Approval of Capital Cost along with Additional Capitalization and Determination of Tariff for Sainj Hydro Electric Project (HEP)(2x50MW) from Date of Commercial Operation (COD) to Financial Year (FY) 2023-24

Himachal Pradesh Power Corporation Limited (HPPCL)

Himachal Pradesh Electricity Regulatory Commission
June 05, 2024

BEFORE THE HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION AT SHIMLA

PETITION NO: 25/2024

CORAM

Sh. DEVENDRA KUMAR SHARMA

Sh. YASHWANT SINGH CHOGAL

Sh. SHASHI KANT JOSHI

In the matter of:

Approval of Capital Cost along with Additional Capitalization and Determination of Tariff for Sainj Hydro Electric Project (HEP) (2x50MW) from COD to Financial Year (FY) 2023-24 under the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2011 and its amendments thereafter and under Section-62 read with Section 86 of the Electricity Act 2003.

AND

In the matter of:

Himachal Pradesh Power Corporation Ltd. (HPPCL)……………………………………the Petitioner

ORDER

The Himachal Pradesh Power Corporation Limited (hereinafter called the 'HPPCL' or 'Petitioner' or 'Applicant') has filed a Petition with the Himachal Pradesh Electricity Regulatory Commission (hereinafter referred to as 'the Commission' or 'HPERC') for approval of Capital Cost and Determination of Tariff for Sainj Hydro Electric Project (HEP) (2x50MW) (hereinafter referred to as the 'Project' or 'SHEP') from COD to FY 2023-24 under the Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2011 as amended from time to time (hereinafter referred to as 'HPERC Hydro Tariff Regulation, 2011') and under Section-62 read with Section 86 of the Electricity Act 2003 (hereinafter referred to as "the Act").

The Petitioner took significant time in responding to the clarification and queries raised by the Commission. On several occasions, the information provided was either incomplete or did not address the query of the Commission adequately. As a result, even post the written submissions, clarifications were sought verbally from the Petitioner.

The Commission has heard the Applicant, interveners, stakeholders and stakeholder representatives through various representations. The Commission has also held formal interactions with the officers of the HPPCL and having 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, and in exercise of the powers vested in it under section 62, 64 and 86 of the Electricity Act, 2003 accepts the application with modification, conditions and passes the following Order for determining the capital cost and tariff of Sainj Hydro Electric Project (HEP) (2x50MW) from COD to FY 2023-24.

The Commission has determined the Capital Cost and Aggregate Revenue Requirement (ARR) for Sainj Hydro Electric Project (HEP) (2x50MW) from COD to FY 2023-24 under the 'HPERC Hydro Tariff Regulation 2011' and under Section-62 read with Section 86 of the Electricity Act 2003. The approach adopted by the Commission with regard to approval of capital cost and ARR for Sainj Hydro Electric Project (HEP) (2x50MW) from COD to FY 2023-24 have been summarized in the detailed Order.

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

Shimla

Dated: 05th June 2024

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1. INTRODUCTION

1.1 Himachal Pradesh Electricity Regulatory Commission

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

1.1.2 Functions of the Commission

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

a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State. Provided that where open access has been permitted to a category of Consumers under section 42, the State Commission shall determine only the wheeling charges and surcharge thereon, if any, for the said category of consumers;

b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;

c) facilitate intra-state transmission and wheeling of electricity;

d) issue licences to persons seeking to act as transmission licensees, distribution licensees and electricity traders with respect to their operations within the State;

e) promote co-generation and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person, and also specify, for purchase of electricity from such sources, a percentage of the total consumption of electricity in the area of a distribution licence;

f) adjudicate upon the disputes between the licensees, and generating companies and to refer any dispute for arbitration;

g) levy fee for the purposes of this Act;

h) specify State Grid Code consistent with the Indian Electricity Grid Code specified with regard to grid standards;

i) specify or enforce standards with respect to quality, continuity and reliability of service by licensees;

j) fix the trading margin in the intra-state trading of electricity, if considered, necessary; and

k) Discharge such other functions as may be assigned to it under this Act.

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

a) promotion of competition, efficiency and economy in activities of the electricity industry;

b) promotion of investment in electricity industry;

c) reorganization and restructuring of electricity industry in the State;

d) Matters concerning generation, transmission, distribution and trading of electricity or any other matter referred to the State Commission by State Government.

1.2 Himachal Pradesh Power Corporation Ltd.

1.2.1 The Himachal Pradesh Power Corporation Limited (HPPCL), was incorporated in December 2006 under the Companies Act, 1956, with the objective to plan, promote and organize the development of all aspects of hydroelectric power on behalf of Himachal Pradesh Government (GoHP) and Himachal Pradesh State Electricity Board (now the HPSEBL). As per Electricity Act 2003 section-10(2) subject to the provisions of this Act, the duties of a generating company shall be to establish, operate and maintain generating stations, tie-lines, Sub-stations and dedicated transmission lines connected therewith in accordance with the provisions of this Act or the rules or regulations made there under. As per Memorandum of Association and Article of Association dated 05.12.2006 the GoHP has a 60%, and the HPSEB has 40% shareholding in the HPPCL.

1.2.2 The Government of Himachal Pradesh (GoHP) has allocated 22 hydroelectric projects to the HPPCL for development under the state sector, with a combined installed capacity of 2817 MW. The HPPCL achieved a significant milestone by commissioning its first hydroelectric project on 01.09.2016. Currently, the corporation operates three hydro power stations with a total installed capacity of 276 MW and is actively involved in constructing three additional hydro projects, which will add up to 628 MW upon completion.

1.2.3 Moreover, there are 10 projects in the stage of investigation and pre-construction clearances, with a combined capacity of 1325 MW. Additionally, there are eight projects in the pre-feasibility stage, with a total capacity of 927 MW. The HPPCL is also serving as the nodal agency for the development of the Kishau Multipurpose Project (660 MW), which will be executed through a Special Purpose Vehicle involving the Governments of Himachal Pradesh and Uttarakhand. Himachal Pradesh has a 50% share in this project, bringing the total allotted potential to 3147 MW.

1.2.4 The HPPCL, apart from Hydro Power Development, intends to diversify its power development activities in other areas such as thermal, renewable sources of energy, mainly solar power etc.

1.3 Multi Year Tariff Framework

1.3.1 The Commission follows the principles of Multi Year Tariff (MYT) determination, in line with the provision of Section 61 of the Act.

1.3.2 The Commission has issued Himachal Pradesh Electricity Regulatory Commission (Terms and Conditions for Determination of Hydro Generation Tariff) Regulations, 2011 vide notification dated 01.04.2011 (hereinafter referred to as'HPERC Hydro Tariff Regulation, 2011' or "Regulations").

1.3.3 Subsequently, the Commission has made the following amendments to the above Regulations:

a) HPERC (Terms and Conditions for Determination of Hydro Generation Tariff) (First Amendment) Regulations, 2011 dated 30.07.2011.

b) HPERC (Terms and Conditions for Determination of Hydro Generation Tariff) (Second Amendment) Regulations, 2013 dated 01.11.2013.

c) HPERC (Terms and Conditions for Determination of Hydro Generation Tariff) (Third Amendment) Regulations, 2018 dated 22.11.2018.

1.3.4 In line with the provisions of the 'HPERC Hydro Tariff Regulation, 2011'as amended from time to time, the Petitioner has filed this Petition No. 25 on 03.06.2023 for seeking approval of Capital cost along with additional capitalization and determination of tariff for Sainj Hydro Electric Project (HEP) (2x50MW) from COD to FY 2023-24.

1.3.5 The Commission has reviewed the Petition filed by the HPPCL and has finalised this Order based on the review and analysis of the information contained in the Petition, additional submissions in response to data gaps, necessary clarifications submitted by the Petitioner and views expressed by the Stakeholders.

1.4 Interaction with the Petitioner

1.4.1 The HPPCL has filed the application/Petition for approval of Capital cost along with additional capitalization and Determination of tariff for Sainj Hydro Electric Project (HEP) (2x50MW) from COD to FY 2023-24, with the Commission on 03.06.2023. Based on various observations/deficiencies pointed out by the Commission, the HPSEBL has submitted further details and clarifications subsequently.

1.4.2 Based on preliminary scrutiny of the Petition, the Commission, through a letter dated 15.07.2023, directed the Petitioner to provide details regarding the first set of deficiencies identified in the Petition. The Petitioner submitted their reply on 14.09.2023. The Commission admitted the aforementioned Petition submitted by the Petitioner vide interim Order dated 05.02.2024. There have been a series of interactions between the HPPCL and the Commission, both written and oral, wherein the Commission sought additional information/ clarifications and justifications on various issues, critical for the analysis of the Petition.

1.4.3 The Petitioner was asked to remove various deficiencies/ provide additional information vide following HPERC communications:

Table 1: HPERC Communication with respect to (w.r.t) deficiencies to the Petitioner

S. No.	HPERC's Communication	Date (dd.mm.yyyy)
I	HPERC-F(1)-63/2023-1007-1008	15.07.2023
II	HPERC-F(1)-63/2023-2011	12.10.2023
III	HPERC-F(1)-63/2023-3006	19.12.2023
IV	HPERC-F(1)-63/2023-3812	13.02.2024
V	Deficiencies post Technical Validation Session: HPERC-F(1)-63/2023-3945	22.02.2024

1.4.4 The queries raised by the Commission vide above mentioned letters with respect to the Petition were replied by the HPPCL. However, delay in submission and non-submission of the complete information remained a major bottleneck. The following submissions made by the Petitioner in response there to, have been taken on record:

Table 2: Petitioner response w.r.t deficiencies raised by the Commission

S. No.	Submission of the Petitioner	Date (dd.mm.yyyy)
I	Response to HPERC's Letter dated 15.07.2023	14.09.2023
II	Response to HPERC's Letter dated 12.10.2023	06.11.2023
III	Response to HPERC's Letter dated 19.12.2023	18.01.2024
IV	Response to HPERC's Letter dated 13.02.2024	27.02.2024
V	Deficiencies post Technical Validation Session: Response to HPERC's Letter dated 22.02.2024	15.03.2024

1.5 Public Hearings

1.5.1 The Petitioner published the salient features of the Petition by the way of a Public Notice in the following newspapers:

Table 3: List of Newspapers for publication of Stakeholders Comments

S. No.	Name of News Paper	Date of Publication
I	Dainik Jagran	18.02.2024
II	The Tribune	18.02.2024
III	Himachal Dastak	19.02.2024
IV	The Indian Express	19.02.2024

1.5.2 The Commission invited suggestions and objections from the public on the Petition filed by the Petitioner in accordance with Section 64(3) of the Electricity Act, 2003 subsequent to the publication of salient features by the Petitioner. The Public notice, issued by the Commission, inviting objections/ suggestions was published in the following newspapers:

Table 4: List of Newspapers for Public Notice by Commission

S. No.	Name of News Paper	Date of Publication
I	Dainik Bhaskar	23.02.2024
II	The Tribune	23.02.2024

1.5.3 Through the aforementioned publications, the interested parties/ stakeholders were asked to file their objections and suggestions on the Petitions and rejoinders to the replies filed by the Petitioner for which dates were specified by the Commission in the publications.

1.5.4 The stakeholders were requested to file their objections by 21.03.2024. The HPPCL was required to submit replies to the suggestions/ objections to the Commission by 22.03.2024 with a copy to the objectors.

1.5.5 The Commission decided to conduct the public hearing and, therefore, issued a public notice informing the public about the scheduled date of public hearing as 23.03.2024. All the parties, which had filed their objections/ suggestions, were informed about the date, time and venue of the public hearing for presenting their case.

1.5.6 The Commission has considered the submissions made by the Petitioner and the various objections raised by stakeholders carefully for the purpose of issuance of this Order. Further, the received objections/ suggestions from the Stakeholders are discussed in subsequent chapter of this Order.

2. STAKEHOLDER OBJECTIONS

2.1 Introduction

2.1.1 As detailed out in Chapter-1 of this Order, the Commission through Public Notice in various newspapers informed the public/ stakeholders about the date for filing comments/ objections and date of public hearing as 23.03.2024 for the Petition of Approval of Capital Cost along with Additional Capitalization and Determination of Tariff for Sainj Hydro Electric Project (HEP) (2x50MW) from COD to FY 2023-24.

2.1.2 Accordingly, the public hearing was conducted on 23.03.2024 in the Commission. The Comments/Suggestions were received on the Petition from the Consumer representative, the Himachal Pradesh State Electricity Board Limited (HPSEBL) and the Himachal Pradesh Power Transmission Corporation Limited (HPPTCL). Issues raised by the stakeholders in their written submissions, along with replies given by the Petitioner and views of the Commission on the issues raised are summarized in the following paragraphs.

Stakeholders' Submissions

2.1.3 The Consumer Representative pointed out that the Petition submitted by Petitioner for determination of capital cost and tariff from COD until FY 2023, as well as the request for approval of additional capitalization, lacks the necessary detail required by the Commission's Regulations. These Petitions do not clearly determine the annual fixed charges from COD until FY 2023-24, and are therefore vague, providing very few details. They do not appear to meet the requirements set by the HPERC Hydro Tariff Regulations.

Petitioner's Response

2.1.4 The Petitioner has submitted that the Petition has been filed as per the relevant HPERC Regulations and procedures. Further, the Petitioner submitted that the detailed replies on queries from the Commission with respect to the Petition stands submitted.

Commission's Observations

2.1.5 The Commission partially concurs with observation of the stakeholder. However, the Commission while analyzing the Petition has raised multiple set of queries asking for requisite additional information and clarification required for processing the Petition and determining the Tariff for the respective years for the Sainj HEP. The details of clarification sought and submissions with respect to the same are covered as part of Chapter 3 and 4 of this Order.

Stakeholders' Submissions

2.1.6 The Consumer Representative pointed out that the Petitioner has submitted the capital costs, along with additional capitalization and tariff determination proposal based on projections for the Control Period for FY 2023-24. These projections seem to be based on projected capital and annual costs/charges under each year of Control Period including true-up period. Since the matter regarding water cess was finally decided by the Hon'ble Court, the Petitioner needs to review the present Petition accordingly. A detailed tariff proposal regarding the category-wise tariff impact on the Consumers based on increases proposed, should be submitted; otherwise, the utility may not be allowed to increase the tariff.

Petitioner's Response

2.1.7 The Petitioner has submitted that the needful will be done as per the directives of GoHP and water cess policy.

Commission's Observations

2.1.8 The Commission has noted down the comments of the stakeholders and has determined the capital cost of the project and tariff as per the provisions of the Regulations and after doing required prudence check.

Stakeholders' Submissions

2.1.9 The Consumer Representative has highlighted that the annual fixed charges, capital costs, additional capitalization, etc., needs to be prudently worked out by the Petitioner to facilitate effective determination of the tariff by the Commission.

Petitioner's Response

2.1.10 The Petitioner has submitted that the annual fixed charges, capital costs and additional capitalization etc., in respect of Sainj HEP has been worked out as per the relevant HPERC Regulations & procedures.

Commission's Observations

2.1.11 The Commission has noted the submissions. The matter with respect to annual fixed charge has been discussed in Chapter 4 of this order. The Commission has undertaken detailed review of the capital cost and additional capitalization of the project as discussed in the Chapter 3 of this Order. Further, the annual fixed charges and energy charge have been worked out based on the approved capital cost and 'HPERC Hydro Tariff Regulations, 2011' in the Chapter 4 of this Order.

Stakeholders' Submissions

2.1.12 The Consumer Representative pointed out that the Petitioner is required to devise an effective mechanism to address its losses for the Sainj HEP and for the company. It was also suggested that the Petitioner should submit a concrete proposal for addressing the losses to the Commission.

Petitioner's Response

2.1.13 The Petitioner has submitted that it has requested the Commission to devise a mechanism to overcome the loss/profit incurred since COD of the plant. It also mentioned that the right to decide the same rests with the Commission.

Commission's Observations

2.1.14 The Commission has determined the tariff for the project based on the effective date of agreement between the Petitioner with the HPSEBL for supply of power from the Sainj HEP. The same is in line with the Order of the Commission passed on 13.02.2023 for entering into PPA with the HPSEBL. Generation being a delicensed activity, the Petitioner had chosen to sell its power through exchange, or any other mechanism is the past. Therefore, any power sold by the Petitioner prior to execution of the PPA was not under the current arrangement with the HPSEBL and therefore does not fall under the purview of the existing PPA. The Commission is of the firm view that any profit/loss incurred prior to the date of supply of power under the PPA is to the account of the Petitioner and the Consumers of the state cannot be burdened with any additional cost incurred prior to the effective date of PPA.

Stakeholders' Submissions

2.1.15 The Consumer Representative highlighted that legal expenses in respect of Court, arbitration cases in respect of Civil, E&M and other works in Sainj HEP are quite high (Rs. 193.04 Cr.) which are going to escalate in future as matters are stated to be sub-judice. The stakeholder has suggested that a focused strategy to expedite settlement/disposal of these cases requires to be devised to curtail capital cost of the project.

Petitioner's Response

2.1.16 The Petitioner has submitted that the suggestion has been taken up with their management and is being complied.

Commission's Observations

2.1.17 The Commission takes note of the stakeholder submissions with respect to the high cost under legal /arbitration cases. The Commission shall review the same based on the outcome of same subject to prudence check and detailed analysis.

Stakeholders' Submissions

2.1.18 The Consumer Representative mentioned that the Petitioner should explain its decision regarding the payment adjustment of permanent assets which have not been considered in the total capital costs of project and left to be considered during true-up. The Petitioner requires to make serious efforts to settle these amounts to submit a true capital cost for approval.

Petitioner's Response

2.1.19 The Petitioner has submitted that the suggestion of the stakeholder has been taken up with their management and is being complied.

Commission's Observations

2.1.20 The Commission has noted the submissions. Further, it is observed that any additional costs would further increase the tariff and scope for any hike is limited. The Petitioner should carefully examine the additional claim and reduce any further impact on the capital cost of Sainj HEP.

Stakeholders' Submissions

2.1.21 The Consumer Representative pointed out that the Petitioner may be allowed to avail the benefits of Hydro Purchases Obligations (HPO) / Renewal Purchase Obligations (RPO) as per mandate of CERC /HPERC /MoP Regulations/ Notifications etc., on the matter issued from time to time.

Petitioner's Response

2.1.22 The Petitioner has submitted that the suggestions of the stakeholder has been taken up with their management and are being complied.

Commission's Observations

2.1.23 The Commission has noted the submissions. The entitlements of the Renewable Energy Certificates to the hydro stations shall be in accordance with the provisions of the relevant Regulations. Also, any HPO claim shall be required to be made by the beneficiary from the project i.e., HPSEBL.The decision shall be taken based on the proposal submitted by the Petitioner in this regard.

Stakeholders' Submissions

2.1.24 The Consumer Representative pointed out that the Petitioner has not submitted the collection efficiency for each year of the Control Period. The Petitioner is also required to submit the category-wise collection efficiency during the previous, i.e., 4th Control Period.

Petitioner's Response

2.1.25 The Petitioner has submitted that the category-wise collection efficiency does not have relevance with Generating Stations.

Commission's Observations

2.1.26 The Commission has noted the submissions and agree to the response submitted by the Petitioner.

Stakeholders' Submissions

2.1.27 The Consumer Representative pointed out that efforts are required by the Petitioner to ensure maximum generation of power and sale thereof to increase revenue generation in each HEP and review their performance at regular intervals. An integrated approach to be ensured for sale of power of the Sainj HEP to the HPSEBL through Govt. and outside in view of sufficient net saleable energy available with these projects after their commissioning. Free power to Govt. agreement needs to be reviewed to bring it to minimal to have more power for sale to make these HEPs self-sustaining by generating revenue and profits.

