Order On Determination Of Capital Cost And Levelised Tariff

For

15 MW Neogal Small Hydro Plant

Petition No 149/2013

HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION

Keonthal commercial complex, Khalini, Shimla - 171002

28th April, 2016

Table of contents

BEFORE THE HIMACHAL PRADESH ELECTRICITY REGULATORY COMMISSION, SHIMLA

Petition No. : 149/2013

Coram
S.K.B.S Negi
Chairman

In the Matter of:

Determination of the Capital Cost and Levelised Tariff for 15MW Neogal Small Hydro Plant

AND

In the Matter of:

M/S Om Hydro Power Limited,
Kothari Bhawan, 16/121-1, Faiz Road,
Karol Bagh, New Delhi – 110005

…………Applicant

(Order Passed on 28th April 2016)

The Himachal Pradesh Electricity Regulatory Commission after considering the petition filed by the Applicant, the facts presented by the Applicant in its various filings, objections received by the Commission from the stakeholders, the issues raised by the Public in the hearing held at Shimla, the responses of the Applicant to the objections and documents available on record, and in exercise of the powers vested in it under section 62, read with clause (a) of sub-section (1) of section 86 of the Electricity Act, 2003 (Act No. 36 of 2003) passes the following Order determining the capital cost and project specific levelised tariff for 15 MW Neogal Hydro Power Plant for the period of 40 years, the useful life of the plant starting from FY 2013-14.

Chapter 1

Introduction & Background

1.1 Purpose of the Order

1.1.1 M/s Om Hydro Power Limited (hereinafter referred to as 'the Petitioner' or 'Applicant' or 'developer' or 'Om Hydro Power'), Kothari Bhawan, 16/121-1, Faiz Road, Karol Bagh, New Delhi – 110005 is a "generating company" falling within the definition of Section 2 (28) of the Electricity Act, 2003 (hereinafter referred to as 'the Act'). The applicant has filed a Petition on 30th December, 2013 (registered as Petition no.149/2013) with the Himachal Pradesh Electricity Regulatory Commission (hereinafter referred to as 'the Commission' or 'HPERC') under sections 61, 62, 86 and 94 of the Act, read with Regulation 6 of the Himachal Pradesh Electricity Regulatory Commission (Power Procurement from Renewal Sources and Co-generation by Distribution Licensee) Regulations, 2007 seeking determination of tariff for sale of electricity generated at 15 MW Neogal hydro power plant on Neogal Khad in Kangra District, Himachal Pradesh (hereinafter referred to as 'Neogal SHP' or "the project" or "plant") to the Himachal Pradesh State Electricity Board Limited (hereinafter referred to as 'HPSEBL' or "Board"), a deemed licensee under the Act, engaged in generation and distribution of electricity in the State of Himachal Pradesh, in pursuance of the Power Purchase Agreement (PPA) dated 27th October 2006.

1.1.2 This Order relates to the determination of project specific tariff for sale of electricity from 15 MW Neogal hydro power plant to HPSEBL for the useful life of the plant starting from FY 2013-14.

1.2 Power Procurement from Renewal Sources Regulations

1.2.1 Based on the tariff fixed by the GoHP for Small Hydro Projects up to 15 MW, the parties to the PPA proposed a rate of Rs. 2.25 per unit in their joint Petition of PPA. HPERC in its order for approval of the PPA on 12th July 2006 states that –

'(iii) Tariff and other terms and conditions of the PPA shall be subject to the provisions of the Commission's regulations on power procurement from renewable sources, as and when such regulations are framed.'

The parties signed the PPA on 27th October, 2006.

1.2.2 The Commission vide its notification dated 18th June, 2007 had specified the Himachal Pradesh Electricity Regulatory Commission (Power Procurement from Renewal Sources and Co-Generation by Distribution Licensee) Regulations, 2007 (hereinafter referred to as 'HPERC RE Regulations 2007').

1.2.3 Regulation 6(1) of the HPERC RE Regulations 2007, envisage determination of project specific tariff for SHPs of more than 5 MW but not exceeding 25 MW. The relevant provision of regulation 6(1)reads as under:-

'6(1) ….Provided that the Commission may determine tariff -

(i) by a general order, for small hydro projects not exceeding 5 MW capacity; and

(ii)by a special order, for small hydro projects of more than 5 MW and not exceeding 25 MW capacity, on individual project basis:'

1.2.4 Subsequently, the Commission vide its notification dated 17th December 2012, notified the Himachal Pradesh Electricity Regulatory Commission (Promotion of Generation from the Renewable Energy Sources and Terms and Conditions for Tariff Determination) Regulations, 2012 (thereinafter referred to as "HPERC RE Regulations 2012"). Per clause 3(2) of HPERC RE Regulations 2012, these regulations are not applicable where a long term agreement for sale of power has already been signed.

"(2) These Regulations shall not apply in the following cases:-

(i) where long term agreement for disposal/use of energy have either already been signed by the renewable energy generator or have been approved by the Commission and the capacity of the project has not been enhanced subsequent to signing/approval of such agreement;

1.2.5 The PPA for the Neogal SHP was approved by the Commission on 12th July, 2006. In the consideration of the approval given by the Commission on this PPA as stated in paragraph 1.2.1 of this Tariff Order, the Commission has considered HPERC RE

Regulations 2007 as the applicable regulations for the determination of project specific tariff for Neogal SHP.

1.2.6 In pursuance to regulation 6(1) of HPERC RE Regulations 2007 and in compliance with the statutory provisions of the Electricity Act, 2003, the Commission issued a general Tariff Order for purchase of energy from SHPs up to 5 MW capacity on 18.12.2007 supplemented by tariff orders dated 09-02-2010 & 10-02-2010 (hereinafter referred to as HPERC SHP Tariff order 2007). In the said Tariff Order 2007 -

a. The Commission followed a Cost Plus Approach with certain performance benchmarks for tariff determination.

b. Considering the practical difficulties in implementing a two-part tariff for a large number of SHP projects with low capacity, seasonal variation in water discharge and monitoring of large number of projects, the Commission determined a single tariff for such projects.

c. The Commission decided to opt for levelised tariff to ensure accurate realization of present value of the investment to the investor.

d. The Commission decided to opt for generalized tariff rates for projects up to 5 MW and project specific tariff for projects with capacity more than 5 MW and up to 25 MW.

1.2.7 For the purpose of determining the tariff in this order, the Commission has been guided by the policies mentioned in the HPERC RE Regulations 2007. The parameters for tariff determination can be classified as technical or financial parameters. The technical parameters would vary with each individual project and therefore in this tariff order as well the Commission has formulated project specific technical parameters. As regards the financial parameters, even though there may be some justification owing to efficiencies of scale for adopting the parameters which are slightly less liberal as compared to the SHPs of smaller capacities i.e. up to 5MW, the Commission has been guided by the similar parameters mentioned in the HPERC SHP Tariff Order 2007 even for the higher capacity SHPs i.e. more than 5 MW.

1.3 Role of the Commission

1.3.1 Under clause (a) of sub-section (1) of section 86 of the Act, the Commission is vested with the responsibility of determining the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State of Himachal Pradesh. Further, Clause (b) of said sub-section (1) of section 86 empowers the Commission to regulate electricity purchase and procurement process of the distribution licensees including the price at which electricity shall be procured from the generating companies or the licensees or from other sources through agreements for purchase of power for distribution and supply within the State.

1.3.2 Under section 62(1) of the Act, the Commission is to determine the tariffs for supply of electricity by a generating company to a distribution licensee. For this purpose, the Act requires the generating company to furnish separate details for determination of tariff, as may be specified by the Commission.

