
M/s Bharmour	Bharmour Stage – II	21	Connection Agreement dated 18.07.2022
M/s Shivalik Energy Pvt. Ltd.	Chirchind – II	12.9	Connection Agreement dated 21.06.2021
M/s Dinesh Jindal	Jai Banni Mata	24	Con-5 issued to IPP, Agreement to be signed
M/s Shree Hydro	Ghator – I and Smawara	2.2 and 2.5	Connection Agreement dated 20.09.2022
M/s Jagdambey Hydro Projects LLP	Salun (9MW), Kuwarsi – II (15 MW), Toral Kundali (18 MW), Chatte da Nallah (9MW)	51	Connection Agreement dated 07.04.2016
VB Hydro Projects	Kuwarsi	9.9	Connection Agreement dated 18.08.2023

3.5.4 The Commission sought further clarification from the Petitioner with regard to the operability of Transmission Asset to be Intra-State or Inter-State. The Petitioner has submitted that since the Transmission Asset is originating and terminating within the State of Himachal Pradesh, the Asset may be considered as an Intra State Transmission Asset. The asset has no intervening State for conveyance of electricity. The Petitioner has also submitted in reply to a query of the Commission that the 400 kV Transmission line is connected to 400/220 kV PGCIL Pooling station at Chamera which is an Inter State Connection Point.

- 3.5.5 The Commission is of the opinion that considering the increased number of beneficiaries of the sub-station, it is difficult to ascertain the actual status of the transmission assets covered in this Order. In view of the underlying issues and considering that a number of large hydro power plants, which are not supplying power within the state of Himachal Pradesh, are getting connected to the specified transmission assets (including the 400/220kV portion of the substation), the 400/220kV substation and 400 kV transmission line cannot be considered completely as part of intra-state network. Therefore, the Petitioner should approach appropriate agency/ CERC for inclusion of the transmission assets as part of inter-state network. It is observed, Hydro Power Plants with combined capacity of 633 MW shall wheel their energy through the Substation and Transmission Line. Furthermore, 66% (Bajoli Holi and Kutehr) of the said capacity shall be wheeled out of State of Himachal Pradesh.
- 3.5.6 The Petitioner is directed to expedite the signing of TSA in addition to the connection agreement with the other beneficiaries of the system for recovery of the transmission charges in proportionate manner from all the beneficiaries of the transmission asset.

3.6 Capital Cost

Petitioner's submissions

- 3.6.1 The Petitioner has submitted that the project was awarded to M/s Larsen and Toubro for the combined Sub-station system i.e., 400/220 & 220/33 kV systems and to JV of M/s Apar Industries Ltd. and M/s Skipper Ltd. for the Transmission Line (Asset-2). The scheduled construction periods for the Sub-Station and transmission line were 42 months and 24 months respectively. The Petitioner has also claimed that the approved DPR cost of the 400/220 kV system was INR 249 Cr. and that of the 400 kV Transmission Line was INR 138.97 Cr.
- 3.6.2 The Scheme for construction of 400/220 kV system of Pooling Sub-station was clubbed with the 220/33 kV system of Pooling Sub-station. Subsequently, the combined tender was floated and awarded to M/s Larsen and Toubro. The total award cost of the assets was INR 232.44 Cr and USD 111,900. The estimated time for completion for the combined system was 42 months. Further, the contract underwent seven number of Amendments.
- 3.6.3 The following table provides the DPR cost, Award cost, claimed cost as on COD as per the Petition for 400/220 kV system of the Sub-station:

Table 9: Capital Cost comparison – Sub-station (INR Lakh)

Particular	HPPTCL Board Approval	Cost as per DPR	Award Cost	Cost After Amendments	Cost as on COD (11.01.2023)
Hard Cost of Asset-1	-	20350.00	155,76.00	17613.96	18983.00
Other Expenses	-	1018.00			4.81
IDC	-	1300.00			3773.00

Particular	HPPTCL Board Approval	Cost as per DPR	Award Cost	Cost After Amendments	Cost as on COD (11.01.2023)
Departmental Charges	-	2239.00			1277.00
Total	215,00.00	249,00.00	155,76.00	17613.96	24451.00

3.6.4 The work of transmission line was awarded with an expected construction period of 24 months. The Petitioner submitted that the Board Approval was granted for INR 164 Cr. However, as per the DPR, the cost envisaged for the Transmission line was INR 138.97 Cr. including Interest During Construction (IDC) charges and Departmental Charges (DC). Subsequently, the contract for the line was awarded at a cost of INR 115.47 Cr. to M/s Apar Industries Ltd. in JV with M/s Skipper Ltd. The contract underwent two number of Amendments.

3.6.5 The following table provides the DPR cost, Award Cost, claimed cost as on COD on 10th January 2023 as per the audited certificate submitted for the transmission line:

Table 10: Capital Cost comparison – Transmission Line (INR Lakh)

Particular	HPPTCL Board Approval	Cost as per DPR	Award Cost	After 2 nd Amendment	Cost as on COD (10.01.2023)	Additional Capitalization
Hard Cost of Asset-2	-	11836.00	11547.00	14007.00	11866.00	
Other Expenses		380.00	-		1426.47	
IDC	-	422.00	-		1315.00	
Departmental Charges	-	1269.00	-		555.00	
Total	16400.00	13897.00	11547.00	14007.00	15162.75	663.49

3.6.6 In the Petition, the Petitioner has submitted that the reason for increase in cost of the Transmission line (in both the amendments) was due to change in awarded quantities.

3.6.7 The total capital cost as on COD claimed by the Petitioner for the 400/220 kV system of the Sub-Station (Asset-1) and the transmission line (Asset-2) combined has been provided in the table as follows:

Table 11: Capital Cost as on COD claimed by the Petitioner (INR Lakh)

Particulars	Capital Cost – Claimed
Sub-Station	
Land/preliminary works/ compensation etc.	418.25
Supplies, Erection and Civil Works	18,983.36
IDC	3,772.61

Particulars	Capital Cost – Claimed
Departmental charges	1,276.86
Sub-Total	24,451.08
Transmission Line	
Land/preliminary works/ compensation etc.	1,426.47
Supplies, Erection and Civil Works	11,866.25
IDC	1,315.10
Departmental charges	554.79
Sub-Total	15,162.61
Total	39,613.69

Commission's Analysis

- 3.6.8 The Commission has done a detailed scrutiny of the various components of the capital cost. As part of the prudence check, the Commission sought additional information and supporting documents including auditor certificate, approvals of BOD, details of awards/ contracts, correspondences, payments made to contractors, COD certificate, etc. The Commission has taken into note that no Cost Approval from CEA has been granted for the Substation.
- 3.6.9 As per the Petitioner's Board approval, the cost of 400/220 kV system of the Substation was Rs 215 Cr. and the same for the 400 kV Transmission Line was INR 164 Cr. In accordance with the DPR submitted by the Petitioner, the tentative cost for the 400/220 kV system and 400 kV transmission line was INR 249 Crore and INR 138.97 Cr. (including IDC and DC) respectively. It has been observed by the Commission that there is an existing Sub-station of 220/33 kV at Lahal and the same has been enhanced with the inclusion of 400/220 kV system.
- 3.6.10 As discussed in previous sections, in order to cater to the evacuation requirement of power from upcoming HEPs in Bharmour area, the capacity of the Sub-station was increased by the Petitioner from 220/33kV Sub-station to 400/220/33 kV Sub-station.
- 3.6.11 In the Petition filed for the 400/220 kV system of the Substation (Asset-1) and associated Transmission Line (Asset-2), the Commission had enquired regarding not filing a common Petition for 400/220/33 kV Sub-station and its associated Transmission Lines. The Petitioner in this regard has submitted that the 220/33 kV segment of the Sub-station has been utilized since FY 2021. Since the construction of 400 kV Transmission line was delayed, the 400/220 kV portion of the Sub-station could not be utilized. This can be verified from the HPSLDC certificate issued for first time charging and commercial operationalizing of 400 kV Transmission Line from 400/220 kV Lahal Substation to 400/220 kV Chamera Pooling station of PGCIL on 11th January 2023.
- 3.6.12 It is observed that the work for Sub-station was allotted for a combined system (400/220 kV and 220/33 kV) with an expected completion time of 42 months. The combined contract was awarded to M/s Larsen and Toubro at a cost of INR 232.44 Cr and USD 111,900. Also, the Petitioner has submitted that there were in

total 7 Amendments issued which escalated the total award cost to INR 260.65 Cr. and USD 132,042. The proof of approvals for issuance of amendments from competent authority was submitted by the Petitioner and have been reproduced as follows:

Table 12: Amendments in Contract for Sub-Station (combined)

Amendment	Date	Change in Cost		Reason	Proof of Approval
		Supplies	Erection		
LOA	20.09.2014	INR185.54 Cr. +\$111,900	INR 46.90 Cr.		Noting approved by Director (P&C)
Amendment 1	10.04.2018	INR22.42 Cr. +\$20,142	INR 4.84 Cr.	GST implication	Letter issued to vendor by DGM (Contracts)
Amendment 2	18.05.2018	Nil	INR 5.21 Cr.	Quantity variation	MoM approved by Managing Director
Amendment 3	22.11.2018	INR 2.53 Cr.	INR 0.012 Cr.	Quantity variation	Noting approved by Director (P&C)
Amendment 4	21.10.2019	INR 0.17 Cr.	INR 0.027 Cr.	Differential relays	Letter issued to vendor by DGM (Contracts)
Amendment 5	20.01.2020	(INR 4.99 Cr.)	(INR 0.56 Cr.)	Quantity deviation	Noting approved by Director (P&C)
Amendment 6	07.03.2020	Nil	INR 0.073 Cr.	Extra items introduced	Noting approved by Director (Project)
Amendment 7	24.09.2020	(INR 1.04 Cr.)	(INR 0.49 Cr.)	Quantity deviation	Noting approved by Director (P&C)
Final Award Cost		INR204.64 Cr. Cr.+\$132,042	INR 56.01 Cr.		

