

**Approval of Capital Cost and determination  
of tariff for 220kV D/C Kashang Bhaba  
transmission line for the Period from COD to  
FY 2023-24  
(FY17-FY24)  
Himachal Pradesh Power Transmission  
Corporation Limited (HPPTCL)**



**Himachal Pradesh Electricity Regulatory  
Commission  
August 26, 2020**

**BEFORE THE HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION AT  
SHIMLA  
PETITION NO: 3/2020**

**CORAM  
Sh. S.K.B.S. NEGI  
Sh. BHANU PRATAP SINGH**

In the matter of:

Approval of MYT petition for approval of capital cost and determination of tariff for the period starting from COD (1.06.2016) to FY 2023-24 of 220kV D/C Kashang Bhaba transmission line of Himachal Pradesh Power Transmission Corporation Ltd. (HPPTCL) under sections 62, 64 and 86 of the Electricity Act, 2003.

AND

IN THE MATTER OF:

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

## **ORDER**

The Himachal Pradesh Power Transmission Corporation Limited (hereinafter called the 'HPPTCL' or 'Petitioner') has filed a petition with the Himachal Pradesh Electricity Regulatory Commission (hereinafter referred to as 'the Commission' or 'HPERC') for approval of capital cost and determination of tariff for the period starting from COD (1.06.2016) to FY 2023-24 of 220kV D/C Kashang Bhaba transmission line under Sections 62, 64 and 86 of the Electricity Act, 2003 (hereinafter referred to as "the Act"), read with HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011 and its amendments in 2013 and 2018.

The Commission having heard the applicant, interveners, consumers and consumer representatives through various representations and having had formal interactions with the officers of the HPPTCL and having considered the documents available on record, herewith accepts the application with modifications, conditions and directions specified in the following Tariff Order.

The Commission has determined the capital cost and Aggregate Revenue Requirement (ARR) for 220kV D/C Kashang Bhaba transmission line in accordance with the guidelines laid down in Section 61 of the Electricity Act, 2003, the National Electricity Policy, the National Tariff Policy and Regulations framed by the Commission. Details of prudence check and approach adopted by the Commission with regard to approval of capital cost and ARR for 220kV D/C Kashang Bhaba transmission line are summarized in the detailed Order.

Sd/-

**(BHANU PRATAP SINGH)**

**Member**

Sd/-

**(S.K.B.S. NEGI)**

**Chairman**

**Shimla**

**Dated: 26<sup>th</sup> August, 2020**

# Table of Contents

1.	INTRODUCTION .....	7
1.1	Himachal Pradesh Electricity Regulatory Commission .....	7
1.2	Himachal Pradesh Power Transmission Corporation Ltd .....	8
1.3	Multi Year Tariff Framework.....	9
1.4	Interaction with the Petitioner .....	9
1.5	Public Hearings .....	10
2.	STAKEHOLDER OBJECTIONS .....	11
2.1	Introduction .....	11
3.	APPROVAL OF CAPITAL COST.....	19
3.1	Introduction .....	19
3.2	HPPTCL Current Infrastructure .....	20
3.3	Summary of the Project .....	21
3.4	Energy flow and Nature of Asset .....	24
3.5	Capital Cost and Funding .....	27
3.6	Project Funding.....	41
4.	APPROVAL OF ARR AND TARIFF .....	44
4.1	Background.....	44
4.2	O&M Expenses.....	44
4.3	Employee Expense .....	46
4.4	A&G Expenses .....	47
4.5	R&M Expense .....	48
4.6	Depreciation.....	49
4.7	Interest on Loan .....	51
4.8	Interest on Working Capital.....	52
4.9	Return on Equity .....	54
4.10	Aggregate Revenue Requirement .....	55
4.11	Transmission Charges.....	56

# List of Tables

Table 1: Communication with the Petitioner .....	10
Table 2: List of Newspapers for Public Hearing .....	10
Table 3: List of Newspapers for Public Notice by Commission .....	10
Table 4: Details of existing Transmission lines.....	20
Table 5: Detail of the Transmission Line .....	21
Table 6: Abstract of Capital Cost (Rs. Lakh).....	22
Table 7: 220 kV D/C Kashang Bhaba transmission line.....	22
Table 8: Details of total project cost (Rs. Lakh) .....	29
Table 9: Auditor certified cost of Kashang Bhaba line (Rs. Lakh).....	29
Table 10: HPSEBL incurred cost (Rs. Lakh) .....	30
Table 11: Break-up of Pending liabilities (Rs. Lakh) .....	31
Table 12: Pending liability yearly expenditure (Rs. Lakh) .....	31
Table 13: Break-up of Additional Expenses (Rs. Lakh).....	33
Table 14: Project cost and other expenses as per DPR and Actual (Rs. Lakh) .....	33
Table 15: Supply and Civil cost as per DPR and Actual (Rs. Lakh).....	35
Table 16: DPR, Proposed and Approved Supply & Civil cost (Rs. Lakh) .....	37
Table 17: DPR, Proposed and Approved Forest and Land Cost (Rs. Lakh) .....	37
Table 18: Proposed Overhead cost (Rs. Lakh) .....	38
Table 19: Petitioner submission: Yearly IDC (Rs. Lakh) .....	38
Table 20: Yearly Capital expenditure (Rs. Lakh) .....	38
Table 21: Approved IDC (Rs. Lakh) .....	39
Table 22: DPR, Proposed and Approved Overhead cost (Rs. Lakh) .....	40
Table 23: Approved Capital Cost of Kashang Bhaba transmission line (Rs. Lakh) .....	40
Table 24: Capital Cost of Kashang Bhaba transmission line based on benchmarking (Rs. Lakh).....	40
Table 25: Petitioner Submission- Debt: Equity Ratio .....	41
Table 26: Petitioner submission- Equity funding .....	42
Table 27: Approved Funding details as on COD (Rs Lakh) .....	43
Table 28: Escalation approved for 4 <sup>th</sup> Control Period .....	46
Table 29: Employee Expense claimed from FY17 to FY19 (Rs. Lakh) .....	46
Table 30: Petitioner Submission- Employee Strength from FY18 to FY24 .....	46
Table 31: Claimed Employee Expense for FY20 to FY24 (Rs. Lakh) .....	46
Table 32: Approved Employee Expense for FY17-FY19 and 4 <sup>th</sup> Control Period (Rs. Lakh) .....	47
Table 33: A&G Expense claimed for FY17 to FY19(Rs. Lakh) .....	47
Table 34: Claimed A&G Expense for FY20 to FY24 (Rs. Lakh) .....	47
Table 35: Approved A&G Expense for FY17-FY19 and 4 <sup>th</sup> Control Period (Rs. Lakh) .....	48
Table 36: K-factor considered from FY17 and FY18 (Rs. Lakh).....	48
Table 37: Claimed R&M Expense from FY17 and FY19 (Rs. Lakh).....	49
Table 38: Claimed R&M Expense from FY20 and FY24 (Rs. Lakh).....	49
Table 39: K-factor considered from FY17 and FY18 (Rs. Lakh).....	49
Table 40: Approved R&M Expense for FY17-FY19 and 4 <sup>th</sup> Control Period (Rs. Lakh).....	49
Table 41: Depreciation claimed for FY17 to FY19 (Rs. Lakh).....	50
Table 42: Depreciation claimed for the 4 <sup>th</sup> Control Period (Rs. Lakh) .....	50
Table 43: Approved Depreciation for FY17-FY19 and 4 <sup>th</sup> Control Period (Rs. Lakh) .....	51
Table 44: Interest claimed during FY17 to FY19 (Rs. Lakh) .....	51
Table 45: Interest on Loan claimed for 4 <sup>th</sup> Control Period (Rs. Lakh) .....	52
Table 46: Approved Interest on Loan for FY17-FY19 and 4 <sup>th</sup> Control Period (Rs. Lakh) .	52
Table 47: Interest on Working Capital claimed for the Period from FY17 to FY19 (Rs. Lakh).....	53
Table 48: Interest on Working Capital claimed for the 4 <sup>th</sup> Control Period (Rs. Lakh).....	53
Table 49: Approved Interest on Working Capital for FY17-FY19 and 4 <sup>th</sup> Control Period (Rs. Lakh) .....	54

Table 50: Return on Equity claimed for the Period from FY17 to FY19 (Rs. Lakh) .....	54
Table 51: RoE claimed during the 4 <sup>th</sup> Control Period (Rs. Lakh) .....	55
Table 52: Approved ROE for FY17-FY19 and 4 <sup>th</sup> Control Period (Rs. Lakh) .....	55
Table 53: Summary of Aggregate Fixed Charges claimed for the Period from FY17 to FY19 (Rs. Lakh) .....	55
Table 54: ARR claimed for the 4 <sup>th</sup> Control Period (Rs. Lakh) .....	56
Table 55: Approved ARR for FY17-FY19 and 4 <sup>th</sup> Control Period (Rs. Lakh) .....	56
Table 56: Proposed Long term Open access charges by Petitioner.....	57
Table 57: Transmission charges recovered from FY17 to FY19 (in Lakh) .....	59
Table 58: Approved Transmission Charges for Short-term Open Access Consumers for FY21 to FY24 .....	60

# 1. INTRODUCTION

## 1.1 Himachal Pradesh Electricity Regulatory Commission

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

### 1.1.2 Functions of the Commission

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

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

- j) fix the trading margin in the intra-state trading of electricity, if considered, necessary; and
- k) Discharge such other functions as may be assigned to it under this Act.

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

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

## **1.2 Himachal Pradesh Power Transmission Corporation Ltd.**

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

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

1.2.3 Through notification No. MPP-A-(1)-4/2006-Loose dated 3rd December, 2008 read with the GoHP's earlier notification dated 31st October, 2008, HPPTCL was entrusted with the following work / business with immediate effect:

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

1.2.4 HPPTCL was declared the State Transmission Utility (STU) by the GoHP vide its order dated 10th June, 2010 and as a result thereof the Commission

recognized HPPTCL as a deemed "Transmission Licensee" as per the Commission's Order dated 31st July, 2010 in Petition No. 32 of 2010 filed by HPPTCL under Sections 14 and 15 of the Act, for grant of Transmission Licensee in the State of Himachal Pradesh. Prior to FY11, the transmission tariff was being determined as a part of the tariff orders applicable to HPSEBL system.

### **1.3 Multi Year Tariff Framework**

- 1.3.1 The Commission follows the principles of Multi Year Tariff (MYT) for determination of tariffs, in line with the provision of Section 61 of the Act.
- 1.3.2 The MYT framework is also designed to provide predictability and reduce regulatory risk. This can be achieved by approval of a detailed capital investment plan for the Petitioner, considering the expected network expansion and load growth during the Control Period. The longer time span enables the Petitioner to propose its investment plan with details on the possible sources of financing and the corresponding capitalization schedule for each investment.
- 1.3.3 The Commission had specified the terms and conditions for the determination of tariff in the year 2004, based on the principles as laid down under Section 61 of the Electricity Act 2003.
- 1.3.4 Thereafter, the Commission had notified the HPERC (Terms and Conditions for Determination of Wheeling Tariff and Retail Supply Tariff) Regulations, 2011. The MYT Regulations notified in the year 2011 were amended as (First Amendment) Regulations, 2013 on 1st November, 2013 and (Second Amendment) Regulations, 2018 on 22nd November, 2018 (herein after referred to as "HPERC MYT Transmission Regulations 2011").
- 1.3.5 The Commission issued the first Multi-Year Tariff (MYT) Order for HPPTCL for the period FY 2011-12 to FY 2013-14 on 14th July 2011 and thereafter for the second Control Period (FY 2014-15 to FY 2018-19) on 10th June, 2014. The Commission has also issued the Tariff Order on True Up for the FY 2014-2015 to FY 2015-2016 and Mid Term Review for Third Control Period FY 2016-2017 to FY 2018-19. Thereafter in June 2019, the Commission issued MYT Order for the fourth Control Period (FY 2019-20 to FY 2023-24).

### **1.4 Interaction with the Petitioner**

- 1.4.1 Since the submission of the Petition, there have been a series of interactions between the Petitioner and the Commission, both written and oral, wherein the Commission sought additional information/clarifications and justifications on various issues, critical for the analysis of the Petition.
- 1.4.2 Based on preliminary scrutiny of the petition, the Commission vide letter No. HPERC-F(1)-12/2019/-2021-22 dated 4th November, 2019 directed the Petitioner to submit details regarding first set of deficiencies identified in the petition, which were submitted by the Petitioner vide MA No. 178/2019 dated 14th November, 2019.
- 1.4.3 Based on the detailed scrutiny of the petition, various clarifications/information were sought by the Commission from time to time. The following submissions made by the Petitioner in response there to, have been taken on record:

**Table 1: Communication with the Petitioner**

Sl.	Submission of the Petitioner	Date
1	M.A. No 178/2019	14.11.2019
2	M.A. No. 3/2020	27.01.2020
3	M.A. No. 20/2020	02.03.2020
4	M.A. No. 40/2020	06.05.2020
5	M.A. No. 103/2020	29.06.2020

## 1.5 Public Hearings

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

**Table 2: List of Newspapers for Public Hearing**

Sl.	Name of News Paper	Date of Publication
1.	Amar Ujala	14.02.2020
2.	The Tribune	13.02.2020

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

**Table 3: List of Newspapers for Public Notice by Commission**

Sl.	Name of News Paper	Date of Publication
1.	Times of India	16.02.2020
2.	Divya Himachal	16.02.2020

- 1.5.3 The stakeholders were requested to file their objections by 9th March, 2020. HPPTCL was required to submit replies to the suggestions/ objections to the Commission by 17th March, 2020 with a copy to the objectors on which the objectors were required to submit rejoinder by 25th March, 2020.
- 1.5.4 The Commission issued a public notice informing the public about the scheduled date of public hearing as 27th March, 2020. All the parties, who had filed their objections/ suggestions, were also informed about the date, time and venue for presenting their case in the public hearing.
- 1.5.5 However, in view of ongoing lockdown and restrictions related to COVID-19, the Commission felt that it would not be possible to conduct the public hearing in near future and therefore decided to provide some additional timeframe for submission of comments /suggestions on the tariff petition. Therefore, the Commission provided another opportunity to the stakeholders to submit their additional comments upto 12th May, 2020.
- 1.5.6 The issues and concerns voiced by various objectors have been carefully examined by the Commission. The major issues raised by the objectors in their written submission as well as those raised during the stakeholder consultation process, have been summarized in Chapter 2 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 27<sup>th</sup> March, 2020 for the Petition of approval of Capital Cost and determination of tariff for 220kV D/C Kashang Bhaba transmission line for the period from COD to FY 2023-24.
- 2.1.2 During the period, no comments were received by the Commission. Subsequently, lock-down and other restrictions were imposed in the state of Himachal Pradesh as well as in rest of the country, resulting in deferment of public hearing. In view of the prevailing situation, the Commission felt that it may not be possible to conduct the public hearing in near future and therefore decided to provide additional timeframe for submission of comments /suggestions on the tariff petition. The last date for submission of comments was extended upto 12th May, 2020.
- 2.1.3 In response, HPSEBL and HPPCL submitted their comments/ suggestions before the Commission. Issues raised by stakeholders in their written submission, along with replies given by the Petitioner and views of the Commission are summarized in following paras:

#### ***Stakeholders' Submission***

- 2.1.4 HPSEBL submitted that 220kV D/C Kashang Bhaba Transmission Line has been put to use since June 2016 which was to form part of inter-state network upon completion of Wangtoo Substation after FY2019-20, however, same has not been approved by the CEA/NRLDC/NRPC. The identified beneficiary of this line is HPPCL for transfer of power from Kashang HEP. The stakeholder further added that HPPTCL needs to provide the details of the expenditure incurred on construction of Kashang Bhaba Transmission Line and execute the LTOA/MTOA with the beneficiaries of the same.

#### ***Petitioner's Response***

- 2.1.5 The Petitioner submitted that with regard to LTOA/MTOA with the beneficiaries, it has already granted LTA to HPPCL for its 65 MW capacity and has received the application for booking of corridor for additional capacity of 130 MW from 2023-24 onwards.

#### ***Commission's Observations***

- 2.1.6 Based on the submissions of the Petitioner, it is observed that the Kashang Bhaba Transmission line was primarily envisaged for evaluation of power from Kashang HEP and it has already entered into an agreement with HPPCL. However, it is observed that the agreement has been undertaken only for 65 MW while the total capacity of the plant is 195 MW and HPPTCL is required to undertake suitable steps for entering into an agreement with HPPCL for total capacity of Kashang HEP to be evacuated through this transmission line.

**Stakeholders' Submission**

- 2.1.7 HPSEBL mentioned that it has used the entire power i.e. saleable power & GOHP free power from the Kashang HEP of HPPCL from the date of synchronization of the project on 24.06.2016 to 06.05.2018 and from 07.05.2018 onwards HPPCL has been selling Kashang HEP saleable power in IEX and GoHP free power is being availed by HPSEBL on long term basis. The provisional transmission charges towards usage of 220kV Kashang Bhaba Transmission Line by HPSEBL @14 paise per unit have been paid to the HPPTCL subject to adjustment on the approval of the transmission tariff approved by the appropriate Commission for the period from 24.06.2016 to 06.05.2018. The transmission charges bills from 07.05.2018 onwards towards Kashang GoHP free power being availed by HPSEBL have not been submitted by HPPTCL.