1.3.3 The Power Purchase Agreement was entered into between Om Hydro Power and the HPSEBL on 27.10.2006 for sale of the electricity generated by the Project at a tariff of Rs. 2.25 per unit without escalation or indexation. However the cost estimate was revised by the developer in March 2010 to Rs. 123.80 crore and applied for an additional loan amount from the lender IDFC. The developer filed a petition with the Commission (Petition No.48/2010) followed by interlocutory application (M. A. No 123/2010) for grant of a tariff of Rs. 3.50 per unit, as an interim measure, with the objective to secure additional loan for construction/implementation of the Project. The said Petition was disposed of by the Commission vide its Order dated 27.10.2010. As per that order, the Commission observed as under:

> *"2. Per Regulation 6 of the regulations (ibid) the tariff for small hydro projects of more than 5 MW not exceeding 25 MW capacity is required to be determined on individual project basis. The installed capacity of 15 MW of a project falls under the category where the tariff requires to be fixed, as project specific and the said tariff is likely to be much more than Rs. 2.25 per kwh as provided in the PPA dated 27th October 2006 executed with the Board"*

'14. In the present case the project is in the construction stage, the exercise of the project specific tariff determination is not feasible. Apart from this the completion of the project involves time and cost overruns. The provisions in the Act and regulations contemplate either the project specific tariff determination under secn 62(1)(a) or under the renewable regulations or in the alternative, by the way of approval of PPA under section 86(1)(b) of the Act. There is no provision for a tariff for the sole purpose of carrying financial arrangements for raising bank loans.

In view of the above discussion the Commission declines to grant tariff, as an interim measure applied for by the petitioner and directs that the observations made in this order should not prejudice any further decision to be taken on the original petition which shall be considered and dealt with on its own merits. However in view of the costs indicated in the petition it is likely that the final tariff will be pegged at far higher levels than provided in the PPA and therefore for financial closure purposes the financial institutions may be more considerate in choosing to leverage this project"

1.3.4 After the completion of the project the developer filed a petition to the Commission (Petition 149/2013) for project specific tariff determination, claiming a total project cost of Rs. 147.71 crore. In view of this the Commission has analysed the capital cost documents, operational parameters of the SHP, financial performance of the Applicant for previous years and has finalized this Order based on the PPA signed between Om Hydro Power and HPSEBL, review and analysis of the past records, information filed by the Applicant in the Petition, views expressed by the stakeholders and various other submissions in response to queries raised by the Commission.

1.4 Historical and Procedural background of the Project

1.4.1 A Memorandum of Understanding (MoU) was signed between the Government of Himachal Pradesh (GoHP) and M/s Om Hydro Power Corporation Pvt. Ltd. on 28th August 1993 to conduct technical studies and prepare Detailed Project Report (DPR) for the run-of-the-river 12 MW (later revised to 15 MW) Neogal SHP.

1.4.2 Implementation agreement was signed between GoHP and Om Hydro Power on 4th July 1998 to develop the Neogal SHP and sell power generated to HPSEBL for a period of 40 years from the Commercial Operation Date (COD) of the project.

1.4.3 Techno Economic Clearance (TEC) was given to Om Hydro Power by the GoHP on the DPR with a capital cost of INR 61.74 crore excluding IDC.

1.4.4 However construction work could not begin on the project and supplementary agreements were signed between Om Hydro Power and the GoHP on 8th October 2001, 4th April 2002, 3rd Jan 2003 and 27th Jan 2006 in order to give additional time to Om Hydro Power to develop the project.

1.4.5 The Power Purchase Agreement (PPA) between the developer and HPSEBL was approved by the Commission on 12th July 2006 with a condition as stated in paragraph 1.2.1 of this tariff order. The PPA was then signed between HPSEBL and Om Hydro Power on 27th October 2006.

1.4.6 Subsequent to signing of PPA, the developer also executed another Implementation Agreement with GoHP on 30th May, 2007.

1.4.7 The financial closure for the project was done by Infrastructure Development Finance Company Limited (IDFC) on 21st May 2008 at a project cost of INR 82.60 crore based on which a term loan of INR 62 crore was sanctioned to the developer.

1.4.8 The loan agreement was amended by IDFC on 30th May 2011 to a project cost of INR 123.80 crore. An additional loan of INR 22.98 crore was sanctioned to the developer taking the total loan amount to INR 84.98 crore.

1.4.9 COD was achieved by the developer on 6th May 2013. As per the fourth supplementary agreement signed on 27th Jan 2006, the COD should have been achieved by 42 months after the signing of PPA i.e. by 27th April 2010. As per Article 3 of the PPA the construction period should be a maximum of 32 months from the date of financial closure. The financial closure of the project was done on 21st May 2008 which therefore means the commissioning should have been achieved by 21st January 2011. Further, the schedule of activities attached alongwith the PPA assumes the commissioning of the project as June 2009.

1.4.10 The Petitioner has furnished a copy of Directorate of Energy, GoHP letter No. DOE/CE/TEC-Neogal/2013-5433-34 dated 19th October 2013 vide which the completion cost of the Project at Rs.152.70 crore has been approved. However, since this approval has been given subject to the condition that the cost of the project is indicative and shall not be binding on the regulator while fixing the tariff, the Commission has not considered this cost of Rs. 152.70 crore for the determination. Instead Commission has exercised its own analysis for the prudence check of capital cost and for determining project specific tariff of the project.

1.5 Tariff Filing by Om Hydro Power

1.5.1 Om Hydro Power filed a Petition on 30th December, 2013 (registered as Petition no.149/2013) with the Commission seeking project specific tariff determination for its 15 MW Neogal SHP.

1.5.2 M/s PricewaterhouseCoopers Pvt. Ltd. was appointed as Consultants to assist the Commission in determination of tariff for sale of power generated from the Neogal Small Hydro Plant to HPSEBL.

1.5.3 The Commission admitted the petition vide its interim Order dated 27th September, 2014. The Commission also directed the petitioner to publish the salient features of the petition in two newspapers, Hindi & English, having wide circulation in the State in two insertions interspersed two days apart in the prescribed format. In addition to above the Commission further directed the Petitioner to host the tariff petition alongwith the format on the Petitioner's company website.

1.5.4 Notices by the Petitioner in the newspapers were published on 13th October 2014 and 14th October 2014 in The Tribune and The Amar Ujala.

1.5.5 The Commission further issued a public notice in The Tribune and The Amar Ujala on 16th October 2014 inviting objections and suggestions from the interested parties by 5th November 2014. Om Hydro was directed to furnish replies to the objections/ suggestions to the Commission by 13th November 2014 along with a copy to the objector. The objectors were provided additional time upto 20th November 2014 to file rejoinders on the response of the applicant petitioner. Comments were received from HPSEBL.

1.5.6 On preliminary examination of the petition, the Commission found the petition to be deficient in certain aspects. Clarifications were sought from the developer in regard to the deficiencies observed in the petition. Therefore, the Commission issued the first discrepancy note to the developer on 5th November 2014 and directed the Applicant to provide further information mainly in purview of the following aspects:-

a. Information regarding deviation in capital cost of the project – as per the petition, the actual capital cost of the completed project stood at Rs. 147.71 crore while the TEC or DPR estimated a capital cost of Rs. 61.74 crore. The developer was asked to justify the reasons for this deviation in costs under land, civil, electro-mechanical and preliminary expenses head.
b. Information regarding deviation in factors relevant to determination of tariff – the developer was asked to justify the reasons for assuming tariff determination parameters based on the CERC Terms and Conditions for Tariff determination from Renewable Energy Sources 2012 Regulations (hereafter referred to as CERC Regulations 2012) instead of HPERC RE Regulations 2007.
c. In addition to the above mentioned information the developer was asked to furnish Detailed Project Report (DPR), Original Loan Documents, actual loan schedule, actual equity schedule and annual accounts of Om Hydro Power.