Petitioner's Response

2.1.28 The Petitioner has submitted that the needful will be done as per H.P Govt. directions / policy in this regard.

Commission's Observations

2.1.29 The Commission agree with the Petitioner that the free power falls under the domain of the GoHP. However, the Commission has allowed the same in the tariff as per the Regulations and the National Tariff Policy.

Stakeholders' Submissions

2.1.30 The HPSEBL during the Public hearing submitted that in Page No. 03 of the Petition, actual Capital cost claimed as on COD is given as Rs. 1288.04 Cr. against the approved DPR cost of Rs. 676.29 Cr. and the Petitioner has shown the difference in this cost due to time over run as the scheduled commissioning as per contract was in March-2015, whereas actual COD of the project was on 04.09.2017, which escalated the capital cost of the project. It has been submitted that the time over run cost shall not be transferred to the beneficiaries. Since, the actual cost is very high as compared to the DPR cost, therefore, it is prayed that detailed prudence check for the expenditure incurred as per the Regulations 11, 12 and 13 of the Himachal Pradesh State Electricity Regulatory Commission (HPERC) (Terms and Conditions of Determination of Hydro Generation Tariff) Regulations, 2011 and its amendments thereof.

Petitioner's Response

2.1.31 The Petitioner has submitted that the claim has been filed as per the provisions of the HPERC Regulations. Further, the detailed justification along with the supporting documents submitted with the main Petition and its subsequent replies against the queries raised by the HPERC are available at the HPPCL website.

Commission's Observations

2.1.32 The Commission has considered each and every aspect and has approved the claim of the Petitioner including IDC after doing required prudence check as discussed in the subsequent chapters of this tariff order.

Stakeholders' Submissions

2.1.33 The HPSEBL submitted that at Para No. (3.3) of the Petition, the Additional Capital Expenditure incurred 'upto Cut-off date' and 'beyond Cut-off date' may be considered by the commission as per the Regulation 13 of the HPERC (Terms and Conditions of Determination of Hydro Generation Tariff) Regulations, 2011 and its amendments thereof, after prudence check of expenditure for the cut off period applicable for Sainj HEP.

Petitioner's Response

2.1.34 The Petitioner has submitted that the claim has been filed as per the provisions of the HPERC Regulations.Further, the detailed justification along with the supporting documents submitted with the main Petition and its subsequent replies against the queries raised by HPERC are available at the HPPCL website.

Commission's Observations

2.1.35 The Commission has noted the submissions and has allowed the claim of the Petitioner for additional CAPEX after doing required prudence check as discussed in the subsequent chapters of this tariff order.

Stakeholders' Submissions

2.1.36 The HPSEBL submitted that the Debt: Equity ratio as claimed by the Petitioner is 70:30 on COD and project wise segregation of the equity is not maintained in HPPCL accounts and has requested for prudence check of the same and consider the same as per the Regulation.

Petitioner's Response

2.1.37 The Petitioner has submitted that the claim has been filed as per the provisions of the HPERC Regulations. Further, the detailed justification along with the supporting documents submitted with the main Petition and its subsequent replies against the queries raised by HPERC are available at the HPPCL website.

Commission's Observations

2.1.38 The Commission agree to the submissions of the stakeholders and has allowed the debt: equity ratio as per the provisions of the Regulations and as per the approved DPR/TEC of the Project.

Stakeholders' Submissions

2.1.39 The HPPTCL has highlighted the Para No. 2.3.4 (vii) of the Petition, which states that the HPPCL signed PPA with the HPSEBL for Sainj HEP on 29.03.2023 to which the HPPTCL was not a party. The HPPCL in this PPA has agreed to sell 50% share of Power from Sainj HEP to HPSEBL. It has been agreed in the Para No. 3.0 of the PPA that the HPSEBL shall make arrangements separately for evacuation of power and for payment of evacuation charges etc. with concerned agencies, the HPPCL shall not be responsible for the same in any manner. In this regard, it is to submit that EHV transmission system in the State of HP is owned partially by the HPPTCL and partially by the HPSEBL. The inter-state transmission system is operating in integration and not in isolation. Further, it is submitted that the HPPTCL in recent years has made significant investments in developing transmission system in the state of HP for evacuation of power of HEPs. A number of such Transmission assets have been completed/ commissioned and tariff Orders for some of these projects have also been issued by the HPERC and tariff approval for remaining assets is pending with the HPERC. Therefore, with respect to Sainj HEP's 50% power evacuation to the HPSEBL through the HPPTCL system, the HPPTCL shall be entitled to recover proportionate transmission charges corresponding to the HPPTCL Intra-state system from the HPSEBL as claimed in 5th MYT Petition filed on 10.01.2024.

Petitioner's Response

2.1.40 The Petitioner submitted that the submissions regarding the same already stand submitted to the Commission and has requested the Commission to pass such order considering the interests of the HPPCL.

Commission's Observations

2.1.41 The Commission has noted the submissions raised by the stakeholder (i.e. HPPTCL). Further, the issue of the transmission charges is not the subject matter of this Petition. Further, it is clarified that the recovery of the transmission charges shall be as per the provisions of the relevant Transmission Tariff Regulations.

Stakeholders' Submissions

2.1.42 The HPPTCL has highlighted the Para No.7 (iv) of the Petition, which states that to devise a mechanism to overcome the loss/profit incurred to HPPCL since COD till 31.03.2023 because of sale of power of Sainj HEP on short-term basis due to non-availability of beneficiary. In this regard, the HPERC is requested to consider the fact that approximate 20% of the intra-state transmission system is being handled by the HPPTCL and 80% of the system is being handled by the HPSEBL. The intra-state transmission system is operating in integration and not in isolation. Thus, the HPPTCL claim of proportionate transmission charges corresponding to the HPPTCL Intra-state system from the HPSEBL may be safeguarded.

Petitioner's Response

2.1.43 The Petitioner submitted that the submission regarding the same already stands submitted with the Commission and requests the Commission to pass such order considering the interests of the HPPCL.

Commission's Observations

2.1.44 The Commission has noted the submissions. As discussed above, the issue of the transmission charges is not the subject matter of this Petition, and the recovery of the transmission charges shall be as per the provisions of the relevant Transmission Tariff Regulations.

3. APPROVAL OF CAPITAL COST

3.1 Introduction

3.1.1 The Petitioner has submitted a Petition for Approval of Capital Cost along with Additional Capitalization and Determination of Tariff for Sainj Hydro Electric Project (HEP) (2x50MW) from COD (i.e., 04.09.2017) to FY 2023-24 under the 'HPERC Hydro Tariff Regulation, 2011' and under Section-62 read with Section 86 of the Electricity Act 2003.

3.1.2 The Petitioner has submitted that power from this plant was being sold on short-term basis through the power traders since COD. Subsequently, it was agreed between the HPPCL and the Himachal Pradesh State Electricity Board Limited (HPSEBL) that sale/ purchase of power from the HPPCL Hydro Electric Projects i.e., Kashang (1X65 MW), Sawra Kuddu HEP (3X37 MW) and 50% generation from Sainj HEP (2X50 MW) shall be undertaken by the HPSEBL for useful life of the projects at ex-bus as per the HPERC determined tariff. As 50% of generation from Sainj HEP was committed to World Bank for their mission regarding "India: Himachal Pradesh Power Sector Development Program" (i.e., Bundled power project for RTC power), the remaining 50% generation of Sainj HEP has been tied-up for sale to the HPSEBL. A PPA between the HPPCL and the HPSEBL was signed on 29.03.2023 for sale of 50% power from Sainj HEP post approval of the HPERC vide its Order dated 13.02.2023. The long-term PPA has come into force from 01.04.2023 and shall be operative till the useful life of the project.

3.1.3 Para No.13 of the Commission Order dated 13.02.2023 states the following:

"The Petition for capital expenditure and determination of tariff in respect of the above Projects is yet to be filed and would take a considerable time for disposal after its filing. Since, the Commission had permitted to sell the power of the two Projects, i.e., Kashang 65 MW and Sawra Kuddu 111 MW on a mutually agreed tariff of Rs.3.40 per unit for the year 2022-23 and the authorised representative of the HPPCL has also prayed for allowing the Petition on the basis of provisional tariff, it would be prudent to fix a provisional tariff of Rs.3.40 per unit in respect of Kashang 65 MW, Sawara Kuddu 111 MW and 50% generation of Sainj HEP, which would, however, be subject to revision on determination of the actual tariff in respect of the all the three Projects."

3.1.4 The Commission has analysed the Petition filed by the Petitioner for determination of Capital Cost and corresponding tariff from the date of COD till FY 2023-24 i.e., the end of the Control Period. As per the Order dated 13.02.2023, the Commission has agreed to determine the capital cost and tariff in line with the applicable Tariff Regulations notified by the Commission for determination of tariff. The 'HPERC Hydro Tariff Regulation, 2011' specify the following:

"(3) Where a power purchase agreement has been executed between the generating company and the utility after existence of the Commission and the power purchase agreement has been approved by the Commission, the Commission shall determine such tariff in accordance with the terms and conditions of such approved power purchase agreement."

3.1.5 Accordingly, the Commission has decided to determine the tariff for Sainj HEP based on the applicable 'HPERC Hydro Tariff Regulation, 2011'. Further, in line with the applicability of the PPA (i.e., for sale of Sainj HEP power by the Petitioner from 01.04.2023 onwards), the Commission shall be determining the tariff for sale of power as per the date specified in the PPA and any power sale from the plant to the HPSEBL prior to the signing of the PPA does not form part of the tariff determination process.

3.1.6 With regard to the determination of capital cost, Regulation 11 of 'HPERC Hydro Tariff Regulation, 2011' specifies the following:

"*(1) 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 12;*

c) *additional capital expenditure determined under regulation 13:*

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 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 the Commission may issue guidelines for vetting of capital cost of hydro-electric projects by independent agency or expert and in that event the capital cost as vetted by such agency or expert may also be considered by the Commission while determining the tariff for the hydro generating station:

Provided further that the Commission may issue guidelines for scrutiny and approval of commissioning schedule of the hydro-electric projects of a developer (not being a State controlled or owned company) as envisaged in the tariff policy:

Provided further that in case the site of a hydro generating station is awarded to a developer (not being a State controlled or owned company) by the State Government, by following a two stage transparent process of bidding, any expenditure incurred or committed to be incurred by the project developer for getting the project site allotted shall not be included in the capital cost:."

3.1.7 In line with the provisions of the 'HPERC Hydro Tariff Regulation, 2011', the Commission has analysed the proposed capital cost for Sainj HEP and the ARR proposed for each year by the Petitioner from COD to FY 2023-24. The information provided in the Petition was inadequate and lacked justifications with respect to the capital cost, increase in actual cost vis-à-vis awarded cost, time and cost overrun, etc. Also, the Petition was deficient in terms of supporting documents and payment proofs against the various expense heads. In view of the shortcomings regarding data and supporting documents, the Commission issued multiple set of deficiency letters for validation of the capital cost for the Sainj HEP.

3.1.8 The Commission has undertaken detailed prudence check and adequate assumptions, wherever required, for approving the capital cost for Sainj HEP. The scrutiny and prudence check undertaken by the Commission for approval of capital cost of Sainj HEP has been discussed in the following paragraphs.

3.1.9 The relevant details and configuration of the Project as submitted by the Petitioner is as follows:

Table 5:Sainj HEP Cost & COD Details

Name of Project	Capacity (MW)	Cost as per DPR (Rs. Cr.)	Capital Cost as on COD (Rs. Cr.)	COD (Each Unit 50 MW)
Sainj HEP	100 MW (2x50 MW)	676.29	1288.04	04.09.2017 (For both the Units)

3.2 Summary of the Project

Petitioner's Submissions

3.2.1 The Sainj HEP is a run of the river scheme with storage on river Sainj, in Kullu district of Himachal Pradesh. It is located about 255km from Shimla. It envisages utilization of water from the river Sainj through a gross head of 409.60m for generation of 100MW of power in underground powerhouse. The maximum reservoir level has been kept at 1753m and minimum drawdown level as 1738.50, the live storage capacity of the Sainj reservoir is 38.41 Ha-m, which is adequate for running the power station at full installed capacity for about three hours during period of lean inflows.

3.2.2 The project enables energy generation of 322.23 GWh or MU in a 90% dependable year and 428.16 GWh or MU in a 50% mean year pattern of flows. The power of Sainj HEP is being evacuated through LILO of Parbati-II to Parbati-III 400 kV (Quad) line at Sainj HEP.

3.2.3 The Petitioner has filed this Petition for the approval of capital cost taking into consideration additional capitalization and determination of tariff from COD 04.09.2017 to FY 2023-24 for 2x50 MW Sainj Hydro Electric Project.

3.2.4 The pre-feasibility report of Sainj HEP (100MW) prepared by erstwhile HPSEB during 1998-99, amounting to Rs.1,74,42,000/- was accorded during 05/1999 for carrying out the investigation of the project. Subsequently, on 14th June 2002, the Government of Himachal Pradesh (GoHP) signed a memorandum of understanding with M/s Jindal Hydro electric Company Ltd. for further investigation and implementation of the project. However, the MOU with M/S Jindal Hydro electric Company Ltd. was cancelled during June2004 and the GoHP handed over the project to the HPSEB for its execution.

3.2.5 The HPPCL was incorporated in December 2006, with an objective to plan, promote, and organise the development of hydroelectric power plants on behalf of GoHP and the HPSEB. The GoHP has 60% and the HPSEB has 40% shareholding in the HPPCL. Therefore, after incorporation of the HPPCL, the HPSEB transfer the hydroelectric projects to the HPPCL.

3.2.6 The Detailed Project Report (DPR) for the Sainj HEP project was submitted by the HPPCL on 30.10.2007 to the appraisal groups of the CEA/CWC/GSI. The DPR was returned on 18.12.2007 on account of insufficient geological explorations information, hydrology information, confirmation of important levels related to both upstream and downstream of the projects, and outdated cost estimates. The revised DPR was resubmitted after incorporating the deficiencies and finally approved by the Central Electricity Authority (CEA) vide Letter No.:2/HP/30/CEA/07-PAC/ 6009-39, dated 29.12.2010.

3.2.7 As per the DPR, the project was estimated to cost Rs.676.29 Cr., including Interest During Construction (IDC) of Rs.96.77 Cr., based on the price level of June 2009, detailed below:

Table 6: CEA approved DPR Cost (Rs. Cr.)

S. No.	Cost Component	Cost
I	Cost of Civil Works	445.79
II	Cost of E&M Works	133.73
III	**Total Hard Cost**	**579.52**
IV	IDC	96.77
V	**Total Cost (Rs. Cr.)**	**676.29**

Commission's Analysis

3.2.8 Based on the submissions of the Petitioner, the Sainj HEP was earlier allocated to M/s Jindal hydroelectric for investigation and development but was subsequently handed over to the HPSEBL for execution. However, post formation a separate company i.e., the HPPCL for execution of the hydroelectric projects in the State of Himachal Pradesh, the project was handed over to the Petitioner for development.

3.2.9 The Commission observed that the CEA, in its Techno Economic Clearance (TEC) issued on 29.12.2010 for 100 MW (2x50MW) Sainj HEP approved the Capital cost of Rs. 676.29 Cr. including IDC of Rs.96.77 Cr. at June 2009 price level. Further, it is observed that the approved DPR cost does not include the cost of Local Area Development Fund (LADF) in accordance with the guidelines of the State Hydro Power Policy-2006.

3.2.10 The salient features of the project in the DPR are outlined as below:

Table 7: Salient Features of the Project

Sainj HEP (2x50 MW):	
Capacity	100 MW
Number of Unit	02 (Two)
Design Energy (in 90% dependable year)	322.23 MU
Gross Head	409.60 Meter
Maximum Reservoir Level	1753 Meter
Minimum Drawdown Level (MDDL)	1738.50 Meter
Storage Capacity	38.41 Ha-m
Diversion Structure	Gated Barrage with 6 Nos. Radial Gates of 8.00 m (W) x6.740 m (H)
Head Race Tunnel	6360.75 m long, Circular Shaped with Dia. 3.85 m
Penstock/Pressure shaft	Steel lined (Underground), Circular Shape
Powerhouse	2 No. vertical axis Pelton Turbine (50 MW each)
DPR Approval Authority	Central Electricity Authority (CEA)
Date of Approval	29.12.2010 (at June 2009 Price Level)
DPR Approved Cost	Rs. 676.29 Cr. (Including IDC of Rs. 96.77 Cr.)

3.3 Project Implementation and Timeline

Petitioner's Submissions

3.3.1 The Project comprises of Civil, Hydro-Mechanical (HM), Electrical & Mechanical (E&M) and other related works which were awarded by the Petitioner through competitive bidding process.

3.3.2 The Civil and Hydro-Mechanical (HM) work for the Project was awarded on an EPC basis through a tendering process to M/s Hindustan Construction Company (HCC) Limited on 23.06.2010. The awarded contract amounted to Rs. 431 Cr., with a stipulated completion period of 4 years (48 months), culminating on 01.08.2014.

3.3.3 The Electro-Mechanical (E&M) work for the Project was awarded on an EPC basis through a tendering process to M/s Voith Hydro Private Limited (VHPL) on 17.08.2011 for an amount of Rs. 146.40 Cr. and completion period of 40 months for Unit-1 and 42 months for Unit-2 from the effective date. The mutually agreed effective date between the parties was 22.09.2011, leading to the scheduled completion date of Unit-1 as 22.01.2015, and 22.03.2015 for Unit-2

3.3.4 The details for the above-mentioned points shown below in the tabular format:

Table 8: Project Timelines

S. No.	Particulars	Date
I	TEC approved by the CEA	29.12.2010
II	Date of Award of Civil and Hydro-Mechanical (HM)works contract to M/s HCC Limited	23.06.2010
III	Date of Award of E&M works contract to M/s Voith Hydro Private Limited	17.08.2011
IV	Scheduled Commissioning as per contract awarded	22.01.2015 for Unit-1 and 22.03.2015 for Unit-2
V	Actual COD (ACOD) of the Project for Unit-I and Unit-II	04.09.2017

3.3.5 The Petitioner has submitted the time overrun of 1064 days in Civil and HM works and 908 days for Unit-I and 898 days for Unit-II in E&M Works.