**Petitioner's Response**

- 2.1.8 The Petitioner submitted that it has provided the details of charges recovered from various beneficiaries to the Commission in reply to compliance report.

**Commission's Observations**

- 2.1.9 The Petitioner is required to recover the long-term and short-term charges as approved in this Order from the respective long-term and short-term beneficiaries of the transmission line. With respect to evacuation of GoHP free power, will be governed as per the the terms and conditions of the implementation agreement signed by the generator with the GoHP.

**Stakeholders' Submission**

- 2.1.10 HPPCL submitted that it is mentioned under HPERC Order dt. 06.12.2018 in petition no. 46 of 2018 that after commissioning of 400 kV Wangtoo Substation Kashang-Bhaba Line, it will become inter-state transmission Line. However, in reply to the Commission's query, the Petitioner has submitted that NRPC certificate for Kashang Bhaba Line is not required. The stakeholder further added that as the maximum power being evacuated through Kashang-Bhaba Line is going outside the state as such the proposal of considering Kashang-Bhaba Line as deemed ISTS Line should be submitted to RPC at first before HPERC considers it as ISTS line.

**Petitioner's Response**

- 2.1.11 The Petitioner submitted that as evident from MOU, it was already agreed that the asset has been constructed for the sole purpose of HPPCL and in case if the asset is utilized by any other generator for evacuation of power in the State/regional grid, then the wheeling charges shall be shared with HPPCL. The Petitioner further submitted that the said line falls under the definition of dedicated Transmission Line.

**Commission's Observations**

- 2.1.12 The Commission observed that as per MoU and Petitioner's submission, the Kashang Bhaba transmission line was envisaged and constructed as dedicated line to evacuate the power generated from Kashang HEP. Therefore, based on the submission of HPPTCL that HPPCL is the sole beneficiary of Kashang Bhaba line, the Commission has approved the capital cost and ARR for the transmission line as detailed in the subsequent Chapters of this Order. However, the Commission directs the Petitioner to further

examine the nature of power flow and take-up the matter to NRPC, if required.

### **Stakeholders' Submission**

- 2.1.13 HPPCL submitted that the quantum of energy transmitted through Kashang - Bhaba Transmission line was much more than the energy generated by Kashang HEP as such the complete ARR of Kashang-Bhaba Line should not be recovered from Kashang HEP and the same should be proportionately distributed to all the parties transacting their power through the line.
- 2.1.14 HPPCL emphasized that similar principle has been agreed between HPPCL and HPPTCL in the MoU dt. 06.04.2009. The stakeholder has asked the Petitioner to submit month wise details of revenue earned by HPPTCL from energy transmitted from Kashang Bhaba Line other than the revenue earned from Kashang HEP. The stakeholder also suggested the Petitioner to submit the month wise details of Long/Medium/Short term beneficiaries for the capacity handled other than the Kashang HEP for the period mentioned in the table.

### **Petitioner's Response**

- 2.1.15 The Petitioner submitted that the actual energy handled submitted by the Petitioner in its previous reply to data gaps is the normative units that would have been transmitted against the actual maximum demand and are not actual units that have been handled. The Petitioner clarified the same as inadvertent error and has requested the Commission to consider the actual energy handled as submitted below:

<b>Generators</b>	<b>FY17</b>	<b>FY18</b>	<b>FY19</b>	<b>FY20</b>
Kashang HEP	57.93	196.17	132.71	167.66
Brua HEP	31.81	39.15	34.01	40.08
Shaung HEP	12.21	16.41	12.58	13.82
<b>Total (in MU)</b>	<b>101.95</b>	<b>251.73</b>	<b>179.30</b>	<b>221.56*</b>

- 2.1.16 The Petitioner further submitted that Kashnag HEP is the sole long-term beneficiary of Kashang Bhaba transmission line and charges determined will be recovered from the HPPCL. The Petitioner also submitted that it has signed IPTA with Brua and Shaung and the charges recovered from them under the said agreement shall be reduced from the transmission charges to be recovered from HPPCL.

### **Commission's Observations**

- 2.1.17 Details with respect to beneficiaries of the Kashang Bhaba line has been reviewed based on the submissions made by the Petitioner wherein it has claimed that the transmission line has been constructed primarily for the purpose of evacuation of power from Kashang HEP and therefore HPPCL shall be the sole beneficiary. HPPTCL has also clarified that the line is also being used by Brua and Shaung temporarily for which charges are being recovered in line with the IPTA. The Commission has determined the long term open access charges applicable for the Kashang Bhaba line and directed the Petitioner to suitably adjust the short term open access charges recovered, on monthly basis, from the bill of long-term open access customer (s).

### **Stakeholders' Submission**

- 2.1.18 HPPCL has submitted that the MoU was signed on dt. 06.04.2009 as per the circumstances of that time. However, as per the present scenario the

Kashang Bhaba line is being used/will be used for evacuation of Power of Hydro-electric projects such as Tidong (100 MW), Shyang (3 MW), Tinglin (5 MW), Brua, Pangi (5MW) etc. other than Kashang HEP and the same is also being used by HPSEBL to feed Kinnaur region. HPPCL has further appealed that Kashang-Bhaba line should not be considered as dedicated transmission Line.

- 2.1.19 The stakeholder further informed that DoE vide its letter no. 2839-44 dt. 27.06.2016 has directed HPPCL to provide royalty share of GoHP at ex-bus of the generator. (Annex-D) accordingly, HPPCL shall only pay for the 87% power share of Kashang HEP being evacuated from Kashang-Bhaba Transmission Line. HPPCL additionally submitted that the transmission charges for use of such lines are duly collected from the actual users of the Line.

### ***Petitioner's Response***

- 2.1.20 The Petitioner has submitted that at the planning stage of Kashang HEP, proposal was for construction of dedicated transmission line which was also part of the transmission master plan. The Petitioner also submitted that understanding was further reinforced with signing of the MoU dated 06.04.2009 between the HPPCL and HPPTCL, for establishing the said transmission system for evacuation of power from Kashang HEP and later on through connection agreement dated 18.10.2016, wherein the capacity for agreement was taken as 195 MW.
- 2.1.21 The Petitioner also submitted that the transmission system was proposed, planned designed and executed for the sole purpose of evacuation of power from Kashang HEP. The Petitioner further added that above claim of stakeholder is due to delay in commissioning of the power station wherein HPPCL has been able to commission only one unit of Kashang HEP of 65 MW (out of 195 MW).
- 2.1.22 The Petitioner also submitted that the contention of HPPCL that it is providing free power to home state and it should be charged only 87% for the transmission charges is also wrong as the obligation of providing free power to home state lies with generator.

### ***Commission's Observations***

- 2.1.23 The Commission does not agree to the view of the petitioner that obligation of providing free power to the home state lies with the generator. This depends upon the agreement signed by the generator with the GoHP and this agreement spells out the terms and conditions of the mechanism for evacuating the free power. If the obligation of HPPCL for GoHP free power is at the ex-bus of the generator then HPPCL will not be liable for the transmission charges corresponding to that capacity only.
- 2.1.24 It is observed that the Petitioner has been continually providing evacuation of power from other stations through the Kashang Bhaba line. The Commission therefore directs the Petitioner to enter into long-term/ medium-term open access agreement, subject to capacity available, for evacuation of power by GoHP, Brua and Shaung HEPs as per the provisions of HPERC (Grant of Connectivity, Long-Term and Medium-Term Intra-State Open Access and Related Matters), Regulations, 2010.

**Stakeholders' Submission**

- 2.1.25 HPPCL has suggested to add the provision of disbursement of charges collected from Short Term Open Access customers to the Long Term customers is to be incorporated.
- 2.1.26 The stakeholder added that as per Section 22 of Chapter II "Short Term Open Access in Intra-State Transmission" of HPERC (Short Term Open Access) Regulations, 2010 long term customer gets 75% of the transmission charges collected for use of the transmission system for each point of injection and each point of drawal. Accordingly the revenue earned by HPPTCL from Short term open access customer for transacting power through the capacity tied by HPPCL for Kashang HEP in Kashang Bhaba Line i.e. 65MW, HPPCL shall have 75% share in the revenue. The stakeholder has requested to add the provision of such recovery in the final Order.

**Petitioner's Response**

- 2.1.27 The Petitioner has submitted that the said asset is a dedicated transmission line, in accordance to MoU dated 06.04.2009, the entire charges recovered from other beneficiaries shall be passed onto the HPPCL.

**Commission's Observations**

- 2.1.28 The Commission has examined the submission of the HPPCL in this regard and agreed that revenue earned from STOA customers shall be adjusted pro rate among LTOA/MTOA customers on monthly basis. Also, the Commission agree to the view of the petitioner that 100% revenue earned from STOA customers shall be passed to LTOA/MTOA customers as this asset being a dedicated one.

**Stakeholders' Submission**

- 2.1.29 HPPCL mentioned that as per the MoU signed between HPPCL and HPSEBL dt. 06.04.2009 it was agreed that Kashang Bhaba Line shall be constructed for evacuation of power of integrated Kashang HEP. However, due to unforeseen reasons which are beyond the control of HPPCL the works of Stage II and Stage III of Integrated Kashang HEP has been delayed. As a result only 65MW of power from Integrated Kashang HEP is available for evacuation at present. The stakeholder also submitted that the power of Kashang HEP is being sold at IEX and the tariff rates at IEX is all time low, moreover HPPCL is bearing all the transmission charges and losses from ex-bus of Kashang HEP till the regional periphery.

**Petitioner's Response**

- 2.1.30 The Petitioner has submitted that the reason for delay in achieving the COD of the remaining units of Kashang HEP is not attributable to HPPTCL and as agreed in the MoU dated 06.04.2009, all the charges pertaining to the instant asset is to be borne by HPPCL only. Since, presently, HPPCL has been able to commission only one unit of Kashang HEP of 65 MW (out of 195 MW), total transmission charges of Kashang-Bhaba line is attributable to this capacity only.

**Commission's Observations**

- 2.1.31 The methodology for recovery of transmission charges shall be in line with the Clause 33 (1) of HPERC (Terms and Conditions for Determination of Transmission Tariff) Regulations, 2011. Further, it is clarified that generating stations are

required to bear the transmission charges in case of delay in commissioning of station/unit in line with the provision 13(3) of CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020 which provides:

*"(3) Where COD of a generating station or unit(s) thereof is delayed and the Associated Transmission System has achieved COD, which is not earlier than its SCOD, the generating station shall pay Yearly Transmission Charges for the Associated Transmission System corresponding to Long Term Access granted for the generating station or unit(s) thereof, which have not achieved COD:"*

### **Stakeholders' Submission**

- 2.1.32 HPPCL submitted that from the day of synchronization of Kashang HEP with the grid till 06.05.2018 the power of Kashang HEP was sold by HPPCL to HPSEBL at the busbar of the project.
- 2.1.33 The stakeholder further submitted that no long term open access (LTOA) charges has been recovered from HPPCL till 06.05.2018. Moreover, the LTOA charges should be applicable to HPPCL only w.e.f the date of signing of the Long Term Agreement between HPPCL and HPPTCL i.e. 10.01.2020.

### **Petitioner's Response**

- 2.1.34 It is submitted that the Petitioner has signed MoU with HPPCL and not with HPSEBL. Therefore, the liability to pay the transmission charges to HPPTCL lies with HPPCL. The Petitioner has also submitted that the contention of HPPCL that since power was sold to HPSEBL at its bus bar till 06.05.2018 is not tenable.
- 2.1.35 The Petitioner has further submitted that claim of HPPCL on applicability of LTOA charges from the date of signing of LTA holds no merit, as till the signing of the LTA, an interim agreement namely Interim Power Transmission Agreement (IPTA) signed between HPPCL and HPPTCL was in force, as per which the charges for using the Kashang Bhaba transmission line were to be recovered from HPPCL at a provisional tariff, which was subject to adjustment on finalisation of the tariff by the Commission.

### **Commission's Observations**

- 2.1.36 The Commission concurs with the views of the Petitioner and considering that the connection agreement and subsequent interim agreement has been signed by the Petitioner with HPPCL for evacuation of power from Kashang HEP, the obligation for payment of transmission charges for the Kashang Bhaba line shall therefore be on HPPCL unless explicitly mentioned as part of the agreement for supply of power.

### **Stakeholders' Submission**

- 2.1.37 HPPCL submitted that interest on PFC loan of Rs. 872 Lakh has been incurred by it for the construction of Kashang-Bhaba Line. In its rejoinder on HPPTCL's petition (letter dated 01.06.2020) has claimed to incur Rs. 872 Lakh towards interest paid to PFC till FY 2016-17 against a loan amount of Rs. 1,392 Lakh. HPPCL while referring to an audit para has mentioned that Rs. 3,000 Lakh was transferred from HPSEB at the time of transfer of assets and liabilities from Kashang Unit. The stakeholder also added that while the line was further transferred to HPPTCL, the loan component of the PFC utilised for the construction of transmission line has not been transferred. The stakeholder informed that a sum of Rs. 871 Lakh has been paid as interest on the above loan by the company till 31<sup>st</sup> March 2017 to PFC, which is

recoverable from HPSEBL. Accordingly, HPPCL has demanded to include the above expense as part of the transmission line cost and provide HPPCL appropriate benefit on the cost incurred by it towards capital cost.

### ***Petitioner's Response***

- 2.1.38 The Petitioner has submitted that the loan facility of Rs. 20,000 Lakh was towards the composite scheme of Kashang, which included Kashang HEP as well. Therefore, loan amounting to Rs. 3,000 Lakh was earmarked towards the works of Kashng-Bhaba transmission line and remaining would have been utilized for the funding of Kashang HEP.
- 2.1.39 The Petitioner submitted that the said transmission line was transferred from HPSEBL to HPPCL and subsequently handed over to HPPTCL. The Petitioner added that at the time of transfer of the asset, the transfer value of the asset was considered as Rs. 6,608 Lakh and the same has been considered in the Petition. The Petitioner mentioned that it has claimed the capital cost of the asset considering the value of the asset transferred to it along with the expenditure incurred by HPPTCL, thereafter. The Petitioner further submitted that since the objection of the HPPCL is on expenditure made prior to the transfer of the asset which the same has no relevance in the present matter.

### ***Commission's Observations***

- 2.1.40 The Commission concurs with the views of the Petitioner and HPPCL is advised to resolve any claim with respect to transfer cost with HPSEBL and HPPTCL separately.

### ***Stakeholders' Submission***

- 2.1.41 HPPCL has sought details regarding any grant received from ADB/any other organization. Stakeholder has submitted that any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt:equity ratio etc.

### ***Petitioner's Response***

- 2.1.42 The Petitioner clarified that no grant from ADB /any other organization has been received for the development of Kashang Bhaba transmission line.

### ***Commission's Observations***

- 2.1.43 The Commission has noted the submission of the Petitioner in this regard.

### ***Stakeholders' Submission***

- 2.1.44 HPPCL has claimed COD of Kashang Bhaba transmission line has not been declared till date. Stakeholder further mentioned that COD is required to be mentioned as per the relevant procedures of HPERC/CERC Regulations rather than considering the date of charging of the line/date of completion of work

### ***Petitioner's Response***

- 2.1.45 The Petitioner submitted that the work of Kashang Bhaba line was completed on 31.05.2016 (completion certificate certifying the completion of work on 31.05.2016 which was submitted to the Commission in reply to previous data gaps) and thereafter, the transmission line was charged on 01.06.2016. The Petitioner also submitted that since the Kashang HEP was commissioned on 29.08.2016, evacuation of power began from its commissioning date.

### ***Commission's Observations***

- 2.1.46 The Commission observes that the Petitioner has provided the mentioned documents in this regard.

***Stakeholders' Submission***

- 2.1.47 HPPCL has submitted that any expenditure incurred by the Petitioner after the COD date may be dealt as per the relevant provision contained in HPERC Transmission Tariff Regulations for determination of transmission tariff.

***Petitioner's Response***

- 2.1.48 The Petitioner submitted that it has already cited the provision of the Regulations under which it has claimed additional capitalisation post commissioning of the asset.

***Commission's Observations***

- 2.1.49 The Commission observes that no additional capitalisation has been claimed by the Petitioner for Kashang Bhaba line.

***Stakeholders' Submission***

- 2.1.50 HPPCL submitted that details of short term open access charges for the line and the methodology for cost recovery from Short Term Open Access charges has not been mentioned in the petition. Stakeholder has asked the Petitioner HPPTCL to submit the short term open access charges and methodology for cost recovery from Short Term Open Access charges along with list of present and upcoming beneficiaries for this transmission line.

***Petitioner's Response***

- 2.1.51 The Petitioner submitted that the said transmission line is a dedicated line developed for evacuation of power from Kashang HEP and any charges recovered from any other source shall be passed onto to Kashang HEP.

***Commission's Observations***

- 2.1.52 The Commission has approved the short-term open access charges for the Kashang Bhaba line in Chapter 4 of this Order. The Petitioner is directed to adjust the charges recovered from short-term open access consumers in the invoices of LTOA/MTOA on pro rate basis.

***Stakeholders' Submission***

- 2.1.53 HPPCL has highlighted that provision of Tax Holidays has not been kept in the Petition and has accordingly submitted to consider the same in the initial year of tariff calculations.