1.5.7 The reply to the first discrepancy note was received from developer on 15th December 2014. On the analysis of the provided information, certain additional information and clarifications along with pending information were sought from the developer in the second discrepancy note issued on 16th December 2014, mainly in purview of the following aspects:-

a. Information related to LADF payments
b. Month on month actual energy generation since the commissioning of the plant
c. Submissions made to IDFC for financial closure/amendment to loan agreement for increased capital cost of Rs. 123.80 crore
d. Contracts and agreements for civil and electro-mechanical works along with their payment schedule
e. Month on month cash flow of the project
f. Details of actual versus planned construction activities of the project

1.5.8 Further to the two discrepancy notes shared with the developer as mentioned above, a Technical Validation Session (TVS) was held on December 23, 2014 at the HPERC office at Keonthal Commercial Complex, Khalini, Shimla. The discussion mainly revolved around the kernels of the capital cost incurred and the validation of the information provided till date. During the technical validation session, the broad process of capital cost validation was discussed with the developer. It was explained that in order to verify the capital cost of the Neogal SHP for tariff determination process, the following checks were to be exercised:

a. Availability of contracts/agreements/payment receipts for the said land acquisitions/civil works/E&M works

b. Availability of payment records and reflection of payments for contracts/agreements in the bank statements

1.5.9 The public hearing on the petition was held on December 24, 2014 at the Commission's office at Keonthal Commercial Complex Khalini, Shimla. Various stakeholders made submissions on diverse aspects of the project related to its cost determination and other related issues.

1.5.10 The reply to the second discrepancy note and information asked for in the TVS was received from developer on 21st January 2015. On the analysis of the provided information, certain additional information and clarifications along with pending information were sought from the developer in the third discrepancy note issued on 12th February 2015, mainly in the purview of the following aspects:-

a. Actual amount of auxiliary consumption and transformation losses since the commissioning of plant
b. Submissions made to GoHP for project cost approval of Rs. 152.70 crore.
c. Details of selection process of civil & E&M works contractors (based on competitive bidding or advertisement/tender for contract).
d. Details of insurance claims made and proceeds received from insurance claims in lieu of losses due to various force majeure events
e. Details of the interest accrued in the account for the idle cash
f. Further details were sought from the developer on discrepancies in civil contracts submitted by the developer

1.5.11 The reply to the third discrepancy note was received from developer on 2nd March 2015. On the analysis of the above provided information, certain additional information and clarifications along with pending information were sought from the developer in the fourth discrepancy note issued on 31st March 2015, mainly in the purview of the following aspects:-

a. Proof of land acquisitions like lease agreements or rent agreements along with relevant payment records.
b. Detailed breakup of preliminary expenses along with relevant agreements or payment details.
c. Further details were sought from the developer on discrepancies in civil contracts submitted by the developer.

1.5.12 The reply to the fourth discrepancy note was received from developer on 27th April 2015. On the analysis of the provided information, certain additional information and clarifications along with pending information were sought from the developer in the fifth discrepancy note issued on 21st May 2015, mainly in the purview of the following aspects:-

a. Reasons for deviation between land cost claimed in the petition and based on the documents submitted by the developer.
b. Details of any security amount forfeited or any penalty amount levied on contractors for breach of contract(s).
c. Further details were sought from the developer on discrepancies in civil contracts submitted by the developer.

1.5.13 The reply to the fifth discrepancy note was received from developer on 15th June 2015. On the analysis of the provided information, certain additional information and clarifications along with pending information were sought from the developer in the sixth discrepancy note issued on 15th July 2015. Also a second TVS was held on 15th July, 2015 at the HPERC office at Keonthal Commercial Complex, Khalini, Shimla. Based on the analysis of reply from developer and discussion held during TVS information was requested mainly in purview of the following aspects:-

a. Communications with the forest department regarding clearances and timelines of the same.
b. Reasons for delay between start of construction after TEC along with details of bottlenecks.
c. Timelines of when construction on transmission network was started along with reasons for delay in start of construction of transmission network.
d. Work plan of activities that were to be implemented during force majeure events that were interrupted in years 2007, 2008, 2009, 2010, 2011 and 2012.

e. Undertaking of no material interest between project developer and the project contractor, equipment supplier or sub-contractors.
f. Technical report to assess the impact on design energy of 15% mandatory water discharge.
g. Further details were sought from the developer on discrepancies in civil contracts submitted by the developer

1.5.14 The reply to the sixth discrepancy note was received from developer on 31st July 2015. On the analysis of the provided information, certain additional information and clarifications along with pending information were sought from the developer in the seventh discrepancy note sent through email to developer on 18th August 2015, mainly in the purview of the following aspects:-

a. Complete list of land agreements along with clarifications on certain proofs submitted by the developer earlier
b. Queries on deviations between amounts claimed by the developer and transactions recorded in the bank statements
c. TDS challan and certificates for civil and electro-mechanical contracts
d. Further details were sought from the developer on discrepancies in civil contracts submitted by the developer

1.5.15 The reply to the seventh discrepancy note was received from developer on 18th September 2015. On the analysis of the above provided information, certain additional information and clarifications along with pending information were sought from the developer in the eighth discrepancy note to developer on 28th October 2015. Also a third TVS was held on 28th October, 2015 at the HPERC office at Keonthal Commercial Complex, Khalini, Shimla. Based on the analysis of reply from developer and discussion held during TVS, information was requested mainly in purview of the following aspects:

a. Further details were sought from the developer on discrepancies in land agreements and relevant payment details submitted by the developer.
b. Details of bills raised against payments for civil contracts along with the linkage to the bank statements submitted by developer.
c. Details of bills raised against payments for transmission line contracts along with the linkage to the bank statements submitted by developer.

d. Details of contracts made with the individual consultants under the head of pre-operative expenses and the bills raised by these consultants along with entries in the bank statements for these expenses.

1.5.16 The reply to the eighth discrepancy note and information requested in TVS was received from developer on 9th November 2015. The information received from developer in this reply was considered as final and further analysis on capital cost validation and tariff determination was carried out on the same.

1.5.17 As outlined above, on account of deficiencies and discrepancies in the data received from the developer, several discrepancy notes were issued to the developer and several rounds of TVS were held. Also it was noticed by the Commission that in several instances the data received in the various replies was repeated by the developer which caused delay in the disposal of this petition.

Chapter 2

Salient Features of the Petition

2.1 Salient Features of the Petition

2.1.1 The Petitioner filed the application dated 20th December, 2013 to the Commission for the determination of completed capital cost of the project and tariff for sale of electricity generated at the project. This chapter summarizes the submissions of the petitioner in its petition and subsequent information/clarifications furnished in response to the Commission's queries in the matter.