3.6.13 In relation to the current Petition, the Petitioner has claimed an amount of INR189.83 Cr. for Services and Supply as on 11th January 2023. Further, the Petitioner has also submitted that the final Award Cost after 7 Amendments for the 400/220 kV system was INR 276.04 Cr. Also, the Petitioner claimed that there was a dollar portion of the contract price amounting to \$132,042. The Commission observes that while the final award cost after amendments of the combined substation has been INR 260.65 Cr., but the Petitioner has submitted the cost as on COD of the Substation as INR 276.04 Cr.

3.6.14 The Commission enquired through the query raised to the Petitioner regarding increase in cost from INR 176.15 Cr. to 189.83 Cr. The Petitioner submitted that the increase was due to settlement of Price Variation on erection and supplies part, and towards widening of road in critical locations.

3.6.15 It is observed that the Auditor's Certificate submitted for substantiating the claim of the Petitioner in respect of the capital cost has been for the complete system (400/200 kV and 220/33 kV) dated 20th March 2020.

3.6.16 Further, the claimed cost by the Petitioner has been compared with the awarded cost as summarized below:

Table 13: Comparison between Award Cost and Claimed Cost for the Services and Supplies of the Sub-station (INR Lakh)

Particulars	Awarded Cost*	Claimed Cost
Services	12,013.00	15,288.00
Supplies	5,602.00	3,695.00
Total	17,615.00	18,983.00

*Awarded cost inclusive of all seven (7) amendments as claimed by Petitioner

3.6.17 The Commission asked for the documentary proof of award cost and the subsequent amendments of the contract for the sub-stations (400/200 kV and 200/33 kV) separately for substantiating the awarded and actual cost for the 220/33 kV and 400/220 kV system as submitted in the Petition. The Petitioner has provided the break-up of the award cost and the amended cost of the 400/220 kV system (which is based on the bookings done in their internal accounts) in reply to deficiency letters of the Commission and the same was also not supported by the Auditor Certificate.

3.6.18 The Commission further enquired regarding appropriate rationale for bifurcation of cost as well as breakup of components of the Sub-station. In response, the Petitioner has submitted a component wise list installed in the Sub-station utilized across 400/220 kV system, 220/33 kV system and for the combined system. Since the cost breakup of each component was unavailable, it is difficult to bifurcate the entire cost amongst the two elements to arrive at a component wise cost. In the absence of bifurcated cost in Auditor's Certificate as on COD, the Commission is constrained to consider the amount of INR 176.15 Cr. submitted by Petitioner as the final award cost for 400/220 kV system for Services and Supply. In the current Petition, the total land cost of the substation has been considered under the 400/220 kV portion.

3.6.19 It is observed that the actual cost of the Sub-station as on COD for the 400/220 KV portion has been higher than the awarded cost. However, the Petitioner has termed the variation as minor and has not provided any justification or supporting documents with respect to the increased cost. Further, the variation on account of GST and other quantities is already reflected in the amendments issued by the Petitioner. In view of the inadequate allocation of cost and lack of proper reasoning with regards to the claimed cost, the Commission has approved the cost of INR 176.15 Cr in line with the Final Awarded Cost including the amendments towards the cost of Sub-station as on COD for the purpose of determination of capital cost.

3.6.20 As per the Auditor certificates, the cost towards the Sub-station reflects the cost as on COD for the complete system (400/220/33 kV). The Commission has taken due cognizance of the auditor's certificate dated 31.03.2020 (submitted with the Petition of 220/33 kV substation). Since it was the closest date to the completion date of the substation, the same has been considered by the Commission.

3.6.21 Also, in reply to the query raised, the Petitioner has submitted that the Consumer grant of INR 96.56 Lakh was received for the 33 kV bay at the Sub-station from M/s Shivalik Energy Pvt. Ltd. However, since the same consumer grant was

already considered in Capital Cost approval of 220/33 kV system of the substation, it has not been considered in the current approval of Capital Cost for 400/220 kV system. As per Petitioner's submission, it is understood that the grant has been used for 33 kV segment of substation.

3.6.22 As per the Board approval of the Transmission line (Asset-2), it was expected to be completed at a cost of INR 164 Cr. However, the cost as per the DPR of the transmission line was envisaged at INR 138.97 Cr. inclusive of DC and IDC. Subsequently, the tender was floated for turnkey basis for the construction of the transmission line and awarded to M/s Apar Industries Ltd. in JV with M/s Skipper Ltd. at a cost of INR 115.47 Cr. as per the LOA dated 2nd April 2018. The project underwent two amendments which have been elaborated as follows:

Table 14: Amendments in Contract for the Transmission Line

Amendment	Date	Change in Cost		Reason
		Supplies	Erection	
LOA	02.04.2018	59.30	56.17	
Amendment 1	11.08.2021	61.60	56.17	GST impact and Change in Quantities
Amendment 2	19.01.2022	61.60	78.47	Deviation of Quantities and Masonry Work

3.6.23 The Petitioner has submitted the amendments issued to the contractor, however, there is no submission of any approvals for the said amendments from the Competent Authority of the Petitioner. The Commission has observed that the second amendment led to the increase in erection cost by 40%. This cost escalation was on account of increase in revetment works as per the actual site conditions. Revetment works further got enhanced because of variation observed in quantities of Lead Concrete M10, RCC & coping with M15 Concrete, Rubble Masonry work in Cement Mortar 1:5 Work complete and CC 1:4 as per actual execution of work at site.

3.6.24 The Petitioner has also submitted proofs of payments made to the contractor amounting to INR 7.75 Cr. over and above the claimed amount of INR 118.66 Cr. along with the proof. Since the cost as on COD has been within the Final awarded price, the Commission has approved the cost claimed by the Petitioner. In addition, the Commission could not substantiate the claimed cost as the Petitioner has not submitted any Auditor's certificate for the Transmission Line.

3.6.25 The detail of other expenses for Transmission line and Sub-Station is summarised below:

Table 15: Other Expenses - Line and Sub-Station (INR Lakh)

Particulars	Claimed (as on COD)
Sub-station	
Land	319.30
Testing Charges	7.60
Other Expenses (including Entry Tax, Survey Exp. etc)	91.35

Particulars	Claimed (as on COD)
Sub-Total	418.25
Transmission Line	
Land	304.79
Line Shifting Charges	1119.29
Other Charges including Contingency, Bank Commission Etc.	2.39
Sub-Total	1426.47
Total (Line and Sub-station)	1,844.72

3.6.26 In the above "Other expenses" for the 400/220 kV system, the Petitioner has not provided any breakup or any supporting documents. However, the Commission has considered the internal cost booking submitted as part of Petition of 400/220 kV substation for cost division. The Commission has considered the Auditor's Certificate closest to the date of Commissioning of the Combined substation for bifurcation of Other Expenses. The Land cost has been considered as per the Auditor's Certificate submitted.