***Petitioner's Response***

- 2.1.54 The Petitioner clarified that no exemption from paying taxes has been received and if any benefit received on account of tax holidays, same shall be passed onto the beneficiaries.

***Commission's Observations***

- 2.1.55 In view of absence of any tax liability on the Petitioner in the past periods, the Commission has not grossed up the return on equity for applicable tax rate. However, in case of any tax liability on the Petitioner in future, the same shall be trued-up at the end of Control Period.

## 3. APPROVAL OF CAPITAL COST

### 3.1 Introduction

3.1.1 HPPTCL has submitted a petition for determination of capital cost of 220kV D/C Kashang Bhaba transmission line and ARR for fourth Control Period (FY 2019-20 to FY 2023-24) in line with the provisions of the HPERC MYT Transmission Regulations 2011.

3.1.2 As per the HPERC MYT Transmission Regulations 2011,

#### **14. Capital cost of the project**

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

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

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

*(c) additional capital expenditure determined under regulation 16:*

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

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

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

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

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

*"Provided further that in case of the existing projects, the capital cost admitted by the Commission prior to the start of the control period and the*

*additional capital expenditure projected to be incurred for the respective years of the control period, as may be admitted by the Commission, shall form the basis for determination of tariff:"*

- 3.1.3 The Commission has reviewed the proposed capital cost for 220kV D/C Kashang Bhaba transmission line and ARR proposed for each year by the Petitioner from the date of COD until the Control Period i.e. FY 2019-20 to FY 2023-24. Multiple Technical Validation Sessions (TVS) in the office of the Commission were held to discuss in detail the submissions of the Petitioner to validate the data submitted. Also, further clarifications regarding status of upcoming generators, beneficiaries, cost break-up, time and cost overruns, etc. were sought from the Petitioner.
- 3.1.4 The original Petition for determination of capital cost and ARR for 220kV D/C Kashang Bhaba transmission line lacks significant detailing and reasoning. Information provided in the Petition as well as supporting data was inadequate for which the Commission sought additional submissions and supporting documents from the Petitioner through various discrepancy letters for the purpose of reviewing the capital cost and ARR for the 220kV D/C Kashang Bhaba transmission line. However, the information provided by the Petitioner in response to the queries of the Commission remained incomplete and/or could not be validated through appropriate supporting documents. The Commission has undertaken detailed prudence check and adequate assumptions, wherever required, for approving the capital cost and ARR for 220kV D/C Kashang Bhaba transmission line. The scrutiny and prudence check undertaken by the Commission for approval of capital cost of 220kV D/C Kashang Bhaba transmission line is detailed in paras below.

### 3.2 HPPTCL Current Infrastructure

- 3.2.1 During the unbundling of State power sector, only 15 numbers of Transmission Lines have been transferred to HPPTCL which was held by erstwhile Himachal Pradesh State Electricity Board (HPSEB). Whereas the line bays, substations, C&R Panel, Metering arrangement and other transmission related infrastructure were retained within the distribution entity i.e. Himachal Pradesh State Electricity Board Limited (HPSEBL) which was formed post unbundling of HPSEBL.
- 3.2.2 The Petitioner has provided the details of existing intra-state transmission infrastructure vested with HPPTCL as per notification no. MPP-A (3)-1/2001-iv dated June 10, 2010 by the Government of Himachal Pradesh. In addition to the above, the transmission system of HPPTCL also has three inter-state transmission lines, the tariff of which is approved by Central Electricity Regulatory Commission (CERC). The details of the existing Intra-state Transmission system of the Petitioner is tabulated below.

**Table 4: Details of existing Transmission lines**

S. No.	Name of Existing lines	Date of Commercial Operation	Cost of Asset in Rs Cr
<b>A</b>	<b>220 KV Lines</b>		
1	220 kV D/C Bairasuil - Pong Line (LILO portion at Jassure)	09-1985	0.66
2	220 kV Dehar-Kangoo Line (S/C ckt. Line on D/C tower)	06-1999	0.69
3	220 kV D/C Nalagarh (PGCIL)-Nalagarh Line	07-2010	10.93
<b>B</b>	<b>132 KV Lines</b>		

S. No.	Name of Existing lines	Date of Commercial Operation	Cost of Asset in Rs Cr
4	132 kV S/C Giri-Kulhal Line	04-1978	1.71
5	132 kV D/C Giri-Abdullapur Line	08-1982	0.43
6	132 kV S/C Kangra Tap Line	02-1979	0.37
7	132 kV S/C Dehar-Kangoo Line	12-1998	0.42
8	132 kV D/C Shanan-Bassi Line	03-1970	2.19
<b>C</b>	<b>66 KV Lines</b>		
9	66 kV Shanan-Bijni Line	10-1969	0.11
10	66 kV Pinjore-Parwanoo Line	04-1956	0.21
11	66 kV Pong-Sansarpur Terrace Line	10-1990	0.55
12	66 kV Bhakra-Goalthai-Rakkar Line	12-1985	1.27

3.2.3 In addition to the above, the Petitioner has commissioned following schemes as listed below:

- 220 kV D/C Kashang Bhaba Transmission Line
- 220 kV D/C Charor Banala Transmission line
- 220 / 66 kV Pooling station at Bhoktoo and
- 33/220kV, 80/100 MVA GIS Sub Station Phojal along with 220kV D/C LILO Transmission line.
- 33/220 kV, 50/63 MVA GIS substation Karian along with 220 kV D/C karian rajera line.
- 33/132 kV 31.5 MVA GIS Pooling Station Pondoh with 132 kV S/C of Kangoo-Bajaura line
- 33/132 kV, 2\*31.5 MVA sub-station at chambhi with 132 kV S/C Kangra-Dehra line

3.2.4 HPPTCL has further been undertaking various transmission schemes since its formation in 2008 for evacuation of upcoming generation and augmentation of transmission infrastructure in the state.

3.2.5 The Petitioner has now submitted petition for capital cost determination of 220kV D/C Kashang Bhaba transmission line. Relevant technical details and configuration of the substation as submitted by the Petitioner is tabulated below:

**Table 5: Detail of the Transmission Line**

Name of Transmission line	Type of line (AC/ HVDC)	S/C or D/C	No. of Sub-Conductors	Voltage level kV	Line length (Ckt. Km.)	Line Length (Km)	COD
220 kV D/C Transmission line from Kashang to Bhaba	AC	D/C	Single Conductor	220	2x38.79	38.79	1-06-2016

### 3.3 Summary of the Project

#### Petitioner Submission

3.3.1 The Petitioner has submitted that the 220 kV D/C Kashang Bhaba transmission line was handed over from HPSEBL to HPPTCL on March, 2009. Prior to transfer of scheme, HPSEBL had submitted a master Transmission evacuation plan for evacuation of power from Small Hydro Generating Stations for Commission's approval. The Petitioner added that the

Commission vide letter dated 18.10.2009 had given the "in principle" approval to the evacuation plan and ruled as follows:

*"Please refer to the subject cited Transmission Evacuation Plan submitted by Board for Small Hydro Elect. Projects, meeting held on 25.9.07 and your subsequent clarification dated 15.10.07. In this context, I am directed to intimate you that the Commission has accorded "in principle" approval of the Evacuation Plan "*

- 3.3.2 The Petitioner has submitted that the said master evacuation plan included the Intra-State project of 220 kV D/C Kashang Bhaba Line for which in principle approval was accorded to HPSEBL. It has submitted that the transmission line was constructed as dedicated line to evacuate power from Kashang HEP for its various stages totalling 195 MW.
- 3.3.3 The Petitioner has further submitted that it has approached the Commission to sought approval of the said scheme in Petition No. 46 of 2018. However, the Commission had not allowed the same considering absence of details pertaining to capital expenditure, funding, approval of scheme and beneficiaries. The Petitioner has requested the Commission to approve the capital cost of the scheme as the in-principle approval for the scheme has already been accorded by the Commission as part of master evacuation plan
- 3.3.4 The Petitioner submitted that the line was partially completed at the time of handing over and the remaining work was required to be done by HPPTCL. As part of its submission, the Petitioner has mentioned that at the time of handing over of the said line, a sum of Rs. 6,608 Lakh had already been spent on the line by HPSEBL.
- 3.3.5 For the completion of the remaining work, a committee was constituted by the Petitioner, which visited the site in March, 2013 and based on the site visit, the revised project cost was worked out to be Rs. 8,778 Lakh. The revised project cost of Rs. 8,778 Lakh was approved by the Board of Directors which included a sum of Rs 6,608 Lakh incurred by HPSEBL up to March, 2009. The actual capital cost is Rs. 8,699 Lakh as on COD. The Abstract of Capital Cost as on the COD is as under:

**Table 6: Abstract of Capital Cost (Rs. Lakh)**

Particulars	Cost incurred as on CoD of Transmission Line
Cost Incurred by HPSEBL	5,573
IDC	1,035
Cost Incurred by HPPTCL	2,091
<b>Total</b>	<b>8,699</b>

- 3.3.6 The Petitioner has submitted that the earlier transmission system of HPSEB was insufficient to evacuate power from the upcoming Kashang HEP (195 MW). Accordingly, at the request of HPPCL, the Petitioner has developed dedicated transmission line from Kashang to Bhaba to evacuate power generated from Kashang HEP. The Petitioner further submitted that the system was planned for the sole purpose of evacuation of power from the proposed Kashang HEP.

**Table 7: 220 kV D/C Kashang Bhaba transmission line**

Name of Project	Capacity	Mode	Connectivity Status	Open Access Status
HPPCL	195MW	Independent	Granted	Granted

**Commission's Analysis**

- 3.3.7 The Commission observed that 220 kV D/C Kashang Bhaba transmission line project was initiated by HPSEBL. The contract was awarded in June, 2005 and was due to be completed in 15 months with an estimated cost of Rs 2,394 Lakh. However, in March 2009, the undergoing construction project was handed over to HPPTCL for completion of remaining work. As per the submissions of the Petitioner, the project saw multiple delays leading to its completion after 10 years in June, 2016.
- 3.3.8 The Petitioner has submitted a Petition for approval of capital cost of Kashang Bhaba line and ARR from the date of COD i.e. 01.06.2016 to FY 2023-24. The Petitioner has claimed a total cost of Rs. 8,699 Lakh as on COD.
- 3.3.9 The Petitioner has submitted that the Kashang Bhaba transmission line was charged on 01.06.2016, however, since the Kashang HEP was commissioned on 29.08.2016, evacuation of power began from its commission date. In support of its claim of COD, the Petitioner submitted copy of correspondence with SLDC for intimation of Kashang HEP power evacuation and has requested the Commission to approve COD of Kashang Bhaba as 01.06.2016.
- 3.3.10 It is observed that the Petitioner had approached the Commission earlier for approval of capital cost of Kashang Bhaba line, however, the Petition was dismissed due to inadequate details including but not limited to capital expenditure, funding, approval of scheme, beneficiaries, etc. The Petitioner has again approached the Commission vide this petition for determination of capital cost and ARR for the Kashang Bhaba line and has provided details of capital cost, time overrun, beneficiary, IPTA agreement, status of LTA and connectivity agreement along with details of other parameter of tariff/ ARR.
- 3.3.11 The Commission has reviewed the Petition and supporting annexures in detail and found several deficiencies in the information provided. In order to undertake in-depth analysis, the Commission in its various discrepancy notes sought several additional information and supporting documents such as approvals of BOD, details of awards/ contracts/ correspondences with construction company, commissioning certificate, etc. However, it is observed that the information prior to transfer of the line from HPSEBL to HPPTCL remained limited and lacked adequate details. The detailed scrutiny of the capital cost by the Commission and concerns over adequate supporting documents are covered under subsequent sections.
- 3.3.12 The Commission observed that the Petitioner has provided a Board agenda (Agenda Item No 22.13) with cost estimate of Rs. 8,797 Lakh. The revised cost under Agenda included expenditure of Rs. 6,608 Lakh incurred by HPSEBL till FY 2008-09 and Rs. 1,473 Lakh towards liabilities of HPSEBL to be paid by HPPTCL and Rs. 698 Lakh towards additional work required to be carried out by HPPTCL for completion of the scheme.
- 3.3.13 The Petitioner was asked to submit the Board approval against the agenda put up to the Board. A copy of memorandum and minutes of meeting of the Board dated 14.01.2014 was submitted by the Petitioner in response. However, as per the minutes of the meeting, the Board had referred the cost to be scrutinized by the Audit committee. The Petitioner was not able to provide any subsequent approval either of the audit committee or the Board with respect to the additional cost incurred against the line.
- 3.3.14 In absence of any approvals undertaken with regard to the additional cost, the Commission is constrained to undertake prudence check based on the available information. In response to the mismatch in the capital cost of Rs. 8,699 Lakh as on COD and Rs. 8,797 Lakh as proposed in the agenda, the

Petitioner clarified that the actual cost towards restoration works was Rs. 618 Lakh as against the estimated cost of Rs. 698 Lakh as per DPR resulting in the total cost of Rs. 8,699 Lakh as on COD of the line.

- 3.3.15 With regard to the beneficiaries, the Petitioner submitted that the 220 kV D/C Kashang Bhaba transmission line is a dedicated line constructed to evacuate 195 MW of power from the Kashang HEP. The Petitioner further clarified that in absence of any LTA with HPPCL, it had entered into an IPTA agreement to evacuate the power of Kashang HEP through the transmission line.
- 3.3.16 On further clarification sought by the Commission, the Petitioner mentioned that an MoU dated 06.04.2009 was signed between HPPCL and HPPTCL wherein, it was agreed that HPPTCL will recover transmission charges from HPPCL for wheeling of electricity through the instant asset approved by the Commission. As per the MoU it was also agreed that in case the assets were used by any other generator for evacuation of power in the state/ regional grid then the wheeling charges shall be shared between the generator and HPPCL.
- 3.3.17 In response to the Commission's query, the Petitioner also submitted a copy of MoU dated 06.04.2009 signed between HPPCL and HPPTCL, copy of LTA granted to HPPCL for its 65 MW capacity and copy of communication (letter of request dated 09.10.2019) from HPPCL to HPPTCL for booking of corridor for additional capacity of 130 MW from 2023-24 onwards.
- 3.3.18 The existing LTA of 65 MW and request for additional transmission corridor for evaluation of power from additional two units of Kashang HEP (130 MW) clearly indicates that the primary beneficiary of the Kashang Bhaba transmission line is HPPCL and the line has been envisaged for evacuation of power from the Kashang HEP. Accordingly, the Commission has undertaken exercise of determination of capital cost for 220 kV D/C Kashang Bhaba line. Analysis undertaken by the Commission with regard to determination of the capital cost and ARR for the transmission line is detailed out in the subsequent sections of this Order.

### **3.4 Energy flow and Nature of Asset**

#### **Petitioner Submission**

- 3.4.1 The Petitioner submitted that the beneficiary of the line is HPPCL's Kashang HEP with capacity of 195 MW. The Petitioner had also signed connectivity agreement with HPPCL for granting connectivity to Kashang HEP (195 MW) on 23.09.2013. In absence of any recovery mechanism the Petitioner had entered into an Interim Power Transfer Agreement (IPTA) with HPPCL for transmission of power through said transmission line.

#### **Commission's Analysis**

- 3.4.2 The Petitioner has proposed Kashang Bhaba transmission line as a dedicated transmission network for HPPCL considering it as sole beneficiary of the system. The Petitioner has submitted that HPPCL has entered into an agreement with PTC for sale of power in IEX from 07.05.2018. Accordingly, the Petitioner has proposed to recover the entire transmission charges from HPPCL.
- 3.4.3 It is observed that the Petitioner had included the Kashang Bhaba transmission line under the MYT Petition for HPPTCL for 4<sup>th</sup> Control Period. However, in the MYT Petition, HPPTCL had claimed that Kashang Bhaba transmission line shall be provided the status of inter-state transmission

project after commissioning of the Wangtoo Substation based on the power flow from this transmission line would be primarily for sale outside the state.

- 3.4.4 The Commission did not consider the Kashang Bhaba transmission line as part of the STU MYT Order for fourth Control Period on the grounds that the Petitioner had claimed that the system shall form part of inter-state system in near future. The Commission's observation in the MYT Petition is mentioned as follow:

*The Commission in its Order dated 06.12.2018 had disapproved the proposal of HPPTCL on determination of Tariff for FY 2016-17 to FY2018-19 of 220kV D/C Kashang-Bhaba Transmission Line on account of submission of insufficient data pertaining to the expenditure. Also, in the Order, the Commission has mentioned that the Petitioner would not be able to recover the ARR in the absence of Long Term Open Access (LTOA)/ Medium Term Open Access (MTOA) with the beneficiaries. The Commission also directed the Petitioner to maintain the proper record and to execute the LTOA/ MTOA with the beneficiaries.*

*In response to one of the query, the Petitioner had submitted that HPPCL has entered into an agreement with IEX for sale of its 76% power to IEX, which will be evacuated through 220 kV D/C Kashang-Bhaba Line.*

*Considering that majority capacity of the line shall be utilized for transmission of power outside the state, the same cannot be considered under intra-state transmission system.*

- 3.4.5 Considering the fact that Petitioner has filed a separate petition for determination of capital cost and ARR for Kashang Bhaba transmission line, the Commission sought explanation from the Petitioner for considering proposed scheme as part of intra-state transmission system as well as details with respect to HPPTCL approaching CERC for determination of tariff and inclusion of the Kashang Bhaba transmission line as part of PoC.