2.2 Project Cost

2.2.1 As per the Detailed Project Report (DPR) submitted by the petitioner and the Techno Economic Clearance (TEC) received on 25th October 1999, the capital cost of the project was identified as Rs. 61.74 Crore exclusive of IDC. Further the TEC allowed for Rs. 1.60 crore of land, environment related costs and terminal equipment cost as a pass through cost. The detailed extract of the project cost as per the DPR as submitted has been shown in the table below:

S. No.	Description of Head of Work	Estimated Cost (Rs. Lakh)
1.	Electro-mechanical works	2931.56
2.	Civil works	2991.94
3.	Transmission system	113.08
4.	Expenditure incurred/to be incurred by HPSEB	137.23
	Sub-Total of capital cost	**6174.83**
5.	Land	30.19
6.	Environment & Ecology	96.07
7.	Transmission works	34.03
	Sub-Total of pass through cost	**160.29**
	Total	**6335.12**

2.2.2 The tariff petition submitted by the Petitioner identifies the project cost as Rs. 147.71 Crore. The capital cost of the project as submitted by the applicant has been detailed below:

S. No.	Head of Works	Estimated Cost (Rs. lakh)
1.	Land	617.49
2.	Civil Works	6902.51
3.	Transmission Line	804.31
4.	E&M Works	2368.05
5.	Preliminary & Preoperative expenses	847.16
6.	Interest During Construction	3006.13
7.	LADF	225.59
	Total	**14771.24**

2.2.3 According to the petition, the finances of the project was conceived at a debt equity ratio of 72.10:27.90. The actual equity amount is Rs. 41.21 crore amounting to 27.90% of the project cost. Further as per the petition, the normative debt amount works out to be Rs. 106.50 crore forming 72.10% of the project cost.

2.2.4 As per the Applicant, the financial closure of the project was done in 2008 by Infrastructure Development Finance Company Limited (hereinafter referred to as 'IDFC' or 'Lender') at a project cost of Rs.82.60 crore. Based on this project cost IDFC sanctioned an 'Initial loan' of Rs. 62.00 crore for execution of the Project. This loan agreement was amended on 30th May 2011 by IDFC for a revised project cost estimate of Rs. 123.82 crore. IDFC granted an 'Additional loan' of Rs. 22.98 crore to the developer taking the total 'Loan' amount to Rs. 84.98 crore. The petitioner has claimed an interest rate of 12.58% on this entire loan amount. Repayment period of 12 years is assumed by the applicant in its petition as per the actual loan agreement.

2.3 Key assumptions by the Petitioner for determination of tariff

2.3.1 The table below summarizes the parameters assumed by the Petitioner in the tariff petition submitted for Neogal SHP:

S. No.	Parameters	Unit	As per Petition	Remarks
1.	**Capacity**	MW	15	Actual as per DPR (given in the petition)
2.	**Capacity Utilization Factor (CUF)**	%	54.68	The norm factor as per CERC (Terms and Conditions for Tariff determination from Renewable sources) Regulations, 2012 is 45%. However the developer has claimed energy generation of 71.86 MU during the 75% dependable

S. No.	Parameters	Unit	As per Petition	Remarks
				year which makes the CUF as 54.68% and the same has been considered in petition.
3.	**Gross energy generation**	MU	71.86	Corresponding to 75% dependable year after considering 15% mandatory water releases as per GoHP policy.
4.	**Useful Life**	Years	40	Considered as per DPR and PPA
5.	**Auxiliary Consumption**	%	1.00	Normative as per CERC 2012 Regulations
6.	**Transmission loss**	%	0.70	In absence of actual data, transmission losses based on line length (12 Km) and ACSR Coyote conductor size 26/2.54mm+7/1.90 mm, works out to 0.7% and the same has been considered in petition
7.	**Royalty**			
	For First 12 years	%	16	
	For balance 28 years	%	21	
8.	**Capital Cost**	Rs. Cr	147.71	Based on actuals claimed in petition
9.	**Debt-Equity ratio**		72.10:27.90	Based on actuals claimed in petition
	Debt component	Rs. Cr.	106.5	
	Equity Component	Rs. Cr.	41.21	
10.	**Repayment Period**	Years	12	Normative as per CERC 2012 regulations
11.	**Interest rate**	%	12.58	Based on actuals claimed in petition
12.	**Return on Equity**			
	For first 10 years	%	20	Normative as per CERC 2012 regulations
	From 11^{th} year onwards	%	24	
13.	**Discount Rate**	%	10.64	Normative as per CERC 2012

S. No.	Parameters	Unit	As per Petition	Remarks
				regulations for 40 years project life
14.	**Depreciation**			
	For first 12 years	%	5.83	Normative as per CERC 2012 regulations
	From 13th year onwards	%	0.72	Normative as per CERC 2012 regulations
15.	**O&M Expenses**			
	Base year	Rs Lakh per MW	19.03	Normative as per CERC 2012 regulations
	Escalation	%	5.72	Normative as per CERC 2012 regulations
16.	**Working Capital**			
	O&M Charges	month	1	Normative as per CERC 2012 regulations
	Maintenance Spare	%	15	
	Receivables for debtors	month	2	
	Rate of Interest on working capital	%	13.50	Normative as per CERC 2012 regulations
17.	**Taxes**			
	Corporate Tax	%	30.00	As per CERC Tariff Order dated 25.10.2012
	MAT	%	18.50	
18.	**Subsidy**	Rs. Lakh	620	As per MNRE scheme

2.4 Prayer of the Applicant

2.4.1 The petitioner has prayed before the Commission to: -

(i) Allow the tariff of Rs. 4.52 per kWh calculated after consideration of parameters as mentioned above for the sale of power generated from the project for the entire term of PPA;

(ii) pass such order/orders as the Commission may deem fit and proper in the facts and circumstances of the case.

Chapter 3

Objections / Suggestions by Stakeholders

3.1 Introduction

3.2.1 This chapter summarizes the various issues raised by the stakeholders in their written submissions and during the public hearing. The Commission's views on the issues raised have been summarized here.

3.2 Applicability of PPA and project specific tariff

3.2.2 Objection/Queries raised –

HPSEBL stated that the term of PPA executed between M/S Om Hydro Ltd and HPSEBL is forty years and that the tariff has been agreed at a fixed rate of Rs 2.25 paise per kWh without any escalation. Further HPSEBL has claimed that the said PPA between the developer and HPSEBL was approved by the Commission on 12th July 2006. Therefore the Board has objected that M/S Om Hydro Power Ltd is under legal obligation to comply with the said provision and cannot claim re-determination of tariff.

3.2.3 Petitioner's reply

The petitioner in its replies to various discrepancy notes has mentioned that the tariff of Rs.2.25 per unit for SHPs upto 15 MW was fixed by the State Government way back vide notification dated 22nd November, 1994 on a notional basis. Subsequently the Regulatory Commission has notified the Regulations for determination of tariff on 18th June 2007. The regulation 6.1 of HPERC RE Regulations 2007 provides for determination of tariff by a special order for small hydro projects of more than 5 MW capacity and not exceeding 25 MW capacity, on individual project basis. Further the petitioner has quoted the order passed by the Commission on 27th October 2010 (for disposing of the petition by the developer requesting interim tariff of Rs. 3.50 per unit), which states that the installed capacity of 15 MW of a project falls under the category where the tariff requires to be fixed, as project specific and the said tariff is likely to be much more than Rs. 2.25 per kwh as provided in the PPA dated 27th October 2006 executed with the Board. In view of the above, the Petitioner filed this petition with a prayer to allow the petition and consequently determine the tariff for sale of electricity generated at the Project to the Himachal Pradesh State Electricity Board Limited.