3.6.27 In case of the Transmission Line, the Commission had sought proof of payment made for Land Acquisition and Forest Clearance, the same has been submitted by the Petitioner. The comparison of various cost elements across Awarded contract, awarded costs after amendments, claimed Hard Cost as on COD by the Petitioner and Hard Cost as on COD approved by the Commission for 400/220 kV system of the sub-station (Asset-1) and Transmission Line (Asset-2) is summarized in the following table:

Table 16: Hard Cost (including land cost)– Transmission Line and Sub-Station (INR Lakh)

Particulars	Awarded	Awarded Cost after 7 Amendment	Petitioner Claim (as on COD)	Approved
Sub-station				
Supply and Material	2,427.00	3,028.20	3,695.21	3,028.20
Erection and Civil Works	13,218.00	14,585.95	15,288.15	14,585.95
Sub-total	15,645.00	17,614.15	18,983.36	17,614.15
Land Cost	-	-	319.30	288.67
Preliminary works, Compensatory Afforestation/ compensation for crop damage etc.	-	-	98.95	97.18
Total	15,645.00	17,614.15	19,401.61	18,000.00
Transmission Line				
Supply and Material	5,617.00	6,160.00	6,100.44	6,100.44
Erection and Civil Works including cost towards lab/protection/ fencing/	5,930.00	7,847.00	5,765.81	5,765.81

Particulars	Awarded	Awarded Cost after 7 Amendment	Petitioner Claim (as on COD)	Approved
security accommodation etc.				
Sub-total	11,547.00	14,007.00	11,866.25	11,866.25
Land Cost	-	-	304.79	304.79
Preliminary works, Compensatory Afforestation/ compensation for crop damage etc.	-	-	1,121.68	1,121.79
Total	11,547.00	14,007.00	13,292.72	13,292.83
Grant Total	27,192.00	31,621.15	32,694.33	31,292.83

3.7 Overheads (IDC and Departmental Charges)

Petitioner's submissions

- 3.7.1 The Petitioner has submitted that Departmental Charge incurred for the said Lahal Substation after 20.03.2020 (COD claimed for 220/33kV portion of Lahal) uptill 11.01.2023 has been considered to be part of 400/220kV System. The DPR envisaged 11% of the Construction Cost as 'Maintenance during Construction Engineering and Administration', which amounts to INR 22.39 Cr. However, the actual Departmental Charges upto 10th January 2023 are INR 12.77 Cr.
- 3.7.2 With regard to IDC of the 400/220kV system of the substation, the Petitioner has submitted that the provision for IDC was kept at INR 13.03 Crore in the DPR, which is calculated on LIBOR rate of 4.64%. However, as per the agreement with Govt. of Himachal Pradesh, the interest rate was calculated at 10%, amounting to INR 28.08 Cr. Further, due to the time overrun, the IDC as on COD incurred for construction of Substation was INR 37.73 Cr.
- 3.7.3 With respect to the Transmission Line (Asset-2), the Petitioner has submitted that the provision for Departmental Charges was estimated as INR 12.68 Crore at the rate of 11% of works cost as per the DPR. The actual Departmental Charges (the establishment charges, Audit & Accounts and others) upto 10.01.2023 was INR 5.54 Cr., which has been well within the 11% norms and therefore, the Petitioner has requested to approve the same.
- 3.7.4 For calculation of IDC of the Transmission Line (Asset-2), the IDC as per DPR was envisaged to be INR 4.22 Cr., which is calculated on a LIBOR rate of 4.64 %. However, in line with the Agreement with Govt. of Himachal Pradesh the interest rate was increased to 10% which increased the IDC to INR 9.09 Cr. Further, the project cost as on COD has been at INR 138.48 Cr., which includes an IDC of INR 13.15 Cr.
- 3.7.5 The following table provides the IDC and Departmental Charges as per DPR and the actual as claimed by Petitioner as on COD:

Table 17: IDC and Departmental charges claimed by Petitioner (INR Lakh)

Particulars	DPR	Claimed (as on COD)
Sub-Station		
IDC	1303.00	3773.00
Departmental charges	2239.00	1277.00
Sub Total	3542.00	5050.00
Transmission Line		
IDC	422.00	1315.00
Departmental charges	1268.00	554.00
Sub Total	1690.00	1869.00
Total	5232.00	6919.00

Commission's Analysis

- 3.7.6 With respect to both the assets i.e., Asset-1 and Asset-2, the Commission observes that the claim towards IDC as on COD has been very high as compared to the DPR. In its Petition, the Petitioner has clarified that the higher IDC was on account of lower interest rate considered in the DPR as well as delay in commissioning of the project due to various uncontrollable aspects.
- 3.7.7 The Commission has undertaken a detailed review of the contracts awarded for the combined 400/220/33 kV system of the Sub-station to the Petitioner. As per the contract document for Sub-station, LoA was given to the contractor on 20th September 2014. The construction period as per the L2 schedule in the contract for the whole 400/220/33 kV system was 42 months. Further, with respect to the Transmission line (Asset-2), the Commission has verified that the LoA was given to the contractor on 2nd April 2018. The construction period for the transmission line as per the L2 schedule of the contract was 24 months, however, the project was delayed due to multiple factors.
- 3.7.8 The timelines for Transmission Line and Sub-Station as submitted by the Petitioner have been summarized in the table below:

Table 18: Project Timelines as submitted by Petitioner.

Description	Sub-Station	Transmission Line
LOA	20.09.2014	02.04.2018
Scheduled Completion date	25.12.2019	31.05.2020
COD Achieved	11.01.2023	11.01.2023

- 3.7.9 It is observed that the EI certificate for the Sub-station was given on 20th May 2020. However, the EI certificate of the Transmission Line was issued on 14th December 2022. It is worthwhile to mention that the construction activity of the Substation was completed in May 2020. However, the same could not achieve the COD due to delay in commissioning of the Transmission Line. As per the authorization letter from HPSLDC, the COD of the combined system got approved on 11th January 2023.

3.7.10 Further, the Commission enquired the Petitioner to quantify the time delay on account of factors submitted for both the assets. As per the submission of the Petitioner, the major reasons of time overrun include the following:

Table 19: Reasons for time overrun as claimed by the Petitioner

Sl.	Reason for Delay	Time Period	Description
Sub-station			
1	Handing over of site	315 days	<ul style="list-style-type: none"> Time required to resolve issues of local panchayat
2	Inclement weather conditions	318 days	<ul style="list-style-type: none"> Heavy rainfall and a major landslide occurred at different locations due to which the NH-154A became dysfunctional
3	Delay in the transportation of Power Transformers	270 days	<ul style="list-style-type: none"> Road widening and bridge strengthening done after conducting detailed design with M/s L&T. Additional development and crate work required for transportation
4	Increase in Scope	210 days	<ul style="list-style-type: none"> Additional work of area development and crate work to accommodate surplus earth.
5	Delay in Commissioning of Associated Transmission Line	>900 days	<ul style="list-style-type: none"> The associated 400 kV D/C Transmission line from Lahal Substation to Chamera Pooling station of PGCIL was completed in December 2022 and achieved COD in January 2023
Transmission Line			
1	Initial approval of Check Survey due to Public Hindrances & heavy Landslides	102 days	<ul style="list-style-type: none"> Check survey including chainage data, profiles and tower spotting data couldn't start due hinderances by locals and land damage to approach road including landslides in some
2	Land Acquisition	180 days	<ul style="list-style-type: none"> Private land associated with 24 tower locations couldn't be acquired.
3	Change in Route alignment T-94 to T-96	102 days	<ul style="list-style-type: none"> Route alignment of T-94 and T-96 changed due to RoW issue and strong objection of land owners
4	Delay due to COVID -19	99 days	<ul style="list-style-type: none"> Delay due to Covid-19 induced lockdown
5	Non-Finalization of Gantry Point	360 days	<ul style="list-style-type: none"> Spotting of old T-111 & T-112 at PGCIL end could not be finalized till May 2020 due to non-finalization of terminal Sub-station Gantry by PGCIL India Ltd.
6	Forest Trees Cutting	427 days	<ul style="list-style-type: none"> Delay in hammering of Forest trees for 8 tower locations. Revetment work approval from Forest corporation for 3 towers from Forest Corporation
7	Road Blockage	102 days	<ul style="list-style-type: none"> Blockage of road due to landslides near Mehla
8	Heavy Snowfall	60 days	<ul style="list-style-type: none"> Towers T1 and T60 received heavy snowfall from December to February

- 3.7.11 Against a tentative time period of 42 months and 24 months for construction of Sub-station and Transmission line respectively, the time taken for the initial charging of the assets (as per the EI Certificates) was ~6 years for 400/220 kV system of the Sub-station (Asset-1) and ~4.5 years for Transmission Line (Asset-2).
- 3.7.12 The construction of 400/220 kV system of the Sub-station (Asset-1) was delayed due to late handover of land to M/s Larsen and Toubro. The Local Panchayat carried out agitations over various issues from time to time. The major issues are elaborated as follows:
- The Sub-station land handed over to HPPTCL was adjoining HPPWD land which was to be used for construction of road. However, the land was encroached upon and the matter was resolved after police intervention on 26.07.2016. The Petitioner has submitted internal correspondence regarding the issue. No correspondence with external authorities such as HPPWD, Police or Local administration seeking resolution of the issue has been provided.
 - The Petitioner has informed that there was strike by village locals due to which work was stalled. After the resolution of the issues raised in the strike, the work was resumed. No documentary proof for the dates has been submitted by the Petitioner against the same.
 - The local labour of sub-contractors stopped the work demanding revision of the rates and fulfilment of demands. They threatened the staff due to which the work had to be stopped. Similar instances occurred during the month of March 2018. It was only after redressal of the grievances after several discussions between contractor & labour, the work was started after 25.11.2016. No documentary proof has been submitted by the Petitioner for the same.
- 3.7.13 The Petitioner has also claimed inclement weather conditions as a major reason for delay in construction of the Sub-station. The Petitioner has submitted diary maintained by it with the turnkey contractors along with the newspaper clippings regarding weather related issues to assess the delay due to it.
- 3.7.14 The Petitioner has submitted that for the transportation of Power transformer, the Petitioner had to undertake civil work with Himachal Pradesh PWD (HPPWD) which took significant time. The work included strengthening and broadening of road along with increase in vertical clearance of the road. The Petitioner has submitted internal correspondence, letters sent to HPPWD, Minutes of Meeting and site photographs taken during trial of the upgraded road.
- 3.7.15 The Petitioner has also claimed after carrying out the detailed engineering of the project, the scope of works increased beyond the awarded scope. As per actual site requirement, the firm was asked to execute some additional work of area development & crate work (2656.25 Sq. mtr.) to accommodate the surplus earth. Extra work was awarded to firm vide letter dated 26.11.2019 and the firm submitted additional time frame of around 4-5 months for completing surplus earth shifting, foundation work, cable trench, BBC & gravelling spreading. Further, there was a requirement of 2 Nos differential relays at Budhil end.