- 3.4.6 In response to the query, the Petitioner has submitted that CERC had approved the tariff for the three existing Inter-State line i.e. 220 kV S/C Jessore-Ranjitsagar, 220 kV D/C Majri- Khodri, 220 kV D/C Kunihar-Panchkula and included the same in PoC mechanism after verification and certification by Regional Power Committee as Inter-State.

- 3.4.7 The Petitioner further informed that it had filed a Petition No. 550/TT/2014 in the matter of approval of tariff for 220/33 kV Karian substation and transmission line from Karian to Chamera-II. The proposed line was incidental to inter-State transmission network and covered under the definition of inter-State transmission system as provided in Section 2(36) of the inter-State transmission lines. However, CERC in its Order dated 23.09.2015 had directed the Petitioner to approach State Commission for determination of ARR and thereafter to CERC for inclusion of line for PoC computation:

*"7. The petition has been filed in response to the Commission's directions for determination of tariff of transmission lines owned or controlled by the STU which carry power inter-state power. This line is not an ISTS line as Karian as well as Chamera-II are in the State of Himachal Pradesh. However, Section 2(36) of the Act defines the ISTS as under:-*

*"2(36) inter-State transmission system includes-*

*(i) Any system for the conveyance of electricity by means of main transmission line from the territory of one State to another state;*

(ii) The conveyance of electricity across the territory of any intervening State as well as conveyance within the State which is incidental to such inter-State transmission of electricity;

(iii) The transmission of electricity within the territory of a State on a system built, owned, operated, maintained or controlled by a Central Transmission Utility"

8. The petitioner has submitted that the instant line is incidental to inter-State transmission network and it is covered under the definition of inter-State transmission system as provided in Section 2(36) of the inter-State transmission lines. STU lines carrying inter-State power or lines incidental to ISTS can be considered for inclusion in the computation of PoC charges if it is certified by RPC as carrying inter-state power in terms of para 2.1.3 of the Annexure-I to the Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2010 (2010 Sharing Regulations) which is extracted overleaf:-

(a)....

"xxx

xxx

(g) Overall charges to be allocated among nodes shall be computed by adopting the YTC of transmission assets of the ISTS licensees, deemed ISTS licensees and owners of the non-ISTS lines which have been certified by the respective Regional Power Committees (RPC) for carrying inter-State power. The Yearly Transmission Charge, computed for assets at each voltage level and conductor configuration in accordance with the provisions of these regulations shall be calculated for each ISTS transmission licensee based on indicative cost level provided by the Central Transmission Utility for different voltage levels and conductor configuration. The YTC for the RPC certified non-ISTS lines which carry inter-State power shall be approved by the Appropriate Commission."

9. These assets can be considered for inclusion in the PoC only if they are certified by NRPC that these lines are used for evacuation of inter-state power. The tariff of such lines is determined by respective State Commissions by way of ARR. The Commission has worked out a methodology for the purpose of calculation of PoC charges and apportionment of transmission lines and charges to the transmission system of different configurations of the STU and this methodology has adopted in case of all the natural inter-state transmission lines. Similar procedure will be adopted in the instant case. The Commission in its order dated 18.3.2015 in Petition No. 213/TT/2015 has observed as follows:-

"17. We have not carried out any due diligence of the tariff of these lines (for consideration of PoC calculations) as the jurisdiction to determine the tariff of the lines owned by STU rests with the State Regulatory Commission. We have considered the ARR of the STU as approved by the State Regulatory Commission and have adopted the methodology as discussed in paras 15 and 16 of this order for the purpose of calculation of PoC charges and apportionment of transmission lines and charges to the transmission system of different configurations of the STU. This methodology shall be adopted uniformly for the lines owned by other STUs used for inter-State transmission of power duly certified by respective RPCs for the purpose of inclusion in the PoC mechanism."

10. We have considered the submissions of the petitioner. As the instant assets are likely to be commissioned only after December, 2015, the instant

*petition is disposed of with a liberty to the petitioner to file fresh petition for inclusion of line in PoC computation after the commercial operation of the lines and approval of the tariff of the instant asset by the State Commission. The petitioner is further directed to obtain the necessary certificate from the NRPC to the effect that the instant assets are being used for inter-state transmission of power. The petition filing fees deposited along with this petition will be adjusted towards the fees to be deposited by the petitioner in future petitions."*

- 3.4.8 The Petitioner has submitted that as per CERC, when a transmission asset owned by STU originates and ends in the same State, the jurisdiction for determination of tariff is with the State Commission. The Petitioner further mentioned that post determination of the transmission charges by the State Commission, it will be required to obtain the requisite certificate from NRPC. And, in case this asset is certified as inter-state by NRPC only then the Petitioner can file an application in CERC for inclusion of the same in POC.
- 3.4.9 However, in the subsequent responses to Commission's queries with regard to the status of Kashang Bhaba line, the Petitioner submitted that HPPCL is the sole beneficiary of the Kashang Bhaba line as the line was being developed as a dedicated transmission line to evacuate power of Kashang HEP. Accordingly, the Petitioner requested the Commission to determine the tariff for Kashang Bhaba line and allow recovery of transmission charges from HPPCL. In its responses the Petitioner has also highlighted that till the commissioning of 2nd and 3rd units of Kashang HEP, the said transmission line is also being partially utilized by other generators to supply power to HPSEBL.
- 3.4.10 In view of the revision in response of the Petitioner with respect to the nature of transmission line, the Commission clarified if any NRPC certificate for the the line has been pursued. The Petitioner submitted that since the Kashang Bhaba line is being developed as a dedicated transmission line for evacuation of power generated from Kashang HEP, there is no such requirement of NRPC certificate.
- 3.4.11 Based on the submission of the Petitioner regarding the sole beneficiary of the Kashang Bhaba line to be HPPCL as well as considering the fact that the line was originally planned and constructed for the purpose of evacuation of power from Kashang HEP, the Commission is of the view that HPPCL is the sole beneficiary of the transmission line.
- 3.4.12 Accordingly, the Commission has undertaken detailed prudence check of the capital cost of Kashesang Bhaba line and has projected the ARR for the Kashang Bhaba transmission line from the year of COD i.e. FY 2016-17 upto end of the fourth Control Period i.e. FY 2023-24 as detailed in the subsequent chapters.

### **3.5 Capital Cost and Funding**

#### **Petitioner Submission**

- 3.5.1 The Petitioner has claimed the capital cost of Kashang Bhaba line as Rs. 8,699 Lakh upto CoD and has provided a copy of Statutory Auditor. The Petitioner had undertaken the construction of the line on turnkey basis through M/s Jyoti Structures Ltd.
- 3.5.2 The Petitioner has submitted that as per original DPR of the Scheme the project cost was estimated to be Rs 2,394 Lakh and contract was awarded on 06.06.2005 and the firm started the work on 30.08.2007.

- 3.5.3 Subsequently, the agreement was signed between HPPTCL and HPSEBL on 06.04.2009, wherein 220 kV Kashang Bhaba D/C transmission line including terminal equipments was handed over from HPSEBL to HPPTCL for completion of remaining work. At the time of transfer, HPSEBL had already incurred Rs. 6,608 Lakh including IDC of 1,035 Lakh on the said transmission line. The Petitioner submitted that HPSEBL has provided certified copy of expenses by it i.e. Rs 6,608 Lakh at the time of handing over the said transmission line to HPPTCL.
- 3.5.4 The Petitioner has mentioned that there were other pending liabilities of the firm like service tax, retention money and non-payment of supply erection and retaining walls by HPSEBL prior to handing over to HPPTCL. Furthermore, no works were being executed by the EPC contractor till the resolution of its long pending issues.
- 3.5.5 The Petitioner submitted that in this regard, a meeting was held in the office chamber of MD, HPPTCL during the month of August, 2012 between the representatives of M/s Jyoti Structures Pvt. Ltd. and HPPTCL officers to resolve the pending issues. In the meeting it was agreed to execute the pending works on resolution of pending payments.
- 3.5.6 The Petitioner also submitted that the line has suffered damage due to heavy rainfall and snowfall in the area. Accordingly to have a comprehensive view, a committee was constituted and visited the site in March, 2013. The committee observed that due to unexpected heavy rain during the rainy season and extra ordinary snowfall during the winter season the said transmission line got damaged on different tower locations and needed rectifications.
- Additional retaining wall is required to be provided at tower T-2
  - Retaining wall is required for one leg at T-15
  - Retaining wall is required to be constructed and ground clearance is to be maintained T-39
  - Foundation work is in progress T-40 A
  - One Column and one beam of Gantry between Tower No. T 46 and T 47 (near karcham) found damaged and required to be replaced
  - Breast wall is required to be constructed T-50
  - Protection work was found damaged and require repair T-52
  - One number middle conductor was found broken which requires replacement T-52 and T-53
  - One number bottom conductor was found missing which requires replacement T- 57 and T-58
  - Retaining wall is required to be constructed T-58
  - Protection wall is required at T-74
  - Breast/Retaining walls are required to be repaired T-81
  - Retaining wall is required to be constructed afresh at T-82

- T-83 got completely collapsed along with retaining & Breast walls which are required to be replenished/erected afresh along with stubs & protection work
- Complete Tower collapsed along with conductor from T-83 & T-84 and required to be constructed/erected afresh along with protection work
- Protection work is required at T-89 and ground clearance is not available between T-89 and T-90 which is required to maintained as per IE rules.
- Retaining wall found damaged and need to be constructed afresh at T-97

3.5.7 Accordingly, based on the observations of the Committee during the site visit, the capital cost of the project was revised. The Committee also resolved the long pending issues of the EPC contractor and initiated the contractor to start the pending work.

3.5.8 It is submitted by the Petitioner that based on the visit the revised project cost was work out to be Rs. 8,797 Lakh which was approved by the Board of Directors vide agenda item number 22.13. Whereas, the actual capital cost as on COD comes out to be Rs. 8,699 Lakh. Further, no additional capital expenditure has been claimed thereafter. The capital cost as claimed by the Petitioner is shown in the table below:

**Table 8: Details of total project cost (Rs. Lakh)**

Name of the Asset	Cost as per Original DPR	Actual / Cost as on CoD	Additional Capitalization	Total Cost of the project
220kV D/C Kashang Bhaba Line	2,394	8,699	00	8,699

3.5.9 Further, the Petitioner submitted that the beneficiary of the line i.e., HPPCL's Kashang HEP got commissioned on 01.09.2016, hence there was no impact of delay as the COD of the said transmission line almost matches with the COD of the Beneficiary's project and early commissioning of the asset would not have served the intended purpose.

#### Commission's Analysis

3.5.10 The Commission observed that the project cost for 220 kV DC Kahang Bhaba transmission line as per DPR was Rs. 2,394 Lakh which was prepared by HPSEBL before 2005. A subsequent revision in the DPR cost was done by HPSEBL to Rs 6,307 Lakh. However, the completed cost as claimed by the Petitioner is Rs. 8,699 Lakh as on COD which is including supply, civil and erection works, forest and land compensation and other charges like IDC and establishment/ departmental charges. With respect to the capital cost, the Petitioner has provided the audited annual accounts of HPPTCL for FY 2016-17 in which details of CWIP and capitalized works during the year are provided.

3.5.11 In response to the information sought, the Petitioner additionally submitted an Auditor certificate dated 28.02.2020 with respect to element-wise cost of project as on date of commissioning. As per the above Auditor certificate, the actual cost of the project is as follows:

**Table 9: Auditor certified cost of Kashang Bhaba line (Rs. Lakh)**

Cost Heads	Amount
------------	--------

Cost Heads	Amount
Supply	436.8
Civil work	1,242.9
Forest and Land	190.8
Advertisement	38.6
Interest paid to HPPCL	0.8
Design and Drawings	0.1
Security Staff	12.5
Misc.	0.3
Salary and Wages	168.7
HPSEBL Expenses as on 31st March 2008	6,608.0
<b>Grand total</b>	<b>8,699.4</b>

- 3.5.12 It is observed that actual capital cost is Rs. 8,699 Lakh which includes Rs. 6,608 Lakh of cost transferred from HPSEBL as on 31<sup>st</sup> March 2008 and remaining Rs. 2,091 Lakh which was spent by HPPTCL towards payment of pending liabilities of HPSEBL and damages occurred due to heavy snow fall in 2012.
- 3.5.13 The Commission has conducted detailed scrutiny of each cost component of the project and has reviewed the work orders, invoices paid and other related submissions in detail.
- 3.5.14 The Petitioner was asked to submit the cost break-up of Rs. 6,608 Lakh incurred by HPSEBL. In response, the Petitioner submitted a Board Agenda item no 22.13 which contains the cost break-up of expenses. The break-up of expenses incurred by HPSEBL as mentioned in the board agenda is tabulated below:

**Table 10: HPSEBL incurred cost (Rs. Lakh)**

Cost Heads	Amount
Works	4,919.73
Establishment charges	59.55
Contingency	104.11
Stock	7.76
Pro-rata share	480.92
IDC	1,035.71
<b>Grand total</b>	<b>6,608.00</b>

- 3.5.15 The Commission sought details of each cost component as incurred by HPSEBL prior to transfer of scheme to HPPCTL. In response, the Petitioner clarified that works amounting to Rs. 4,919.7 Lakh includes cost towards civil and supply items and pro-rata share of Rs. 481 Lakh includes the payments made to head office and establishment expenses on account of divisional office.
- 3.5.16 In addition to above, the Petitioner submitted the copy of construction bills available with it under Supply RA Bills, Civil RA bills, Payment to Forest Department and Expenses toward Survey as provided by HPSEBL. However, the amounts mentioned in the bills and invoices submitted did not reconcile with the overall cost incurred by HPSEBL prior to transfer of asset.
- 3.5.17 In spite of multiple queries and deliberations by the Commission, the Petitioner has not been able to provide details and clarifications with respect to HPSEBL share of expenses incurred prior to transfer of the scheme to the

Petitioner. In view of the fact that the details and justifications provided by the Petitioner were insufficient to perform detailed scrutiny, the Commission is constrained to consider certain assumptions for approval of capital cost for Kashang Bhaba transmission line as detailed in the subsequent sections.

- 3.5.18 It is observed that in addition to the expenses incurred by HPSEBL, the Petitioner has claimed to incur an expenditure of Rs. 1,473 Lakh towards payment of pending liabilities of HPSEBL and Rs. 618 Lakh towards damages occurred due to heavy rainfall and snowfall.
- 3.5.19 The Commission observed that the Petitioner has not submitted sufficient details and reasoning on expenses incurred towards clearing of pending liabilities in the Tariff Petition. As per the Board agenda provided by the Petitioner, the following break-up of pending liabilities is observed:

**Table 11: Break-up of Pending liabilities (Rs. Lakh)**

Cost Heads	Amount
Excavation of pits, benching works & cutting work etc.	81.2
Retaining Wall Expenses	410.1
Material Supply	154.6
Breast Wall Expenses	132.8
Retention Bill of M/s Jyoti	301.0
Interest on Loan to HPPCL	38.6
Road Exp. Jeep able Road Pangri to Kasang	13.3
Cess charges	0.2
Forest Payment	175.5
Land Compensation	12.9
Advertisement Exp. Tender	0.5
Salary & Administrative Expenses	152.5
<b>Grand total</b>	<b>1,473.3</b>

- 3.5.20 On enquired, the Petitioner submitted that by the time of transfer of the Kashang Bhaba transmission line to HPPTCL, Rs. 6,608 Lakh was already been incurred by HPSEBL. However, there were other pending liabilities of the M/s Jyoti Infrastructure Pvt. Ltd. like service tax, retention money, supply, erection for other local civil contractors towards construction of retaining breast walls by HPSEBL prior to handing over to HPPTCL. No works were being executed by the EPC contractor M/s Jyoti Infrastructure Pvt. Ltd. till the resolution of its long pending issues. Accordingly, the Petitioner had started releasing liabilities after carrying out the prudence of the work done by M/s Jyoti Infrastructure during the said period. Further, during the period, the liabilities towards the work done by other civil contractors for construction of retaining and breast walls were also released. As per the claim of the Petitioner, the total expenditure for clearing the pending liabilities of HPSEBL period and some of the other civil works undertaken during 2009 to 2012 were booked in FY 2009-10 to FY 2012-13 and onwards.
- 3.5.21 In response to additional queries with regard to clarity on several expenses under pending liabilities, the Petitioner provided following details :

**Table 12: Pending liability yearly expenditure (Rs. Lakh)**

Sl.	Cost Head	Actual Expenditure Year	Amount (Rs. Lakh)	Nature of Cost
1	Excavation of pits benching	2008-09	13.58	Civil