3.2.4 Commission's view

Regulation 6.1 of HPERC Power Procurement from renewal sources and co-generation (2007) provides for project specific tariff determination by a special order for small hydro projects of more than 5 MW capacity and not exceeding 25 MW capacity, on individual project basis. The HPERC in its order for approval of the PPA on 12th July 2006 stated that –

> *'(iii) Tariff and other terms and conditions of the PPA shall be subject to the provisions of the Commission's regulation on power procurement from renewable sources, as and when such regulations are framed.'*

Further the developer had filed with the Commission Petition No.48/2010 followed by interlocutory application (M. A. No 123/2010) for grant of a tariff of Rs. 3.50 per unit, as an interim measure, with the objective to secure additional loan for construction/implementation of the Project. The said Petition was disposed of by the Commission vide its Order dated 27.10.2010 as per para 1.3.3.

In view of the above, Commission has admitted the petition filed by M/S Om Hydro for project specific tariff determination and is now issuing this order in effect to the same.

3.3 Delay in execution of the project

3.3.1 Objection/Queries raised –

HPSEBL stated that the PPA was executed by the firm on 27th October 2006 with HPSEBL and as per PPA, the IPP was required to complete the project by July 2009, whereas the project achieved CoD on 6th May 2013. Therefore HPSEBL claimed that the cost escalation is due to late completion of Project by the IPP and the state cannot be burdened with a tariff hike. Further HPSEBL submitted that on the issues of Force Majeure events, the HPSEBL had not received any intimation From M/S Om Hydro Power Ltd regarding force majeure events as per article 12 of the Power Purchase Agreement within 5 days of their occurrence. Further no record indicates that the said

IPP has intimated the closure of the Force Majeure event to ascertain the period for the purpose of delay in commissioning of the project.

3.3.2 Petitioner's reply

The petitioner in its replies to various discrepancy notes has mentioned that satisfactory evidence in support of occurrence of the Force majeure events has been provided by the Petitioner in its petition. Further the petitioner has stated that the petitioner was directed by the Sub Divisional Magistrate, Palampur to stop work during monsoon period in the year 2007 in order to avoid loss of life and property. Unfortunately, the project construction work suffered badly in the year 2008 as well due to the highest rain fall experienced in the 46 years. The flash floods due to cloud burst & rains in the year 2009,2010,2011 & 2012 and unprecedented snow fall in the year 2011 (being the highest in the last 5 decades) further compounded the problem. In addition to these facts, the work of 33 KV transmission line from the project near to the interconnection point at 132/33 KV Dehan Substation of HPSEBL was delayed by one year due to illegal blockage of work by villagers/ land owners. Due to these force majeure events every year from 2007 to 2013, the project was saddled with time and cost overruns.

3.3.3 Commission's view

Even though the Commission feels that as per PPA the petitioner should have informed the HPSEBL regarding the Force Majeure events, the Commission, in order to allow a reasonable cost, has taken cognizance of the force majeure events claimed by the petitioner and the supporting documents submitted in the petition and reply to various discrepancy notes. The Commission has analyzed these documents and claims of the petitioner in this tariff order to calculate time loss and cost overruns that were on account of the developer and cannot be passed on to the consumers, making suitable adjustments to the tariff.

As per the clause 2.24 of the 4th Supplementary Implementation Agreement the project was to be commissioned within 42 months from the date of signing of the PPA i.e. by 27th April, 2010. The PPA does not specifically mention any scheduled COD, however it states under Article 3 that the construction period should be a maximum of 32 months from the date of financial closure. The financial closure of the project was done on 21st May 2008 which therefore means the Commissioning should have been achieved by 21st January 2011. On the other hand the PERT schedule attached along with the PPA envisage completion of the project by July, 2009.

3.4 Norms for determination of tariff

3.4.1 Objection/Queries raised –

HPSEBL stated that the norms considered by the petitioner for calculation of tariff in its petition have been assumed as per the CERC regulations. HPSEBL has commented that the CERC Regulations only deal with the macro level of the norms and parameters and is not even State specific.

3.4.2 Petitioner's reply

The petitioner has submitted that the Regulation 6.3 of HPERC Power Procurement from Renewal Sources and Co-generation (2007) specifies that while deciding the terms and conditions of tariff, the Commission shall, as far as possible, be guided by the principles and methodologies specified by the Central Commission, the National Electricity Policy, the Tariff Policy and Tariff regulations notified by the Central Commission. Further the petitioner has submitted that the CERC (Terms and Conditions for Tariff Determination from Renewable Energy Sources) Regulations, 2012 specifies the parameters to be followed in determining the tariff vide Annexure 2B for Small Hydro in the States of Himachal Pradesh, Uttrakhand and N E States and also furnished a model format for computation of tariff. According to these parameters and model the tariff for Neogal Hydro Electric Project of 15 MW capacity has been computed in the petition.

3.4.3 Commission's view

The Commission has taken cognizance of the objection raised by the HPSEBL. In view of para 1.2.5 the Commission has considered HPERC RE Regulations 2007 as the applicable regulations for the determination of project specific tariff for Neogal SHP. The Commission has taken the technical parameters such as capital cost of the project and the gross generation of the project based on actual project specific data. As regards the financial parameters, even though the Commission feels that the parameters for tariff determination of smaller sized SHP projects should be more liberalized than the larger projects owing to efficiencies of scale, it has in order to provide a reasonable cost to developer, considered the same broadly at par with those considered while computing the generic tariff for SHPs upto 5 MW under the SHP tariff order, 2007.

3.5 Capital Cost

3.5.1 Objection/Queries raised –

HPSEBL has stated that as per the revised DPR, the cost of power-plant civil works (Except weir & intake) was Rs. 1668.38 Lakh (March 1998) but completion cost shown is Rs 4559.30 Lakh. Considering 7% escalation per year for 15 year's with reference to March, 1998 to 2013 i.e. completion year, the cost works out to be Rs. 3420.18 Lakh which shows an increase of Rs. 1139.12 Lakh. There is steep escalation in land cost due to delay in purchase/lease of private land. The documents reveal that actual land required is in excess of provision made in DPR. The NPV in the forest land was not envisaged in DPR which shows the poor planning and management of the part of firm resulting increase in project cost. Further, private land costing to Rs. 29.15 Lakh was purchased during May, 2003 whereas, land purchased/ leased during the year 2012 costing Rs. 364.71 Lakh which shows abnormal variation in cost due to poor planning and delay. The petitioner has claimed Rs. 483.51 Lakh on account of survey and investigation charges raised by HPSEBL. However, the amount has not been paid to HPSEBL. As such it is not justified to include this amount in the total cost for tariff claim. The petitioner has shown an expenditure amounting to Rs. 65.99 Lakh incurred on repair of damaged road due to force majeure events each year from 2007-2009 under the head maintenance during construction which is unjustified and should be considered null and void as per the PPA clause No. 12.5. The petitioner has not claimed the MNRE benefit as admissible as per the Govt. of India MNRE notification no. 14 (1)/2008-SHP dated 11.12.2009, which will reduce the total cost of the project by Rs. 6.2 Crores and will have reduced impact on tariff.

3.5.2 Petitioner's reply

The petitioner has submitted that the increase in expenses from those approved in the TEC, as claimed in the petition, is on account of the force majeure events (submitted in detail in the petition) and delay in obtaining required clearances for the project. In response to the queries raised against cost escalations, the petitioner has submitted details of contract/agreements with contractors along with actual payment references against the bills raised by these contractors for various civil works, E&M works, land acquisitions and other major costs. Further the petitioner has submitted supporting documents for obtaining requisite clearances for the project and copy of supplementary agreements.