- 3.7.16 Overall, time delay on 7 months was caused for carrying out works associated with increase in scope and other works related to testing & completion of Substation.
- 3.7.17 Lastly, the Petitioner has claimed a delay on account of late commissioning of the associated Transmission Line. This delay has led to time period of over 2 years in commercial operationalization of the 400/220 kV system of the substation. The details of delay in Transmission Line are elaborated in the subsequent paragraphs.
- 3.7.18 As per the submission of the Petitioner, the construction time for 400/220 kV system was 42 months. Therefore, it is observed that there has been a delay of 5 months in construction of the Sub-station and delay of 37 months in achieving COD. The timelines for award, scheduled commissioning date and actual COD are tabulated as follows:

Table 20: Important dates for construction of Sub-station

Activity	Date
Award of Contract	20.09.2014
Effective date of contract	10.07.2016
End date of Contract	25.12.2019
COD Claimed	11.01.2023
EI Certificate	20.05.2020

- 3.7.19 At the start of project, the Check Survey couldn't be initiated due to resistance by locals on acquisition of agricultural land, damage to approach road, difficult terrain and rains coupled with landslides. The Petitioner has submitted the land acquisition documentation with the acquirees along with proof of blockage of approach roads.
- 3.7.20 It was further submitted that work on 24 towers could not be initiated since the compensation offered to private lands was rejected by their landowners. In this regard, a meeting with the Negotiation Committee was held but could not come up with any conclusion. The matter was raised to District Magistrate Chamba who adjudicated in favour of HPPTCL leading to start of work under Police assistance. The Application to DM Chamba was filed under Section 16(1) of Indian Telegraph Act, 1885. Separate applications were submitted on case-to case bases. The final order was issued on 22nd December 2020.
- 3.7.21 In respect to Tower T-94 and T-96, the Petitioner has claimed that there was a change in route since the major parcels of land coming under the towers included fruit trees and fuel wood trees. In a meeting chaired by Director (P) at Lahal on 15.11.2019, decision to re-align the route was taken. Survey for Re-Routing was done in December 2019 and the same was approved on 25 February 2020. The Petitioner has submitted the minutes of meeting held under Chairmanship of Director (P) with turnkey contractor and it was agreed that a survey for rerouting would be undertaken by the turnkey contractor.
- 3.7.22 At the Chamera end of the Transmission Line, the specifications of the dead-end gantry towards PGCIL substation was not finalized. In this regard, the Petitioner

had sought plan from its turnkey contractor to mitigate the condition which was delayed. The Petitioner has also submitted correspondences with PGCIL to finalize the dead-end gantry.

3.7.23 The Petitioner has shared the correspondences with Forest Corporation regarding the felling of trees. It is observed that the said dates of correspondences regarding the felling of tree with Forest Corporation coincides with the COVID induced lockdown.

3.7.24 The Petitioner has submitted the site hinderance register (signed by the HPPTCL and the turnkey contractor representative), date-tagged photographs and news cuttings for the same. In addition to the above delays, Petitioner has also claimed a delay on account of COVID induced lockdown resulting in scarcity of local labour for construction activity.

3.7.25 Furthermore, the detailed timelines submitted for Transmission line by the Petitioner are illustrated below:

Table 21: Important dates for construction of Transmission Line

Activity	Date
Award of Contract	02.04.2018
Effective date of Supply and Services	01.06.2018
End date of Supply and Services	31.05.2020
COD Claimed	11.01.2023
EI Certificate	14.12.2022

3.7.26 With regard to the reasons stated by the Petitioner, it has been observed that there were few force majeure or uncontrollable events such as inclement weather conditions, COVID induced Lockdown and road blockages. But the delay due to changes in alignment of line, BoQ of Transmission Line, delay in amendment of contract, delay in acquisition of land (for tower T8), change of tower type to MCT (tower T-8) cannot be entirely attributable to uncontrollable factors. Therefore, the delay resulting from such factors could have been avoided. It is observed that the dates of some of the delays are overlapping, the same has been considered by the Commission while calculating the IDC.

3.7.27 Accordingly, based on the 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 two and half years in project execution. The Commission is of the view that other activities could have been undertaken in parallel and the delay could have been shortened/ averted by proper planning and follow up at the Petitioner's end. The Commission, therefore, decides to allow sharing of excess amount of IDC (over and above the normative IDC) between the Petitioner and beneficiaries in equal ratio (50:50).

3.7.28 The Petitioner has submitted in reply to the queries raised by the Commission that since the ADB Tranche – III funding has been closed on 29th September

2021, therefore, the HPPTCL is making payments from its own appropriations. However, HPPTCL is tying up for the balance loan with the funding agency.

3.7.29 In reply to the queries of the Commission, the Petitioner submitted that loan tied-up with Himachal State Cooperative Bank has been firmed up. As per the documents submitted, the Interest rate for the loan has been fixed up at 7.98%. Further, this arrangement has been for the multiple projects of HPPTCL and not solely dedicated to this project alone. There has been a decrease of INR 1.95 Cr. in the IDC in reply to deficiency letter dated 17.05.2023 due to the loan tie up with the Himachal State Cooperative Bank. The reduction was revised to Rs. 1.14 Cr. in reply to deficiency letter dated 15.12.2023

3.7.30 The BoD approval for the line was granted in June 2013 and Award of Contract for the Transmission Line was issued on 2nd April 2018 with a construction period of 24 months. The completion date of the Transmission Line aligns with the commissioning of the Substation. The Commission observes that the EI certificate of the Substation was issued in May 2020 while the Transmission Line achieved CoD in January 2023 resulting in the substation being unutilized for over 2 years.

3.7.31 **The Commission hereby advises the Petitioner to build a strong project management team to oversee such projects with proper mechanisms in place to flag delays at each milestone and take corrective actions for the same. Due diligence for the site condition should be undertaken while preparing the DPR. The Commission also advises the Petitioner to avoid major changes in BoQ after award of contract. Further, the Commission feels that the inefficiency of the Petitioner along with delayed decision making as well as improper planning during execution of the project cannot be passed on to the consumers.**

3.7.32 In view of the revision in the hard cost vis-à-vis the DPR as well as the difference in the rate of interest considered with DPR, the Commission has computed a revised benchmark for the IDC. For assessing the benchmark IDC for Sub-Station, the Commission has assumed the disbursement of loan as 20%, 30%, 25%, 25% during the first, second, third and final year of construction as per the phasing in the DPR. In case of the Transmission line, the Commission has considered the disbursal of loan at 40% and 60% in first year and second year respectively in line with DPR for the Transmission Line. The Petitioner has further submitted that there was a reduction of INR 1.95 Cr in reply to deficiency letter dated 17.05.2023. However, the reduction was revised to Rs. 1.14 Cr. in reply to deficiency letter dated 15.12.2023 as submitted by Petitioner. The same has been considered by the Commission.

3.7.33 The benchmark IDC for Sub-Station and Transmission line as computed is summarized as follows:

Table 22: Revised Benchmark IDC –Sub-station (INR Lakh)

Particulars	Unit	Year I	Year II	Year III	Year IV*	Total
Debt disbursement	%	20%	30%	25%	25%	100%
Opening Debt (a)	INR Lakh	0.00	3084.30	7710.74	11566.12	

Particulars	Unit	Year I	Year II	Year III	Year IV*	Total
Addition during the year (b)	INR Lakh	3084.30	4626.45	3855.37	3855.37	
Closing Debt (c)	INR Lakh	3084.30	7710.74	11566.12	15421.49	
Average Debt (d=(a+c)/2)	INR Lakh	1,542.15	5,397.52	9,638.43	13,493.80	
Interest rate (e)	%	10%	10%	10%	10%	
Total IDC (f=d*e)	INR Lakh	154.21	539.75	963.84	674.69	2332.50

*Considered for 6 months

Table 23: Revised Benchmark IDC – Transmission Line (INR Lakh)

Particulars	Unit	Year I	Year II	Total
Debt disbursement	%	40%	60%	100%
Opening Debt (a)	INR Lakh	-	4,154.35	
Addition during the year (b)	INR Lakh	4,154.35	6,231.52	
Closing Debt (c)	INR Lakh	4,154.35	10,385.87	
Average Debt (d=(a+c)/2)	INR Lakh	2,077.17	7,270.11	
Interest rate(e)	%	10%	10%	
Total IDC (f=d*e)	INR Lakh	207.72	727.01	934.73

3.7.34 With respect to actual IDC incurred, the Petitioner was asked to submit an excel sheet for the working of IDC based on the loans availed. After several reminders, the Petitioner submitted Tariff forms in excel sheet towards the working of IDC. On preliminary scrutiny, several inconsistencies were observed in the excel sheet including higher rate of interest on the loans availed against the interest rate of 10% as per agreement with Govt. of Himachal Pradesh.