3.3.6 As part of the submissions, the Petitioner has indicated that out of a total of 1064 days of civil and HM work delay, the Board of Directors of the Petitioner (i.e., HPPCL) attributed 508 days delay to the Petitioner, 408 days delay to the Civil Contractor (i.e., M/s HCC Ltd), and considered 148 days delay under Force Majeure conditions. Furthermore, the delay in E&M work was a direct consequence of the delay in civil and HM works. The reasons and duration of time overrun as claimed by the Petitioner is summarized in table below:

Table 9: Petitioner Submissions w.r.t. Time Overrun in Civil and HM Works

S. No.	Reasons for the Time Overrun in Civil and HM Works	No. of Days
I	Suspension of work due to Non-Availability of Access Road to different project components and non-Availability of encumbrance free land for job facility	305
II	Delay due to Strike by project area labour on 20.09.2013 in Agitation at Raison Catch Factory, Kullu and the delay claim of one day	01
III	Delay due to non-availability of access to site on account of damages to Adit – I road due to flash flood on 16.07.2015 and work remained suspended for 147 days	147
IV	Delay occurred due to erection and commissioning of Adit-1 Plug gate	15
V	Delay caused due to laying of invert Concrete of Adit – I of HRT	31
VI	Delay due to handing over of HRT by the HPPCL E&M Contractor (i.e., M/s Voith Hydro Private Limited)	81
VII	Delay due to water availability and T.O.C(Taking Over Certificate): The construction of the HRT was the longest activity, and it was substantially completed on 02.03.2017, with a delay of 657 days compared to the schedule L2R1. Water filling started on 15.04.2017 (44 days) and TOC for substantial completion was issued on 30.06.2017 (76 days). There was a delay of 26 days in water availability, resulting in a total delay of 102 days for the Critical HRT activity to complete the Project.	102
VIII	Considerable delays have been experienced in the construction of Civil & HM (Hydro-mechanical) works due to slow progress and insufficient resources from the contractor. The underground excavation of Head Race Tunnel, Adit-3, and Adit-5 faced significant delays due to challenging geology, including loose fall and cavity formations, requiring extensive treatment and remedial measures.	382
	Total Delay Days	**1064**

Table 10: Petitioner Submission w.r.t. Time Overrun in E&M Works

S. No.	Reasons for the Time Overrun in E&M Works	No. of Days
I	Delay in handling over civil work front in Powerhouse Complex (GIS Hall, Pothead yard, MIV and Pressure Shaft).	908 days for Unit-I and 898 days for Unit-II
II	Delay in Water availability for mechanical spinning: Front availability date 15.04.2017(time overrun of 866 days)	
III	Change in facilities: During detailed engineering following change in facilities due to actual site conditions resulted in time overrun: • Increase in length of 400kV XLPE cable due to change in GIS location. • Increase in length of Gas Insulated Busduct (GIB) between GIS to Pothead yard due to location change of GIS. • Change of design of pothead yard from single bench to double bench: Delay in finalization of design of pothead yard and Occurrences of force majeure. • Consequent to the delays in the Civil works, some of the Civil work front were handed over to the E&M contract with some delay and the	

S. No.	Reasons for the Time Overrun in E&M Works	No. of Days
	last front that was handed over to the E&M contractor was 400 kV Grid availability i.e., on 30.05.2017 (clearance to back charge till GT).	

Commission's Analysis

3.3.7 The Commission observed that the CEA in its Techno Economic Clearance (TEC) issued on 29.12.2010 for Sainj HEP has approved the commissioning schedule of 46 months for Unit-I and 48 months for Unit-II.

3.3.8 The Commission noted that the Petitioner awarded the work for Civil, Hydro-Mechanical and E&M through tendering process. According to the EPC contract agreement issued by the HPPCL, the commissioning schedule for the generating units was set at 40 months for Unit-I and 42 months for Unit-II from the effective date (i.e., 22.09.2011).

3.3.9 A total of four (04) bidders had participated in the competitive bidding process for the Sainj HEP Civil and Hydro-Mechanical Works. The work was awarded to M/s HCC Limited (L-1 Bidder) after evaluation of all the submitted bids by the Tender Evaluation Committee on 23.06.2010 at a cost of Rs. 431 Cr., with a stipulated time period of 48 months from the effective date (i.e., 02.08.2010). The completion date for the work as per the timelines of the contract was estimated to be 01.08.2014.

3.3.10 Also, amongst the four (04) bidders which participated in the bidding process for Sainj HEP Electro-Mechanical (E&M) Works, the E&M Work was awarded to M/s Voith Hydro Private Limited (L-1 Bidder) after evaluation of all the submitted bids by the Tender Evaluation Committee on 17.08.2011 at a cost of Rs. 146.40 Cr., with a stipulated time of 40 months for Unit-I and 42 months for Unit-II from the effective date (i.e., 22.09.2011). The completion date for the work as per the timelines of the contract was estimated to be 22.01.2015 for Unit-I and 22.03.2015 for Unit-II.

3.3.11 Based on the Civil and E&M contract awarded by the Petitioner, the anticipated completion date for the project was 22.03.2015. However, the actual COD of the project occurred on 04.09.2017 as per the submission of the Petitioner. Therefore, it is noted that there was an overall delay of 898 days in the project implementation.

3.3.12 With regard to the delay in commissioning of the project, the Commission raised several queries for providing relevant details and supporting documents for substantiating the claim for the delay. In response, the Petitioner provided the copy of Minutes of Meeting (MoM) of 67thBoard of Directors (BOD) meeting held on 28.11.2018 for granting extension for time overrun.

3.3.13 According to the submitted BOD minutes,the Commission has noted that the BOD had accounted 508 days of delay to the Petitioner, 408 days delay to the Civil and HM Contractor and 148 days under Force majeure conditions. Further, with regard to E&M delay, the BOD accounted the delay of 908 days for Unit-I and 898 days for Unit-II to the Petitioner and to the E&M contractor. The Commission tabulated the same details below:

Table 11: Attribution of delay in Civil and HM works as per the MoM of BOD of the Petitioner

S. No.	Reasons for the Time Overrun in Civil and HM Works	No. of Days	Delay Attributed to (from BOD MoM)
I	Suspension of work due to Non-Availability of Access Road to different project components and non-availability of encumbrance free land for job facility	305	HPPCL
II	Delay due to Strike by project area labour on 20.09.2013 in Agitation at Raison Catch Factory, Kullu and the delay claim of one day	01	Force Majeure
III	Delay due to non-availability of access to site on account of damages to Adit – I road due to flash flood on 16.07.2015 and work remained suspended for 147 days	147	Force Majeure
IV	Delay occurred due to erection and commissioning of Adit-1 Plug gate	15	HPPCL
V	Delay caused due to laying of invert Concrete of Adit – I of HRT	31	HPPCL
VI	Delay due to handing over of HRT by the HPPCL E&M Contractor (i.e., M/s Voith Hydro Private Limited)	81	HPPCL
VII	Delay due to water availability and T.O.C(Taking Over Certificate): The construction of the HRT was the longest activity, and it was substantially completed on 02.03.2017, with a delay of 657 days compared to the schedule L2R1. Water filling started on 15.04.2017 (44 days) and TOC for substantial completion was issued on 30.06.2017 (76 days). There was a delay of 26 days in water availability, resulting in a total delay of 102 days for the Critical HRT activity to complete the Project.	102	HPPCL: 76 days Contractor: 26 days
VIII	Considerable delays have been experienced in the construction of Civil & HM (Hydro-mechanical) works due to slow progress and insufficient resources from the contractor. The underground excavation of Head Race Tunnel, Adit-3, and Adit-5 faced significant delays due to challenging geology, including loose fall and cavity formations, requiring extensive treatment and remedial measures.	382	Contractor
	Total Delay Days	**1064**	**-**

Table 12: Attribution of the delay in E&M works as per the MoM of BOD of the Petitioner

S. No.	Reasons for the Time Overrun in E&M Works	No. of Days	Delay Attributed to (from BOD MoM)
I	Delay in handling over civil work front in Powerhouse Complex (GIS Hall, Pothead yard, MIV and Pressure Shaft).	908 days for Unit-I and 898 days for Unit-II	HPPCL and Contractor
II	Delay in Water availability for mechanical spinning: Front availability date 15.04.2017(time overrun of 866 days)		
III	Change in facilities: During detailed engineering following change in facilities due to actual site conditions resulted in time overrun: • Increase in length of 400kV XLPE cable due to change in GIS location. • Increase in length of Gas Insulated Busduct (GIB) between GIS to Pothead yard due to location change of GIS. • Change of design of pothead yard from single bench to double bench: Delay in finalization of design of pothead yard and Occurrences of force majeure.		

S. No.	Reasons for the Time Overrun in E&M Works	No. of Days	Delay Attributed to (from BOD MoM)
	• Consequent to the delays in the Civil works, some of the Civil work front were handed over to the E&M contract with some delay and the last front that was handed over to the E&M contractor was 400 kV Grid availability i.e., on 30.05.2017 (clearance to back charge till GT).		

3.3.14 The Commission has reviewed the submissions of the Petitioner with regard to the various reasons of time overrun. Further, the Commission has analysed the submissions and documents provided by the Petitioner against each delay claimed in the Petition. The detailed observations of the Commission in this regard are highlighted as under:

I. Suspension of work due to non-availability of access road to different project components and non-availability of encumbrance free land for job facility

The Petitioner has mentioned that the work was suspended due to delay in non-availability of access road and encumbrance free land for the project. The Petitioner has claimed a total of 305 days of delay against the same. Further, the Petitioner provided the MoM of 67th BOD held on 28.11.2018 for granting extension for time overrun. The Commission observed that as per the conditions of the tender document, the Petitioner was required to construct the road and bridge to approach various sites of works. A timeframe of three months was specified for handover of these roads and bridges to the contractor after issuance of LOA. Furthermore, it was the responsibility of the Petitioner to ensure that encumbrance free land was available prior to the award of the contract or within the timeline provided in the contract. Therefore, in view of the BOD recommendation (as per Table No. 11), the Commission attributed the delay on account of the Petitioner and does not condone the delay.

II. Delay due to strike by project area labour on participation in agitation at Raison Catch Factory, Kullu

The Petitioner has mentioned that the delay was occurred due to one day strike by the project area labour on participation in agitation at Raison Catch Factory Kullu on 20.09.2013. Further, the Petitioner provided the 67th MoM of BOD held on 28.11.2018 for granting extension for time overrun.

The Commission has considered the labour strike as administration failure at the end of the Contractor which cannot be considered as a reason for allowance of delay. Any delay in this regard is therefore not condonable and has not been condoned.

III. Delay due to non-availability of access to site on account of damages to Adit–I road due to flash flood on 16.07.2015 and work remained suspended for 147 days.

The Petitioner has mentioned that the work was suspended due to damage to Adit-I road caused by flash floods from 16.07.2015 to 09.12.2015, resulting in a total of 147 days delay. Additionally, the Petitioner provided the MoM of 67th BOD held on 28.11.2018 for granting extension for time overrun.

The Commission has noted that the delay of 147 days occurred because of damage of road due to flash flood. To verify the claim of the Petitioner, the Commission sought detailed justification along with supporting documents for substantiating the claim. In response, the Petitioner submitted rainfall data during the period along with photographs of the damaged road and correspondence between the Contractor and the Petitioner. It is observed that the contractor had written letters to the Petitioner indicating the flash flood and difficultly in carrying out the work at site. Also, based on various documents and MoM of the BOD meeting, it is observed that this delay has been accepted by the Boardas Force Majeure. Therefore, the Commission has considered the delay of 147 days attributable towards force majeure event or uncontrollable factor and has condoned this period of delay.

IV. Delay occurred due to erection and commissioning of Adit-1 Plug gate

The Petitioner has mentioned that a 15 days delay was occurred due to delay and commissioning of Adit-I plug gate. Additionally, the Petitioner provided the MoM of 67th BOD held on 28.11.2018 for granting extension for time overrun. The Commission upon reviewing of the BOD and supporting documents, asked for further clarification on the same. In response, the Petitioner explained that the Contractor changed the junction point of Adit-2 & HRT, which increased the distance between face-2-Adit and HRT. This change had led to an increase in construction time for Face-2-Adit, causing a delay of 15 days in the erection and commissioning of the Adit-1 plug gate. The Commission has also noted that the contract agreement did not provide for any additional time in case poor geology was less than 30% at the site and therefore, the contractor should not have been provided any additional time frame. The same was also evident from BOD minutes where the delay was not allowed to the contractor and the delay was accounted to the Petitioner. Therefore, the Commission, in view of BOD recommendations has accounted the delay on the Petitioner and has not condoned the same as claimed by the Petitioner.

V. Delay caused due to laying of invert concrete of Adit – I of HRT

The Petitioner has mentioned that 31 days of delay had occurred due to extra time in laying of invert concrete of Adit-1 of HRT due to change in the junction point of Adit-2 & HRT, resulting in an increase in Adit-1 length. Additionally, the Petitioner provided the MoM of 67th BOD held on 28.11.2018 for granting extension for time overrun.

The Commission notes that the delay claimed is linked with the previous reasons as mentioned in 'S.no. (IV)' where the contractor has changed the junction point of Adit-2 & HRT, which resulted in delays in other related activities. Considering that the above delay was not condoned, any related delays emerging from the same cannot be condoned. Also, in view of the recommendation of the BOD which accounted the delay on this account to the Petitioner, the Commission does not condone the delay caused due to laying of invert concrete of Adit – I of HRT as claimed by the Petitioner.

VI. Delay due to handing over of HRT by the HPPCL to E&M Contractor

The Petitioner has mentioned that the 81-days of delay has occurred due to delay in handing over of HRT to E&M Contractor. This was due to delay in civil work fronts and plugging of Adit-4. Additionally, the Petitioner provided the MoM of 67th BOD held on 28.11.2018 for granting extension for time overrun. This delay had happened because there was a change in the junction point of Adit-2 and HRT (as mentioned in S. No.: IV and V). This change caused further delays in filling and draining water from the HRT upstream drainage valve of BFV, thus postponing the handing over of HRT to the E&M Contractor. In view of the interdependent nature of delay, this reason cannot be considered condonable on the similar analogy for the above-mentioned delays. The minutes of the BOD meeting also indicate the delay on part of the Petitioner in this regard. Further, the justification was not clear in the BOD minutes. Therefore, in absence of proper justification and BOD recommendation, the Commission does not approve the 81-day delay as claimed by the Petitioner.

VII. Delay due to water availability and T.O.C. (Taking Over Certificate)

The Petitioner has claimed 102 days delay in COD had occurred due to delay in water availability which was primarily stemmed from delays in plugging of Adit-1. Additionally, there were delay in obtaining the T.O.C. after unit operation had commenced. Also, as part of the submissions, the Petitioner has claimed 26 days of delay towards the contractor and balance 76 days of delay towards the HPPCL on this account. Further, the Petitioner has also submitted that the delay in completion of HRT as well as increased time taken for filling of water in the channel resulted in this delay. However, no proper rationale has been provided for the delay of 76 days which the Petitioner has attributed to itself. It is understood that the delay on account of contractor has been claimed for the similar reasons which have been disallowed by the Commission and the balance days delay are on part of the HPPCL which cannot be condoned. Therefore, based on the claim of the Petitioner and also Board’s observation regarding no extension to the contractor, the Commission does not approve the 102 days delay as claimed by the Petitioner.

VIII. Slow Progress due to adverse geology, bad weather conditions/ force majeure and infusion of inadequate resources by the EPC contractor

The Petitioner has stated that a 382 days delay had occurred in the construction of Civil & HM (Hydro-mechanical) works due to several factors. These included slow progress, insufficient resources from the Contractor, challenging geological conditions and cavity formations. Additionally, the Petitioner provided minutes of the Meeting of the 67th of the Board of Directors (BOD) held on 28.11.2018 for time overrun. The BOD has accounted the delay on the part of Contractor.

The Commission acknowledged that the delay of 382 days was mainly due to slow progress in the work. Additionally, geological variations and cavity formations at the site required treatment and remedial measures during the construction phase. It is common for the development of hydropower projects to encounter geological surprises during construction. The Commission considers such hindrances as normal for projects of this nature and duration, which can be mitigated through proper surveying and planning.The Commission is of the considered view that the slow progress could have been avoided if the Petitioner had implemented proper planning and monitoring during the project execution period. The BOD had attributed the delay of 382 days to the Contractor, and based on the BOD's recommendations, the Commission cannot consider the delay as being caused by uncontrollable aspects. Therefore, the delay is not condoned.

IX. Delay in E&M works due to handing over of civil work fronts in powerhouse complex; delay in Water availability and change in order as per the site requirement during detailed engineering (as per Table No. 12)

The Petitioner has stated that the delay had occurred in the E&M works due to handing over of civil work fronts in the Powerhouse complex. Further, water availability and revision in scope as per the site requirement was also a major concern of delay in the E&M works. Additionally, the Petitioner has provided the MoM of BOD meeting for time overrun.

In view of the above deliberation, it has been noted that the implementation of the hydro power project includes multiple activities like: civil, mechanical, electrical, and other related works, all of which are planned to execute in parallel. Further, all activities are interlinked with each other, the delays occurred in one activity potentially affecting the others. Also, the BOD submitted by the Petitioner has accounted the major portion of delay to the Petitioner and the Contractor. Additionally, the duration claimed by the Petitioner for E&M delay has already been accounted in the civil works delay. Therefore, in view of the BOD recommendations and other parameters discussed above, the Commission has not considered the delay of E&M activities separately as the delay in hand over of civil works has only postponed the execution of E&M works.

3.3.15 After detailed examination of the various reasons and supporting documents, the Commission has observed that the delay was occurred due to factors such as non-availability of access road, land availability, damage of approach road, labour strike, variation in design and order and many other factors. Accordingly, the Commission has allowed total time overrun of 147 days for the unavailability of road due to flash flood damage, which was beyond the control of the Petitioner and the balance delay is considered to be delay on account of the Petitioner including the delay on account of the contractor. A summary of the delay condoned is provided in the table below:

Table 13: Details of Project delay condoned by the Commission (in Days)

S. No.	Reason for time	Total Delay Claimed	Delay Condoned	Delay not Condoned
I	Suspension of work due to Non-Availability of Access Road to different project components and non-availability of encumbrance free land for job facility.	305	0	305
II	Delay due to Strike by project area labour on 20.09.2013 in Agitation at Raison Catch Factory, Kullu and the delay claim of one day.	01	0	01
III	Delay due to non-availability of access to site on account of damages to Adit – I road due to flash flood on 16.07.2015 and work remained suspended for 147 days.	147	147	0
IV	Delay occurred due to erection and commissioning of Adit-1 Plug gate	15	0	15
V	Delay caused due to laying of invert Concrete of Adit – I of HRT	31	0	31
VI	Delay due to handing over of HRT by the HPPCL E&M Contractor (i.e., M/s Voith Hydro)	81	0	81
VII	Delay due to water availability and T.O.C(Taking Over Certificate)	102	0	102
VIII	Considerable delays have been experienced in the construction of Civil & HM (Hydro-mechanical) works due to slow progress and insufficient resources from the contractor. The underground excavation of Head Race Tunnel, Adit-3, and Adit-5 faced significant delays due to challenging geology, including loose fall and cavity formations, requiring extensive treatment and remedial measures.	382	0	382
IX	Delay in E&M works due to handing over of civil work fronts in Powerhouse Complex; delay in Water availability and change in order as per the site requirement during detailed engineering (as per Table No. 12)	Unit-I: 908 Days and Unit-II: 898 Days	0*	Unit-I: 908 Days and Unit-II: 898 Days
	Total Delay Days	**1064**	**147**	**917**

*****_The delay in E&M works is not considered separately, as both Civil and E&M work activities are planned to proceed concurrently. Any delay in the E&M works is already accounted for in the Civil works schedule. Consequently, no additional delay is considered specifically for E&M activities._

3.3.16 As per the delay analysis, it is noted that the project experienced two main delays: one in civil and HM works, and another in E&M works. The civil work was awarded on 23.06.2010 with a completion period of 48 months. On the other hand, the E&M works, awarded on 17.08.2011 with a completion period of 40 months for Unit-I and 42 months for Unit-II. Despite the delay of 1064 days in execution of civil works as per Table 11 above, the Commission noted an overall delay of 898 days in the completion of the project which is ascertained based on the Schedule Commissioning Date of the Project (i.e., 22.03.2015) and the actual Commissioning Date (i.e., 04.09.2017). Therefore, the Commission has considered the project's overall delay as 898 days.

3.3.17 Hence, as per above-mentioned point, 147 days has been approved as delay condoned on account of uncontrollable aspects and remaining delay is disallowed. The details of delay condoned for the Project is outlined in the table below:

Table 14:Details of total delay and delay condoned by the Commission (days)

Schedule Commissioning Date (SCOD)	Actual Commissioning Date (ACOD)	Total Project Delay in Days	Total Condoned Delay in Days
22.03.2015	04.09.2017	898	147

3.4 Date of Commercial Operations (COD)

Petitioner's submissions

3.4.1 The Petitioner has claimed COD for both the Units (i.e., Unit-I & Unit-II) on 04.09.2017. Further, the Petitioner has provided the certificate issued by the MD-HPPCL as a supporting document for the claimed COD for both the Units along with the Petition.