Sl.	Cost Head	Actual Expenditure Year	Amount (Rs. Lakh)	Nature of Cost
	works and cutting works etc.	2009-10	6.40	<b>Works</b>
		2010-11	13.81	
		2011-12	1.63	
		2012-13	30.58	
		2013-14	15.23	
		<b>Total</b>	<b>81.23</b>	
2	Material Supply	2008-09	63.22	<b>Hardware</b>
		2009-10	74.70	
		2010-11	2.57	
		2011-12	3.49	
		2012-13	2.79	
		2013-14	7.82	
		<b>Total</b>	<b>154.59</b>	
3	Retaining Wall Expense	2008-09	143.98	<b>Civil Works</b>
		2009-10	164.86	
		2010-11	83.18	
		2011-12	18.11	
		<b>Total</b>	<b>410.14</b>	
4	Breast Wall expense	2008-09	28.72	<b>Civil Works</b>
		2009-10	33.55	
		2010-11	13.26	
		2011-12	0.00	
		2012-13	57.23	
		<b>Total</b>	<b>132.76</b>	
5	Road Expense Jeep able road Pangi to Kasan	2009-10	13.32	<b>Civil Works</b>
		<b>Total</b>	<b>13.32</b>	
<b>Grand Total</b>			<b>792.04</b>	

- 3.5.22 As per the bills provided with respect to the expenses incurred by HPPTCL post transfer of scheme from HPSEBL, it is observed that approx. Rs. 382.8 Lakh has been paid to contractors other than M/s Jyoti. While the Petitioner has claimed that the amount of Rs. 1,473 lakh was towards clearing past liabilities, it is observed that certain amounts were spent towards various works undertaken during the period FY09 to FY13 which does not correlate with the submission of the Petitioner.
- 3.5.23 In spite of several queries and clarifications regarding the expenditure post transfer, the reason for high expenses over and above the transferred cost remains unexplained.
- 3.5.24 In the Board Agenda no. 22.13 submitted along with the Petition, Rs. 698 Lakh were additionally estimated towards works required to be executed due to the damages occurred due to heavy rainfall and snowfall. However, as on COD, the actual expenditure towards the restoration works is Rs. 618 Lakh only. In spite of multiple queries and follow-ups, the Petitioner has not been able to submit detailed break-up of Rs. 618 Lakh. Moreover, the Petitioner was even not able to reconcile the aforementioned expenses with the supporting bills and details provided. Summary of estimated and actual additional cost is tabulated below:

**Table 13: Break-up of Additional Expenses (Rs. Lakh)**

Cost Heads	Estimated Amount	Actual Amount
Forest cost	8.59	-
Electrical cost	151.17	-
Civil cost	181.34	-
Contingency charges	9.97	-
Departmental charges	42.33	-
Pending payment to contractor	59.00	-
Pending Service Tax payment	245.00	-
<b>Grand total</b>	<b>697.40</b>	<b>618.07</b>

3.5.25 As per the submissions of the Petitioner and observation of the committee, the additional cost incurred towards Kashang Bhaba line pertains to force majeure situation aroused due to unexpected heavy rain during the rainy season and extra ordinary snowfall during the winter season in 2012. The force majeure event resulted in damage to towers at few locations and also generated a requirement of additional towers, conductors and other equipment for completion of the scheme. In view of the force majeure event, the Commission has considered the additional amount towards restoration of the transmission line while determining the capital cost of Kashang Bhaba line.

3.5.26 Since there was a large increase in the overall capital cost vis-a-vis the project cost of Rs. 2,393 Lakh as approved in the DPR, the Commission sought reasons to justify the increased cost. The Petitioner submitted that the DPR cost of Rs. 2,393 Lakh was revised by HPSEBL to Rs. 6,396 Lakh (excluding Contingency, IDC and departmental charges) before awarding the contract to M/s Jyoti. The Petitioner was not able to submit the revised DPR of the project and mentioned that the same was not available despite numerous communications with HPSEBL in this regard. However, the Petitioner provided the following break-up of various costs which was incurred prior to handover of the project and post transfer as summarised in the table below:

**Table 14: Project cost and other expenses as per DPR and Actual (Rs. Lakh)**

Particulars	Revised DPR	HPSEBL (A)	HPPTCL (B)	Total (A + B)	Award cost
<b>Supply- Transmission line material</b>					
Towers and towers accessories	1,307.1	1,207.1	260.0	1,467.1	1,307.1
conductor and ground wire	786.6	772.2	123.5	895.7	786.6
Disk insulator	246.4	207.7	27.0	234.7	246.4
Hardware fitting	100.7	86.8	23.7	110.6	100.7
Less Discount	-35.0				-35.0
<b>Sub-total</b>	<b>2,405.7</b>	<b>2,273.9</b>	<b>434.3</b>	<b>2,708.1</b>	<b>2,405.7</b>
<b>Erection stringing/ civil works</b>					
Survey	2.6	1.6	0.8	2.4	2.6
Foundation work	873.9	760.5	250.0	1,010.5	873.9
Tower Ericson including fixing accessories	153.3	<b>733.2</b>	785.4	1,518.6	153.3
Zebra conduction and GSS wire	119.1			-	119.1

Particulars	Revised DPR	HPSEBL (A)	HPPTCL (B)	Total (A + B)	Award cost
Earthing towers	4.2	85.0		85.0	4.2
Benchmarking and Revetment work	81.1	66.3	170.7	237.0	81.1
Deviation in benching quantity	144.0			-	
<b>Sub-total</b>	<b>1,378.2</b>	<b>1,646.6</b>	<b>1,206.9</b>	<b>2,853.4</b>	<b>1,234.2</b>
<b>Payment of Forest Department</b>					
Cost of compensation for forest land, tree, tree cutting and afforestation	1,344.5	437.5	190.8	628.3	
cost of compensation for private land, tree cutting and fruit trees	97.4	20.8		20.8	
Revetment work executed departmentally	575.0			-	
cost transferred from abandoned Naptha Akpa Line	581.5	547.7		547.7	
<b>Sub-total</b>	<b>2,598.4</b>	<b>1,006.0</b>	<b>190.8</b>	<b>1,196.8</b>	
<b>Overheads</b>					
Establishment		542.6	206.5	749.0	
Contingency		103.3	14.4	117.7	
IDC		1,035.7	38.6	1,074.3	
<b>Sub-total</b>	<b>-</b>	<b>1,681.6</b>	<b>259.4</b>	<b>1,941.0</b>	
<b>Grand total</b>	<b>6,382.3</b>	<b>6,608.0</b>	<b>2,091.4</b>	<b>8,699.4</b>	<b>3,639.9</b>

- 3.5.27 A significant variation in the final cost of the Kashang Bhaba line is witnessed with respect to the revised DPR cost. While the total award cost to M/s Jyoti Structures Ltd. for supply, erection and commissioning (excluding forest and overheads) was Rs. 3,639.9 Lakh, actual expenditure submitted by the Petitioner is Rs. 5,561 Lakh. The Commission observed that the civil and supply cost as per revised DPR was in line with the cost awarded to contractors. However, the overall cost claimed by the Petitioner was higher than the revised DPR cost inspite of actual cost of compensation for forest land to be much lower than the estimated cost.
- 3.5.28 The Commission noted that the contract was awarded in June, 2005 and was due to be completed in 15 months but the project saw multiple delays leading to its completion after 11 years in June, 2016. Even after transfer of the line to HPPTCL in 2009, significant delays are observed. The requirement for additional works arose only after the force majeure event in 2012 prior to which the Petitioner had four years for completing the line.
- 3.5.29 In order to assess the impact of project delay on the overall cost, the Petitioner was asked to submit the details of cost escalation due to time over-run. In response, the Petitioner submitted that there is no cost escalation on account of time over run towards the work executed by HPPTCL. However, the Petitioner has not provided any details with respect to cost overrun on HPSEBL incurred expenses of Rs. 6,608 Lakh. Also in response to a query of the Commission, the Petitioner clarified that no penalty/ LD has been imposed on the contractor with respect to deviation in timelines.
- 3.5.30 Even considering force majeure conditions which occurred during 2012 due to heavy snowfall, the overall time taken for completion of the project was higher than the time frame envisaged in the contract order. While several construction activities and payments were undertaken by the Petitioner prior

to 2012, the delay in commissioning of the line remains unexplained and has been attributed only towards resolution of dispute with the contractor. The Petitioner has been unable to provide adequate/ sufficient reasoning along with proper timelines to justify the significant delay and time overruns in the transmission line.

- 3.5.31 The approach undertaken and prudence check carried by the Commission for each cost component of the capital cost for Kashang Bhaba line is summarised below:

#### A) Supply and Civil Cost

- 3.5.32 The Commission has examined the supply and civil cost incurred by the Petitioner with respect to Kashang Bhaba line and observed increase in both material supply as well as erection and civil works with respect to revised DPR cost. The contract awarded to M/s Jyoti for executing civil and supply works aligns with the cost approved under the respective heads of revised DPR. A comparison between cost approved in revised DPR and proposed cost by the Petitioner is summarised in the table below:

**Table 15: Supply and Civil cost as per DPR and Actual (Rs. Lakh)**

Particulars	Revised DPR	Proposed	Difference
<b>Supply- Transmission line material</b>			
Towers and towers accessories	1,307.1	1,467.1	160.0
conductor and ground wire	786.6	895.7	109.2
Disk insulator	246.4	234.7	-11.6
Hardware fitting	100.7	110.6	9.8
Less Discount	-35.0		
<b>Total Supply</b>	<b>2,405.7</b>	<b>2,708.1</b>	<b>302.4</b>
<b>Erection stringing/ civil works etc.</b>			
Survey	2.6	2.4	-0.2
Foundation work	873.9	1,010.5	136.6
Tower erection including fixing accessories	153.3	1,518.6	1,365.3
Zebra conduction and GSS wire	119.1	-	-119.1
Earthing towers	4.2	85.0	80.9
Benchmarking and Revetment work	81.1	237.0	155.9
Deviation in benching quantity	144.0	-	-144.0
<b>Total Civil</b>	<b>1,378.2</b>	<b>2,853.4</b>	<b>1,475.3</b>

- 3.5.33 Of the various cost elements provided by the Petitioner, large cost variation is noted in the civil cost for 'tower erection and fixing other accessories which was estimated at Rs. 153.3 Lakh in the DPR vis-à-vis the actual cost of Rs. 1,518.6 Lakh as on COD. The Commission sought reasons for such variations in the above civil cost along with variation in other cost heads.
- 3.5.34 In its response, the Petitioner mentioned that HPSEBL had already incurred an amount of Rs. 733 Lakh towards tower erection and fixing accessories prior to transfer of the line. The expense incurred by the Petitioner after

transfer of scheme was Rs. 785.4 Lakh towards tower erection and fixing accessories.

- 3.5.35 Of the additional cost incurred by HPPTCL towards tower erection and fixing accessories, partial cost was towards clearing of past liabilities and balance towards restoration works undertaken post the heavy snowfall. The Petitioner added that due to heavy snowfall in July 2012, which was a force majeure event, 3 Nos. towers along with conductors were damaged which were re-erected and an additional tower was also provided for replacement of Tower at location No.84 resulting in increase in civil costs. Based on the above submissions, it is observed that while details regarding expenses incurred by HPSEBL (prior to transfer of scheme) were insufficient for analysis, there has been various expenditures undertaken by the Petitioner under civil works towards restoration work and clearing pending liabilities which have not been explained and clarified. Further, the Petitioner has not been able to substantiate adequately the reasons for cost overruns in civil cost.
- 3.5.36 In view of the limited information and inadequate justification for time and cost overrun provided by the Petitioner, the Commission is constrained to comprehend the actual reason for such large variation in civil cost. The Commission observes that the revised DPR cost was ascertained based on the works awarded to M/s Jyoti and therefore considers it appropriate for undertaking prudence check of capital cost for Kashang Bhaba line.
- 3.5.37 It is also observed in the Board Agenda vide item no. 22.13 that pending payment of M/s Jyoti of Rs. 245 Lakh towards service tax was also estimated in the overall capital cost as on COD. The Commission has considered the additional service tax liabilities which is a statutory requirement under the contract and were also not part of the original contract and was required to be paid by HPPTCL subsequently.
- 3.5.38 Also, restoration work due to force majeure event in 2012 has been considered based on the information contained in summary of bills and board agenda made available by the Petitioner amounting to Rs. 332.5 Lakh towards supply and civil works.
- 3.5.39 The time and cost overrun in supply, erection and civil works except the additional cost due to force majeure and service tax remains unexplained by the Petitioner. Therefore, in absence of specific justification provided by the Petitioner for the increased cost with respect to Kashang Bhaba line, the Commission has shared the excess cost (after adjusting the base cost for service tax and restoration costs) due to time and cost overrun between the Petitioner and respondent in equal ratio (50:50).
- 3.5.40** Further, in response to the Commission's query regarding cost of damaged asset, the Petitioner has submitted the list of assets damaged due to snow fall and heavy rain. The Petitioner also submitted that no insurance was taken with regard to the damaged assets. While allowing the total capital cost, the cost of damaged assets have been adjusted as per the submission of the Petitioner. **Also, the Petitioner is directed to undertake necessary insurance of all assets to avoid any loss on account of such force majeure events, failing which the Commission would be constrained to disallow any additional cost required to be incurred in future due to any calamity or force majeure event.**
- 3.5.41 Component wise approved cost towards supply and civil works is detailed out in the table below:

**Table 16: DPR, Proposed and Approved Supply & Civil cost (Rs. Lakh)**

Particulars	Revised DPR	Proposed Cost	Approved Cost
<b>Supply- Transmission line material</b>			
Cost towards various supply work	2,405.7	2,708.1	2,405.7
Add:			
Additional expense towards restoration and additional Tower			151.2
<b>Total Supply Cost</b>	<b>2,405.7</b>	<b>2,708.1</b>	<b>2,556.9</b>
<b>Erection stringing/ civil works</b>			
Cost towards various civil works	1,378.2	2,853.4	1,377.8
Add:			
Additional expense on restoration works of Tower and additional tower			181.3
<b>Total erection and civil works</b>	<b>1,378.2</b>	<b>2,853.4</b>	<b>1,559.5</b>
<b>Add:</b>			
Service Tax paid to contractor			245.0
<b>Total Cost (supply + civil)</b>	<b>3,783.9</b>	<b>5,561.6</b>	<b>4,361.4</b>
Add: 50% of excess cost			600.1
Less: Cost of Damaged Assets			0.5
<b>Total Supply, Erection and Civil Cost for Kashang-Bhaba line</b>	<b>3,783.9</b>	<b>5,561.6</b>	<b>4,961.0</b>

**B) Land and Forest Cost**

- 3.5.42 With respect to compensation for forest and private land, tree cutting and afforestation, the amount incurred by the Petitioner is observed to Rs. 649 Lakh as against the DPR assessment cost of Rs. 1,442 lakh. Accordingly, the Commission has considered the actual cost incurred on account of compensation for forest and private land.
- 3.5.43 Further, an additional cost towards abandoned Naptha Akpa Line was booked under this head prior to transfer of transmission line to HPPTC. In response to the clarification of this cost, the Petitioner submitted that actual expenditure of Rs. 6,608 Lakh as transferred from HPSEBL includes expense of Rs. 581 Lakh pertaining to abandoned Naptha Akpa line. The Petitioner also submitted that Rs. 581 Lakh does not pertain to Kashang Bhaba line and should be charged to loss account of the HPSEBL. Since this cost refers to some other scheme, the Commission finds no merit in including this cost as part of the Kashang Bhaba line.
- 3.5.44 Component wise approved cost towards land and forest cost is detailed out in the table below:

**Table 17: DPR, Proposed and Approved Forest and Land Cost (Rs. Lakh)**

Particulars	Revised DPR	Proposed Cost	Approved Cost
<b>Payment of Forest Department</b>			
cost of compensation for forest land, tree, tree cutting and afforestation	1,344.5	628.3	628.3
cost of compensation for private land, tree cutting and fruit trees	97.4	20.8	20.8
Revetment work executed departmentally	575.0	-	-

Particulars	Revised DPR	Proposed Cost	Approved Cost
Cost transferred from abandoned Naptha Akpa Line	581.5	547.7	-
<b>Total Forest and Land Cost</b>	<b>2,598.4</b>	<b>1,196.8</b>	<b>649.1</b>

### C) Overhead Cost

3.5.45 A significant cost of the scheme i.e. Rs. 1,941 Lakh is booked under overheads, details of which are provided below:

**Table 18: Proposed Overhead cost (Rs. Lakh)**

Overheads	HPSEBL	HPPTCL	Total
Establishment	542.6	206.5	749.0
Contingency	103.3	14.4	117.7
IDC	1,035.7	38.6	1,074.3
<b>Sub-total</b>	<b>1,681.6</b>	<b>259.4</b>	<b>1,941.0</b>

3.5.46 In response to the working of IDC, the Petitioner was only able to submit year-wise IDC as provided by HPSEBL which includes copy of transfer entry order maintained by the accounts. The submission of the Petitioner in this regard is tabulated below:

**Table 19: Petitioner submission: Yearly IDC (Rs. Lakh)**

Financial Year	IDC Amount
FY03	-
FY04	6.5
FY05	8.1
FY06	12.3
FY07	263.4
FY08	745.4
<b>Total</b>	<b>1,035.7</b>

3.5.47 However, the Petitioner was unable to provide detailed working of IDC. The Petitioner also requested the Commission to condone non-submission of the required documents.