3.7.35 Interest rate of 10% in line with the terms and conditions of the loan agreement with Govt. of Himachal Pradesh has been considered as submitted by the Petitioner.

Table 24: Actual IDC upto COD approved by Commission (INR Lakh)

Particular	Amount	Remarks
Sub-station		
IDC with no delay	2,332.50	As per above Table
IDC Claimed	3,772.00	As per Petition
Excess IDC	1,439.50	
Allowable IDC due to time delay	719.75	50% of Excess IDC
Approved IDC	3,052.25	
Transmission Line		
IDC with no delay	934.73	As per above Table
IDC Claimed	1,315.10	As per Petition

Particular	Amount	Remarks
Reduction in IDC due to new Loan arrangement	(113.89)	As per submission of the Petitioner
Net IDC Claimed	1,201.21	Addition of Claimed IDC and reduction due to new loan arrangement
Excess IDC	266.48	
Allowable IDC due to time delay	133.24	50% of Excess IDC
Approved IDC	1,067.97	

3.7.36 In case of the departmental charges, the Commission has allowed the minimum normative charges determined in accordance with the provisions of DPR i.e., 11% of hard cost or actual departmental charges, whichever is lower. Since the actual departmental charges on COD is lower than 11% of the approved hard cost, actual departmental charges as on COD have been considered. The approved departmental charges are as below:

Table 25: Approved Departmental Charges (DC) (INR Lakh)

Particular	Claimed	Approved
Departmental Charges for Sub-station	1,276.86	1,276.86
Departmental Charges for Transmission line	555	555
Total Departmental Charges	1,831.86	1,831.86

3.7.37 In line with the Hard Cost, IDC and Departmental Charges approved in the preceding sections, the approved project cost as on COD vis-à-vis the project cost claimed by the Petitioner towards Lahal Sub-Station(Asset-1) and associated Transmission line (Asset-2) is summarized in the following table:

Table 26: Approved Capital Cost (INR Lakh)

Cost Heads	Claimed	Approved
Sub-station		
Land Acquisition Cost	319.30	288.67
Preliminary works	98.95	97.18
Materials and Supplies	15,288.15	14,585.95
Erection and Civil Works	3,695.21	3,028.20
Interest During Construction (IDC)	3,772.61	3,052.25
Departmental Charges	1,276.86	1,276.86
Sub – Total	24,451.08	22,329.11
Transmission Line		
Land Acquisition Cost	304.79	304.79
Preliminary works	1,121.68	1,121.79
Materials and Supplies	6,100.44	6,100.44

Cost Heads	Claimed	Approved
Erection and Civil Works	5,765.81	5,765.81
Interest During Construction (IDC)	1,315.10	1,067.97
Departmental Charges	554.79	554.79
Sub - Total	15,162.61	14,915.80
Total Capital Cost	39,613.69	37,244.91

3.8 Project Funding

Petitioner Submissions

3.8.1 The Petitioner has quoted the Regulation 18 of the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations 2011, which provides as follows:

"18. Debt-equity ratio

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

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

3.8.2 In case of Substation (Asset-1), the Petitioner has claimed a loan drawl from ADB amounting to INR 190.36 Cr. The infused equity by the petitioner in the project is INR 54.14 Cr. which accounts for 22.14% of the total project cost. The petitioner proposes that since the infused equity is less than the limit of HPERC Tariff Regulations, 2011, the same ratio has been considered for working out the Annual Revenue Requirement.

3.8.3 In case of the Transmission Line, the Petitioner has claimed loan drawn from ADB amounting to INR 107.58 Cr. The infused equity by the petitioner in the project is INR 44.05 Cr. which accounts for 29.05% of the total project cost. The petitioner proposes that since the infused equity is less than the limit of HPERC Tariff Regulations, 2011, the same ratio has been considered for working out the Annual Revenue Requirement.

3.8.4 The Petitioner has submitted that the actual funding of the project depends upon the project execution and actual fund availability from various sources and may not be necessarily in line with the DPR.

3.8.5 The following table provides the project funding of the project as claimed by the Petitioner:

Table 27: Project funding proposed by the Petitioner

Particulars	Capital Cost – Petition (INR Cr.)	Debt: Equity Ratio	Additional Capitalisation (INR Cr.)	Total (INR Cr.)	Debt: Equity Ratio
Sub-station					
Debt	190.36	77.86	-	190.36	77.86
Equity	54.14	22.14	-	54.14	22.14
Project Cost	244.50	100%	-	244.50	100%
Transmission Line					
Debt	107.75	70.95	-	107.75	70.95
Equity	44.04	29.05	-	44.04	29.05
Project Cost	151.62	100%	-	151.62	100%

3.8.6 The Petitioner has not claimed any additional Capitalization for the Substation and Transmission Line in the main Petition. However, in reply to the queries of the Commission, the Petitioner has claimed Additional Capitalization for the Transmission Line which has been dealt in the respective Section.

Commission's Analysis

3.8.7 Based on the DPR and loan agreement submitted by the Petitioner, it is observed that the Sub-Station (Asset-1) and Transmission Line (Asset-2) was conceptualised to be funded in debt to equity ratio of 80:20 and 75:25 respectively.

3.8.8 In response to a query of the Commission with respect to details of consumer contribution or subsidy availed by the Petitioner against the transmission asset, the Petitioner has clarified that M/s Shivalik Energy Pvt. Ltd. has infused consumer contribution of INR 96.56 Lakh. The funding was for one no. of 33kV bay at Lahal Sub-station. The Commission has already considered the said contribution in the Approval of Capital Cost of 220/33 kV system of the substation and hence the reduction is not made in this Order.

3.8.9 The Commission observes that ADB has sanctioned a multi tranche financing facility (MFF) of \$350 million to the Government of India (GoI) under the Himachal Pradesh Clean Energy Transmission Investment Programme (HPCETIP) which was further channelized to HPPTCL through Government of Himachal Pradesh (GoHP). The proposed Program was targeted for the construction of transmission infrastructure of 66 kV and above along with Sub-stations for evacuation of power of upcoming hydro power projects. However, the scheme itself implies that the financing support by the ADB is to promote the generation as well as evacuation of clean energy in the State. Further, the Commission is of the view that the Himachal Pradesh being a special category state receives these multi tranche

financing from the GoI as 90% grant and 10% loan. The Commission has noted this aspect while finalising the tariff orders of the HPPCL hydro projects. However, no such information has been furnished by the Petitioner.

3.8.10 In this specific instance, it is noted that the multilateral agency i.e., the ADB, is funding this project in collaboration with the GoI and the GoHP. However, the GoHP has amended the terms and conditions of the financial assistance for extending it to the HPPTCL. While the entire multilateral funds were received by the State in the ratio of 90% grant and 10% loan from the Govt. of India, the entire loan proceeds were extended by GoHP to the Petitioner as loan carrying interest rate of 10% per annum.

3.8.11 The Commission takes serious note against consideration of the amount as loan which otherwise was available as grant (90% of overall amount) to the State. This shall result in unnecessarily burdening the consumers of the State due to such treatment. It is also observed that the Petitioner is already facing financial challenges. The Commission feels that it would be prudent that the Petitioner takes up the matter with the Govt. of Himachal Pradesh regarding restructuring of the loan amount availed against the project on same terms and conditions as envisaged under the original scheme of funding i.e., 90% of the amount to be converted to grant. This would be in interest of the consumers of the State who would have to bear the burden of the additional interest cost and repayment of such loan that is being provided as grant.

3.8.12 Accordingly, the Commission has provisionally considered the debt amount availed under the ADB scheme as 90% grant and 10% debt. Further, after reducing such amount of grant from the total approved capital cost, the Commission has considered debt:equity ratio as 70% debt and 30% equity for the balance amount in line with Regulation 10(C) of the 'HPERC Transmission Tariff Regulations, 2011' which specify the following:

"(b) the debt to equity ratio shall be considered in accordance with regulation 16, after deducting the amount of financial support provided through consumer contribution, deposit work, capital subsidy or grant;"

3.8.13 Thus, the approved project funding for the Transmission line and Sub-Station is summarized as follows:

Table 28: Funding Pattern approved by Commission

Particulars	Percentage	Amount (INR Lakh)
Substation		
Total Cost as approved by Commission	100%	22,329.11
Debt as per DPR	80%	17,863.29
Equity as per ratio in DPR	20%	4,465.82
Total Funding Requirement		22,329.11
Normative Debt as calculated by Commission		17,863.29
Grant as per Normative Debt	90%	16,076.96

Particulars	Percentage	Amount (INR Lakh)
Remaining Amount		6,252.15
Approved Debt	70%	4,376.51
Approved Equity	30%	1,875.65
Transmission Line		
Total Cost as approved by Commission	100%	14,915.80
Debt as per ratio in DPR	75%	11,186.85
Equity as per ratio in DPR	25%	3,728.95
Total Funding Requirement		14,915.80
Normative Debt as calculated by Commission		11,186.85
Grant as per Normative Debt	90%	10,068.16
Remaining Amount		4,847.63
Approved Debt	70%	3,393.34
Approved Equity	30%	1,454.29

3.8.14 In case of ADB loans availed by the HPPTCL, the Commission has been considering the same in the past tariff orders issued. Further, corresponding depreciation as well as interest for servicing of such loans were being allowed to the Petitioner. This treatment was undertaken in view of the limited information available to the Commission. However, the Commission had directed the Petitioner in these Orders to re-negotiate with GoHP and align the terms and conditions of the Loan Agreements in line with the tripartite agreement among Govt. of HP, ADB and HPPTCL. But no information or update in this regard has been provided by the Petitioner. In this Order, the Commission has preferred to consider the availability of loan through ADB funded projects as 90% grant considering the special category status to the State of Himachal Pradesh. The Commission shall also take appropriate decision about the treatment of similar ADB loans for the previous projects during the truing-up.