Commission's Analysis

3.4.2 The Petitioner has claimed COD of both the units of Sainj HEP as 04.09.2017 in its Petition. However, the claim was not supported by COD certificate issued from the SLDC or any other competent agency. In response to a query of the Commission, the Petitioner has submitted a copy of approval issued by POSOCO and Directorate of Energy for the COD of both units over the date of COD as claimed in.

3.4.3 In view of the above, the Commission has noted a discrepancy in the claimed COD between the Petition and the certificate issued by POSOCO, a clarification was sought in this regard from the Petitioner. In response, the Petitioner has clarified that POSOCO had issued a certificate for the completion of trial run for both units on 30.08.2017, which served as a prerequisite for the COD declaration. The Petitioner further stated that the COD was officially declared on 04.09.2017, following the permission received from the Directorate of Energy (GoHP) and has requested to consider the same for the purpose of COD for both the units.

3.4.4 In view of the above clarifications and COD as certified by Directorate of Energy (DoE) (GoHP), the Commission has considered 04.09.2017 as the COD for both the units of Sainj HEP as mentioned in table below:

Table 15: Project COD Details

Unit	Schedule COD	COD as per the Petition	COD as per the DoE	COD approved
Unit-I (50MW)	21.01.2015	04.09.2017	04.09.2017	04.09.2017
Unit-II (50MW)	22.03.2015	04.09.2017	04.09.2017	04.09.2017

3.5 Capital Cost

Petitioner's submissions

3.5.1 The Petitioner has claimed actual project cost of Rs. 1288.04 Cr. incurred towards Sainj HEP as on the COD against the CEA approved DPR (hereinafter referred to as "DPR") cost of Rs. 676.29 Cr. The table below presents a comparative analysis between the DPR cost (as was also approved by the CEA) vis-à-vis the claimed capital cost by the Petitioner.

Table 16: Project Cost Comparison between DPR and Claimed as on COD (Rs. Cr.)

S. No	Particulars	DPR Cost	Claimed Cost	Variation (Claimed – DPR)
1	**DIRECT COST (Only for Civil Works)**			
I	**Works**			
A	Preliminary	12.60	0.00	(12.60)
B	Land (Incl. R&R)	29.19	36.56	7.37
C	Works *(Diversion and other related structure)*	260.36	578.88	318.52
J	Power Plant Civil Works			
K	Buildings	29.98	8.05	(21.93)
M	Plantation	0.50	0.00	(0.50)
O	Miscellaneous	12.60	13.15	0.55
P	Maintenance during construction	3.14	0.33	(2.81)
Q	Special T&P	0.87	0.00	(0.87)
R	Communications	23.48	24.54	1.06
X	Environment and Ecology	46.33	0.00	(46.33)
Y	Losses on stock	0.78	0.00	(0.78)
	TOTAL: I-WORKS	**419.84**	**661.51**	**241.67**
II	Establishment	23.44	81.08	57.64
III	Tools and Plants	1.00	1.86	0.86
IV	Suspense	0.00	0.00	0.00
V	Receipt and Recoveries	(0.64)	0.00	(0.64)
	TOTAL(A): 1. DIRECT COST	**443.64**	**744.45**	**300.81**
2	**INDIRECT COST (Only for Civil Works)**			
i	Capitalization of Abatement of Land Revenue	0.04	0.00	(0.04)
ii	Audit and Account Charges	2.10	0.00	(2.10)
	TOTAL(B): 2. INDIRECT COST	**2.14**	**0.00**	**(2.14)**
	TOTAL (A+B)	**445.79**	**744.45**	**298.66**
3	Electro-Mechanical Works	133.73	219.13	85.40
4	Interest During Construction	96.77	253.08	156.31
5	Contingency	0.00	71.38	71.38
	Total Project Cost	**676.29**	**1,288.04**	**611.75**

3.5.2 The Petitioner has submitted the cost overrun of Rs. 611.75 Cr. in the completed cost of the Sainj HEP.

Commission's Analysis

3.5.3 The Commission has observed that the CEA, in its Techno Economic Clearance (TEC) issued on 29.12.2010 for 100 MW (2x50MW) Sainj HEP approved the Capital cost of Rs. 676.29 Cr., including IDC of Rs. 96.77 Cr. at June 2009 price level. Further, it is observed that the approved DPR cost does not include the cost of Local Area Development Fund (LADF) in accordance with the guidelines of the State Hydro Power Policy-2006 by GoHP.

3.5.4 Based on the claim of the Petitioner, significant cost variations are observed in the completed cost of Sainj HEP with respect to the DPR cost. The cost claimed by the Petitioner is approximately twice of the approved capital cost as per the

DPR with significant cost differences in civil works andE&M works. A comparison of the hard cost in terms of DPR cost, awarded cost and claimed cost is summarized below:

Table 17: Hard Cost Comparison among DPR, Awarded and Actual Cost (Rs. Cr.)

S. No.	Particulars	DPR Cost	Contract Award Cost	Claimed COD Cost
I	Civil Work	260.36	431.00	578.88
II	E&M Work	133.73	146.40	219.13
III	**Total Hard Cost**	**394.10**	**577.40**	**798.01**

3.5.5 The Commission has also observed variation in the DPR cost, Contract award cost and actual claimed cost as on COD. The Commission sought queries regarding justification for increase in cost along with BOD approval for the same. In response, the Petitioner has submitted the following rationale substantiating its claim for higher cost vis-à-vis the DPR cost:

I. The CEA has approved the cost at June-2009 price level while the award of Civil and E&M works through tendering process was completed in the month of June-2010 and August-2011 respectively. Revisions in market rates resulted in price variation in between the DPR and awarded cost.

II. The Civil work awarded through International Competitive Bidding process in which the L1 Bidder (i.e., M/s HCC Ltd) quoted Rs. 431 Cr., according to the current market rates and standards, resulting in increase of cost vis-à-vis the DPR estimated cost of Rs. 260.36 Cr.Further, the Price variation between the contract awarded cost and ClaimedCOD cost incurred because of change in scope of work, additional work, delay due to uncontrollable factors, price escalation and etc.

III. The Civil work awarded at Rs. 431 Cr. to the L1-bidder includes the complete infrastructure works and related miscellaneous works (including buildings, communication, environment & ecology, establishment, and administrative charges etc.) of the complete project components. The estimate for the complete civil works were redetermined at Rs. 364.80 Crore. Further, the cost Rs 260.36 Cr. approved by the CEA in DPR was only for main civil components of the project which includes diversion structure, HRT and Powerhouse. Further, the Civil works were awarded at international competitive bidding at ~19.33% higher than the revised estimate of the cost post approval of the BOD.

IV. The E&M works was awarded through International Competitive Bidding process in which the L1 Bidder (i.e., M/s Voith Hydro Pvt Ltd) quoted Rs. 146.40 Cr according to the current market rates and standards, Further, the Price variation between the contract award cost and claimed COD cost incurred because of change in scope of work, additional work, delay due to uncontrollable factors, price escalation and change in FERV etc.

3.5.6 The Commission observes that there was significant difference in the awarded cost vis-à-vis the DPR cost. Since international competitive bidding has been followed and necessary Board approvals have been submitted by the Petitioner, the Commission has considered the awarded cost as the base cost for reviewing the claimed cost against civil and E&M works.

3.5.7 The review of the CEA approved DPR for the Sainj HEP indicates that the detailed estimate of cost was based on planning and preliminary designs of various components of works after review of detailed field studies along with geological studies. Further, it has been mentioned in the DPR that the provisions under various sub-heads were prepared based on "Guidelines for Formulation of Detailed Project Reports for Hydroelectric schemes, their acceptance and Examination for Concurrence" issued by the CEA and "Guidelines for Preparation of Detailed Project Report of Irrigation and Multipurpose Projects" issued by the Ministry of Water Resources.

3.5.8 It is observed that these CEA Guidelines provides a detailed framework for concurrence of the various elements of capital cost for a hydroelectric project. The Commission has used the methodology as per the submitted DPR for the basis for approval of the various cost elements for Sainj HEP as the same was applicable at the time of the DPR approval of the Petitioner.

3.5.9 While reviewing the various cost elements claimed by the Petitioner, the Commission has compared the same with the DPR, awarded cost and provision for such expense items provided under the DPR. Also, the Commission has validated the various expenses based on the documents and payment proofs submitted by the Petitioner along with auditor certificate and necessary BOD approvals.

3.5.10 While undertaking the item-wise review of the cost elements, it was observed that the Petitioner had booked few expenses under incorrect expense head and therefore, the Commission has reclassified such expense items in line with the DPR before undertaking the prudence check of such heads.

3.5.11 Based on the examination, an expense of Rs. 71.38 Cr. was booked under 'Contingency Cost' which is not identified under the DPR. The Commission sought detailed break-up of this cost along with supporting documents and payment proofs. In response, the Petitioner has submitted the details as provided below:

Table 18: Cost break-up for Contingency (Rs. Cr.)

S. No.	Particular	Cost
1	Staff Welfare (Project)	0.51
2	Rent Rates and Taxes (Project)	0.81
3	Stationery (Project)	0.40
4	Remuneration To Auditors (Project)	0.03
5	Dispensary & Medicines	0.00
6	Miscellaneous Expenses	0.14
7	Office Equipment (Project)	0.00
8	Building Maintenance (Project)	0.66
10	Environment & Cat Plan Expenses	22.53
11	AUC- Environment & Ecology	0.50
12	AUC- Lada	10.70
14	Foreign Exchange Variation (Pending Allocation)	(0.71)
15	Common Cost Incidental Pending Allocation (HO & SNR)	26.95

S. No.	Particular	Cost
16	Incidental Expenses-Power Water & Parks	0.63
17	Suind -Neuli Road Not Owned by the HPPCL	6.26
18	AUC Income	(5.77)
19	Survey Of 400 kV D/C Transmission Line by LILO	0.02
20	Reattain Earning Adjustment Up to FY 2014	(8.85)
21	Interest on Bank Deposits/FDRS	(0.01)
22	Electricity Charges	0.75
25	Sale Of Infirm Power	(8.32)
26	Income from Transit Guest House	(0.00)
27	Sale Tender Forms	(0.01)
28	Income From Rent	(0.03)
29	House License Fee Income	(0.00)
30	Interest On Retention Money	(0.06)
31	Interest Income Contractor/Supplier	(0.93)
32	Interest Income on Security	(0.02)
33	Honorarium Staff	0.30
34	Travelling Expenses Staff	0.37
35	Medical Reimbursement Expenses Staff	0.89
36	Training/Seminar Expenses Staff	0.11
37	Employer PF Contractual Staff	0.08
38	Employer CPF Contractual Staff	0.02
39	PF Admin Charge Staff	0.00
40	PF EDLI Contribution Staff	0.00
41	PF EDLI Admin Charges Staff	0.00
42	Uniform & Liveries Expenses	0.21
43	Outsourced Manpower Expenses	4.81
44	R&M-Furniture & Fixture Expenses	0.11
45	R&M-Office Equipment Expenses	0.12
46	R&M-Roads & Bridges Expenses	0.10
47	Vehicle Running Expenses	0.36
48	Vehicle Repairs Expenses	0.12
49	Hired Vehicle Expenses	6.80
50	Insurance-Vehicles Expenses	0.02
51	Insurance-Other Fixed Assets	0.13
52	Books Periodicals News Paper Expenses	0.07
53	Communication (Tel. & Internet) Office Expenses	0.26
54	Legal Charges	0.38
55	Professional Charges	0.00
56	Postage & Telegram Expenses	0.03
57	Communication (Tel. & Internet) Staff	0.22
58	Hospitality Expenses	0.21
59	Meeting Expenses	0.07
60	Publicity & Advertisement Expenses	0.28
61	Transit Guest House Expenses	0.02
62	Consumable Items	0.06

S. No.	Particular	Cost
63	Bank Charges	0.01
64	Consultancy Charges	0.10
65	License & Registration Fee (Pending Allocation)	0.01
66	Fees And Subscription (Pending Allocation)	0.08
67	Freight And Labour Charges (Pending Allocation)	0.01
68	OS Manpower Charges Employee Cost (Project)	1.49
69	Repair & Main (Buildings) (Pending Allocation)	0.95
70	Depreciation Sainj (Pending Allocation)	6.40
	Total Cost (Rs. Cr.)	**71.38**

3.5.12 It is observed that the above heads cannot form part of contingency cost and need to be classified under the expense heads as mentioned in the DPR. The Commission after prudence check, reclassified expanses on the Rs. 71.38 Cr. booked under 'Contingency Cost' by the Petitioner in line with the DPR as mentioned in the following table:

Table 19: Redistribution of Cost claimed under Contingency (Rs. Cr.)

S. No.	Particular (As defined in DPR)	Cost
I	Preliminary (A)	0.02
II	Miscellaneous (O)	11.17
III	Maintenance during construction (P)	14.62
IV	Environment and Ecology (X)	23.03
V	Establishment (II)	34.36
VI	Tools and Plants	0.40
VII	Receipt and Recoveries (V)	(24.70)
VIII	Indirect Cost (2)	1.78
IX	LADF (Local Area Development Fund)	10.70
	Total Cost (Rs. Cr.)	**71.38**

3.5.13 After detailed examination of the various cost elements and alignment with the sub-heads as per the DPR, the Commission has reallocated the cost heads claimed by the Petitioner as on COD of the project and the reclassified costs as on COD as summarized below:

Table 20: Modified Cost as on COD as per Documents (Rs. Cr.)

<table>
<tr><th>S. No</th><th>Particulars</th><th>DPR Cost</th><th>Claimed Cost</th><th>Modified Cost</th></tr>
<tr><td>1</td><td colspan="4">DIRECT COST (Only for Civil Works)</td></tr>
<tr><td>I</td><td colspan="4">Works</td></tr>
<tr><td>A</td><td>Preliminary</td><td>12.60</td><td>0.00</td><td>0.02</td></tr>
<tr><td>B</td><td>Land (Incl. R&R)</td><td>29.19</td><td>36.56</td><td>36.56</td></tr>
<tr><td>C</td><td>Works
(Diversion and other related structure)</td><td rowspan="2">260.36</td><td rowspan="2">578.88</td><td rowspan="2">578.88</td></tr>
<tr><td>J</td><td>Power Plant Civil Works</td></tr>
<tr><td>K</td><td>Buildings</td><td>29.98</td><td>8.05</td><td>8.05</td></tr>
<tr><td>M</td><td>Plantation</td><td>0.50</td><td>0.00</td><td>0.00</td></tr>
<tr><td>O</td><td>Miscellaneous</td><td>12.60</td><td>13.15</td><td>24.32</td></tr>
<tr><td>P</td><td>Maintenance during construction</td><td>3.14</td><td>0.33</td><td>14.95</td></tr>
<tr><td>Q</td><td>Special T&P</td><td>0.87</td><td>0.00</td><td>0.00</td></tr>
</table>

S. No	Particulars	DPR Cost	Claimed Cost	Modified Cost
R	Communications	23.48	24.54	24.54
X	Environment and Ecology	46.33	0.00	23.03
Y	Losses on stock	0.78	0.00	0.00
TOTAL: I-WORKS		**419.84**	**661.51**	**710.36**
II	Establishment	23.44	81.08	115.44
III	Tools and Plants	1.00	1.86	2.26
IV	Suspense	0.00	0.00	0.00
V	Receipt and Recoveries	(0.64)	0.00	(24.70)
TOTAL(A): 1. DIRECT COST		**443.64**	**744.45**	**803.36**
2	**INDIRECT COST (Only for Civil Works)**			
i	Capitalization of Abatement of Land Revenue	0.04	0.00	0.00
ii	Audit and Account Charges	2.09	0.00	1.78
TOTAL(B): 2. INDIRECT COST		**2.14**	**0.00**	**1.78**
TOTAL (A+B)		**445.79**	**744.45**	**805.14**
3	Electro-Mechanical Works	133.73	219.13	219.13
4	Interest During Construction	96.77	253.08	253.07
5	Contingency	0.00	71.38	0.00
6	LADF (1.5%)	0.00	0.00	10.70
	Total Project Cost	**676.29**	**1,288.04**	**1,288.04**

3.5.14 The Commission after revising the claimed capital cost as on COD in accordance with the submitted documents has considered the submitted DPR for approving the final capital cost of the Plant. The item or head-wise cost approval methodology, is outlined as follows:

3.5.15 **Preliminary (A):** The Petitioner has submitted 'Nil' expense under 'Preliminary cost' as against the DPR approved cost of Rs. 12.60 Cr. As per the submitted DPR, 'Preliminary' expenses are to be allowed based with a maximum limit of 2% of the I-works cost. Further, while scrutinizing the details of expenditure, an amount of Rs.0.02 Cr. was booked under Contingency cost (as per para no. 3.5.12, Table No. 19). However, the Petitioner was unable to provide any valid supporting documents with respect to this amount. Therefore, the Commission has not approved any expense under this head, the summary of expense is summarized below:

Table 21: Preliminary Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No.	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	0.00	-
II	Modified Cost by the Commission	0.02	As per Table No. 19
III	**Approved Cost (Rs. Cr.)**	**0.00**	**No supporting documents provided**

3.5.16 **Land (B):** The Petitioner claimed Rs. 36.56 Cr. (Rs. 32.47 Cr. for Land and Rs. 4.09 Cr. for Resettlement & Rehabilitation, R&R) as expenses under the Land cost, which was higher than the DPR approved cost of Rs. 29.19 Cr. Further, the Commission sought clarification with regard to the higher cost claimed by the Petitioner along with details of land acquired as against the estimated land as per the DPR.

3.5.17 In response, the Petitioner submitted the details of land acquired and copy of the payment proofs made by the Petitioner against land acquisition. The Commission reviewed the documents submitted by the Petitioner and noted that in the DPR total 56.76Hectare (Ha) of land was proposed which includes forest land of 47.99 Ha and private land of 8.77 Ha, but in actual approximately 57.25 Ha of land was acquired which included around 47.99 Ha of forest land and 9.26 Ha of private land. The details of land are outlined in the table below:

Table 22: Land Acquisition: DPR and Actual

S. No	Particular	Hectare (Ha)	Remarks
I	Land as per the DPR	56.76	Government Land: Nil Forest Land: 47.99 Ha Private Land: 8.77 Ha
II	Land as per Actual	57.25	Government Land: Nil Forest Land: 47.99 Ha Private Land: 9.26 Ha

3.5.18 The Commission noted that as per the DPR for 8.77 Ha of private land, an amount of Rs. 29.19 Cr was estimated based on 2009 land rates. Further, the Petitioner has made the payment of Rs. 32.47 Cr. against the land acquired during the FY 2013 to 2014.

3.5.19 The Commission in view of the supporting documents including payment proofs against the land acquired, ledger statement and auditor certificate has approved Rs. 36.54 Cr. (Rs. 32.47 Cr. for Land and Rs. 4.07 Cr. for R&R). The approved expenses under this head are summarized below:

Table 23: Land Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No.	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	36.56	Rs 32.47 Cr. as Land Cost and Rs.4.09 Cr. as R&R Cost
II	Modified Cost by the Commission	36.54	Rs. 4.07 Cr. as R&R Cost based on supporting documents
III	**Approved Cost (Rs. Cr.)**	**36.54**	**In view of supporting document i.e., payment proofs against the land acquired, Ledger statement and Auditor Certificate**

3.5.20 **Works & Power Plant Civil Works (C&J):** The Petitioner has submitted Rs. 578.88 Cr. expense under 'Works & Power Plant Civil Works (C&J)' as against the DPR approved cost of Rs. 260.36 Cr. Based on the submissions of the Petitioner, the contract for Civil and Hydro-Mechanical (HM) Works was awarded to M/s HCC Limited on 23.06.2010 at a cost of Rs. 431 Cr. and with a completion time of 48 months. However, the Petitioner has claimed an amount of Rs. 578.88 Cr. towards the Civil and HM works as on COD. The Commission has sought break-up of higher costs along with justification for increased cost vis-à-vis the awarded cost.