3.5.48 The year-on-year summary of expenditure submitted by the Petitioner for construction of Kashang Bhaba line is tabulated below:

**Table 20: Yearly Capital expenditure (Rs. Lakh)**

Financial Year	Capital Expenditure
FY03	50.1
FY04	7.7
FY05	25.1
FY06	499.7
FY07	4,897.6
FY08	1,127.4
FY09	393.3
FY10	386.4
FY11	264.9
FY12	116.2

Financial Year	Capital Expenditure
FY13	205.3
FY14	147.9
FY15	191.1
FY16	231.7
FY17	134.3
Salary	20.1
<b>Total</b>	<b>8,699.0</b>

- 3.5.49 Based on the above submissions, it is observed that major quantum of work was executed and payment made prior to transfer of line to HPPTCL during two years only i.e. FY07 and FY08. Also, in one of the auditor certificate submitted, it is mentioned that HPSEBL has availed a loan of Rs. 3,000 Lakh only against the power project which includes the transmission line. Therefore, the Commission is of the opinion that the claimed IDC prior to transfer of line to HPPTCL is very high.
- 3.5.50 The Petitioner has also claimed Rs. 38.6 Lakh under IDC on account of interest on loan paid to HPPCL forming part of pending liabilities. The Petitioner in this regard clarified that initially a MoU was signed between HPPCL and HPPTCL for arrangement of loan, which was receded due to non-requirement of additional funds from outside agency and therefore no interest on loan was paid by the Petitioner to HPPCL. The Commission has accordingly not considered any IDC for post transfer period.
- 3.5.51 In absence of any working shared with respect to the IDC amount, the Commission has worked out the IDC amount for HPSEBL period considering the expenditure incurred by HPSEBL prior to transfer excluding cost booked towards Naptha Akpa line. The tenure considered for the purpose of IDC is three years of project time line and entire cost is considered to be funded through loan for computing the IDC amount. An interest rate of 12% is applied for computation of IDC for HPSEBL period in absence on any supporting loan documents.
- 3.5.52 Accordingly, the Commission approved IDC amount prior to transfer of scheme from HPSEBL is summarised in the table below:

**Table 21: Approved IDC (Rs. Lakh)**

Particulars	Unit	Year-1	Year-2	Year-3	Total
Debt disbursement	%	33.33%	33.33%	33.33%	100%
Opening Debt	Lakh	-	1,507	3,015	
Addition during the year	Lakh	1,507	1,507	2,010	5,025
Closing Debt	Lakh	1,507	3,015	5,025	
Interest rate	%	12.0%	12.0%	12.0%	
<b>IDC (HPSEBL period)</b>	<b>Lakh</b>	90	271	482	<b>844</b>

- 3.5.53 With regard to establishment charges, the Petitioner provided details of yearly break-up of actual establishment charges claimed in the project cost. The details provided under the bills in support of the establishment charges does not tally with the overall establishment charges claimed under overhead cost.
- 3.5.54 Also, it is observed that the establishment charges are considerably higher in view of the time overruns. However, in absence of any estimate in the DPR towards this cost, the Commission has limited the establishment charges to

11% of the approved capital cost. Accordingly, the approved overhead expenses forming part of capital cost for the Kashang Bhaba line are tabulated below:

**Table 22: DPR, Proposed and Approved Overhead cost (Rs. Lakh)**

Particulars	Revised DPR	Proposed Cost	Approved Cost
Establishment	-	749.0	617.1
Contingency	-	117.7	117.7
IDC	-	1,074.3	844.1
<b>Total</b>	-	<b>1,941.0</b>	<b>1,579.0</b>

3.5.55 In line with the component-wise project cost approved in preceding sections, the approved project cost for Kashang Bhaba line as on COD vis-à-vis the project cost claimed by the Petitioner is summarized in the following table:

**Table 23: Approved Capital Cost of Kashang Bhaba transmission line (Rs. Lakh)**

Particulars	Proposed	Approved
Supply- Transmission line material and erection stringing/ civil works, etc.	5,561.6	4,961.0
Payment of Forest Department	1,196.8	649.1
Overheads	1,941.0	1,579.0
<b>Total</b>	<b>8,699.4</b>	<b>7,189.1</b>

3.5.56 The Commission has also referred to previous Orders issued by Central Electricity Regulatory Commission (CERC) for similar transmission lines to ascertain the appropriateness of capital cost for 220 kV DC Kashang Bhaba line.

3.5.57 The Commission observes that CERC in its Order dated 17.10.2019 has approved capital cost of 76.50 km D/C 220 kV Transmission Line of Allain Duhangan Hydro Power Limited (ADHPL) from Prini (generating station of ADHPL) to Nalagarh. In the Order, CERC has considered capital cost of transmission lines and bays in similar terrain and equivalent voltage levels of 220 kV D/C transmission lines. Based on the review of capital cost, CERC had approved the capital cost of 220 kV Allain Duhangan considering a benchmark of Rs. 131 Lakh per km line for similar 220 kV D/C transmission lines.

3.5.58 The Commission has considered the above benchmark of Rs. 131 per km considered by CERC. The approved benchmark rate which is for commissioning of line during 2010 has been escalated considering the CPI and WPI index upto the year of commissioning of Kashang Bhaba line i.e. 2016. Based on the revised benchmark rate and actual line length, the benchmark capital cost for Kashang Bhaba line is summarised below:

**Table 24: Capital Cost of Kashang Bhaba transmission line based on benchmarking (Rs. Lakh)**

Particulars	Unit	Approved
Total length of line	Km	38.8
CERC Benchmarking	Rs Lakhs/ Km	186
<b>Total cost of line</b>	<b>Rs. Lakh</b>	<b>7,197.3</b>

3.5.59 The Commission observes that element wise cost of Rs. 7,189 Lakh approved for Kashang Bhaba line is in line with the cost arrived based on the CERC approved cost for similar transmission lines. Therefore, the Commission finds

it prudent to approve the element-wise cost of Rs. 7,189 Lakh arrived based on prudence check of cost submitted by the Petitioner for Kashang Bhaba transmission line.

### 3.6 Project Funding

#### Petitioner Submission

3.6.1 The Petitioner has quoted the Regulation 18 of the Transmission Tariff Regulations, 2011 and its amendments thereof provides as follows:

**"18. Debt-equity ratio**

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

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

3.6.2 The Petitioner further submitted that the said asset has been handed over from HPSEBL to HPPTCL in which HPSEBL has incurred Rs. 6,608 Lakh at the time of handing over the asset. HPSEBL has considered the amount incurred on the construction of 220 kV transmission line of Rs. 6,608 Lakh as loan to HPPTCL. The Petitioner submitted that further to complete the said transmission line, it has incurred Rs. 2091 Lakh from the internal sources. The Petitioner has considered actual debt equity ratio of 75.96:24.04 for computing components of ARR. The Debt: Equity ratio proposed by the Petitioner is as under:

**Table 25: Petitioner Submission- Debt: Equity Ratio**

Particulars	Debt: Equity ratio as per DPR (agenda) (In Lakh)	Debt: Equity considered (In Lakh)	% Debt: Equity considered
Debt	1,676	6,608	75.96%
Equity	718	2,091	24.04%
<b>Total Project Cost</b>	<b>2,394</b>	<b>8,699</b>	

#### Commission's Analysis

3.6.3 The Commission has examined the various information and documents submitted by the Petitioner with regard to the funding of Kashang Bhaba line. Based on the submission of the Petitioner, the project was transferred from HPSEBL to HPPTCL in 2009 and the cost towards assets transferred i.e. 6,608 Lakh was considered as interest free debt from HPSEBL to the Petitioner. As per the minutes of the meeting, it is observed that no details with respect to repayment was mentioned.

3.6.4 In this regard, the Commission asked the Petitioner to submit adequate document/ agreement/ correspondence from HPSEBL. In response, the Petitioner submitted that HPSEBL in the meeting dated 06.12.2017 had agreed (under Agenda-14) that HPPTCL will not be liable to pay interest on

the expenditure amounting to Rs. 6,608 Lakh incurred by HPSEBL. The Petitioner has also submitted copy of the minutes of meeting dated 08.12.2017 against the meeting held on 06.12.2017 between HPPTCL and HPSEBL.

3.6.5 In addition to the interest free debt from HPSEBL towards the transfer of Kashang Bhaba line as discussed above, the Petitioner has also claimed Rs. 2,091 Lakh from the equity funding through internal sources. The Commission has asked the Petitioner to submit source of funding of equity and documentary evidence of equity disbursed to HPPTCL.

3.6.6 With respect to above query, the Petitioner submitted that the equity infused by GoHP is in the form of equity to HPPTCL as a whole. Accordingly, the total equity infused by GoHP for FY 2013-14 to FY 2017-18 for all schemes and allocation of actual equity to Kashang Bhaba line is as follows:

**Table 26: Petitioner submission- Equity funding**

Financial Year	Date	Letter Reference No.	Amount (Rs. Lakh)	Equity allocation to Kashang Bhaba (Rs. Lakh)
2008-09	27.09.2008	MPP-A-(1) 4/2006	300	393
	-	Amount received by HPSEB later on transferred to GoHP	800	
		<b>Total (A)</b>	<b>1100</b>	
2009-10	17.06.2009	MPP-C-(7) 2/2008	1000	386
	17.09.2009	MPP-C-(5) 4/2008	1100	
	23.03.2010	MPP-C-(7) 2/2008	2400	
		<b>Total(B)</b>	<b>4500</b>	
2010-11	22.07.2010	SJE-B-C(10)11/2010	1500	265
	24.08.2010	MPP-C(7)2/2008	2000	
	10.02.2011	MPP-C(7)2/2008	2500	
		<b>Total (C)</b>	<b>6000</b>	
2011-12	15.12.2011	No. SJE-SCSP(D.32-San/MPP)2-18-2009	775	116
	22.02.2012	MPP-C(5)3/2012	4225	
		<b>Total (D)</b>	<b>5000</b>	
2012-13	07.01.2013	MPP-C-(16)4/2010	<b>578</b>	205
		<b>Total (E)</b>	<b>578</b>	
2013-14	15.01.2014	MPP-C(7)2/2008	<b>800</b>	148
		<b>Total (F)</b>	<b>800</b>	
2014-15	01.08.2014	MPP-C(7)2/2008	803	191
	13.03.2015	MPP-C-(7)2/2008	1793	
		<b>Total(G)</b>	<b>2596</b>	
2015-16	14.10.2015	MPP-C(7)2/2008	1103	232
	14.03.2016	MPP-C(7)2/2008	1272	
	25.03.2015	MPP-C(16)3/2012	904	
		<b>Total(H)</b>	<b>3279</b>	
2016-17	06.09.2016	MPP-C-(7)2/2008	1289	134
	25.03.2017	MPP-C-(7)2/2008	662	
		Total Equity Received During the Financial Year 2016-17 is Rs. 1951 Lakh out of which Rs. 951	962	

Financial Year	Date	Letter Reference No.	Amount (Rs. Lakh)	Equity allocation to Kashang Bhaba (Rs. Lakh)
		Lakh Pending (Share not Issued Less:		
		<b>Total (I)</b>	<b>2913</b>	
		Salary & wages expenses of PIU w.e.f. 2013-14 to 2016-17		20
<b>Grand Total (A+B+C+D+E+F+G+H+I)</b>			<b>26766</b>	<b>2091</b>

- 3.6.7 The Commission observes that the scheme was conceptualized to be funded in debt:equity ratio of 90:10 as per the BOD Agenda and approval. However, due to transfer of asset from HPSEBL to HPPTCL, the entire funding has been revised based on the internal adjustment between the entities.
- 3.6.8 Considering the actual cost of Rs. 7,000.3 Lakh approved by the Commission, the share of interest free debt from HSPEBL has been considered in the same ratio. Further, considering that the Petitioner has not undertaken any loan for the line and the proposed equity works out to 24%, which is below the debt:equity ratio of 70:30 as prescribed in the regulations, the Commission has considered the remaining amount after adjusting the interest free loan towards equity.
- 3.6.9 Accordingly, the approved funding considered by the Commission towards Kashang Bhaba line is summarised in the table below:

**Table 27: Approved Funding details as on COD (Rs Lakh)**

Particulars	Capital Cost as on COD	% of Funding
Consumer Contribution	-	0.0%
Debt (Interest Free)	5,460.8	76.0%
Equity	1,728.3	24.0%
<b>Total project Cost</b>	<b>7,189.1</b>	<b>100%</b>

## 4. APPROVAL OF ARR AND TARIFF

### 4.1 Background

4.1.1 The Petitioner has proposed projections for FY 2016-17 to FY 2018-19 and for the entire 4th Control Period as per the HPERC MYT transmission Regulations 2011. As per the submission of the Petitioner, ARR for each year of the Control Period has been bifurcated into following elements:

- O&M Expenses;
  - (i) Employee cost;
  - (ii) Administrative and General Expenses (A&G);
  - (iii) Repairs and Maintenance expenses(R&M);
- Depreciation;
- Interest and Financing Charges;
- Interest on Working Capital;
- Return on Equity

4.1.2 The Commission has examined the Petition and subsequent submissions made by the Petitioner in response to the deficiency letters for the purpose of approving the elements of ARR for the period FY 2016-17 to FY 2018-19 and Control Period FY 2019-20 to FY 2023-24. The Commission has considered the provisions of HPERC MYT Transmission Regulations 2011, Audited Annual Accounts and approved capital expenditure and funding plan for 220kV D/C Kashang Bhaba transmission line for the purpose of ARR projections for each year.

4.1.3 In this chapter, the Commission has detailed the methodology for computing each component of the ARR for 220kV D/C Kashang Bhaba transmission line of HPPTCL including O&M expenses, interest and finance charges, depreciation, return on equity, working capital requirement, etc. for approving the total ARR for each year of FY 2016-17 to FY 2018-19 and Control Period (FY 2019-20 to FY 2023-24). The methodology followed and approved values for each parameter of the ARR is detailed in subsequent sections:

### 4.2 O&M Expenses

#### Petitioner Submission

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

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

*O&M<sub>n</sub> = R&M<sub>n</sub> + EMP<sub>n</sub> + A&G<sub>n</sub> : Where -*

*'EMP<sub>n</sub>' = [(EMP<sub>n-1</sub>) × (1+G<sub>n</sub>) × (CPIinflation)] + Provision (Emp);*

*'A&G<sub>n</sub>' = [(A&G<sub>n-1</sub>) × (WPIinflation)] + Provision(A&G);*

*'R&M<sub>n</sub>' = K × (GFA<sub>n-1</sub>) × (WPIinflation) ;*

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

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

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

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

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

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

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

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

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

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

- 4.2.2 The Petitioner also submitted that as the asset is new, historical O&M expenses are not available. The Petitioner has prayed to approve the O&M expenses on an actual basis.

### **Commission's Analysis**

- 4.2.3 For purpose of approving the O&M expenses, the claim of the Petitioner has been analysed based on the actual O&M expenses of FY 2016-17 to FY 2018-19, and other factors considered appropriate by the Commission.
- 4.2.4 Also, for escalating the O&M expenses, the Commission has considered the escalation rates as per the HPERC MYT Transmission Regulations 2011. The Commission has calculated the Consumer Price Index (CPI inflation) and Wholesale Price Index (WPI inflation) based on the average increase for the preceding three years. The summary of the escalations considered is provided in table below:

**Table 28: Escalation approved for 4<sup>th</sup>Control Period**

Particulars	CPI Inflation	WPI Inflation
2016-2017	4.12%	1.73%
2017-2018	3.08%	2.92%
2018-2019	5.45%	4.28%
<b>Three Years average</b>	<b>4.22%</b>	<b>2.98%</b>

4.2.5 The methodology and assumptions considered for projection of each component of the O&M expenses i.e. employee cost, R&M expense and A&G expense is further discussed below:

### 4.3 Employee Expense

#### Petitioner Submission

4.3.1 The Petitioner has submitted actual employee expense from FY 2016-17 to FY 2018-19 based on audited figures. The actual employee expense as proposed by the Petitioner is tabulated below:

**Table 29: Employee Expense claimed from FY17 to FY19 (Rs. Lakh)**

Particulars	FY17	FY18	FY19
Total Actual Employee Cost	0.00	38.87	40.36

4.3.2 The Petitioner has also submitted employee growth factor (Gn) for FY 2019-20 to FY 2023-24 based on the HPERC MYT Transmission Regulations 2011 as tabulated below:

**Table 30: Petitioner Submission- Employee Strength from FY18 to FY24**

Particulars	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Employee Strength	9	6	6	6	6	6	6
Gn		0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

4.3.3 The Petitioner has mentioned that it has already projected the addition in number of employees for HPPTCL as a whole at the time of filing of MYT Petition for the fourth control period. The Petitioner further mentioned that the above employees cannot be extrapolated at the time of filing of petition for individual assets and the same shall be claimed on actual basis at the time of truing up of HPPTCL as a whole.

4.3.4 The employee expense for the fourth Control Period has been computed considering the average increase in CPI of preceding 3 years before Base Year as 4.22%.

4.3.5 Accordingly, employee expense proposed by the Petitioner for FY 2019-20 to FY 2023-24 is tabulated below:

**Table 31: Claimed Employee Expense for FY20 to FY24 (Rs. Lakh)**

Particulars	FY20	FY21	FY22	FY23	FY24
Employee Expense	42.06	43.84	45.69	47.61	49.62

#### Commission's Analysis

4.3.6 The Commission has approved the employee cost for fourth Control Period by considering the actual employee expenses of FY 2016-17 to FY 2018-19 as base employee expenses in line with the expenses audited expenses provided by the Petitioner. On being asked, the Petitioner also submitted auditor

certificate in support of their claim for actual employee expenses for FY 2016-17 to FY 2018-19.