3.8.15 **The Petitioner is directed to take up this matter with the GoHP for extending the benefit of grant under the ADB funded projects and update the same to the Commission. Also, the Commission is of the view that the GoHP shall consider the transfer of grant as availed from the Government of India to the Petitioner for the benefit of the Consumers of the State.**

3.9 Additional Capitalisation

Petitioner Submissions

3.9.1 The Petitioner has not claimed any Additional Capitalization for the Substation and for the Transmission Line in the petition. However, in reply to the queries of the Commission, the petitioner has claimed additional capitalization for the Transmission line under various heads which is tabulated as follows:

Table 29: Additional capitalization proposed for Transmission Line (INR Cr.)

Particulars	FY 2023	FY 2024
Erection Work	2.12	
Land	0.02	0.02
RoW	-0.02	0.01
IDC	-1.14	
Civil		5.63
Total	0.98	5.66

3.9.2 The Petitioner has submitted that the expenditure towards erection work amounting to INR 2.12 Cr. was part of the original scope of work. Further, INR 6.65 Cr. was provisioned for pending Civil works and has been kept on account of differential amount with reference to amended amount.

Commission's Analysis

3.9.3 The Commission, in order to approve the additional capitalisation for each year sought relevant documents from the Petitioner in support of its claim. The Commission had also raised queries with respect to the escalation of cost after COD of the Project. The Petitioner has submitted that payments made were for the Civil works undertaken post COD in line with the terms agreed earlier. The Commission enquired regarding the payments made to the contractor for which the Petitioner has submitted Provisional Cost Certificate and receipt of payment made in favour of the turnkey contractor.

3.9.4 The additional capitalisation approved by the Commission for the Sub-station (Asset-1) is nil, however, it shall be reviewed during the True-up. Further, in case of Transmission Line, INR 6.63 Cr. incurred by the Petitioner has been approved. The impact of negative IDC (INR -1.14 Cr.) has been included in the relevant section. The approved amount contains the payments for works already completed. However, additional capitalization claimed with respect to works to be undertaken in future during the balance control period has not been considered and shall be true-up subject to prudence check and adequate justification with respect to rationale for taking up the additional works. The approved Additional Capitalization is tabulated as follows:

Table 30: Additional capitalization proposed for Transmission Line (INR Cr.)

Particulars	Proposed		Approved	Remarks
	FY 2023	FY 2024		
Erection Work	2.12		2.12	
Land	0.02	0.02	0.04	
RoW	-0.02	0.01	-0.01	
IDC	-1.14			Dealt in IDC
Civil		5.63	5.63	
Total	0.98	5.66	7.77	

3.9.5 The funding of the above approved additional capitalization has been considered as per the funding of the Sub-Station and Transmission Line in accordance with

the funding provided by ADB. The approved funding for additional capitalisation for line and Sub-Station is summarized as follows:

Table 31: Funding of additional capitalisation approved by the Commission

Particulars	Additional Capitalization (INR Lakh)	% of Funding
Sub-station		
Debt	-	
Equity	-	
Sub-Total	Nil	
Transmission Line		
Debt	544.17	70.00%
Equity	233.21	30.00%
Sub-Total	777.38	100.00%

4. APPROVAL OF ARR AND TARIFF

4.1 Background

4.1.1 The Petitioner has proposed projections for FY 2020-21 (prorated) to FY 2023-24, in accordance with the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations 2011 as amended from time to time. As per the submission of the Petitioner, ARR for each year of the Control Period has been divided into following elements:

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

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

4.1.3 In this chapter, the Commission has detailed the methodology for computing each component of the ARR for Transmission line and 400/220 kV system of Lahal Sub-Station of HPPTCL including O&M expenses, interest on loan, depreciation, return on equity, working capital requirement, etc. for approving the total ARR for each year from COD till FY 2023-24. The methodology followed and approved values for each component of the ARR is detailed in the subsequent sections.

4.2 Depreciation

Petitioner Submissions

4.2.1 The Petitioner has submitted the depreciation for each year of the Control Period in accordance with the Regulation 23 of the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011, as amended from time to time based on the actual capital cost. Consumer Contribution and cost of land has been adjusted to derive the depreciable value of the asset.

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

Table 32: Depreciation claimed by Petitioner (INR Lakh)

Particulars	FY23	FY24
Sub-Station		
Net Opening GFA	24450.78	24450.78
Addition	24450.78	24450.78
Grant portion	-	-
Freehold Land	-	-
Depreciable Value	24450.78	24450.78
Rate of Depreciation	4.98%	4.98%
Depreciation	1218.37	1218.37
Transmission Line		
Net Opening GFA	15162.62	15162.62
Addition	0.00	0.00
Grant portion	-	-
Freehold Land	304.79	304.79
Depreciable Value	14857.83	14857.83
Rate of Depreciation	5.28%	5.28%
Depreciation	672.64	672.64
Line+Sub-Station		
Depreciation	1891.01	1891.01

Commission's Analysis

4.2.3 The Commission has approved the depreciation in line with provisions of the Regulation 23 of the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011, as amended from time to time, which are as follows:

"23. Depreciation

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

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

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

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

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

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

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

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

4.2.4 The Commission has examined the depreciation proposed by the Petitioner in detail. The Petitioner has not provided the component wise depreciation; which was asked by the Petitioner in deficiency note. Thereafter the Petitioner provided the working excel as part of Tariff Forms for both the assets. The Commission has approved the depreciation as per the approved Capital Cost.

4.2.5 The yearly depreciation approved from COD to FY 2023-24 is summarized in table below:

Table 33: Depreciation approved by Commission (INR Lakh)

Particulars	FY23	FY24
Sub-Station		
Net Opening GFA	-	5,963.48
Addition	22,329.11	-
Grant Portion	16,076.96	-
Freehold Land	288.67	-
Depreciable Value	5,963.48	5,963.48
Rate of Depreciation (%)	4.98%	4.98%
Depreciation	296.98	296.98
Transmission Line		
Net Opening GFA	-	4,542.84
Addition	14,915.80	777.38
Grant Portion	10,068.16	-
Freehold Land	304.79	-
Depreciable Value	4,542.84	5,320.22
Rate of Depreciation (%)	5.28%	5.28%
Depreciation	239.86	280.91
Total Depreciation	536.84	577.89

4.3 Interest on Loan

Petitioner Submissions

- 4.3.1 The Petitioner has submitted the interest on loan in accordance with the Regulation 20 of the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011, as amended from time to time.
- 4.3.2 The Petitioner has claimed the interest on loan as per the ADB Loan agreement with Government of Himachal Pradesh at 10%. The Petitioner has considered COD as actual loan amounting to 77.86% on the Substation and 70.95% on Transmission Line
- 4.3.3 The Petitioner has claimed that in the absence of any actual repayment, for the purpose of working out the Interest on Loan, the repayment has been considered equal to Depreciation charged during each year of the Control Period for calculation of Interest on Loan. The Computation of Interest on Loan has been shown as under:

Table 34: Interest on Loan claimed by Petitioner (INR Lakh)

Particulars	FY23	FY24
Substation		
Opening Balance	19036.72	17818.35
Addition	0.00	0.00
Repayment	1218.37	1218.37
Closing Balance	17818.35	16599.98
Rate of Interest	10.00%	10.00%
Interest on Loan	1842.75	1720.92
Transmission Line		
Opening Balance	10757.95	10085.31
Addition	0.00	0.00
Repayment	672.64	672.64
Closing Balance	10085.31	9412.68
Rate of Interest	10.00%	10.00%
Interest on Loan	1042.16	974.90
Interest on Loan	2884.91	2695.82

Commission's Analysis

- 4.3.4 The Commission has considered the loan amount in line with the project funding in the previous chapter.
- 4.3.5 Regulation 20 of the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations 2011, as amended from time to time, stipulates the following:

"20. Interest and Finance Charges

(1) Interest and finance charges on loan capital shall be computed on the outstanding loans, duly taking into account the schedule of repayment in

accordance with the terms and conditions of relevant agreements of loan, bond or non-convertible debentures. Exception can be made for the existing or past loans which may have different terms as per the agreements already executed if the Commission is satisfied that the loan has been contracted for and applied to identifiable and approved projects.