3.5.21 In response, the Petitioner provided the following break-up for the differential cost vis-à-vis the contracted amount:

Table 24: Reasons for Cost Variation in Works & Power Plant Civil Works(Rs. Cr.)

S. No.	Cost Variation Reasons	Cost
I	Works & Power Plant Civil Works (C&J) awarded cost	431.00
II	Price escalation as approved by the Engineer-in-charge that was paid to the Contractor	125.51
III	Variation due to extra payment of entry tax and change in rate of service taxes	13.01
IV	Variation due to Change order of additional work of construction of firewall at CVT portal and bus duct gallery portal of Sainj HEP	9.36
V	**Total Cost (Rs. Cr.)**	**578.88**

3.5.22 The Petitioner has provided the following justification for the increased cost under 'Civil Works' vis-à-vis the DPR cost:

I. The Civil work awarded at Rs. 431 Cr. to the L1-bidder includes the complete infrastructure works and related miscellaneous works (including buildings, communication, environment & ecology, establishment and administrative charges etc.) of the complete project components. The estimate for the complete civil works were redetermined at Rs. 364.80 Crore. Further, the cost Rs 260.36 Cr. in DPR was only for main civil components of the project which includes diversion structure, HRT and Powerhouse. Further, the Civil works were awarded at international competitive bidding at ~19.33% higher than the revised estimate of the cost post approval of the BOD.

II. According to the Particular Conditions of Contract (PCC) within the Contract Agreement for Civil Work, Price Escalation was permissible to accommodate change in labour and material components etc. during the execution of the Contract. The price escalation as also approved by the Engineer-in-charge was paid to the contractor amounting to Rs.125.51 Cr.

III. The variation amounting to Rs. 13.01 Cr. occurred due to extra payment towards Entry Tax, change in rates of Service Tax etc.

IV. Variation due to Change in order of additional work of construction of firewall at CVT portal and bus duct gallery portal of Sainj HEP amounting to Rs. 9.36 Cr.

3.5.23 With regard to the cost variations in the Civil cost, the Commission has reviewed the submissions of the Petitioner along with the relevant documents including award of contract, provisions with regard to price variation, approval of competent authority, etc. Accordingly, the Commission has approved the following deviations:

- The cost variation with respect to the DPR has been allowed considering the award was based on international competitive bidding process and was approved by the BODs of the Petitioner.
- With regard to the price escalation of Rs. 125.51 Cr., the Commission observed that the contract awarded was to M/s HCC. Further, as per the conditions of the contract agreement the price escalation on account of labour and material during the period of execution was provided. Therefore, the Commission has approved the amount of price escalation during the

original contract period and balance amount has been pro-rated based on the delay condoned as against the total delay in execution of the project. Hence, the Commission allowed an amount of Rs. 92.39 Cr. against the claimed amount of Rs. 125.51 Cr.

- With regard to the payment made towards tax and duties, the Commission has adopted the same methodology as mentioned above. Further the Commission observes that an amount of Rs. 13.01 Cr was paid towards tax and duties. As the entire amount was paid during the actual contract period, the Commission allowed the full amount of Rs. 13.01 Cr.
- The claimed cost of Rs. 9.36 Cr. related to "change in order" for construction of firewall work at CVT portal and bus duct gallery portal was as per the technical and safety requirements. The Petitioner has submitted a supplementary contract agreement and approval from the competent authority in respect of this account. The Commission observes that the change in order pertains to the necessary technical requirements which is an essential activity for commissioning the project. Hence, the Commission has allowed the claimed amount of Rs. 9.36 Cr.
- Therefore, based on the above-mentioned para, the Commission has allowed Rs. 545.76 Cr. against Rs. 578.88 Cr. for Civil and Hydro-Mechanical works, the same has been tabulated below:

Table 25: Works & Power Plant Civil Works (C&J) Claimed and Approved (Rs. Cr.)

S. No	Particulars	Claimed Cost	Approved Cost
I	Works & Power Plant Civil Works (C&J) awarded cost	431.00	431.00
II	Price escalation as approved by the Engineer-in-charge that was paid to the Contractor	125.51	92.39
III	Variation due to extra payment of entry tax and change in rate of service taxes	13.01	13.01
IV	Variation due to Change order of additional work of construction of firewall at CVT portal and bus duct gallery portal of Sainj HEP	9.36	9.36
V	**Cost (Rs. Cr.)**	**578.88**	**545.76**

3.5.24 **Buildings (K):** The Petitioner has claimed a cost of Rs. 8.05 Cr. towards 'Buildings' cost as against the DPR approved cost of Rs. 29.98 Cr. However, the Commission could not find any supporting documents for justification of the claimed cost. In response to a query, the Petitioner submitted the copy of Contract agreement awarded, ledger statement and auditor certificate. Therefore, upon scrutiny of the documents as well as the auditor certificate, the Commission approved Rs. 8.05 Cr. towards 'Building' expenses. The summary of the expenses is summarized below:

Table 26: Building Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	8.05	Include cost of Permanent and Temporary buildings
II	Modified Cost by the Commission	8.05	-
III	**Approved Cost (Rs. Cr.)**	**8.05**	As per the contract agreement, ledger statement and auditor certificate

3.5.25 **Plantation (M):** The Petitioner has claimed Nil cost towards 'Plantation' cost as against the DPR approved cost of Rs.0.50 Cr. Since no expense is claimed against this head, the Commission has considered the same as Nil.

3.5.26 **Miscellaneous (O):** The Petitioner has claimed Rs. 13.15 Cr. towards 'Miscellaneous' costs as against the DPR approved cost of Rs. 12.60 Cr. As per the DPR, the provision outlined for 'Miscellaneous' expenses are maximum up to Rs. 20 Crore. During scrutiny of supporting documents, an amount of Rs. 13.04 Cr. could only be validated against the claimed Rs. 13.15 Cr. Also, an amount of Rs. 7.03 Cr. was claimed against construction of 400kV D/C transmission line which was already being claimed under 'Additional Capitalization' in the subsequent years from COD. Therefore, the Commission has deducted this amount claimed towards transmission line from the total amount of Rs. 13.04 Cr. under the Miscellaneous head.

3.5.27 Furthermore, the Commission has reclassified expenditure amounting to Rs. 11.17 Cr. towards 'Miscellaneous Expenses' which were earlier booked under Contingency cost (as per para no. 3.5.12, Table No. 19). Further, based on the supporting documents sought from the Petitioner including ledger statement and Auditor certificate, the Commission has considered the amount of Rs. 11.17 Cr. under the Miscellaneous expenses.

3.5.28 After scrutiny of the submitted documents, the Commission approved Rs. 17.18 Cr. under this head as summarized below:

Table 27: Miscellaneous Cost - Claimed, Modified and Approved

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	13.15	-
II	Modified Cost by the Commission	17.18	Payment proof submitted only for Rs. 13.04 Cr. against Rs. 13.15 Cr. Further, added Rs. 11.17 Cr. from Table No.19, and Less Rs.7.03 Cr. cost of Transmission line for which payment made beyond COD.
III	**Approved Cost (Rs. Cr.)**	**17.18**	-

3.5.29 **Maintenance during construction (P):** The Petitioner has claimed Rs. 0.33 Cr. towards 'Maintenance during construction' costs as against the DPR approved cost of Rs. 3.14 Cr. Further, while scrutinizing the details of expenditure, an amount of Rs. 14.62 Cr. was booked under Contingency cost (as per para no. 3.5.12, Table No. 19) against the daily maintenance of buildings and office, office equipment and road and bridges. In response to the query, the Petitioner submitted the payment statement and auditor certificate. Following scrutiny of the submitted documents, the Commission has approved Rs. 14.95 Crore and the approved expenses under this head are summarized below:

Table 28: Maintenance Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	0.33	-
II	Modified Cost by the Commission	14.95	As per the documents submitted with the Petition.
III	**Approved Cost (Rs. Cr.)**	**14.95**	**As per auditor certificate**

3.5.30 **Special T&P (Q):** The Petitioner has claimed Nil cost towards 'Special T&P' cost. Therefore, the Commission has not considered any cost against the same.

3.5.31 **Communications (R):** The Petitioner has claimed Rs. 24.54 Cr. towards 'Communications' cost as against the DPR approved cost of Rs.23.48 Cr. As per the submitted DPR, provision for 'Communication' expenses are based on actual expenditure, subject to the submission of documentary proofs. It was observed that the communication cost primarily included the expense towards the approach road to access different sites of the project. Further, as per the conditions of the contract agreement, it was observed that the Petitioner was required to construct the road and bridge to approach various sites of works. A timeframe of three months was specified for handing over of these roads and bridges to the contractor after issuance of LOA. The Petitioner was asked to submit the copy of contract/ agreement against such works. In response, the Petitioner submitted that the works of the approach road for the project was awarded through tendering process and submitted copy of work awarded, payment proofs, ledger statement and auditor certificate. Following scrutiny of the contract agreement awarded, payment proofs, and auditor certificate, the Commission has approved Rs. 24.54 Cr. under this head as summarized below:

Table 29: Communication Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	24.54	-
II	Modifies Cost by the Commission	24.54	-
III	**Approved Cost (Rs. Cr.)**	**24.54**	**As per the documents submitted in response to deficiency**

3.5.32 **Environment and Ecology (E&E) (X):** The Petitioner has claimed Nil cost towards 'Environment and Ecology'. The provision outlined in the DPR provision for 'Environment and Ecology' expenses is based on actual expenditure, subject to the submission of documentary proofs. Further, while scrutinizing the details of expenditure incurred under 'Contingency cost', an amount of Rs. 23.03 Cr. was observed to be booked towards 'Environment and Ecology' which has been reclassified under 'Environment and Ecology' expense (as per para no. 3.5.12, Table No. 19). The Commission sought information and details of expenditure against this head. In response to the query, the Petitioner submitted the proofs of payment made to Director (Dept. of Environment & Science), State Pollution Control Board and Forest Department (Himachal Pradesh) along with the auditor certificate. Following scrutiny of the submitted payment vouchers, the Commission has approved Rs. 23.03 Cr. as the approved cost under this head as summarized below:

Table 30: E&E Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	0.00	-
II	Modified Cost by the Commission	23.03	As per reclassification of cost by the Commission mentioned in Table No.19
III	**Approved Cost (Rs. Cr.)**	**23.03**	**As per the documents submitted in response to the queries**

3.5.33 **Losses on stock (Y):** The Petitioner has claimed Nil cost towards 'Losses on Stock' cost which has been considered by the Commission.

3.5.34 **Establishment (II):** The Petitioner has claimed cost of Rs. 81.08 Cr. under 'Establishment' costs, against the DPR-approved cost of Rs.23.44 Cr. The DPR stipulates that Establishment' expenses should be the sum of '8% of Civil Cost' excluding Land cost (limited to Rs. 60 Cr. in case of civil works cost is upto Rs. 1000 Cr.) and '6% of E&M works' (limited to Rs. 45 Cr. for E&M works upto Rs. 750 Cr.). However, during the scrutiny of expenditure details, it is observed that an amount of Rs.34.36 Cr. was booked by the Petitioner under Contingency cost (as per para no. 3.5.12, Table No. 19) which pertains to establishment cost.

3.5.35 The Commission sought details of the manpower deployed, head office, design office, and other hired manpower for the Project during construction phase. In response to the queries, the Petitioner submitted year wise list of manpower deployed at the site along with the salary structure and designation. Additionally, the payment against Head Office and Design Office costs were also included under this head. The Petitioner submitted that due to delay in the project, the cost towards establishment increased. An Auditor certificate in support of the same was submitted by the Petitioner. After scrutinizing the submitted documents and auditor certificate, the Commission has approved Rs. 67.05 Cr. as per the methodology stated in the above para. The approved cost under this head is summarized below:

Table 31: Establishment Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	81.08	-
II	Modified Cost by the Commission	115.44	As per reclassification of cost by the Commission mentioned in Table No.19
III	**Approved Cost (Rs. Cr.)**	**67.05**	**Limit as per DPR**

3.5.36 **Tools and Plants (III):** The Petitioner has claimed Rs. 1.86 Cr. towards 'Tools and Plants' cost as against the DPR approved cost of Rs.1.00 Cr. The provision outlined in the DPR for 'Tools and Plants' expenses is based on actual expenditure, with a maximum limit up to Rs.2.00 Cr. It was observed that the 'Tools and Plants' cost primarily included the expense towards the procurement of office equipment and stationery'. Further, while scrutinizing the documents, the Commission identified that the Petitioner has booked 'office equipment' and 'stationary' cost amounting to Rs.0.40 Cr. under Contingency cost (as defined in para no. 3.5.12, Table No.19). Accordingly, the Commission revised the cost against this head as Rs.2.26 Cr. However, the Commission did not find the payment proofs for the claimed amount. Subsequently, the Commission issued deficiency letters to collect the details from the Petitioner. In response to the query, the Petitioner submitted the Ledger statement and auditor certificate. Following scrutiny of the payment statement and auditor certificate, the Commission approved Rs. 2.00 Cr. under this head as summarized below:

Table 32: Tools & Plant Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	1.86	-

S. No	Particular	Cost	Remarks
II	Modified Cost by the Commission	2.26	As per reclassification of cost by the Commission mentioned in Table No. 19
III	**Approved Cost (Rs. Cr.)**	**2.00**	**Limit as per DPR**

3.5.37 **Receipt and Recoveries (V):** The Petitioner has claimed Nil cost towards 'Receipt and Recoveries' cost. The provision outlined in the DPR for 'Receipt and Recoveries' expense is based on actual, subject to the submission of documentary proofs. Further, while scrutinizing the documents, the Commission observed that the Petitioner has booked Rs. (24.70) Cr. towards income from sale of infirm power; guest house rent; sale of tender; interest etc. under Contingency cost (as detailed in para no. 3.5.12, Table No.19). In line with the details provided and Auditor certificate against the amount of recoveries made by the Petitioner, the Commission has approved an amount of Rs. (24.70) Cr.as summarised below:

Table 33: Receipt & Recoveries Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	0.00	-
II	Modified Cost by the Commission	(24.70)	As per reclassification of cost by the Commission
III	**Approved Cost (Rs. Cr.)**	**(24.70)**	**As per auditor certificate**

3.5.38 **Indirect Cost (2):** The Petitioner has claimed Nil cost towards 'Indirect Cost'. Further, while scrutinizing the documents, the Commission identified that the Petitioner has booked Rs.1.78 Cr. towards expenses incurred on legal services, postal communication, hospitality, meeting, internet and telephone etc., under Contingency cost (as detailed in para no. 3.5.12, Table No.19). In response to the query, the Petitioner submitted the ledger statement and auditor certificate. Following scrutiny of the auditor certificate, the Commission has approved Rs. 1.78 Cr. as summarised below:

Table 34: Indirect Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	0.00	-
II	Modified Cost by the Commission	1.78	As per reclassification of cost by the Commission
III	**Approved Cost (Rs. Cr.)**	**1.78**	**-**

3.5.39 **Electro-Mechanical (E&M) Works (3):** The Petitioner has claimed Rs. 219.13 Cr. expense under 'E&M Works'. Based on the submissions of the Petitioner, the contract for E&M Works was awarded to M/s Voith Hydro Private Limited (L-1 Bidder) on 17.08.2011 at a cost of Rs. 146.40 Cr. with a completion period of 40 months for Unit-I and 42 months for Unit-II. However, the Petitioner in the Petition has claimed an amount of Rs. 219.13 Cr. towards the E&M works as on COD.

3.5.40 The Commission sought break-up of the costs claimed along with justification for increased cost vis-à-vis the awarded cost. Upon reviewing the Petition and related documents regarding 'change in order' and 'contract award agreement' to scrutinize the claimed cost as on COD, the Commission identified a difference of Rs. 4.5 Cr. In response to the clarification sought, the Petitioner submitted a revised cost of Rs. 214.63 Cr., along with supporting documents and payment proofs, compared to the earlier claim amount of Rs. 219.13 Cr. The table below illustrates the detail of the E&M cost considering the revised claimed cost of Rs.214.63 Cr.

Table 35: Cost details for E&M Works (Rs. Cr.)

S. No.	Cost Variation Reasons for E&M Works	Revised Cost
I	Electro-Mechanical Works awarded cost	146.40
II	Price escalation	23.21
III	Change order for the supply and erection of 400 kV GIB complete with all accessories	7.98
IV	Change order for the supply and erection of 400 kV XLPE complete with all accessories	1.93
V	Change order for the supply and erection of OFC complete with all accessories	0.24
VI	Change order for the supply and erection of LV Switchgear & associated cables	0.44
VII	Change order for the supply and erection of PLCC Equipment	0.77
VIII	Variation in the Taxes & Duties	18.83
IX	Foreign exchange rate fluctuation etc.	20.90
X	Recoveries made from the Contractor (i.e., M/s Voith Hydro Pvt. Ltd.)	(6.08)
	Total Cost (Rs. Cr.)	**214.63**

3.5.41 The Petitioner has provided the following justification for the increased cost under 'E&M Works' vis-à-vis the DPR cost:

I. The Petitioner submitted that contract awarded to L-1 bidder at an amount of Rs.146.40 Cr. through bidding process.

II. According to the Contract Agreement for E&M Work, Price Escalation was permissible to accommodate change in labour and material components etc. during the execution of the Contract. The price escalation as also approved by the Engineer-in-charge was paid to the contractor amounting to Rs.23.21 Cr.

III. Change order for the supply and erection of 400 kV Gas Insulated Busduct (GIB) complete with all accessories (Details of layout changes)

a) GIS: Change in GIS layout during detailed engineering after many detailed discussions/site visits.

b) Pot-head-yard: Single bench Pot-head-yard was situated at CVT Portal during Bid stage which was shifted to a new location with two benches arrangement due to civil constraints.

c) Impact due to Layout changes: The layout change affected the following equipment/packages:

- GIB between GIS to Pothead yard & its support structure
- 400kV cable and support structure, and related common systems.
- Pothead yard design due to change from single bench to double bench.

d) Additional gas insulated Busduct: GIS hall and pothead yard relocation increased GIB length to 349m, requiring additional support structures and accessories.

e) Additional cost due to this change: The total variation due to the change order for the supply and erection of 400 kV GIB complete with all accessories is Rs. 7.98 Cr.

IV. Change order for the supply and erection of 400 kV XLPE complete with all accessories:

- Due to change in location of GIS hall the 400kV XLPE cable length increased. The length was revised from 2560 m to approx. 3451m (variation of 891m) which cost an additional amount of Rs. 1.93 Cr.

V. Change order for the supply and erection of OFC complete with all accessories:

- The Length of the optical fibre cable was revised from 9 km to 12 km as per the site conditions which cost additional amount of Rs. 0.24 Cr.

VI. Change order for the supply and erection of LV Switchgear & associated cables:

- The change requirements for 415 V Switchgear, Earthing and Cable system packages of Sainj HEP with respect to the Contract was done with additional requirement of Barrage Distribution Board, Additional requirement of Feeder in BFV Distribution Board, Power Pack for BFV Area, Power Pack for Barrage Area, Addition in Cable system, Addition of Cable tray & accessories and Addition of Earthing Material.
- The change order for the supply and erection of LV Switchgear & associated cables cost Rs.0.44 Cr.