3.5.3 Commission's view

The Commission has taken cognizance of the objection raised by the HPSEBL in regard to the cost escalations for the Neogal SHP project. The Commission has analyzed all the supporting documents submitted by the petitioner and accordingly decided to allow only justifiable costs and time delays in the capital cost for tariff determination, in subsequent sections of this tariff order.

Chapter 4

Determination of Capital Cost

4.1 Introduction

4.1.1 The Commission has notified the HPERC (Power Procurement from Renewable Sources and Co-generation by Distribution Licensee) Regulations, 2007.

4.1.2 Regulation 6 of the HPERC (Power Procurement from Renewable Sources and Co-generation by Distribution Licensee) Regulations, 2007 is reproduced hereunder: -

" (1) The Commission shall, by a general or special order, determine the tariff for the purchase of energy from renewable sources and co-generation by the distribution licensee;

Provided that the Commission may determine tariff -

(i) by a general order, for small hydro projects not exceeding 5 MW capacity; and

(ii) by a special order, for small hydro projects of more than 5 MW and not exceeding 25 MW capacity, on individual project basis:

Provided further that,-

(i) where the power purchase agreement, approved prior to the commencement of these regulations, is not subject to the provisions of the Commission's regulations on power procurement from renewable sources; or

(ii) where, after the approval of the power purchase agreements, there is change in the statutory laws, or rules, or the State Govt. Policy;

(2) The Commission shall determine the tariff separately for each category of renewable source mentioned in clause (m) of regulation 2.

(3) While deciding the terms and conditions of tariff for energy from renewable sources and co-generation, the Commission shall, as far as possible, be guided by the principles and methodologies specified by the Central Commission, the National Electricity Policy, the Tariff Policy and the tariff regulations notified by the Central Commission.

Provided that the Commission, may for sufficient reasons and after exercising due diligence and applying prudency check, deviate from the terms and conditions of the generation tariff notified by the Central Commission:

(4) While determining the tariff, the Commission may, to the extent possible consider to permit an allowance based on technology, fuel, market risk, environmental benefits and social contribution etc., of each type of renewable source.

(5) While determining the tariff, the Commission shall consider appropriate operational and financial parameters..

(6) The tariff for small hydro projects not exceeding 5 MW capacity determined by the Commission shall be applicable for a period of 40 years from the date as notified by the Commission;

(7) The tariff for small hydro projects not exceeding 5 MW capacity, determined by the Commission is subject to review after every 5 years and such revised tariff shall be applicable to power purchase agreements entered into after that date."

4.1.3 The Commission, in accordance with the clause (ii) of 1st sub-proviso to regulation (1) of the HPERC (Power Procurement from Renewable Sources and Co-generation by Distribution Licensee) Regulations, 2007 as stated above, has determined the capital cost and tariff for the said project.

4.2 Time delays in start of construction

4.2.1 The developer had received TEC from Government of Himachal Pradesh on 25th October 1999. As per this TEC, the construction work should have begun on the project by 04th July 2000 subject to getting the required clearances for the project.

4.2.2 The developer and Government signed three supplementary agreements on 8th October 2001, 04th April 2002 and 3rd January 2003 to extend the date for starting of construction activities citing delay in getting of clearances as the major reason.

4.2.3 The Government of Himachal Pradesh terminated the Implementation Agreement and Supplementary Agreements on 25th November 2004 vide letter no. MPP-F(2)-1/91-VI, as the developer failed to start the construction work.

4.2.4 Subsequently on the request of the developer vide their letter no. OPCL/DLI/2006 dated 6th August 2005, the Government of Himachal Pradesh agreed to restore the

Implementation Agreement and the Supplementary Agreements by signing the Fourth Supplementary Agreement on 27th January 2006.

4.2.5 The Commission directed the developer to submit the time lines of receiving requisite clearances along with their supporting documents.

4.2.6 Based on the analysis of the supporting documents submitted by the developer, the Commission deduced that Section 4.1 of the Implementation agreement (signed on 4th July 1998) laid down certain major requirements that needed to be fulfilled before the construction of the project could begin. These major requirements were:

a. Obtain TEC on DPR from Government of Himachal Pradesh– TEC was received by the developer on 25th October 1999.

b. Obtain Environment Clearance from GOI, Ministry of Environment and Forests (MOEF) – the developer obtained Environment Clearance from Ministry of Environment and Forest, Government of India vide letter no. J-12011/43/2001-IA-I dated 27th November 2001.

a. Obtain Forest Clearance from GOI, Ministry of Environment and Forests (MOEF) – On 30th Nov 2000, the Conservator of Forest (Planning) informed the developer that the cost benefit analysis was not as per the guidelines and additional information was required to put up proposal again in front of the State Advisory Group (SAG). This information was submitted on 01st Dec 2000. SAG gave in principle approval on 20th June 2001 subject to the developer depositing Rs. 9,84,000.00 and Rs. 62.38 Lakh with the Forest Department. The Developer then put in the request for paying the Rs. 62.38 Lakh amount in installments. The matter remained in correspondence from the year 2000 till 2004. The Developer complied with requirements on 18th Oct 2004 and received clearance on 10th Nov 2004.

c. Pollution Clearance – No objection certificate from the Himachal Pradesh Pollution Control Board obtained vide letter no. PCB/consent/om power/2001/614-619 dated 20th April 2001.

4.2.7 The Commission believes that the delay of 48 months in obtaining forest clearance between 30th November 2000 and 10th November 2004 could have been avoided by the developer by either depositing the entire amount with Forest Department in lump sum or following up on correspondence in a more proactive manner. However the Commission has taken a reasonable view on account that a supplementary agreement was signed by the Government of Himachal Pradesh on 30th May 2007 and, therefore, the Commission has not taken cognizance of the delays incurred prior to signing of PPA in October, 2006.

4.3 Time delays during construction of the project

4.3.1 The developer has claimed in its petition that during the construction of the project between 2007 and 2013 the project was delayed due to several force majeure events totaling to a time loss of 51 months.

4.3.2 Clause 18 of the Implementation Agreement between the developer and the Government of Himachal Pradesh, defines the force majeure events as follows –

"18.1 Notwithstanding the provisions of the clause 4.3, 6.2, and 6.3 above, the company shall not be liable for the forfeiture of its performance security, liquidated damages or termination for default, if the non-performance or the delay in the discharge of its obligations under this agreement is the result of an event of force majeure

18.2 For the purpose of this agreement, "Force Majeure" shall mean an event which is unforeseeable, beyond the control of the company and not involving the company's fault or negligence. Such events shall include: acts of the Government/GOI either in its sovereign or its contractual capacity, war, civil war, insurrection, riots, revolutions, fires, floods, epidemics, quarantine restrictions, freight embargoes, radioactivity and earthquakes.

18.3 If a force majeure situation arises, the company shall promptly notify the Government in writing of such conditions and the cause thereof. Unless otherwise directed by the Government in writing, the Company shall continue to perform its obligations under the Agreement, as far as is reasonably practical, and shall seek all reasonable alternative means for performance, not prevented by the force majeure event."

4.3.3 Further as per Article 12 of the PPA, the time period for which the force majeure event has occurred the relevant obligations due during that particular period may be suspended and the time for performance of relative obligations may be extended for the period of delay and no additional cost is to be allowed. The relevant clauses of the PPA are reproduced as hereunder:-

"12.1 In the event a party is rendered unable to perform any obligations required to be performed by it under the Agreement by Force Majeure, the

particular obligations shall upon notification to the other party be suspended for the period of Force Majeure.

.....