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

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

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

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

(3) The interest rate on the amount of equity in excess of 30% treated as notional loan shall be the weighted average rate of the loans of the respective years and shall be further limited to the rate of return on equity specified in these regulations:

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

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

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

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

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

(5) The transmission licensee shall make every effort to refinance the loan as long as it results in net benefit to the beneficiaries. The costs associated with such refinancing shall be borne by the transmission customers and any

benefit on account of refinancing of loan and interest on loan shall be shared in the ratio of 2:1 between the transmission licensee and the transmission customers. Refinancing may also include restructuring of debt.

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

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

- 4.3.6 The Commission has approved the Interest on Loan in accordance with the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011, as amended from time to time. Repayment equivalent to approved depreciation has been considered for each year in line with the regulations. Accordingly, the opening and closing loan balances for each year has been determined.
- 4.3.7 The Commission has considered the debt amount as per the approved funding, including additional capitalization as discussed in Chapter 3 earlier.
- 4.3.8 Accordingly, the Commission has considered the rate of 10% as applicable in accordance with the terms and conditions of the loan as per agreement between the Petitioner and GoHP.
- 4.3.9 In case of the Transmission Line, part loan was from Himachal Pradesh State Cooperative Bank Ltd. The rate of interest of loan agreed between Petitioner and Himachal Pradesh State Cooperative Bank Ltd. was 7.68%. The drawl from ADB is INR 107.58 Cr., the remainder is deemed to be drawn from Himachal Pradesh State Cooperative Bank Ltd. Thus, the Commission approves that the interest rate on loan drawn for the Transmission Line shall be restricted to 9.9% based on the debt required for Transmission Line.
- 4.3.10 In light of consideration of grant portion, the Commission has considered new debt amounts for loan calculation. Furthermore, in case of Transmission line, the weighted average rate of interest has been calculated for use as follows:

Table 35: Weighted Average Rate of interest for Transmission Line

Particulars	Percentage	FY 23	FY 23
Loan As per Ledger at 10% (a)		107.58	107.58
Grant Considered (b=90%*a)	90%	96.82	96.82
Remainder ADB Loan (c=10%*a)	10%	10.76	10.76
Loan Approved (including Additional Capitalization) (d)		34.17	39.61
Loan for substitute Agreement (e=d-c)	7.68%	23.41	28.85
Weighted Average Rate of Interest (f=(10%*c+7.68%*e)/(c+e))		8.41%	8.31%

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

Table 36: Interest on Loan approved by Commission (INR lakh)

Particulars	FY23*	FY24
Sub-Station		
Opening Balance	-	4,079.52
Addition	4,376.51	-
Repayment	296.98	296.98
Closing Balance	4,079.52	3,782.54
Rate of Interest (%)	10%	10%
Interest on Loan	44.15	394.18
Transmission Line		
Opening Balance	-	3,153.48
Addition	3,393.34	544.17
Repayment	239.86	280.91
Closing Balance	3,153.48	3,416.74
Rate of Interest (%)	8.41%	8.31%
Interest on Loan	28.72	273.87
Total Interest on Loan	72.87	668.05

*Note: Interest on Loan for FY 2022-23 is on pro-rata basis i.e. from 11.01.2023

4.4 Return on Equity

Petitioner Submissions

4.4.1 the Petitioner has considered the opening value of equity as on CoD as actual equity corresponding to 30% and 29.05% of the total Project cost for the Substation and Transmission Line respectively.

4.4.2 The RoE proposed by the Petitioner for each year is summarised in the table as follows:

Table 37: RoE claimed by Petitioner(INR Lakh)

Particulars	FY23	FY24
Substation		
Opening Equity	5414.06	5414.06
Addition	0.00	0.00
Closing Equity	5414.06	5414.06
Average Equity	5414.06	5414.06
RoE (%)	15.50%	15.50%
Return on Equity	839.18	839.18
Transmission Line		
Opening Equity	4404.67	4404.67
Addition	0.00	0.00
Closing Equity	4404.67	4404.67
Average Equity	4404.67	4404.67
RoE (%)	15.50%	15.50%
Return on Equity	682.72	682.72
Return on Equity	1,521.90	1,521.90

Commission's Analysis

4.4.3 Regulation 19 of the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations 2011, as amended from time to time, stipulates the following:

"19. Return on Equity

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

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

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

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

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

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

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

4.4.5 The Commission has considered 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.

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

Table 38: RoE approved by Commission (INR Lakh)

Particulars	FY23*	FY24
Sub-Station		
Opening Equity	-	1,875.65
Addition	1,875.65	-
Closing Equity	1,875.65	1,875.65
RoE (%)	15.50%	15.50%
Return on Equity	31.46	291.52
Transmission Line		
Opening Equity	-	1,454.29
Addition	1,454.29	233.21
Closing Equity	1,454.29	1,687.50
RoE (%)	15.50%	15.50%
Return on Equity	24.39	244.16
Return on Equity (Total)	55.86	535.68

Return on Equity pro-rated for 79 days for FY 2022-23 based on COD (i.e.11.01.2023)

4.5 O&M Expenses

Petitioner Submissions

4.5.1 The Petitioner submitted that as per HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations 2011, as amended from time to time, 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:-

$O\&M_n = R\&M_n + EMP_n + A\&G_n$: Where -

'EMP_n' = [(EMP_{n-1}) x (1+G_n) x (CPI inflation)] + Provision (Emp);

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

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

'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;

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

'WPI inflation' – 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;

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

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

4.5.2 The Petitioner has requested to approve the O&M expenses as claimed considering the norms as per CERC Tariff Regulations, 2019 which shall be subject to truing up based on actual. The Petitioner's claim has been elaborated below:

Table 39: O&M Expenses claimed by Petitioner (INR Lakh)

Particulars	Units	FY23	FY24
Substation			

Particulars	Units	FY23	FY24
400 kV	INR Lakh/bay	24.96	25.84
220 kV	INR Lakh/bay	17.47	18.09
400 kV bays	No.	4	4
220 kV bays	No.	1	1
400 kV Transformer	INR Lakh/MVA	0.398	0.411
Capacity	MVA	2*315	2*315
O&M Expenses	INR Lakh	368.06	380.07
Transmission Line			
400 kV line	INR Lakh/km	0.98	1.01
400 kV line	km	35.31	35.31
O&M Expenses	INR Lakh	34.49	35.70
O&M Expenses	INR Cr	402.55	415.77

Commission's Analysis

4.5.3 The Commission observes that the O&M expenses for the first year of operation for both the line and the Sub-Station are not considered by the Petitioner. This may be due to partial operations but may increase in the upcoming years due to expected increase in Employee, R&M and A&G expenses. Considering that O&M expenses submitted are for partial year and actual audited O&M expenses for sufficient number of years are not available, it is difficult to ascertain a realistic trend for O&M expenses for the upcoming years. In the absence of any accurate benchmark, the Commission has relied upon the normative O&M expenses prescribed in the CERC Tariff Regulations, 2019.

4.5.4 The Commission has determined the O&M expenses for Sub-Station and line separately. Based on the number of bays, voltage, circuit Km and conductor size the following norms have been considered as per the technical details of line and Sub-Station for computation of O&M expenses:

Table 40: Normative O&M Expenses – Transmission Line

Item	Unit	FY23	FY24
Norm: Double Circuit (Twin or Triple Conductor)	INR Lakh/km	0.98	1.01
400 kV Line	km	35.31	35.31
Total	INR Lakh	7.49	35.66

4.5.5 Based on the above norms, the Commission has approved the O&M expenses for each year. Also, a factor of 0.7 has been considered for computing the O&M for GIS, the same was not considered by the Petitioner. The Norms are based on CERC guidelines.