VII. Change order for the supply and erection of PLCC Equipment:

- The provision of PLCC equipment was not envisaged in the original contract and was not in contractor's scope. The requirement of PLCC equipment was felt during detail engineering as its installation was important for distance protection & communication purposes. The change order for the supply and erection of PLCC Equipment cost Rs.0.77 Cr.

VIII. The variation amounting to Rs.18.83 Cr. occurred due to extra payment towards Entry Tax, change in rates of Service Tax, and etc.

IX. The variation amounting to Rs.20.90 Cr. occurred due to fluctuation in the exchange rate of USD and EURO towards Foreign Exchange Rate Variation (FERV).

X. Recoveries of amount of Rs. 6.08 Cr. made from the Contractor (i.e., M/s Voith) on account of excess excise duty.

3.5.42 With regard to the cost variations in the E&M cost, the Commission has reviewed the submissions of the Petitioner along with the relevant documents including award of contract, provisions with regard to price variation, approval of competent authority, supplementary order and etc. Accordingly, the Commission has approved the following deviations:

- The Commission noted that the contract for E&M works was awarded at an amount of Rs. 146.40 Cr. However, while scrutinising the documents the Commissioned observed that as on COD, the Petitioner has only claimed an amount of Rs. 145.49 Cr. Therefore, the Commission has approved Rs. 145.49 Cr. against the awarded amount of Rs. 146.40 Cr.
- The Claimed cost towards the "Change in order" was totalling an amount of Rs 11.37 Cr. (S. No. III to VII) which is related to supply and erection of 400kV GIB, 400kV XLPE, OFC, LV switchgear and PLCC as mentioned in the table no.35. In view of the supplementary contract agreement and approval from the competent authority, the Commission observed that the change in order pertains to the necessary technical parameters as per the site requirement and was an essential activity for commissioning the project. Accordingly, the Commission has approved the cost of Rs 11.37 Cr. towards revision in works.
- With regard to the price escalation of Rs. 23.21 Cr., the Commission observed that the contract awarded to M/s Voith and as per the conditions of the contract agreement, the escalation on account of labour and material during the period of execution was provided or allowed. Therefore, the Commission has approved the amount of price escalation during the original contract period and balance amount has been pro-rated based on the delay condoned as against the total delay in execution of the project. Therefore, the Commission has approved Rs. 22.78 Cr. against the claimed amount of Rs. 23.21 Cr.
- With regard to the variation in taxes and duties, the Petitioner claimed an amount of Rs. 18.83 Cr. The Commission has approved the payment of taxes and duties during the original contract period and balance amount pro-rated based on the delay condoned against the total delay in execution of the project. Further, the Commission noted that the amount claimed was paid during the original contract period. Therefore, the Commission approved the full amount of Rs.18.83 Cr. as claimed by the Petitioner.
- With regard to the Foreign Exchange Rate Variation (FERV), the Commission noted that at the time of signing the E&M contract agreement, the exchange rate was Rs. 45.71 for 1 USD and Rs. 61.82 for 1 Euro. Additionally, the E&M equipment was delivered at various phases during the project implementation until the COD. The Petitioner has, therefore, claimed a difference of Rs. 20.90 Cr. against the difference in exchange rate. According to the contract agreement, FERV is to be allowed as per the original exchange rates. Therefore, after prudence check, and as per Auditor certificate, the Commission approves an amount of Rs. 20.90 Cr. towards FERV. The exchange rates are as follows:

Table 36: Variation in Exchange Rates

S. No.	Particulars	Contract Value	Exchange Rate to INR	~Equivalent Value (Rs. Cr.)	Remarks
I	Contract Value in USD	83,19,779	45.71	38.02	

S. No.	Particulars	Contract Value	Exchange Rate to INR	~Equivalent Value (Rs. Cr.)	Remarks
II	Contract Value in EURO	33,04,219	61.82	20.43	As per the E&M contract award document, dated 17.08.2011
III	Total FERV Contract Cost (I+II)	-	-	58.45	
IV	Claimed FERV	-	-	79.35	As per the documents submitted in response to the queries
	Difference (IV-III)	**-**	**-**	**20.90**	**Claimed as per the Petition**
	Approved Amount	**-**	**-**	**20.90**	**Approved by Commission**

3.5.43 After accounting for variations in E&M contract value on account of price escalation, revision in scope, FERV, etc., the Commission approves Rs. 213.28 Cr. against the revised amount of Rs. 214.63 Cr. claimed by the Petitioner towards Electro-Mechanical works. The detailed break-up is summarized in table below:

Table 37: E&M Cost approved by the Commission (Rs. Cr.)

S. No.	Cost Variation Reasons for Civil Works	Revised Amount	Approved Amount
I	Actual Contract Award Cost	146.40	145.49
II	Price escalation	23.21	22.78
III	Change order for the supply and erection of 400 kV GIB complete with all accessories	7.98	7.98
IV	Change order for the supply and erection of 400 kV XLPE complete with all accessories	1.93	1.93
V	Change order for the supply and erection of OFC complete with all accessories	0.24	0.24
VI	Change order for the supply and erection of LV Switchgear & associated cables	0.44	0.44
VII	Change order for the supply and erection of PLCC Equipment	0.77	0.77
VIII	Variation in the Taxes & Duties	18.83	18.83
IX	Foreign exchange rate fluctuation etc.	20.90	20.90
X	Recovery from E&M Contractor on account of excess Excise Duty Paid	(6.08)	(6.08)
	Approved Cost (Rs. Cr.)	**214.63**	**213.28**

3.5.44 **Interest During Construction (IDC) (4):** The Petitioner has claimed Rs.253.08 Cr. towards 'IDC,' compared to the DPR approved cost of Rs. 96.77 Cr. During the document review, the Commission noted that the Petitioner had obtained a loan from the Government of Himachal Pradesh (GoHP) at a 10% interest rate. However, the loan was being received under a tri-partiate agreement between Government of India (GoI), GoHP and Asian Development Bank (ADB) under the Himachal Pradesh Clean Energy Development Investment Programme (HPCEDIP) being funded by ADB. Since the state of Himachal Pradesh is a special category state, the entire multilateral funding from the GoI has been provided to GoHP as 90% grant and 10% as loan. However, the entire amount was further provided by GoHP to the Petitioner at an interest rate of 10% per annum without any conversion to grant.

3.5.45 The Commission is of the view that the arrangement of GoHP with GoI regarding the loan should be implemented with the Petitioner in order to avoid any unreasonable cost as part of tariff determination. The Petitioner is directed to take up the matter with the GoHP and ensure that the terms and conditions with respect to availing the loan should be replicated under the agreement with the HPPCL. The Commission has provisionally considered the amount of IDC claimed as part of the capital cost and shall consider any changes in subsequent Control Period based on final decision from GoHP.

3.5.46 Further, it is observed that details with respect to working of IDC was not provided by the Petitioner in spite of repeated queries. In one of responses, the Petitioner submitted year-wise IDC amount booked without any working with respect to the same. During technical validation session, the Petitioner clarified that adequate records for past period were unavailable, but all records post 2012 are being compiled under SAP and the IDC is also certified as per the Auditor certificate. In the absence of any further details, the Commission has considered the IDC amount as per the Auditor certificate and has pro-rated the amount claimed vis-à-vis the approved cost and delay condoned to arrive at the approved IDC against the project. Accordingly, the Commission approves an amount of Rs.156.68 Cr. for IDC as summarised as under:

Table 38: IDC Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Methodology	Cost	Remarks
I	IDC Claimed by the Petitioner	-	253.08	As per the documents submitted with the Petition
II	Total Project Cost claimed by the Petitioner	-	1288.04	Including IDC of Rs. 253.08 Cr.
III	Project Cost (excluding IDC)	(II-I)	1034.96	-
IV	Approved Project Cost (excluding IDC)	-	940.17	As per Table No. 41
V	Total Contract Period (Days)	-	1460	As per Table No. 14
VI	Total Delay (in Days)	-	898	As per Table No. 14
VII	Total Delay Condoned (Days)	-	147	As per Table No. 14
VIII	**Approved Cost (Rs. Cr.)**	**[I*(IV/III)] * [(V+VII)/(V+VI)]**	**156.68**	**On Pro-rata basis**

3.5.47 **Local Area Development Fund (LADF) (5):** The Petitioner has claimed Nil cost towards the 'Local Area Development Fund (LADF)' and no provision was made in the DPR for this expense. LADF expenses is governed under the State Hydro Policy, 2006 notified by the GoHP. This Policy mandates that project developers to allocate 1.5% of the final cost for projects above 5 MW capacity and 1% for projects up to 5 MW capacity towards the LADF.

3.5.48 Based on the review of the information submitted, the Petitioner had booked an amount of Rs. 10.70 Cr. towards LADF under the Contingency cost which has been reclassified under LADF expenses as detailed in para no. 3.5.12, Table No 17. In response to a query with regard to the LADF amount, the Petitioner submitted a statement indicating that the payment was made to the 'Deputy Collector-LADA-Kullu' as per the State Hydro Policy-2006 by GoHP, along with an auditor certificate. After scrutinizing the payment statement and auditor certificate, the Commission has approved Rs. 10.70 Cr. towards LADF in accordance with the State Hydro Policy-2006 by GoHP. Since the amount paid towards LADF is within the prescribed limit as per the approved cost, the Commission has approved the actual amount paid by the Petitioner as summarized below:

Table 39: LADF Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	0.00	-
II	Modified Cost by the Commission	10.70	As per reclassification of cost by the Commission.
III	**Approved Cost (Rs. Cr.)**	**10.70**	**As per the Payment receipts**

3.5.49 **Contingency (6):** The cost claimed by the Petitioner under this head was Rs.71.38 Cr. The Commission has scrutinized the documents and reclassified the cost expenses under this head to different sub-heads as per the DPR, as mentioned in the para no. no. 3.5.12. Therefore, no cost is approved under this head by the Commission.

Table 40: Contingency Cost - Claimed, Modified and Approved (Rs. Cr.)

S. No	Particular	Cost	Remarks
I	Claimed Cost by the Petitioner	71.38	-
II	Modified Cost by the Commission	0.00	As per reclassification of cost by the Commission.
III	**Approved Cost (Rs. Cr.)**	**0.00**	**-**

3.5.50 Based on the above discussions and detailed scrutiny of cost elements, the Capital Cost approved by the Commission as on COD for the complete project is detailed below:

Table 41: Project Cost – DPR, Claimed, Modified and Approved (Rs. Cr.)

<table>
<tr><th>S. No</th><th>Particulars</th><th>DPR Cost</th><th>Claimed Cost</th><th>Modified Cost</th><th>Approved Cost</th></tr>
<tr><td>1</td><td colspan="5">DIRECT COST (Only for Civil Works)</td></tr>
<tr><td>I</td><td colspan="5">Works</td></tr>
<tr><td>A</td><td>Preliminary</td><td>12.60</td><td>0.00</td><td>0.02</td><td>0.00</td></tr>
<tr><td>B</td><td>Land (Incl. R&R)</td><td>29.19</td><td>36.56</td><td>36.56</td><td>36.54</td></tr>
<tr><td>C</td><td>Works(Diversion and other related structure)</td><td rowspan="2">260.36</td><td rowspan="2">578.88</td><td rowspan="2">578.88</td><td rowspan="2">545.76</td></tr>
<tr><td>J</td><td>Power Plant Civil Works</td></tr>
<tr><td>K</td><td>Buildings</td><td>29.98</td><td>8.05</td><td>8.05</td><td>8.05</td></tr>
<tr><td>M</td><td>Plantation</td><td>0.50</td><td>0.00</td><td>0.00</td><td>0.00</td></tr>
<tr><td>O</td><td>Miscellaneous</td><td>12.60</td><td>13.15</td><td>24.32</td><td>17.18</td></tr>
<tr><td>P</td><td>Maintenance during construction</td><td>3.14</td><td>0.33</td><td>14.95</td><td>14.95</td></tr>
<tr><td>Q</td><td>Special T&P</td><td>0.87</td><td>0.00</td><td>0.00</td><td>0.00</td></tr>
<tr><td>R</td><td>Communications</td><td>23.48</td><td>24.54</td><td>24.54</td><td>24.54</td></tr>
<tr><td>X</td><td>Environment and Ecology</td><td>46.33</td><td>0.00</td><td>23.03</td><td>23.03</td></tr>
<tr><td>Y</td><td>Losses on stock</td><td>0.78</td><td>0.00</td><td>0.00</td><td>0.00</td></tr>
<tr><td colspan="2">TOTAL: I-WORKS</td><td>419.84</td><td>661.51</td><td>710.36</td><td>670.05</td></tr>
<tr><td>II</td><td>Establishment</td><td>23.44</td><td>81.08</td><td>115.44</td><td>67.05</td></tr>
<tr><td>III</td><td>Tools and Plants</td><td>1.00</td><td>1.86</td><td>2.26</td><td>2.00</td></tr>
</table>

S. No	Particulars	DPR Cost	Claimed Cost	Modified Cost	Approved Cost
IV	Suspense	0.00	0.00	0.00	0.00
V	Receipt and Recoveries	(0.64)	0.00	(24.70)	(24.70)
TOTAL(A): 1. DIRECT COST		**443.64**	**744.45**	**803.36**	**714.40**
2	**INDIRECT COST (Only for Civil Works)**				
I	Capitalization of Abatement of Land Revenue	0.04	0.00	0.00	0.00
Ii	Audit and Account Charges	2.09	0.00	1.78	1.78
TOTAL(B): 2. INDIRECT COST		**2.14**	**0.00**	**1.78**	**1.78**
TOTAL (A+B)		**445.79**	**744.45**	**805.14**	**716.19**
3	Electro-Mechanical Works	133.73	219.13	219.13	213.28
4	Interest During Construction	96.77	253.08	253.07	156.68
5	Contingency	0.00	71.38	0.00	0.00
6	LADF (1.5%)	0.00	0.00	10.70	10.70
	Total Project Cost	**676.29**	**1,288.04**	**1,288.04**	**1,096.84**

3.6 Additional Capital Expenditure (ACE)

Petitioner Submissions

3.6.1 The Petitioner has proposed 'Additional Capital Expenditure' up to 'Cut-off Date' and 'Beyond Cut-off Date' amounting to Rs. 10.10 Cr. & Rs. 5.75 Cr. respectively.

3.6.2 The breakup of 'Additional Capital Expenditure' submitted by the Petitioner is as follows:

Table 42: Additional Capital Expenditure (ACE) (Rs. Cr.)

Particulars	ACE 'Up to Cut-Off Date'		ACE 'Beyond Cut-Off Date'			Proposed
	FY19	**FY 20**	**FY21**	**FY22**	**FY23**	**FY 24**
Civil Work	(0.45)	2.32	0.00	1.26	0.00	3.00
E&M Works	(0.05)	0.87	0.00	0.47	0.00	0.00
Buildings	0.00	0.00	0.09	0.00	0.00	0.00
Land Lease Hold	0.00	0.00	0.00	0.03	0.00	0.00
Plant & Machinery	0.00	0.00	0.00	0.42	0.02	0.00
Road	0.36	0.00	0.00	0.00	0.00	0.00
Office Equip & Furniture	0.00	0.01	0.00	0.03	0.00	0.00
Construction Power	7.03	0.00	0.00	0.00	0.00	0.00
Data Processing	0.00	0.00	0.00	0.09	0.04	0.00
ROU Asset Buildings	0.00	0.00	0.00	0.30	0.00	0.00
Sub-Total	**6.90**	**3.20**	**0.09**	**2.60**	**0.06**	**3.00**
Total (Rs. Cr.)	**10.10**		**5.75**			

3.6.3 The total project cost claimed by the Petitioner including 'Additional Capital Expenditure' is shown below:

Table 43: Project Cost including ACE (Rs. Cr.)

DPR Cost	Actual Cost	Actual Cost including ACE 'Up to Cut-Off Date'	Actual Cost including ACE 'Beyond Cut-Off Date'

676.29	1288.04	1298.14	1303.89

Commission's Analysis

3.6.4 In accordance with Regulation 13 of the 'HPERC Hydro Tariff Regulation 2011'as amended from time to time, the Commission has verified the claimed 'Additional Capital Expenditure'. Further, these regulations provides for the same as follows:

1) *The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date, may be admitted by the Commission, subject to prudence check,:-*

   a) *Undischarged liabilities;*

   b) *Works deferred for execution;*

   c) *Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 12;*

   d) *Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and*

   e) *Change in law:*

Provided that the details of works included in the original scope of work, along with estimates of expenditure, undischarged liabilities and the works deferred for execution, shall be submitted along with the application for determination of tariff.

2) *The capital expenditure incurred on the following counts after the cut off date may, in its discretion, be admitted by the Commission, subject to prudence check,:-*

   a) *liabilities to meet award of arbitration or for compliance of the order or decree of a court;*

   b) *change in law;*

   c) *any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) including due to geological reasons after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation:*

Provided that in any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalisation for determination of tariff w.e.f. 1.4.2011.

3.6.5 The Commission raised deficiency letters to seek details and nature of 'Additional Capital Expenditure' and its further classification as per the Regulations. In reply, the Petitioner has submitted that an expenditure of Rs. 10.10 Cr. was incurred up to 'cut-off date' and Rs. 5.75 Cr. 'beyond cut-off date' respectively on account of civil works, E&M works, buildings and others for which an auditor certificate was submitted by the Petitioner.

3.6.6 The Petitioner has not submitted the copy of work orders, payment proofs, classification of work and other related information for prudence check. Following a prudent review, the Commission in the absence of documentary proofs has not allowed the claimed ACE. The Commission further directs the Petitioner to submit all necessary details / documents with regard to ACE in the subsequent tariff filing.

3.7 Arbitration/ Court Cases/ Other Cost

Petitioner Submissions

3.7.1 The following cases related to the construction stage of Sainj HEP are pending in Tribunals/Courts of Law. Further, the cases and the cost involved is sub-judice. Therefore, the below mentioned cost has not been considered in the total cost of the project and same shall be considered during true-up based on the decision of Hon'ble Arbitral Tribunal/ Hon'ble High Court.

Table 44: List of On-going Arbitration Matters (Rs. Cr.)

S. No.	Arbitration matter	Sum Involved	Status/Remarks
I	Civil works AT-1	6.04 Cr.	The award of AT-I was given by Hon'ble Arbitral Tribunal on 19.09.2018 for an amount of Rs.6.04 Cr. However, the appeal by the HPPCL regarding above has been filed before the Hon'ble High Court and at present the matter is sub-judice.
II	Civil works AT-2	72.54 Cr.	The award of AT-2 was given by Hon'ble Arbitral Tribunal on 27.06.2019 for an amount of Rs.72.54 Cr. However, the appeal by the HPPCL regarding above has been filed before the Hon'ble High Court and at present the matter is sub-judice.
III	Civil works AT-3	101.14 Cr.	The award of AT-3 was given by Hon'ble Arbitral Tribunal on 31.01.2023 for an amount of Rs.101.14 Cr., However the appeal by the HPPCL regarding above has been filed before the Hon'ble High Court and at present the matter is sub-judice.
IV	Electro-Mechanical package	13.32 Cr.	The application / appeal against the Arbitration order dated 09.03.2020 has been filed before the Hon'ble High court of H.P by the HPPCL and the matter is sub-judice.
	Total (Rs. Cr.)	**193.04**	

3.7.2 Further, the Petitioner has submitted that additional cost w.r.t. land and residential buildings of Sarabai colony and Thalout is still pending. The cost in this respect has not been considered in the total cost of the project and same shall be considered during true up. The details corresponding to the cost of land and residential building is tabulated below:

Table 45: Additional Cost for Land & Building (Rs. Cr.)