12.4 Time for Performance of the relative obligations suspended by Force Majeure shall then stand extended by the period of delay which is directly attributable to Force Majeure. The party giving such notice shall be excused from timely performance of its obligations under the Agreement, for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered or delayed, provided the party or parties affected by the event of force majeure shall use reasonable efforts to mitigate the effect thereof upon its performance of the obligations under the Agreement."

"12.5 Delay or non-performance by a party hereto caused by the occurrence of an event of Force Majeure shall not:-

a) constitute a default or breach of the agreement; and

b) give rise to any claim for damages or additional cost of expenses occasioned thereby"

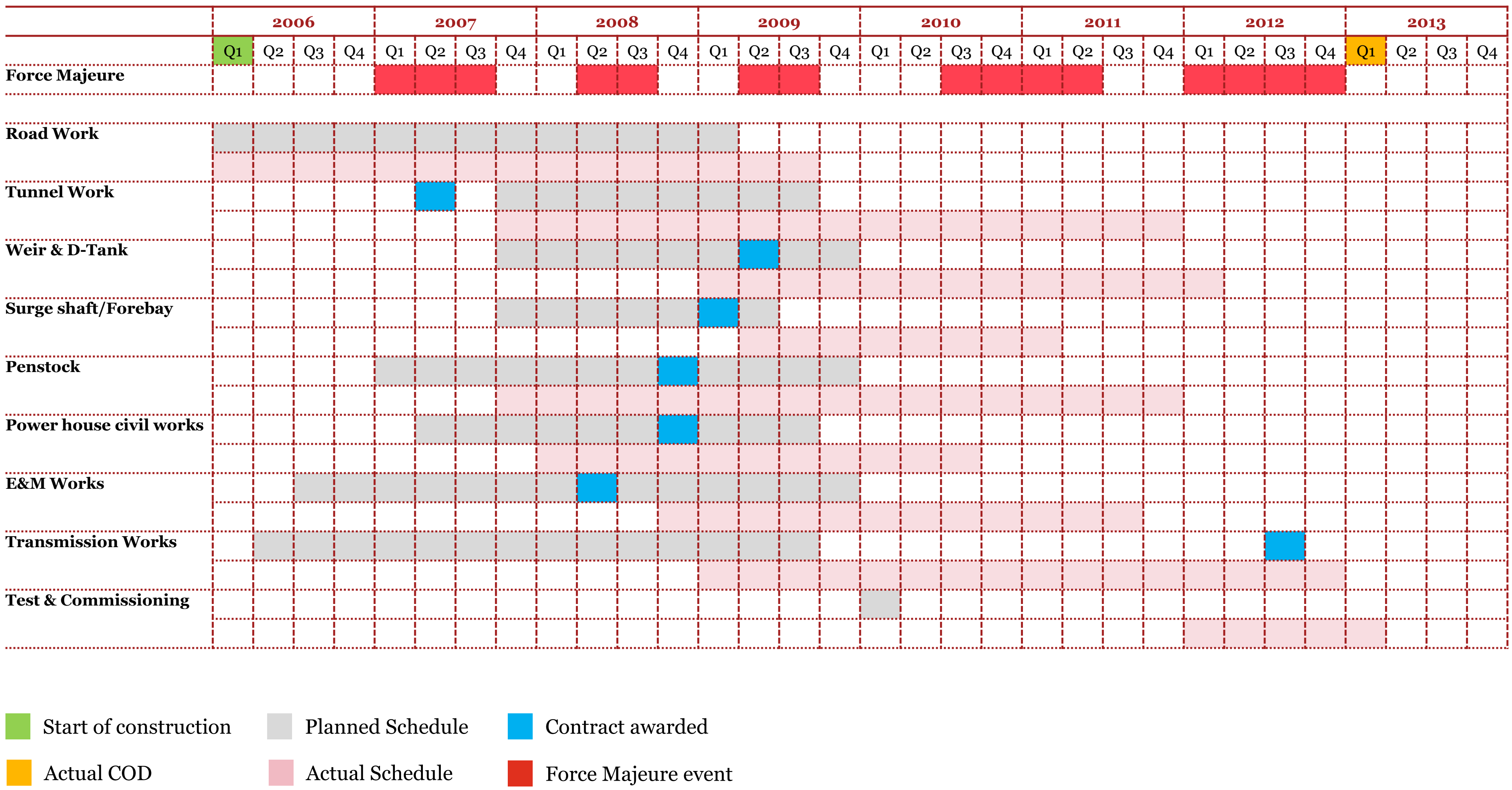
4.3.4 While clause 12.5 of the PPA mentions that no additional cost or damages are to be allowed in case of force majeure events, the approval on PPA states that the Tariff and other terms and conditions of the PPA shall be subject to the provisions of the Commission's regulations on power procurement from renewable sources, as and when such regulations are framed. Further the HPERC RE Regulations 2007 as per regulation 6(1) provides for project specific tariff determination for SHPs of 5 MW to 25 MW. The Commission, however, in order to provide reasonable cost to the developer and in discharge of its functions for determining project specific tariff has taken the cognizance of the force majeure events claimed by the petitioner and exercised a prudence check to allow only such time delays and cost escalations which have been actually occurred by the developer and were unavoidable.

4.3.5 The Commission for the verification of the force majeure events claimed, directed the developer to submit supporting documents for these events. Also the Commission directed the developer to submit schedule of planned vs actual schedule of activities during the construction period to analyze the impact of force majeure events on construction of the project.

4.3.6 Based on the supporting documents submitted by the developer, the Commission has prepared a PERT chart highlighting the time period of force majeure events mapped against schedule of planned and actual construction activities in the PERT chart. The following can be deduced from this PERT chart analysis -

(a) Out of the total construction period of approximately 84 months, the developer has claimed force majeure events in 51 months. As per the application of the developer during this time period for a duration of 6 months, more than one force majeure events had taken place simultaneously.

(b) While the developer has claimed force majeure events on several occasions, it can be observed that there is delay in award of contracts for execution of several works as against their respective planned schedule and does not match with the construction schedule claimed by the developer.


2006
2007
2008
2009
2010
2011
2012
2013
Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4 Q1 Q2 Q3 Q4
Force Majeure
Road Work
Tunnel Work
Weir & D-Tank
Surge shaft/Forebay
Penstock
Power house civil works
E&M Works
Transmission Works
Test & Commissioning
Start of construction
Planned Schedule
Contract awarded
Actual COD
Actual Schedule
Force Majeure event

4.3.7 The Commission finds it appropriate to be guided by the principles laid down by Hon'ble APTEL in its judgment in Appeal No. 72 of 2010 for prudence check to decide the responsibility for delay in execution of a generating project. In para 7.4 of the said judgement, Hon'ble APTEL has held that the delay in execution of a generating project could occur due to

(a) Factors entirely attributable to the generating company (thereafter referred to as "factor A"). Escalations due to time delays of such factors are not passed on to the tariff by the Commission.

(b) Factors beyond the control of generating company (thereafter referred to as "factor B"). Cost escalations due to time delays of such factors are entirely passed on to the tariff by the Commission.

(c) Situation not covered by (i) and (ii) above (thereafter referred to as "factor C"). Hon'ble APTEL has further opined Order in Petition No.54 of 2012. Escalations due to time delays of such factors are not partly passed on to the tariff by the Commission. In this case the Commission has allowed 50% of the time delay for such factors.

4.3.8 The Commission has taken note of the submissions made by the developer for time delays and considered events like road damage, rain and snow as factor C events and others as factor B events. The Commission has however, while taking a reasonable view, avoided classification of any event as factor A.