4.3.7 The actual employee expenses for FY 2018-19 has been escalated with the CPI inflation for computing cost of existing employees for each year of the fourth Control Period. The Commission has not considered any growth in number of employees while approving the employee expenses in line with the submission of the Petitioner.

4.3.8 The employee expenses approved by the Commission from FY 2016-17 to FY 2023-24 as summarised below:

**Table 32: Approved Employee Expense for FY17-FY19 and 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Growth Rate- CPI				4.2%	4.2%	4.2%	4.2%	4.2%
Employee Growth				0.0%	0.0%	0.0%	0.0%	0.0%
<b>Employee cost</b>	-	<b>38.9</b>	<b>40.4</b>	<b>42.1</b>	<b>43.8</b>	<b>45.7</b>	<b>47.6</b>	<b>49.6</b>

#### 4.4 A&G Expenses

##### Petitioner Submission

4.4.1 The Petitioner has submitted that in absence of historical data, it has claimed the actual A&G expense for the asset under consideration for FY 2016-17 to FY 2018-19 as per books of accounts which is inclusive of the outsource services on the contract basis to different agencies. The A&G expense proposed by the Petitioner is as follows:

**Table 33: A&G Expense claimed for FY17 to FY19 (Rs. Lakh)**

Particulars	FY17	FY18	FY19
Total A&G Expense	0.00	0.65	0.26

4.4.2 The Petitioner has further submitted that it has plan to comprehensively insure all the transmission infrastructure from all damages caused due to act of God, fire, theft etc. and has insured all the assets. The cost towards insurance has been considered at the rate of 0.30% of the asset value insured and the same have been considered as part of provisions.

4.4.3 The Petitioner also submitted that it intends to train manpower and therefore considered the training cost of 7 mandays per employee per year at the nominal rate of Rs. 4000/person/day of the number of employees. Further, the Petitioner has included Tariff filing fees of Rs. 15 Lakh and Consultancy charges of Rs. 3 Lakh in the A&G Expenses for FY 2019-20.

4.4.4 The Petitioner has also considered WPI as 2.98% i.e. average increase in WPI for immediately preceding three years before the base year for computing the A&G expense for the fourth Control Period.

4.4.5 Based on the above considerations, A&G expenses proposed by the Petitioner for FY 2019-20 to FY 2023-24 is as shown below:

**Table 34: Claimed A&G Expense for FY20 to FY24 (Rs. Lakh)**

Particulars	FY20	FY21	FY22	FY23	FY24
A&G Expense	46.16	28.05	28.06	28.07	28.08

**Commission's Analysis**

- 4.4.6 The Petitioner had proposed the A&G expenses for fourth Control Period by considering the escalation of expenses with WPI rate for immediately preceding three years before the base year.
- 4.4.7 The Commission has examined the submission of the Petitioner on A&G expenses in light with the approval of proposed capital expenditure schemes and employee addition. For the purpose of projection of A&G expense, the Commission has considered the formula provided in the HPERC MYT Transmission Regulations 2011 as given below:
- $$A\&G_n = [(A\&G_{n-1}) \times (WPI \text{ inflation})] + \text{Provision (A\&G)}$$
- 4.4.8 The Commission has approved the A&G cost for fourth Control Period by considering the actual A&G expenses of FY 2016-17 to FY 2018-19 based on audited figures provided by the Petitioner.
- 4.4.9 For the purpose of projecting the A&G expense for the period FY20-FY24, the average of actual A&G expenses for FY 2017-18 and FY 2018-19 has been escalated with the WPI inflation for computing A&G cost for each year of the fourth Control Period.
- 4.4.10 It is observed that the Petitioner has also claimed provisions towards insurance and training expenses. The Petitioner has not provided any details of insurance taken with respect to the Kashang Bhaba Line. **The Commission directs the Petitioner to undertake necessary insurance cover for the transmission line at the earliest and cost with respect to the same shall be allowed at the time of truing-up.** Further, cost with respect to training, etc. has already been approved as part of the MYT Order of HPPTCL and therefore does not warrant separate approval as part of each transmission scheme. In view of the above, the Commission has not allowed any additional provisions specific to Kashang Bhaba Line.
- 4.4.11 The petition filing fee for approval of capital cost for the scheme has been considered as per the proposal of the Petitioner. The A&G expense approved by the Commission from FY 2016-17 to FY 2023-24 is detailed below:

**Table 35: Approved A&G Expense for FY17-FY19 and 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Growth Rate- WPI				2.98%	2.98%	2.98%	2.98%	2.98%
<b>A&amp;G cost</b>	-	<b>0.65</b>	<b>0.26</b>	<b>0.47</b>	<b>0.48</b>	<b>0.50</b>	<b>0.51</b>	<b>0.53</b>
Petition filing fees				15.0				
<b>Total A&amp;G</b>	-	<b>0.65</b>	<b>0.26</b>	<b>15.47</b>	<b>0.48</b>	<b>0.50</b>	<b>0.51</b>	<b>0.53</b>

**4.5 R&M Expense****Petitioner Submission**

- 4.5.1 The Petitioner has claimed the R&M Expense as per the methodology provided in the HPERC Tariff Regulations, 2011 and its amendments. The Petitioner has considered the k-factor as computed for the respective year for HPPTCL as a whole.

**Table 36: K-factor considered from FY17 and FY18 (Rs. Lakh)**

Particulars	FY17	FY18	Average
<b>K factor as considered in MYT Petition</b>	<b>1.69%</b>	<b>1.79%</b>	<b>1.74%</b>

4.5.2 The R&M Expense claimed by the Petitioner based on the above k factor is detailed below:

**Table 37: Claimed R&M Expense from FY17 and FY19 (Rs. Lakh)**

Particulars	FY17	FY18	FY19
<b>R&amp;M Expense</b>	<b>122.05</b>	<b>162.38</b>	<b>157.85</b>

4.5.3 The R&M expense as proposed by the Petitioner for fourth Control Period is summarised in the below.

**Table 38: Claimed R&M Expense from FY20 and FY24 (Rs. Lakh)**

Particulars	FY20	FY21	FY22	FY23	FY24
GFA	8,699.36	8,699.36	8,699.36	8,699.36	8,699.36
K Factor	1.74%	1.74%	1.74%	1.74%	1.74%
<b>R&amp;M Expense</b>	<b>162.55</b>	<b>167.39</b>	<b>172.37</b>	<b>177.50</b>	<b>182.78</b>

### Commission's Analysis

4.5.4 The Commission has examined the submission of the Petitioner on R&M expenses in line with HPERC MYT Transmission Regulations 2011. The Commission has the K Factor using actual R&M expenses provided by the Petitioner based on audited accounts and approved GFA from FY 2016-17 to FY 2018-19. The K factor computed is summarised in the table below:

**Table 39: K-factor considered from FY17 and FY18 (Rs. Lakh)**

Particulars	FY18	FY19
Approved GFA	7,189.1	7,189.1
Actual R&M expenses as per Audited Accounts	54.6	54.5
<b>K factor as considered in MYT Petition</b>	<b>0.76%</b>	<b>0.76%</b>

4.5.5 For the purpose of computation of R&M Expenses of Kashang Bhaba line for fourth Control Period, the Commission has considered K factor of 0.76% along with WPI growth rate.

4.5.6 Based on the above, the total approved R&M expenses for FY 2016-17 to FY 2018-19 and the fourth Control Period is detailed below:

**Table 40: Approved R&M Expense for FY17-FY19 and 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
GFA	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1
Growth rate- WPI				2.98%	2.98%	2.98%	2.98%	2.98%
K factor				0.76%	0.76%	0.76%	0.76%	0.76%
<b>R&amp;M Expense</b>	<b>13.8</b>	<b>54.6</b>	<b>54.5</b>	<b>56.1</b>	<b>57.8</b>	<b>59.5</b>	<b>61.3</b>	<b>63.1</b>

## 4.6 Depreciation

### Petitioner Submission

4.6.1 The Petitioner has submitted that the gross fixed asset of transmission line was Rs 8,699.36 Lakh as on CoD. The table below provides the proposed depreciation cost from FY 2016-17 to FY 2018-19:

**Table 41: Depreciation claimed for FY17 to FY19 (Rs. Lakh)**

Particulars	FY17	FY18	FY19
Opening GFA	8699.36	8699.36	8699.36
GFA Addition during the year	0	0	0
Average GFA	8699.36	8699.36	8699.36
Freehold Land	0	0	0
Rate of depreciation	5.28%	5.28%	5.28%
Balance useful life at the beginning of the period (Years)	7829.42	7829.42	7829.42
<b>Depreciation (for the period)</b>	<b>363.4</b>	<b>437.8</b>	<b>437.8</b>

4.6.2 The Petitioner further claimed that closing gross block for FY 2018-19 has been considered as opening gross block for FY 2019-20 for computation of depreciation. The year wise total depreciation claimed by the Petitioner for the fourth Control Period is detailed below:

**Table 42: Depreciation claimed for the 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY20	FY21	FY22	FY23	FY24
Opening GFA (Less Grant)	8,699.30	8,699.30	8,699.30	8,699.30	8,699.30
GFA Addition during the year	0	0	0	0	0
Less: Grant	-	-	-	-	-
Closing GFA	8,699.30	8,699.30	8,699.30	8,699.30	8,699.30
<b>Depreciation</b>	<b>437.77</b>	<b>437.77</b>	<b>437.77</b>	<b>437.77</b>	<b>437.77</b>

### Commission's Analysis

4.6.3 The Commission has approved the depreciation in line with provisions of the Regulation 23 of the MYT Transmission Regulations 2011:

(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.*

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

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

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

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

- (5) 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.
- (6) 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."

4.6.4 The Commission has examined the depreciation proposed by the Petitioner in detail. The Commission has arrived on GFA for each year based on the approved capitalization for each year in the previous Chapter.

4.6.5 The Commission has considered a weighted average depreciation rate of 5.03% arrived at by considering the break-up of type of assets and depreciation rates approved in the HPERC MYT Transmission Regulations 2011 corresponding to each asset category. The depreciation expenses approved from FY 2016-17 to FY 2023-24 is summarized in table below:

**Table 43: Approved Depreciation for FY17-FY19 and 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Opening GFA excluding land	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1
Addition	-	-	-	-	-	-	-	-
Closing GFA	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1	7,189.1
<b>Depreciation @5.03%</b>	<b>300.3</b>	<b>361.8</b>						

## 4.7 Interest on Loan

### Petitioner Submission

4.7.1 The Petitioner has submitted that the actual loan transfer amounting to Rs. 6608 Lakh has been considered which is 75.96% of the total project cost. The Petitioner further added that as per the Agenda Number 22.13, it has been decided by HPSEBL and HPPTCL that there shall be no interest charges on the transferred amount of Rs. 6,608 Lakh and only the principle amount of loan is to be recovered/adjusted from monthly transmission charges payable to the Petitioner. Accordingly, the Petitioner has not claimed any interest towards the aforesaid amount for the period of FY 2016-17 to FY 2018-19.

**Table 44: Interest claimed during FY17 to FY19 (Rs. Lakh)**

Particulars	FY17	FY18	FY19
Opening Balance	6,608.0	6,244.6	5,806.8
Addition	0	0	0
Repayment	363.4	437.8	437.8
Closing Balance	6,244.6	5,806.8	5,369.0
Rate of Interest	0.00%	0.00%	0.00%
<b>Interest on Loan</b>	-	-	-

\*Interest on loan for FY17 is on pro-rata basis i.e. from 23.03.2017

4.7.2 The Petitioner has further submitted that for the purpose of computation of Interest on long term loans for fourth Control Period, actual closing loan of FY 2018-19 corresponding to the asset under consideration has been considered as the opening loan for FY 2019-20.

- 4.7.3 The Petitioner also submitted that interest on loan has to be computed on the basis of actual weighted average interest on actual loan outstanding for the project. However, in absence of interest charged to the Petitioner, the Petitioner has not claimed any Interest on Loan for the next control period, which is as shown below:

**Table 45: Interest on Loan claimed for 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY20	FY21	FY22	FY23	FY24
Opening Loan	5,369.0	4,931.3	4,493.5	4,055.7	3,617.9
Loan Addition during the Year	-	-	-	-	-
Less: Repayment of Loans during the year	437.8	437.8	437.8	437.8	437.8
Closing Loan	4,931.3	4,493.5	4,055.7	3,617.9	3,180.1
<b>Interest on loan</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Weighted average Rate of Interest on Loans</b>	-	-	-	-	-

### Commission's Analysis

- 4.7.4 The Commission has considered the loan amount in line with the funding approved for Kashang Bhaba in the previous Chapter. The Commission has approved an interest free loan of Rs. 5,317.6 Lakh.
- 4.7.5 Normative repayment equivalent to the depreciation worked out for the respective year has been considered in line with the provisions of HPERC MYT Transmission Regulations 2011 for computing the opening and closing loan balances for each year. The normative repayment has been considered in the equal proportion of interest free loan and with interest loan for working out interest for the year.
- 4.7.6 Summary of loan amount vis-à-vis interest charges are summarised in the table below:

**Table 46: Approved Interest on Loan for FY17-FY19 and 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Opening Balance	5,461	5,160	4,799	4,437	4,075	3,713	3,352	2,990
Addition	-	-	-	-	-	-	-	-
Repayment	300	362	362	362	362	362	362	362
Closing Balance	5,160	4,799	4,437	4,075	3,713	3,352	2,990	2,628
Rate of Interest	0%	0%	0%	0%	0%	0%	0%	0%
<b>Interest</b>	-	-	-	-	-	-	-	-

## 4.8 Interest on Working Capital

### Petitioner Submission

- 4.8.1 The Petitioner has computed interest on working capital as per Regulation 21 and 22 of the Transmission Tariff Regulations, 2011 and its amendment thereof. The relevant clause of the regulation is pronounced below:

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

- (a) O&M expenses for 1 month;

- (b) receivables for two months on the projected annual transmission charges; and  
(c) maintenance spares @ 40% of repair and maintenance expenses for one month.

*"22. Interest Charges on Working Capital- Rate of interest on working capital to be computed as provided hereinafter in these regulations shall be on normative basis and shall be equal to the 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. The interest on working capital shall be payable on normative basis notwithstanding that the licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures."*

- 4.8.2 The Petitioner has calculated the interest on working capital considering prevalent average base rate of SBI for six months plus 350 basis points which comes out to be 11.95%. The interest on working capital claimed by the Petitioner is summarised in the table below:

**Table 47: Interest on Working Capital claimed for the Period from FY17 to FY19 (Rs. Lakh)**

Particulars	FY17	FY18	FY19
O&M expenses for 1 month	10.17	16.83	16.54
Maintenance spares @40% of R&M expenses for 1 month	4.07	5.41	5.26
Receivable for 2 months	152.82	193.53	186.41
<b>Total Working capital</b>	<b>167.06</b>	<b>215.77</b>	<b>208.21</b>
Rate of Interest	11.95%	11.95%	11.95%
<b>Interest on Working Capital</b>	<b>19.96</b>	<b>25.78</b>	<b>24.88</b>

*\*Interest on Working Capital for FY17 is on pro-rata basis i.e. from 23.03.2017*

- 4.8.3 For the fourth Control Period, the Petitioner has calculated the Rate of interest on working capital as equal to one (1) Year State Bank of India (SBI) MCLR / any replacement thereof as notified by RBI for the time being in effect applicable for one (1) Year period, as may be applicable as on 1st April of the financial year in which the Petition is filed plus 300 basis points. The interest on working capital shall be payable on normative basis notwithstanding that the licensee has not taken working capital loan from any outside agency or has exceeded the working capital loan based on the normative figures.