S. No.	Particular	Sum Involved	Status
I	Land & Residential Buildings	45.99	The decision of management of the HPPCL regarding the payment

			adjustment of permanent assets (Land and Buildings) of Sarabai colony and Thalout is pending.

Commission's Analysis

3.7.3 The Commission has noted the submissions of the Petitioner with regard to arbitration and legal matters as well as additional costs. It shall review the cost aspects of the project at the time of true-up.

3.8 Project Funding

Petitioner Submissions

3.8.1 The Petitioner has cited Regulation 16 of 'HPERC Hydro Tariff Regulation 2011' as amended in this regard.

3.8.2 The Petitioner has also submitted that the Government of India (GoI) received a loan from the Asian Development Bank (ADB) to finance the implementation of the Sainj HEP as part of the Himachal Pradesh Clean Energy Development Investment Programme (HPCEDIP). This multilateral loan was channelized through the GoHP to the HPPCL i.e., the Petitioner. The loan provided by the GoI to GoHP at 90% grant and 10% loan. Further, the loan provided by GoHP to the HPPCL was at an annual interest rate of 10%. The total debt received from GoHP for Sainj HEP is tabulated as under:

Table 46: Details of Debt Received (Rs. Cr.)

Financial Year (FY)	Debt Amount Received
2011-12	79.02
2012-13	122.46
2013-14	129.46
2014-15	133.85
2015-16	109.96
2016-17	73.97
2017-18	83.72
2018-19	0.84
Total (Rs. Cr.)	**733.28**

3.8.3 The Petitioner has not maintained project wise segregation of the equity in the accounts. However, an amount of Rs 554.76 Cr. up to COD and 567.64 Cr. up to 31.03.2023 has been used for Sainj HEP from Equity and own resources.

3.8.4 Debt Equity ratio claimed by the Petitioner is tabulated as under:

Table 47: Debt-Equity Ratio as on COD

Particulars	Debt:Equity as per DPR (Rs. Cr.)	Debt:Equity as per DPR in %	Debt:Equity as per Actual (Rs. Cr.)	Debt:Equity as per Actual in %	Funding Claimed (Rs. Cr.)	Normative Debt : Equity
Debt	405.66	70%	733.28	57%	901.63	70%
Equity	173.86	30%	554.76	43%	386.41	30%
Total	**579.52**	**100%**	**1288.04**	**100**	**1288.04**	**100%**

3.8.5 Total completion project cost including ACE considered by the Petitioner is shown as under:

Table 48: Debt-Equity Ratio including ACE (Rs. Cr.)

Particulars	Actual COD Cost	ACE 'Up to Cut-off Date'		ACE 'Beyond Cut-off Date'			Proposed ACE	Total Cost (Rs. Cr.)
		FY 19	FY 20	FY 21	FY 22	FY 23	FY 24	
Debt	901.63	4.83	2.24	0.06	1.82	0.04	2.10	912.72
Equity	386.41	2.07	0.96	0.03	0.78	0.02	0.90	391.17
Total	**1288.04**	**6.90**	**3.20**	**0.09**	**2.60**	**0.06**	**3.00**	**1303.89**

Commission's Analysis

3.8.6 The Commission has observed that as per the approved DPR by the CEA, the scheme was originally envisaged to be funded with the debt and equity ratio of 70:30.

3.8.7 The Commission observes that ADB has sanctioned a multilateral financing loan of $800 million to the Government of India (GoI) under the Himachal Pradesh Clean Energy Development Investment Programme (HPCEDIP). The proposed Program combines physical investments in hydroelectric power generation in the state of Himachal Pradesh (HP) with nonphysical interventions in capacity development. The scope includes construction of four medium to large hydropower projects, the Sawra Kuddu (111 MW), Integrated Kashang (195MW), Sainj (100 MW) and Shongtong-Karcham (450 MW). All proposed hydropower projects for the Program are run-of-the-river design. As the name of the scheme itself implies that the financing support by the ADB is to promote the generation of clean energy in the State. Further, Himachal Pradesh being a special category state, the loan was received by Government of Himachal Pradesh (GoHP) from the GoI as 90% grant and 10% loan. However, the GoHP has provided the entire amount as loan to the HPPCL at an interest rate of 10% per annum.

3.8.8 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 HPPCL. The Commission is of the view that the GoHP should refrain itself from assuming the role of a financial institution and instead have ensured that the grant received under this arrangement was extended to the HPPCL for the benefit of the Consumers of the State as well as to promote clean energy in the State.

3.8.9 As per the submission of the Petitioner, actual loan drawn from GoHP is Rs.733.28 Cr. i.e., ~57% of project cost as on COD. Further, the equity amounting to Rs. 554.76 Cr. which is approximately 43% of the project cost has been considered by the Petitioner.

3.8.10 To verify the Debt and Equity claimed by the Petitioner, the Commission vide deficiency letters sought details of Debt-Equity received, Loan Agreement, Tripartite agreement, Sanctioned Letters, Board of Director (BOD) approval and other relevant documents. In response to the query, the Petitioner submitted additional details and documents.

3.8.11 The Petitioner was unable to provide any specific details of the equity amount availed from the GoHP towards the said project and instead provided the lumpsum amount of Rs. 2321.12 Cr. of equity received from GoHP towards various projects.

3.8.12 The Commission after review of the documents noted that due to financial constraints, the Petitioner sought deferment of loan repayment, which was approved by the GoHP until FY 2020-21. Further, the Commission noted that as on COD, no amount against the loan was repaid by the Petitioner to GoHP.

3.8.13 In accordance with Regulation 16 of the 'HPERC Hydro Tariff Regulation, 2011', the Commission has followed the Debt-Equity ratio and the same are detailed below:

"2) New Stations:

(a) For new stations, the normative debt-equity ratio shall be considered to be 70:30 for determination of tariff.

(b) In case of a generating station where equity employed is more than 30%, the amount of equity for determination of tariff shall be limited to 30% and the balance amount shall be considered as the normative loan.

(c) In case of a generating station where actual equity employed is less than 30%, the actual debt and equity shall be considered for determination of tariff:

Provided that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment."

3.8.14 The Commission is of the view that since the funding of the Sainj HEP was secured in accordance with the DPR on which the CEA has also accorded its approval, it is therefore prudent to consider the debt and equity ratio as per the original DPR (i.e., 70:30). In line with the same, the debt:equity ratio is arrived against the approved capital cost for Sainj HEP as below:

Table 49: Normative Debt-Equity ratio on the Approved Cost for Sainj HEP (Rs. Cr.)

Particulars	Debt : Equity (Approved Cost)	Debt : Equity % (Approved Cost)
Normative Debt	767.79	70%
Normative Equity	329.05	30%
Total	**1096.84**	**100%**

3.8.15 Based on the scrutiny of the loan details, it is observed that the Petitioner is not making any repayment of loan or interest against the loan from GoHP. The Petitioner has also provided a copy of the loan documents including loan scheme agreement between GoHP and the HPPCL, tripartite agreement among ADB-GoI-GoHP, and various loan sanction letters. It has also submitted that the State of HP is a special category State, therefore, the entire multilateral funds were received by the State from Govt. of India in the ratio of 90% grant and 10% loan. However, the entire loan proceeds were extended by GoHP to the Petitioner as loan carrying interest rate of 10% per annum. The Petitioner has also submitted that the GoHP had allowed deferment of loan till 31.03.2021 and further deferment of loan has been sought by the Petitioner from GoHP and the decision in this regard is awaited.

3.8.16 The Commission takes serious note against consideration of the amount which is available as grant (90% of overall amount) to the State as loan which shall unnecessarily burden the consumers of the State due to such treatment. It is also observed that the Petitioner is already facing financial challenges and has been unable to service the loans against which deferment has been sought time and again. The Commission feels that it would be prudent that the Petitioner takes up the matter with the GoHP 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 utility as well as the consumers of the State which would have to bear the burden of the additional interest cost and repayment of such loan which has been provided as grant.

3.8.17 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 consider debt:equity as 70:30 for the balance amount in line with Regulation 10(C) of the HPERC 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;"

3.8.18 The details of the same is tabulated below:

Table 50: Debt, Grant and Equity on Approved Cost for Sainj HEP (Rs. Cr.)

S. N0.	Particulars	Approved Cost	Remarks
I	Total Project Cost Approved	1096.84	As per Table No. 41
II	Normative Debt	767.79	As per Table No. 49
III	Actual Debt	733.28	As per Table No. 47
IV	**Grant (90% of the ADB Scheme Loan)**	**659.95**	**Minimum (II and III) x 90%**
V	Balance Requirement	436.89	(I-IV)
VI	Debt (70%)	305.82	(V x 70%)
VII	Equity (30%)	131.07	(V x 30%)
VIII	**Total**	**1096.84**	**(IV+VI+VII)**

3.8.19 In case of ADB loans availed by HPPTCL, the Commission has been considering these as loans and allowing depreciation as well as interest for servicing of such loans. This treatment has been undertaken in view of limited information available to the Commission in this regard. However, the Commission has directed the Petitioner to re-negotiate with GoHP and align the terms and conditions in line with the tri-patriate agreement. The Commission shall take appropriate decision with regard to the treatment of such ADB loans during truing-up. Further, in case of funding through similar loan facility from ADB, the Commission has preferred to consider the availability of 90% of ADB loan as grant in line with the submission of the Petitioner and given the special category status to the State of Himachal Pradesh.

3.8.20 The Commission is of the view that the GoHP shall consider the transferring of Grant as availed from the Government of India to HPPCL for the benefit of the Consumers of the State instead of considering the loan as generally done by the Financial Institution.

4. APPROVAL OF ARR AND TARIFF

4.1 Background

4.1.1 The Petitioner has undertaken Annual Fixed Cost projections for Sainj HEP in line with 'HPERC Hydro Tariff Regulation 2011'for each of the component

a. Operation and Maintenance (O&M) Expenses;

b. Depreciation;

c. Interest and Finance Charges on Loan;

d. Interest on Working Capital;

e. Return on Equity (ROE).

4.1.2 The Commission has examined the submissions made by the Petitioner including additional submissions and clarifications 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.

4.1.3 The Commission has approved the Capital Cost as on COD for Sainj HEP as Rs.1096.84 Cr. after detailed examination as discussed in the previous Chapter. The same has been tabulated below:

Table 51: Approved Project Cost by the Commission (Rs. Cr.)

Capital Cost as per DPR	Claimed Capital Cost as on COD	Approved Capital Cost as on COD
676.29	1288.04	1096.84

4.1.4 The Commission has utilized the approved capital cost for the purpose of determination of Annual Fixed Charges in line with the provisions of the 'HPERC Hydro Tariff Regulation, 2011'.

4.1.5 In this chapter, the Commission has detailed the methodology for computing each component of the ARR for each year from COD till FY 2023-24 for Sainj HEP of the HPPCL including O&M expenses, Interest on Loan, Depreciation, Return on Equity, Working Capital requirement, etc. The methodology followed and approved values for each component of the ARR is detailed in the subsequent sections.

4.2 Operation and Maintenance Expenses

Petitioner's Submissions

4.2.1 The Petitioner has cited Regulation 22 of the 'HPERC Hydro Tariff Regulation, 2011'for the computation of O&M Expense.

4.2.2 Further, the Petitioner has claimed actual O&M expenses for FY18 to FY23 and projected O&M expenses for FY23 and FY24 as tabulated below:

Table 52: O&M Expense submitted by the Petitioner (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Total O&M Expenses	Actual					Projected	
	8.42	18.03	11.39	13.39	22.14	23.45	24.83

4.2.3 The Petitioner has further submitted that the account of FY 2022-23 is yet to be audited and, therefore, the actual O&M expenses for FY 2021-22 have been considered for projections after applying escalation factor.

Commission's Analysis

4.2.4 In accordance with Regulation 22 (4) and (6) of the 'HPERC Hydro Tariff Regulations, 2011', the Commission has computed the O&M Expense based on the approved capital cost. The above-mentioned Regulations for the computation of O&M Expenses are detailed below:

"(4) In case of hydro generating stations, which have been in commercial operation for less than 5 years as on 31 March 2018, the operation and maintenance expenses shall be fixed at 2% of the original project cost, excluding cost of rehabilitation and resettlement works, and shall be escalated in accordance with the escalation principles specified in sub regulation (6).

(6) O&M expenses determined in sub-regulations (3) and (4), shall be escalated for subsequent years to arrive at the O&M expenses for the control period by applying the Escalation factor (EFk) for a particular year (Kth year) which shall be calculated using the following formula

"EFk = 0.20 x $WPI_{Inflation}$ + 0.80 x $CPI_{Inflation}$"

Provided that, out of the O&M expenses so determined based on the above regulations, at least 30% shall be spent towards repair and maintenance activities:

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

4.2.5 The Commission in para-No. 3.5.19 has approved an amount of Rs.4.07 Cr. under the R&R works.

4.2.6 For the purpose of computation of escalation factor, the provisions of the 'HPERC Hydro Tariff Regulation, 2011'(Amendment 2) for the "$WPI_{Inflation}$" and "$CPI_{Inflation}$" is required to be considered as below:

a) $CPI_{Inflation}$ – is the average increase in the Consumer Price Index (CPI) for the three years immediately preceding the base year.

b) $WPI_{Inflation}$ – is the average increase in the Wholesale Price Index (WPI) for the three years immediately preceding the base year.

4.2.7 In line with the provisions of the 'HPERC Hydro Tariff Regulation, 2011', the Commission has worked out the escalation rate as provided below:

Table 53: CPI-WPI-Escalation Factor

Particulars	FY18	FY19	FY20	FY21	FY22	FY23
CPI Factor	284.42	299.92	322.50	338.69	356.06	377.62
CPI Inflation (%)		*5.45%*	*7.53%*	*5.02%*	*5.13%*	*6.05%*
WPI Factor	114.88	119.79	121.80	123.38	139.41	152.53
WPI Inflation (%)		*4.28%*	*1.68%*	*1.29%*	*13.00%*	*9.41%*
Escalation factor (EFk)		***5.22%***	***6.36%***	***4.28%***	***6.70%***	***6.72%***

4.2.8 The Commission has approved Rs. 1096.84 Cr. as Capital Cost of the Sainj HEP. Further, as per the 'HPERC Hydro Tariff Regulation, 2011', the Rehabilitation and Resettlement Work Cost should be deducted from the Capital Cost before working out the O&M Expenses for first year. The working for the O&M expenses for first year is tabulated below:

Table 54: O&M Expense for First Year (Rs. Cr.)

Particulars	Details
Approved Capital Cost (Rs. Cr.)	1,096.84
Less: Rehabilitation and Resettlement Work (Rs. Cr.)	4.07
Net Capital cost for O&M (Rs. Cr.)	1,092.77
O&M @ 2% of Project Cost (Approved)	2%
O&M (FY-2017-2018 Level) (Rs. Cr.)	21.86

4.2.9 The Commission for FY 2017-18 has calculated the O&M Expenses on pro-rata basis considering that the plant was in operation for part year i.e., COD of 04.09.2017 upto 31.03.2018. Therefore, the O&M calculated for FY 2017-18 is only for 208 days. For the subsequent years, full year O&M expenses has been considered after providing for escalation as detailed above. O&M expenses approved for each year post COD of the plant upto FY 2023-24 are tabulated below:

Table 55: O&M Expense approved by the Commission (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Approved O&M Expense	12.45*	23.00	24.46	25.50	27.21	29.04	30.76

* *O&M Expense corresponding to the period from COD to end of the financial year*

4.3 Depreciation

Petitioner's Submissions

4.3.1 The Petitioner has worked out the depreciation as per Regulation 20 of 'HPERC Hydro Tariff Regulations, 2011' and its subsequent amendments. The Petitioner has submitted that it has considered depreciation rate as per Annexure I of the 'HPERC Hydro Tariff Regulation, 2011' for the first 12 years in line with the provisions of the Regulations.

4.3.2 The depreciation booked in the project since COD and its projection is tabulated as below:

Table 56: Depreciation Expense submitted by the Petitioner (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
	Actual					Projected	
Opening GFA	1288.04	1288.04	1294.94	1298.14	1298.23	1300.86	1300.92
Addition during the year	0.00	6.90	3.20	0.09	2.63	0.06	3.00
Less Grant Received	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Closing GFA	1288.04	1294.94	1298.14	1298.23	1300.86	1300.92	1303.92
Average GFA	1288.04	1291.49	1296.54	1298.18	1299.54	1300.89	1302.42
Lee: Freehold Land	32.47	32.47	32.47	32.47	32.47	32.47	32.47
Average GFA excluding Land	1255.57	1259.02	1264.07	1265.72	1267.07	1268.42	1269.95
WAROD (%)	4.60%	4.67%	4.68%	4.66%	4.80%	4.79%	4.79%
Depreciation	**33.69**	**58.79**	**59.19**	**58.95**	**60.82**	**60.82**	**60.82**

Commission's Analysis

4.3.3 In accordance with Regulation 20 of the 'HPERC Hydro Tariff Regulations, 2011'and its amendments, the Commission has computed the Depreciation based on the approved capital cost by the Commission. The Regulation 20 of the 'HPERC Hydro Tariff Regulations, 2011' reads as under:

"*(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:

Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable:

Provided also that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

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

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

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

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

4.3.4 The Commission based on the submissions of the Petitioner has considered the asset-wise weighted average rate of depreciation (WAROD) as 4.80% from COD to FY 2023-24 for the calculation of depreciation. Further, as per 'HPERC Hydro Tariff Regulations, 2011', land cost amounting Rs 32.47 Cr. is deducted from the Capital Cost for calculating the Depreciation. The working with respect to opening GFA for depreciation has been tabulated below:

Table 57: Opening GFA for Depreciation (Rs. Cr.)

Particulars	Details
Approved Capital Cost (Rs. Cr.)	1,096.84
Less: Land Cost (Rs. Cr.)	32.47
Less: Grant (Rs. Cr.)	659.95
Net Capital cost for Depreciation or Opening GFA (Rs. Cr.)	**404.42**
WAROD (%)	4.80%

4.3.5 Based on the WAROD above, the Commission has approved the depreciation for each year from the date of COD upto FY 2023-24. Further, the depreciation for FY 2017-18 has been pro-rated based on the number of days of operation during the first year. The approved depreciation for each year from the date of COD to FY 2023-24 is summarized below:

Table 58: Depreciation approved by the Commission (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Opening GFA	404.42	404.42	404.42	404.42	404.42	404.42	404.42
Addition during the year	-	-	-	-	-	-	-
Closing GFA	404.42	404.42	404.42	404.42	404.42	404.42	404.42
Depreciation	**11.06***	**19.41**	**19.41**	**19.41**	**19.41**	**19.41**	**19.41**

* *Deprecation corresponding to the period from COD to end of the financial year*

4.4 Interest and Finance Charges on Loan

Petitioner's Submissions

4.4.1 Interest and Finance Charges on loans are calculated based on the capital expenditure planned for the Control Period. The Petitioner has considered a Debt:Equity ratio of 70:30 for Sainj HEP. The Petitioner has cited Regulation

17 of the 'HPERC Hydro Tariff Regulations, 2011' and its subsequent amendments for the computation of Interest on Loan.