Table 41: Normative O&M Expenses – Sub-Station

Particular's	Unit	FY23	FY24
400kV	INR Lakh/bay	35.66	36.91
220 kV	INR Lakh/bay	24.96	25.84

Particular's	Unit	FY23	FY24
400kV	Nos	4.00	4.00
220 kV	Nos.	1.00	1.00
400 kV Transformer	INR Lakh/MVA	0.40	0.41
Capacity	MVA	630.00	630.00
Total	INR Lakh	63.38	303.52

4.5.6 The following table provides the O&M expenses approved by the Commission for each year:

Table 42: O&M Expenses approved by Commission (INR Lakh)

Item	FY23	FY24
Sub-station	63.38	303.52
Transmission Line	7.49	35.66
Total O&M Expenses	70.87	339.18

O&M Expenses pro-rated for 79 days for FY 2022-23 based on COD (i.e.11.01.2023)
Sub-Station expenses multiplied by 0.7 as per CERC norms as this is a GIS Sub-station

4.6 Interest on Working Capital

Petitioner Submissions

- 4.6.1 The Petitioner has computed interest on working capital as per Regulations 21 and 22 of the HPERC (Terms and Conditions for Determination of Transmission Tariff) Transmission Regulations, 2011, as amended from time to time..
- 4.6.2 The Petitioner has calculated the interest on working capital considering prevalent SBI MCLR as on FY 2022-23 plus 300 basis. In accordance with the above Regulations, the interest on working capital claimed is as shown below:

Table 43: Interest on Working Capital claimed by Petitioner (INR Lakh)

Particulars	Units	FY23	FY24
Substation			
1/12th of O&M Expense	INR Lakh	30.67	31.70
Receivables equivalent to 2 months average billing	INR Lakh	724.05	705.50
Maintenance Spares (15% of O&M Expense of 1 month)	INR Lakh	4.60	4.75
Less: Consumer Security Deposit	INR Lakh	0	0
Total Working Capital	%	759.32	741.96
Interest Rate on Working Capital (SBI MCLR + 300 basis point)	INR Lakh	10.00%	10.00%
Interest on Working Capital		75.93	74.20
Transmission Line			
1/12th of O&M Expense	INR Lakh	2.87	2.97
Receivables equivalent to 2 months average billing	INR Lakh	412.26	401.07

Particulars	Units	FY23	FY24
Maintenance Spares (15% of O&M Expense of 1 month)	INR Lakh	0.431	0.446
Less: Consumer Security Deposit	INR Lakh	0	0
Total Working Capital		415.57	404.49
Interest Rate on Working Capital (SBI MCLR + 300 basis point)	%	10.00%	10.00%
Interest on Working Capital	INR Lakh	41.56	40.45
Interest on Working Capital	INR Lakh	117.49	114.65

Commission's Analysis

4.6.3 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 (Terms and Conditions for Determination of Transmission Tariff) Regulations 2011, as amended from time to time.

4.6.4 The relevant clauses of the Regulations 21 and 22 are reproduced as follows:

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

(a) O&M expenses for 1 month;

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

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

"22. Interest Charges on Working Capital- Rate of interest on working capital to be computed as provided hereinafter in these regulations shall be on normative basis and shall be equal one (1) Year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for one (1) Year period, as may be applicable as on 1st April of the Financial Year in which the Petition is filed plus 300 basis points. The interest on working capital shall be payable on normative basis notwithstanding that the licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures."

4.6.5 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 of each year plus 300 basis points for FY 2019-20 and FY 2020-21. From FY 2021-22 onwards SBI MCLR as on 1st April, 2021 plus 300 basis points has been considered. For FY 2022-23 SBI Base Rate as on 1st April, 2018 plus 300 points has been considered in accordance with the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011, as amended from time to time, as applicable for FY 2018-19.

4.6.6 The interest on working capital shall be trued-up based on the actual rates as on 1st April of relevant financial year and the HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011, as amended from time

to time. The computation for approved working capital requirement and interest on working capital is shown in the table as follows:

Table 44: Interest on Working Capital approved by Commission (INR Lakh)

Particulars	FY23*	FY24
Sub-Station		
O&M expenses for 1 month	5.28	25.29
Maintenance spares @ 15% of O&M Expenses for one month	0.79	3.79
Receivable for 2 months	74.20	219.19
Less: Consumer Security Deposit	0	0
Total Working capital	80.27	248.27
Interest rate	11.50%	11.65%
Interest on Working Capital	9.23	28.92
Transmission Line		
O&M expenses for 1 month	0.62	2.97
Maintenance spares @ 15% of O&M Expenses for one month	0.09	0.45
Receivable for 2 months	51.07	141.92
Less: Consumer Security Deposit	0	0
Total Working capital	51.79	145.34
Interest rate	11.50%	11.65%
Interest on Working Capital	5.96	16.93
Total Interest on Working Capital	15.19	45.86

Interest on Working Capital pro-rated for 79 days for FY 2022-23 based on COD (i.e.11.01.2023)

4.7 Aggregate Revenue Requirement

Petitioner Submissions

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

Table 45: Summary of ARR claimed by Petitioner (INR Lakh)

Particulars	Units	FY23	FY24
Substation			
O&M Expenses	INR Lakh	368.06	380.37
Interest on Loan	INR Lakh	1842.75	1720.92
Interest on Working Capital	INR Lakh	75.93	74.20
Depreciation	INR Lakh	1218.37	1218.37
Return on Equity	INR Lakh	839.18	839.18
Sub Total	INR Lakh	4344.29	4233.02
Pro-rata for Number of days in operation	INR Lakh	952.17	4233.02

Particulars	Units	FY23	FY24
Transmission Line			
O&M Expenses	INR Lakh	34.49	35.70
Interest on Loan	INR Lakh	1042.16	974.90
Interest on Working Capital	INR Lakh	41.56	40.45
Depreciation	INR Lakh	672.64	672.64
Return on Equity	INR Lakh	682.72	682.72
Sub Total	INR Lakh	2473.58	2406.40
Pro-rata for Number of days in operation	INR Lakh	542.15	2406.40
ARR	INR Lakh	1,494.32	6,639.42

Commission's Analysis

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

Table 46: Summary of ARR approved by Commission (INR Lakh)

Particulars	Units	FY23	FY24
Sub-Station			
Depreciation	INR Lakh	296.98	296.98
Interest on Loan	INR Lakh	44.15	394.18
Interest on Working Capital	INR Lakh	9.23	28.92
Return on Equity	INR Lakh	31.46	291.52
O&M Expenses	INR Lakh	63.38	303.52
ARR	INR Lakh	445.20	1,315.12
Transmission Line			
Depreciation	INR Lakh	239.86	280.91
Interest on Loan	INR Lakh	28.72	273.87
Interest on Working Capital	INR Lakh	5.96	16.93
Return on Equity	INR Lakh	24.39	244.16
O&M Expenses	INR Lakh	7.49	35.66
ARR	INR Lakh	306.42	851.52
Total ARR	INR Lakh	751.63	2,166.65

4.8 Carrying Cost

Petitioner Submissions

4.8.1 The Petitioner has sought approval to charge carrying cost due to delayed tariff recovery for 400/220 KV portion of 400/220/33 kV Pooling station at Lahal along with 400 kV double circuit line from Lahal pooling station to Chamera PGCIL Pooling Station.

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

Commission's Analysis

4.8.3 The Petitioner has cited reasons such as complexity in bifurcation of cost, CoVID and other aspects which are of transient nature and should not have resulted in a delay of two years. Further, the Petitioner has also taken considerable time in responding to the various queries of the Commission resulting in further delays. It is also observed that even after taking such significant time for filing of the petition, the Petitioner has been unable to provide adequate bifurcation of costs between the 400/220 kV and 220/33 kV of the Sub-station. Further, the beneficiaries of the Transmission system are also not clearly identified as discussed in previous sections. Therefore, 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 HPSEBL, Bajoli Holi HEP, Kutehr HEP and other HEPs in the Bharmour area are the beneficiaries of the transmission scheme. The Petitioner has submitted that after determination of Transmission tariff by the Commission for the assets, Petitioner shall approach Hon'ble CERC for inclusion of the asset in the PoC mechanism as per CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020.

Commission's Analysis

4.9.2 As per the DPR of the transmission asset for 400/220 kV system, power from HEPs in Bharmour Area of Ravi Basin with a capacity of 914 MW was envisaged to be evacuated. The revised planning was for evacuation of power from a number of other power projects. The capacities of these projects are in the range of 240 MW to 2.2 MW. As per the DPR, the envisaged capacity of the Sub-Station was to cater to the upcoming generation capacity in the region. The combined system with 400/220 kV Sub-Station shall be able to evacuate the total energy being generated in the area.

4.9.3 Subsequently, the Petitioner was asked to provide details of beneficiaries and status of signing of Transmission Service Agreement (TSA) with them. In response, the Petitioner has submitted that in addition to M/s GMR Bajoli Holi HEP and HPSEBL, the transmission agreement has been signed with other beneficiaries including plants such as Kutehr (240 MW) and several other small HEPs which are less than 25 MW. The Petitioner had also submitted that connection agreement and CON-5 are signed with various HEPs while agreements with remaining HEPs are yet to be signed.

4.9.4 The Petitioner has further submitted that while majority of the power is flowing towards ISTS points, it has not submitted an application before NRPC/CERC for ISTS certification as work of certification of non-ISTS lines is withdrawn subsequent to notification of CERC (Sharing of ISTS Charges and Losses)

Regulations, 2020 w.e.f. 01.11.2020 and has therefore requested the Commission to consider the asset as part of intra-state transmission system as the asset has been created by STU.

4.9.5 As detailed in para 3.5.5 of Chapter 3 Capital Cost, prima facie the asset is observed to be catering to evacuation of power outside the State and since majority of energy flow through the system seems to be towards inter-state transmission system connection points, the Petitioner is directed to approach the appropriate authority for recovery of charges under POC/GNA mechanism. Also, the Petitioner is directed to enter into connection agreements/TSA/LTAs with the existing and upcoming beneficiaries of the transmission asset in a time bound manner.

-sd-

(SHASHI KANT JOSHI)
Member

-sd-

**(YASHWANT SINGH
CHOGAL)**
Member (Law)

-sd-

**(DEVENDRA KUMAR
SHARMA)**
Chairman

Shimla

Dated: 10.09.2024