- 4.8.4 The Petitioner has calculated the interest on working capital considering prevalent SBI MCLR as on 1.04.2019 plus 300 basis points works out to 11.55%. In accordance with the above regulations the interest on working capital claimed is as shown below:

**Table 48: Interest on Working Capital claimed for the 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY20	FY21	FY22	FY23	FY24
Annual O&M Expenses	250.77	239.28	246.12	253.18	260.48
O&M Expenses for 1 month	20.90	19.94	20.51	21.10	21.71
Maintenance Spares (at 15% monthly O&M Expenses)	3.13	2.99	3.08	3.16	3.26
Receivables for 2 months on projected Annual Transmission Charges	195.20	193.23	194.40	195.61	196.87
<b>Total Working Capital</b>	<b>219.23</b>	<b>216.16</b>	<b>217.99</b>	<b>219.88</b>	<b>221.83</b>
Interest Rate (SBI MCLR+300)	11.55%	11.55%	11.55%	11.55%	11.55%

Particulars	FY20	FY21	FY22	FY23	FY24
BP)					
<b>Interest on Working Capital</b>	<b>25.32</b>	<b>24.97</b>	<b>25.18</b>	<b>25.40</b>	<b>25.62</b>

### Commission's Analysis

- 4.8.5 Based on the approved O&M expenses and expected receivables, the Commission approves the working capital requirements and interest on working capital for the Control Period in accordance with regulations 21 & 22 of the HPERC MYT Transmission Regulations 2011 and subsequent revisions.
- 4.8.6 According to the revised provision for computation of interest on working capital, the Commission has considered the rate of interest on working capital at the rate of 10.75 % based on SBI MCLR as on 1st April 2020 (i.e. 7.75%) plus 300 basis points for the fourth Control Period. The computation for approved working capital requirement and interest on working capital is shown in the table below:

**Table 49: Approved Interest on Working Capital for FY17-FY19 and 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
O&M expenses for 1 month	1.4	7.8	7.9	9.5	8.5	8.8	9.1	9.4
Maintenance spares	0.6	1.8	1.8	1.4	1.3	1.3	1.4	1.4
Receivable for 2 months	110.1	123.4	123.6	126.5	124.4	125.0	125.6	126.3
<b>Total Working capital</b>	<b>112.0</b>	<b>133.1</b>	<b>133.3</b>	<b>137.4</b>	<b>134.2</b>	<b>135.1</b>	<b>136.1</b>	<b>137.1</b>
Interest rate	12.79%	12.43%	12.43%	11.55%	10.75%	10.75%	10.75%	10.75%
<b>Interest on Working Capital</b>	<b>11.9</b>	<b>16.5</b>	<b>16.6</b>	<b>15.9</b>	<b>14.4</b>	<b>14.5</b>	<b>14.6</b>	<b>14.7</b>

## 4.9 Return on Equity

### Petitioner Submission

- 4.9.1 The Petitioner has submitted that an equity amounting to Rs. 2,091 Lakh (24.04% of project cost) has been utilised as on CoD of the project. The Petitioner has also considered prevalent Corporate Tax Rate of 34.61% for FY 2016-17 to FY 2017-18 and has grossed up allowable RoE of 15.50% to derive at the pre-tax RoE of 23.70%. As per changes in Corporate Tax from FY 2018-19, the Corporate Tax has been considered as 29.12% for grossing up allowable RoE of 15.50% to derive at pre-tax RoE of 21.87% for FY 2018-2019.
- 4.9.2 RoE proposed by the Petitioner for FY 2016-17 to FY 2018-19 is detailed below:

**Table 50: Return on Equity claimed for the Period from FY17 to FY19 (Rs. Lakh)**

Particular	FY17	FY18	FY19
Equity as on COD/ Admitted Equity	2091.36	2091.36	2091.36
Additions during the Year	0	0	0
Closing Equity	2091.36	2091.36	2091.36
<b>Return on Equity*</b>	<b>411.53</b>	<b>495.73</b>	<b>457.34</b>

Note: Return on Equity for FY2016-17 is on pro-rata basis i.e. from 01.06.2016

- 4.9.3 The Petitioner has considered prevalent Corporate Tax Rate of 29.12% and gross up allowable RoE of 15.50% to derive at the pre-tax RoE of 21.87% for the next control period. The RoE proposed by the Petitioner for fourth Control Period is summarised in the table below:

**Table 51: RoE claimed during the 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY20	FY21	FY22	FY23	FY24
Opening Equity	2091.36	2091.36	2091.36	2091.36	2091.36
Net Equity Addition during the year	0.00	0.00	0.00	0.00	0.00
Closing Equity	2091.36	2091.36	2091.36	2091.36	2091.36
RoE (%)	21.87%	21.87%	21.87%	21.87%	21.87%
<b>Return on Equity</b>	<b>457.34</b>	<b>457.34</b>	<b>457.34</b>	<b>457.34</b>	<b>457.34</b>

### Commission's Analysis

- 4.9.4 Equity corresponding to the capital expenditure has been approved by the Commission in the previous Chapter under the section 'Project funding'. The Commission has considered the approved equity against the scheme for approving the return on equity.
- 4.9.5 The Petitioner has claimed rate of return @23.70% considering the base rate as 15.50% grossed up for corporate tax rate for the purpose of claiming RoE. It is observed that the Petitioner has submitted tax liability of zero during past periods.
- 4.9.6 Based on the above submissions, the Commission has considered rate of return @15.50% for approval of RoE for the fourth Control Period. Any tax liability arising on the Petitioner during the fourth Control Period shall be trued-up at the end of Control Period based on effective tax rate/ liability.
- 4.9.7 Based on the above, the return on equity approved by the Commission is summarised in the table below:

**Table 52: Approved ROE for FY17-FY19 and 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
Equity (Opening Balance)	1,728.3	1,728.3	1,728.3	1,728.3	1,728.3	1,728.3	1,728.3	1,728.3
Net additions during the year	-	-	-	-	-	-	-	-
Equity (Closing Balance)	1,728.3	1,728.3	1,728.3	1,728.3	1,728.3	1,728.3	1,728.3	1,728.3
Rate of Return	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
<b>Return on Equity</b>	<b>222.4</b>	<b>267.9</b>						

### 4.10 Aggregate Revenue Requirement

#### Petitioner Submission

- 4.10.1 The table given below summarizes the proposed Aggregate Fixed Charges for the third Control Period from FY 2016-17 to 2018-19 as per the HPERC (Terms and Condition for Determination of Transmission Tariff) Regulations, 2011 and subsequent amendments thereof.

**Table 53: Summary of Aggregate Fixed Charges claimed for the Period from FY17 to FY19 (Rs. Lakh)**

Particulars	FY17	FY18	FY19
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Particulars	FY17	FY18	FY19
Depreciation	363.41	437.77	437.77
Interest on Loan	0	0	0
Return on Equity	411.53	495.73	457.34
Interest on Working Capital	19.96	25.78	24.88
O&M Expenses	122.05	201.90	198.47
<b>Aggregate Fixed Charges</b>	<b>916.94</b>	<b>1161.19</b>	<b>1118.46</b>

4.10.2 The component wise ARR for fourth Control Period claimed by the Petitioner is tabulated below:

**Table 54: ARR claimed for the 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY20	FY21	FY22	FY23	FY24
O&M Expenses	250.77	239.28	246.12	253.18	260.48
Employee Expenses	42.06	43.84	45.69	47.61	49.62
R&M Expenses	162.55	167.39	172.37	177.50	182.78
A&G Expenses	46.16	28.05	28.06	28.07	28.08
Interest on Loan	0	0	0	0	0
Depreciation	437.77	437.77	437.77	437.77	437.77
Interest on Working Capital	25.32	24.97	25.18	25.40	25.62
Return on Equity	457.34	457.34	457.34	457.34	457.34
<b>Aggregate Revenue Requirement</b>	<b>1171.20</b>	<b>1159.35</b>	<b>1166.40</b>	<b>1173.69</b>	<b>1181.21</b>

### Commission's Analysis

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

**Table 55: Approved ARR for FY17-FY19 and 4<sup>th</sup> Control Period (Rs. Lakh)**

Particulars	FY17	FY18	FY19	FY20	FY21	FY22	FY23	FY24
O&M Expenses	13.8	94.1	95.1	113.7	102.1	105.7	109.4	113.3
Employee	-	38.9	40.4	42.1	43.8	45.7	47.6	49.6
A&G	-	0.6	0.3	15.5	0.5	0.5	0.5	0.5
R&M	13.8	54.6	54.5	56.1	57.8	59.5	61.3	63.1
Depreciation	300.3	361.8	361.8	361.8	361.8	361.8	361.8	361.8
Interest & Finance Charges	-	-	-	-	-	-	-	-
Interest on Working Capital	11.9	16.5	16.6	15.9	14.4	14.5	14.6	14.7
<b>Total</b>	<b>326.0</b>	<b>472.4</b>	<b>473.5</b>	<b>491.3</b>	<b>478.3</b>	<b>482.0</b>	<b>485.8</b>	<b>489.8</b>
Reasonable Return	222.4	267.9	267.9	267.9	267.9	267.9	267.9	267.9
<b>Annual Revenue Requirement</b>	<b>548.4</b>	<b>740.3</b>	<b>741.3</b>	<b>759.2</b>	<b>746.2</b>	<b>749.9</b>	<b>753.7</b>	<b>757.7</b>

### 4.11 Transmission Charges

#### Petitioner Submission

4.11.1 The Petitioner submitted that the said transmission line is a dedicated transmission line for Kashang HEP and the entire transmission charges shall be borne by the HPPCL. The Petitioner also submitted that in future, subject

to corridor availability, if any HEP is connected to the said line, the proportionate transmission charges may be shared accordingly.

- 4.11.2 The Petitioner has mentioned that it has signed connectivity agreement with HPPCL for granting connectivity to Kashang HEP (195 MW) on 23.09.2013. In absence of any recovery mechanism the Petitioner had entered into an Interim Power Transfer Agreement (IPTA) with HPPCL for transmission of power through the said asset, which will be valid till the tariff was determined by the Commission. The Petitioner further informed that as per the IPTA, HPPCL was to pay 14 paise/kWh subject to subsequent adjustment on determination of actual tariff by the Commission.
- 4.11.3 The Petitioner has also submitted that as per the direction of the Commission a letter from HPPCL vide letter number HPPCL/DGM/ED-1/Kashang HEP/LTA/NT/ST/2019- 2026-30 dated 17.01.2019 has been received to entered into LTA for 65 MW capacity for evacuation of power from Kashang HEP. Further, HPPCL vide letter number HPPCL/Kashang/II-III/2019- 8801-02 dated 23.08.2019 has intimated HPPTCL for booking of corridor in r/o Kashang HEP Stage II and Stage III for 130 MW for which LTA is under process.
- 4.11.4 Accordingly, the Petitioner has proposed to recover the entire annual transmission charges from HPPCL for the period FY 2016-17 to FY 2024-25 as per the proposed ARR.

#### Commission's Analysis

- 4.11.5 The Commission observed that the Petitioner has not proposed any long term open access charges for the fourth Control Period in the petition for Kashang Bhaba line.
- 4.11.6 In the deficiency note, the Petitioner was asked to propose long-term open access charges based on the proposed ARR. In response, the Petitioner submitted that HPPCL has entered into a connectivity agreement with HPPTCL for granting connectivity to Kashang HEP for 195 MW on 23.09.2013. The Petitioner mentioned that HPPCL has been granted LTOA on 18.06.2019 for 65 MW based on its application. Further, HPPCL has also filed an application for approval of LTOA for 130 MW from FY 2023-24. Accordingly, the LTOA charges proposed by the Petitioner is tabulated below:

**Table 56: Proposed Long term Open access charges by Petitioner**

Cost Heads	FY20	FY21	FY22	FY23	FY24
Proposed ARR (Rs Lakh)	1171	1159	1166	1174	1181
Total capacity with beneficiaries (MW)	65	65	65	65	195
<b>Long Term charges (Rs/MW/Month)</b>	<b>150,154</b>	<b>148,635</b>	<b>149,539</b>	<b>150,473</b>	<b>50,479</b>

- 4.11.7 The Petitioner additionally submitted that as per MoU dated 06.04.2009 the total charges for Kashng Bhaba line shall be borne by HPPCL only. Also, HPPCL shall have first right on the asset and in lieu HPPCL shall pay transmission charges for the dedicated line as approved by the Commission. The relevant extract of MoU is reproduced below:

*"WHEREAS the first party is constructing Integrated Kashang Hydro Electric Project (243 MW) in District Kinnaur of Himachal Pradesh; and WHEREAS the second party is to construct 220 kV Kashang-Bhaba double circuit transmission line for evacuation of power from integrated Kashang into the State Grid; and*

....

*9. The first party shall pay the wheeling / transmission charges to the second party for the evacuation of power of Integrated Kashang HEP through 220 kV Kashang-Bhaba double circuit transmission line. The wheeling charges shall be calculated as per the provisions/regulations notified by the Himachal Pradesh Electricity Regulatory Commission (HPERC) and it would be mandatory for the second party to get the wheeling charges approved from HPERC...."*

- 4.11.8 The Petitioner also submitted that in the said MoU, it was agreed that in case if the asset is utilized by any other generator for evacuation of power in the State/regional grid, then the wheeling charges shall be shared between, the generator and HPPCL.

*"...However, in case any other project(s)/developer(s) use the transmission line for evacuation of their power in the State/regional grid, the wheeling charges shall be shared proportionately between the developer(s) of new project and the First Party **provided the first right shall always be of the First Party.** A transmission agreement between the First Party and Second Party shall be signed separately for wheeling of power of Integrated Kashang HEP into the State grid through said transmission system."*

- 4.11.9 The Petitioner reiterated that as per its MoU as well as connection agreement HPPCL was to commission 195 MW as per its earlier schedule which has got delayed and only 65 MW unit has been commissioned. HPPCL accordingly has entered into LTA for the capacity of 65 MW for the Kashang Bhaba line and has sought LTA for the balance 130 MW from FY 2023-24. The Petitioner further added that till the remaining capacity of the Kashang HEP is commissioned or till any other beneficiary enters into LTA, total charges of Kashang Bhaba line is to be recovered from Kashang HEP only. The Petitioner has requested the Commission to take into cognizance MoU and connection agreement entered with HPPCL and allow total transmission charges to be recovered from HPPCL.
- 4.11.10 The Petitioner informed that due to reasons viz. fragile valley, difficult terrain, integrated nature of scheme etc., it was compelled to carry out the construction of the transmission asset in one go, even though there is a delay in execution of works of Kashang HEP.
- 4.11.11 The Commission has also sought details of charges recovered from various beneficiaries against the power evacuated through Kashang Bhaba line and methodology for accounting the above charges in the proposed ARR.
- 4.11.12 In response, the Petitioner submitted that it has also signed Interim Power Transmission Agreement (IPTA) with Bua and Shaung for 3 MW and 9 MW respectively, as an interim arrangement, which is applicable till commissioning of Wangtoo Substation. The Petitioner further added that the tariff applicable till then for these beneficiaries shall be Rs. 0.14/kWh as per the IPTA and any charges recovered from these beneficiaries in this interim period shall be adjusted with tariff approved by the Commission for Kashang Bhaba transmission line to be paid by HPPCL. The relevant clause of IPTA agreement is specified below:
- 4.11.13 The Petitioner submitted year wise charges recovered along with certificate from Auditor. The details provided by the Petitioner is summarised in the table below:

**Table 57: Transmission charges recovered from FY17 to FY19 (in Lakh)**

Cost Heads	FY17	FY18	FY19
Transmission charges recovered	61.73	439.54	277.60

- 4.11.14 In its response, the Petitioner also mentioned that the scheme has been made dedicatedly to evacuate power from Kashang HEP and hence HPPCL is the sole beneficiary. Therefore, charges recovered from other beneficiaries shall be reduced from the ARR to be recovered from Kashang HEP as determined by the Commission.
- 4.11.15 Based on the various submissions with regard to the beneficiaries of the Kashang Bhaba line, it is observed that the line has been constructed as a dedicated line to evacuate 195 MW of power of Kashang HEP. Initially at the time of conceptualization, the transmission line was also part of the Kashang HEP and was later transferred to HPPTCL. Also, as per MoU and subsequent submissions of the Petitioner, HPPCL has already entered into an LTA for 65 MW and proposes to undertake LTA for the balance capacity of 130 MW from Kashang HEP as well.
- 4.11.16 Therefore, the Petitioner is allowed to recover the approved ARR as per the Clause 33 of HPERC MYT Transmission Regulations, 2011:
- "33. Allocation of Transmission Service Charge and Losses*
- (1) The Annual Transmission Service Charge (ATSC) shall be shared between the long and medium term customers of the transmission system on monthly basis based on the allotted transmission capacity or contracted capacity, as the case may be."*
- 4.11.17 As discussed, Kashang Bhaba line is primarily constructed for evacuation of 195 MW of Kashang HEP and therefore HPPCL is the sole beneficiary. Any under recovery in ARR due to delay in commissioning of all units of Kashang HEP resulting in lower utilization of the transmission capacity during initial years cannot be transferred on the Petitioner. Also, in line with the provision 13(3) of CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020, generating stations are required to bear the transmission charges in case of delay in commissioning of station/unit as provided below:
- "(3) Where COD of a generating station or unit(s) thereof is delayed and the Associated Transmission System has achieved COD, which is not earlier than its SCOD, the generating station shall pay Yearly Transmission Charges for the Associated Transmission System corresponding to Long Term Access granted for the generating station or unit(s) thereof, which have not achieved COD:"*
- 4.11.18 In view of the dedicated nature of line, the approved ARR of Kashang Bhaba line has to be recovered from HPPCL irrespective of LTOA. However, any charges recovered from other beneficiaries/ generators as a result of IPTA agreement during FY 2016-17 to FY 2019-20 shall be adjusted from the charges payable by LTOA/MTOA.
- 4.11.19 For the purpose of determining the transmission charges from short term customers, the Commission has considered energy transmission at 50% load factor on the evacuation capacity of 195 MW. The short-term transmission charges being approved by the Commission for the Kashang Bhaba line is summarised in the table below:

**Table 58: Approved Transmission Charges for Short-term Open Access Consumers for FY21 to FY24**

<b>Particulars</b>	<b>FY21</b>	<b>FY22</b>	<b>FY23</b>	<b>FY24</b>
ARR (Rs. Lakh)	746.2	749.9	753.7	757.7
Energy routed through Kashang Bhaba line (50% load factor)	1,024.9	1,024.9	1,024.9	1,024.9
<b>Transmission Charges for Short term consumers (Paisa /kWh)</b>	<b>9</b>	<b>9</b>	<b>9</b>	<b>9</b>

4.11.20 The above determined short-term open access charges shall be applicable from the date of issuance of this Order.