4.4.2 Accordingly, the Petitioner has computed interest on loan as shown in table given below:

Table 59: Interest on Loan submitted by Petitioner (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Gross loan: Opening	901.63	901.63	906.47	908.7	908.76	910.6	910.64
Cumulative repayments of Loans up to previous year	0.00	33.69	92.47	151.67	210.62	271.44	332.26
Net loan - Opening	901.63	867.94	814	757.03	698.14	639.16	578.38
Add: Drawl(s) during the Year	0.00	4.84	2.23	0.06	1.84	0.04	2.10
Less: Repayments considered equal to depreciation	33.69	58.78	59.20	58.96	60.82	60.82	60.82
Net loan - Closing	867.94	814.00	757.03	698.14	639.16	578.38	519.65
Average Net Loan	884.79	840.97	785.51	727.58	668.65	608.77	549.02
Rate of Interest on Loan on annual basis	10%	10%	10%	10%	10%	10%	10%
Interest on loan	**90.16**	**86.79**	**81.4**	**75.7**	**69.81**	**63.92**	**57.84**

Commission's Analysis

4.4.3 In accordance with Regulation 17 of the 'HPERC Hydro Tariff Regulations, 2011' and its amendments, the Commission has computed the Interest and Finance Charges on Loan based on the approved capital cost by the Commission. The above Regulation reads as under:

"17. 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 generating station, does not have actual loan, then the weighted average rate of interest of the generating company as a whole shall be considered:

Provided further that if the generating company 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 300 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…..

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

4.4.4 In the previous Chapter, the Commission has approved the project funding through a mix of debt, grant and equity. The loan amount from GoHP along with the normative loan has been considered for the purpose of computation of interest on loan and an interest rate of 10% has been considered in line with the agreement between GoHP and the Petitioner with regard to the payment of interest on the loans. The Commission, as mentioned in para no.3.8.18 and 'HPERC Hydro Tariff Regulations, 2011', has considered the repayment of loan equal to depreciation and has computed the Interest on Loan from COD to FY 2023-24. The approved Interest on Loan for each year from the date of COD to FY 2023-24 is summarized below:

Table 60: Interest on Loan approved by the Commission (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Opening Loan	305.82	294.76	275.35	255.94	236.53	217.11	197.70
Repayment	11.06	19.41	19.41	19.41	19.41	19.41	19.41
Addition	-	-	-	-	-	-	-
Closing Loan	**294.76**	**275.35**	**255.94**	**236.53**	**217.11**	**197.70**	**178.29**
Rate of Interest	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*	*10%*
Interest Cost	**17.11***	**28.51**	**26.56**	**24.62**	**22.68**	**20.74**	**18.80**

* *Loan corresponding to the period from COD to end of the financial year*

4.5 Interest on Working Capital

Petitioner's Submissions

4.5.1 The Petitioner has cited Regulations 18 and 19 of the 'HPERC Hydro Tariff Regulations, 2011' and its subsequent amendments for the computation of Interest on Working Capital in this regard.

4.5.2 The Petitioner has calculated the interest on working capital considering prevalent SBI MCLR as on 01.04.2023 respectively plus 300 basis points. Further, the Petitioner has calculated Rate of Interest on working capital @ 11.50 percent (SBI Prime Lending Rate) in accordance with the above Regulations.

4.5.3 The interest on working capital thus, computed by the Petitioner as per the 'HPERC Hydro Tariff Regulations, 2011' is given in the table below:

Table 61: Interest on Working Capital submitted by the Petitioner (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Operation & Maintenance Expenses for 1 Month	1.2	1.5	0.95	1.12	1.84	1.95	2.07
Maintenance Spares Equivalent to 15% of O&M	1.26	2.71	1.71	2.01	3.32	3.52	3.73
Receivable Equivalent of 2 Months of Fixed Cost	18.15	32.3	27.26	33.44	32.36	33.08	30.65
Total Working Capital Requirement	20.62	36.51	29.92	36.56	37.53	38.55	36.44
Interest on Working Capital %	*11.50%*	*11.50%*	*11.50%*	*11.50%*	*11.50%*	*11.50%*	*11.50%*
Interest on Working Capital	**2.37**	**4.2**	**3.44**	**4.2**	**4.32**	**4.43**	**4.19**

Commission's Analysis

4.5.4 In accordance with Regulations 18 and 19 of the 'HPERC Hydro Tariff Regulations, 2011' and its amendments, the Commission has computed the Interest on Working Capital based on the approved capital cost by the Commission. These Regulations read as under:

"The Commission shall calculate the working capital requirement for hydroelectric power stations containing the following components: -

(a) Operation & Maintenance (O&M) expenses for 1 month;

(b) Maintenance spares equivalent to 15% of O&M;

(c) Receivables equivalent to two months of fixed cost

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 generating company has not taken* working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures."

4.5.5 The Commission has adopted the approach for calculation of interest on working capital as per above-mentioned 'HPERC Hydro Tariff Regulations, 2011'.

4.5.6 The Commission has calculated the interest on working capital considering prevalent SBI MCLR, as applicable for one (1) Year period, as may be applicable as on 1st April of every financial year (FY) from FY20 to FY 24 respectively plus 300 basis points as per the 'HPERC Hydro Tariff Regulations, 2011' (3rd Amendment). Further, for FY 18 and FY 19 the Commission considered the 'HPERC Hydro Tariff Regulations, 2011' (2nd Amendment) which states that the "Short Term Prime Lending Rate of the State Bank of India as on the 1st April of the relevant year" the words and figures "average Base Rate of State

Bank of India for the last six months prior to the filing of the MYT Petition plus 350 basis points" shall be substituted.

4.5.7 The Commission based on the 'HPERC Hydro Tariff Regulation, 2011' as amended from time to time, and methodology has computed the Interest on Working Capital from COD to FY 2023-24. The approved interest on working capital for each year from the date of COD to FY 2023-24 is summarized below:

Table 62: Interest on Working Capital approved by the Commission (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Operation & Maintenance Expenses for 1 Month	1.82	1.92	2.04	2.13	2.27	2.42	2.56
Maintenance Spares Equivalent to 15% of O&M	3.28	3.45	3.67	3.83	4.08	4.36	4.61
Receivable Equivalent of 2 Months of Fixed Cost	15.71	15.63	15.53	15.36	15.30	15.29	15.31
Total Working Capital Requirement	**20.81**	**21.00**	**21.24**	**21.31**	**21.65**	**22.06**	**22.49**
Interest on Working Capital %	*12.60 %*	*12.20 %*	*11.55 %*	*10.75 %*	*10.00 %*	*10.00 %*	*11.50 %*
Interest on Working Capital	**1.49***	**2.56**	**2.45**	**2.29**	**2.16**	**2.21**	**2.59**

* *Working Capital corresponding to the period from COD to end of the financial year*

4.6 Return on Equity

Petitioner's Submissions

4.6.1 The Petitioner has cited Regulation 21 of 'HPERC Hydro Tariff Regulations, 2011' and its subsequent amendment in this regard.

4.6.2 The Return on Equity as per the above Regulation has been mentioned as shown in the table given below:

Table 63: ROE submitted by the Petitioner

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Opening balance	386.41	386.41	388.48	389.44	389.47	390.26	390.28
Addition	0	2.07	0.96	0.03	0.79	0.02	0.9
Closing Balance	386.41	388.48	389.44	389.47	390.26	390.28	391.18
Average	386.41	387.45	388.96	389.46	389.87	390.27	390.73
Rate of RoE	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
ROE	**59.89**	**60.05**	**60.29**	**60.37**	**60.43**	**60.49**	**60.56**

Commission's Analysis

4.6.3 In accordance with Regulation 21 of the 'HPERC Hydro Tariff Regulations, 2011' and its amendments, the Commission has computed the Return on Equity based on the approved capital cost by the Commission. The Regulations 21 of the above Regulations reads as under:

"(1) Return on Equity shall be computed on the equity determined in accordance with regulation 16 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 as per latest available audited accounts of the generating company:

Provided that in line with the provisions of the relevant Finance Acts of the respective year, the return on equity with respect to the actual tax rate applicable to the generating company during the years of the control period shall be trued up separately for each year during the mid-term performance review and at the end of the control period along with the tariff petition filed for the next control period."

4.6.4 The Commission has noted that as of now, the Petitioner has not incurred any income tax liability due to continuous losses since its incorporation. Accordingly, the Commission as per the 'HPERC Hydro Tariff Regulations, 2011' as amended from time to time, has considered the ROE at 15.50 %.

4.6.5 The Commission in Chapter 03, para no. 3.8 (Project Funding) has detailed the working of debt, grant and equity. The Commission as per para 3.8.18 and 'HPERC Hydro Tariff Regulations, 2011', has computed the ROE from COD to FY 2023-24. The approved ROE for each year from the date of COD to FY 2023-24 is summarized below:

Table 64: ROE approved by the Commission (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Opening Equity	131.07	131.07	131.07	131.07	131.07	131.07	131.07
Addition	-	-	-	-	-	-	-
Closing Equity	131.07	131.07	131.07	131.07	131.07	131.07	131.07
RoE (%)	*15.50%*	*15.50%*	*15.50%*	*15.50%*	*15.50%*	*15.50%*	*15.50%*
RoE	**11.58***	**20.32**	**20.32**	**20.32**	**20.32**	**20.32**	**20.32**

* *ROE corresponding to the period from COD to end of the financial year*

4.7 Summary of Annual Fixed Charges

Petitioner's Submissions

4.7.1 The summary of annual fixed charges as computed with the above components by the Petitioner is presented in the table below:

Table 65: AFC submitted by the Petitioner (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Operation & Maintenance Charges	8.42	18.03	11.39	13.39	22.14	23.45	24.83
Interest on Loan	90.16	86.79	81.4	75.7	69.81	63.92	57.84
Depreciation	33.69	58.78	59.2	58.96	60.82	60.82	60.82
Interest on Working Capital	2.37	4.2	3.44	4.2	4.32	4.43	4.19
Return on Equity	59.89	60.05	60.29	60.37	60.43	60.49	60.56
Total AFC	**194.53**	**227.85**	**215.72**	**212.62**	**217.52**	**213.11**	**208.24**

Commission's Analysis

4.7.2 The Commission computed the summary of annual fixed charges. The same has been tabulated below:

Table 66: AFC approved by the Commission (Rs. Cr.)

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
O&M expense	12.45	23.00	24.46	25.50	27.21	29.04	30.76
Depreciation	11.06	19.41	19.41	19.41	19.41	19.41	19.41
Interest & Finance charges	17.11	28.51	26.56	24.62	22.68	20.74	18.80
Interest on working capital	1.49	2.56	2.45	2.29	2.16	2.21	2.59
Return on equity	11.58	20.32	20.32	20.32	20.32	20.32	20.32
Annual Fixed Cost	**53.70**	**93.79**	**93.20**	**92.14**	**91.79**	**91.72**	**91.87**

4.8 Operational Norms

Petitioner's Submissions

4.8.1 The Petitioner has cited Regulation23 of the 'HPERC Hydro Tariff Regulation, 2011' and its subsequent amendments for the Operational Norms.

4.8.2 The Petitioner has submitted the design energy data of the project in the following table:

Table 67: Monthly Energy from COD

Month	Period (Every 10 Day)	Design Energy (MU)
April	I	1.37
	II	1.34
	III	1.41
May	I	5.15
	II	4.98
	III	3.64
June	I	4.54
	II	4.69
	III	6.16
July	I	5.49
	II	7.45
	III	9.35
Aug	I	12.90
	II	17.44
	III	19.72
Sep	I	22.80
	II	22.80
	III	22.80
Oct	I	22.80
	II	22.80
	III	25.08
Nov	I	13.04
	II	14.71
	III	11.75
Dec	I	7.23
	II	5.82
	III	4.60
Jan	I	3.75
	II	2.85
	III	2.72

Month	Period (Every 10 Day)	Design Energy (MU)
Feb	I	2.18
	II	1.90
	III	1.94
Mar	I	1.82
	II	1.63
	III	1.57
Total (MU)	**-**	**322.23**

4.8.3 **Auxiliary Energy Consumption:** The Petitioner has cited Regulation 23 (b) of 'HPERC Hydro Tariff Regulation 2011' and its subsequent amendments specifies as under:

Table 68: Auxiliary Energy Consumption Norms as per Regulation

S. No.	Particular	System Type	Percentage
1.	Surface hydroelectric power generating station	With rotating exciters mounted on the generator shaft	0.70%
2.		With static excitation system	1.00%
3.	Underground hydroelectric power generating station	With rotating exciters mounted on the generator shaft	0.90%
4.		With static excitation system	1.20%

4.8.4 The Petitioner has submitted that Sainj HEP is an underground hydroelectric power generating station with static excitation system and accordingly the Petitioner has requested to approve an auxiliary consumption of 1.20%.

Commission's Analysis

4.8.5 The Commission has noted that the CEA while granting Techno-Economic Clearance of the project has approved the Design Energy (DE) of 322.23 MU.

4.8.6 The Commission, in accordance with the 'HPERC Hydro Tariff Regulations, 2011' as amended from time to time, has considered the Auxiliary Energy Consumption as 1.20% for Sainj HEP, given its underground hydroelectric power generating station with a static excitation system. Furthermore, based on the DE approved by the CEA, the Commission finalized the Net Saleable Energy (MU) for Sainj HEP. The details are tabulated below:

Table 69: Annual Energy Generation approved by the Commission

Annual Energy Generation (MU)	
Design Energy / Gross Generation (MU)	322.23
Auxiliary Energy Consumption (%)	1.20%
Net Generation (MU)	318.36
Free Energy to State (FEHS) (%)	13%
Net Saleable Energy (MU)	276.98

4.8.7 As per the Regulation 23 of 'HPERC Hydro Tariff Regulation, 2011, as amended from time to time, the NAPAF is to be determined as below:

"(a) Normative Annual Plant Availability Factor (NAPAF) for hydro generating stations shall be determined by the Commission as per the following criteria:-

(i) storage and pondage type plants with head variation between Full Reservoir Level (FRL) and Minimum Draw Down Level (MDDL) of up to 8%, and where plant availability is not affected by silt : 90%

(ii) storage and pondage type plants with head variation between FRL and MDDL of more than 8%, where plant availability is not affected by silt: Plant-specific allowance to be provided in NAPAF for reduction in MW output capability as reservoir level falls over the months. As a general guideline the allowance on this account in terms of a multiplying factor may be worked out from the projection of annual average of net head, applying the formula:

(Average head / Rated head) + 0.02

Alternatively in case of a difficulty in making such projection, the

multiplying factor may be determined as:

(Head at MDDL/Rated head) x 0.5 + 0.52

(iii) pondage type plants where plant availability is significantly affected by silt: 85%

(iv) run-of-river type plants: NAPAF to be determined plant-wise, based on 10-day design energy data, moderated by past experience where available/relevant;"

4.8.8 The Commission observes that the DPR for Sainj HEP mentions the following:

"The Sainj HEP is a run of the river scheme with storage on river Sainj with a gross head of 409.60m for generation of 100MW of power in underground powerhouse. The maximum reservoir level has been kept at 1753m and minimum drawdown level as 1738.50, the live storage capacity of the Sainj reservoir is 38.41 Ha-m, which is adequate for running the power station at full installed capacity for about three hours during period of lean inflows."

4.8.9 The Commission observed that Sainj HEP is a run of the river scheme with pondage type hydro project, the live storage capacity of the Sainj reservoir is 38.41 Ha-m, which is adequate for running the power station at full installed capacity for about three hours during period of lean inflows. NAPAF of such stations as per Regulation23 of 'HPERC Hydro Tariff Regulations, 2011' is 90%. Further allowance of 5% has been stipulated in these Regulations for the projects affected by the silt. The Petitioner has not provided any details with respect to the likely silt level and number of days for which plant would be required to be stopped due to high silt level. As such, in absence of such details, the Commission accordingly fixed the NAPAF as 90%. However, the Petitioner is directed to collect data for one year with respect to silt level, number of days silt has affected the plant operation and the impact of the same on PAF, based on which Commission may consider downward revision of NAPAF."

4.8.10 The Commission asked the Petitioner to provide the details of actual PAF certified by load dispatch centre during last five years. The Petitioner has submitted the following information highlighting that the same has been sent for certification by NRLDC.

Table 70: Plant Availability Factor (PAF)

Month	FY18	FY19	FY20	FY21	FY22	FY23	FY24
April	-	80.00	-	60.00	59.78	87.97	83.35
May	-	45.96	-	100.00	99.77	56.95	98.12
June	-	51.74	32.90	106.33	105.86	78.09	109.72
July	-	105.83	109.61	110.00	110.00	110.00	43.42
August	-	110.00	110.00	110.00	110.00	110.00	110.00
September	71.28	110.00	109.44	108.00	109.42	110.00	105.80
October	52.44	97.27	100.00	99.13	100.00	99.68	98.12
November	28.38	86.50	98.33	99.21	98.87	88.33	99.81
December	28.64	100.00	100.00	88.14	100.00	50.00	70.79
January	46.25	100.00	66.77	54.68	88.38	50.00	79.63
February	43.35	88.31	50.00	51.49	71.82	50.00	98.66
March	90.28	10.48	50.00	66.71	75.81	48.39	-
Average	**51.52**	**82.17**	**68.92**	**87.81**	**94.14**	**78.28**	**90.67**

4.8.11 It is observed that the plant has been able to achieve close to 90% PAF in FY24 as well as FY22. Further, no specific details regarding silt issues have been highlighted by the Petitioner. Therefore, the Commission according to the 'HPERC Hydro Tariff Regulations, 2011' has approved 90% as NAPAF for the period from COD to FY 2023-24.

4.9 Capacity and Energy Charges Payable by HPSEBL

Petitioner Submissions

4.9.1 The Petitioner has cited Regulation 26 of 'HPERC Hydro Tariff Regulations, 2011' and its subsequent amendments for the computation of Capacity and Energy Charges.

Commission's Analysis

4.9.2 The Commission has noted that 50% of generation from Sainj HEP is committed to World Bank for their mission regarding "India: Himachal Pradesh Power Sector Development Program" (i.e., Bundled power project for RTC power) and for the remaining 50% power, the Petitioner has signed a PPA with the HPSEBL on 29.03.2023.. The PPA has come into force from 01.04.2023 and shall remain operative till the useful life of the project. Furthermore, the Commission noted that the Petitioner has not specified the duration for which they are committed to selling 50% of power to World Bank under the mentioned mission. In the event that this commitment is for a limited period and considering the interest of the State and its beneficiaries, the Commission proposes that the Petitioner sell the power to HPSEBL once the commitment to the World Bank ends. This proposal is to ensure that the power generated continues to benefit the State and its residents.

4.9.3 Therefore, the Petitioner is required to recover 50% of the fixed charges approved for the total plant from HPSEBL as well as energy charge corresponding to 50% of the net saleable energy supplied to HPSEBL as tabulated in Table No. 71 below.

4.9.4 The Commission, in accordance with the 'HPERC Hydro Tariff Regulations, 2011', as amended from time to time has accorded approval for signing PPA between the Petitioner and the HPSEBL as mentioned in para no. 4.9.2 and has calculated the Capacity and Energy charges for FY 2023-24 to be payable by HPSEBL. The Commission has already approved the Annual Fixed Cost in para no. 4.7.2. The details for approve Capacity and Energy Charges for FY 2023-24 by the Commission is tabulated below:

Table 71: Approved Capacity and Energy Charges by the Commission

S. No.	Particulars	-	FY 2023-24	Unit
a)	Approved Annual Fixed Cost		91.87	(Rs. Cr.)
b)	Net Saleable Energy		276.98	(MU)
c)	Energy Charge	*(a*50%/b)*	1.66	(Rs. /kWh)
d)	Fixed Charge	*(a*50%/12)*	3.83	(Rs. Cr./Month)
e)	Energy Charges payable by HPSEBL	*(a*50%/b)*	1.66	(Rs. /kWh)
f)	Fixed Charges payable by HPSEBL (50% of the Total Capacity)	*(d*50%)*	1.91	(Rs. Cr./Month)

4.9.5 Since the Petitioner is having diurnal storage available in the Plant and the cost of the same has also been allowed by the Commission, therefore, the Petitioner shall ensure that the plant is operated during the peak hours as per the requirement of the HPSEBL.

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

Shimla

Dated: 05th June 2024.