4.3.9 Based on the list of force majeure events submitted by the developer, the Commission has analyzed the events and classified them into the three factors discussed above as follows –

Year	Force Majeure	Time Loss claimed by petitioner(months)	Factor	Allowed time loss by Commission (months)	Remarks
2007	Road damage due to unprecedented rains	6	C	3	The developer has submitted an order by Magistrate to stop construction work in July 2007 due to heavy rains. Further, in its letter dated 30.12.2007 to HPSEB, the developer has claimed only 3 months of time delay.
2007	Disruption due to blockage by villagers	2	C	1	Several newspaper clippings indicate construction work was affected however developer has not submitted any proof for date of termination of force majeure event.
2008	Road	6	C	3	In its letter dated 21.12.2008 to

	damage due to unprecedented rain/snow				HPSEB, the developer has claimed only 3 months of repair time from Oct 2008 to Dec 2008. Based on experience of year 2007, the developer should have anyways planned to close construction work during rainy season from July 2008 to Sep 2008.
2009	Road damage due to unprecedented rain	4	C	2	In its letter dated 30.10.2009 to HPSEB, the developer has claimed only 1 month of repair time in Oct 2009. Based on experience of year 2007 and 2008, the developer should have anyways planned to close construction work during rainy season from July 2009 to Sep 2009.
2010	Damage to components due to cloud burst/flash flood	13	B	13	The developer has submitted work schedule for repair works and in its letter dated 30.12.2011 had asked HPSEB for time extension of upto 1 year from May 2011 to May 2012
2011 -12	Road damage due to unprecedented rain/snow	3	B	3	The developer in its letter dated 08.05.2012 had asked HPSEB for time extension of upto 3 months from May 2012 to Aug 2012. Documents for start and termination of event have been submitted.
2011 -12	Disruption of transmission line work by villagers	2	C	1	The developer in its letter dated 14.04.2012 has asked for loss of 39 labor days. Further proof for termination of force majeure event has not been submitted.
2012 -13	Intense Rain/Flash flood 2012	3	C	1.5	The developer has claimed delay from Sep 2012 to Dec 2012 on account of intense rain/flash flood. However the construction work should have finished till Aug 2012 as per the earlier submission of developer itself (after taking into account all earlier force majeure events)
2012 -13	Stoppage of joint line with dept. line work at Dehan Substaion	8	B	8	The developer has submitted details of court case on the issue of RoW for transmission line and delay in commissioning due to the same.
2012 -13	Legal notice and litigation by Pvt land owners in TXN	4	B	4	
	Total	**51**		**39.5**	

4.3.10 Therefore, as per the analysis of the Commission, time delay of upto 11.5 months can be attributed to the developer. The Commission after proper perusal of the supporting documents and the justifications provided by the petitioner in this regard dis-allows 1 year of time delay on account of force majeure events claimed by the developer.

4.4 Capital Cost of the Project

4.4.1 As per the DPR and TEC submitted by the Applicant, the capital cost of the project was identified as Rs. 61.74 Crore. As per the amended loan agreement with IDFC the project cost was identified as Rs. 123.80 crore. Further the applicant in its petition has estimated that the actual cost of the project after completion is Rs.147.71 crore.

4.4.2 The Commission has taken note of the variance between the individual heads of the cost incurred as per the DPR and the petition submitted cost and has detailed it in the subsequent sections.

4.4.3 The table below shows a comparison of the project cost as submitted in the DPR, as considered in amended loan agreement and as filed in the petition.

All values in Rs. crore

S. No.	Head of Works	As per DPR	As per amended loan agreement	As per petition
1.	Land	-	18.02	6.17
2.	Civil Works	29.91	54.53	69.02
3.	Transmission Line	1.13	3.98	8.04
4.	E&M Works	29.31	23.10	23.68
5.	Preoperative expenses	1.37	11.47	8.47
6.	Interest During Construction	-	12.12	30.06
7.	LADF	-	-	2.25
	Contingencies	-	0.60	
	Total	**61.74**	**123.82**	**147.71**

4.5 Land

4.5.1 The expenditure incurred towards acquiring of land as claimed in the petition and as envisaged in the project DPR has been shown in the table as follows:

All values in Rs. crore

S. No.	Head of Works	As per DPR	As per Petition	Remarks
1.	Government Land	0.05	0.02	Lease money to HP Treasury
2.	Transmission Land	-	3.64	Land agreements and TDS with private parties
3.	Private Land	0.09	0.29	Land agreements with private parties
4.	Forest Land	0.05	1.70	NPV of forest land
5.	Compensation for	-	0.10	

S. No.	Head of Works	As per DPR	As per Petition	Remarks
	tree cutting			
6.	Others	0.07	-	Solatium charges, Interest charges, Estb. Charges, legal charges
	Total	**0.27**	**5.74**	

4.5.2 The Commission for the verification of the expenses incurred towards purchase of land directed the applicant to furnish details of the amount of land acquired in the form of supporting land agreements or contracts. The Petitioner was further directed to quantify the expenditure incurred in acquiring this land for the project and provide relevant payment records and references for the same.

4.5.3 While in the petition the developer had claimed Rs. 6.17 crore as the cost of land, in its reply to discrepancy note received by the Commission on 27th April 2015, the developer has claimed the total cost of land as Rs. 5.74 crore.

4.5.4 The project DPR envisaged land requirement of 19.1 Hac. Out of this 19.10 Hac, 16.7 Hac land was to be acquired by Government and the remaining 2.4 Hac was to be acquired from private parties.

4.5.5 The Petitioner submitted that a total of 20.01 Hac of land was acquired for the project in addition to the land leased for the right of way for transmission line. Out of the 20.01 Hac, 18.67 Hac was Government land and the remaining 1.34 Hac was land acquired from private parties through mutual agreement.

4.5.6 The developer in its reply to discrepancies raised by the Commission clarified that the increase in land requirement was nominal and was necessitated as per site requirements. The Commission has taken a cognizance of this reply from developer and allowed the excess land acquired for the project.

4.5.7 The project DPR envisaged Rs. 0.33 Lakh per hectare as the cost of Government land and Rs. 4 Lakh per hectare as the cost of private land. However as per the petition made by the developer, the actual cost of land acquired was Rs. 9.12 Lakh per hectare for the government land and Rs. 21.75 lakh per hectare of the private land. The Commission inquired the Petitioner about this huge deviation in costs incurred for acquiring land for the project as according to the DPR and actual cost of acquisition.

4.5.8 The Petitioner in reply submitted that the cost of land approved in the DPR or the TEC was on the basis of that year's price level. The actual cost of acquiring land had increased substantially, the documents to which have been furnished as proofs.

4.5.9 From the supporting documents submitted by the developer the Commission has analysed that the Private Land was acquired in the years 2002 and 2003. The payment to HP State Forest Department for NPV of forest land was made in the year 2007 and the land for transmission line was acquired in the year 2012 and 2013. Therefore the Commission has deduced that the major cost escalation in the overall land cost is on account of delayed acquisition of land for transmission line from private parties.

4.5.10 The Commission has allowed the excess land acquired by the developer from Government and private parties along with the cost of these acquisitions to the extent of proofs of land agreements submitted by the developer.

4.5.11 The developer has claimed Rs. 3.64 crore as the cost of land for Transmission Line. However based on the analysis of the supporting documents, payments of Rs. 2.68 crore was verified from the payment references submitted by the developer. Further a cost of Rs. 2.95 crore was verified from the land agreements and TDS payments shared as supporting documents by the developer. The Commission believes that the minor difference of Rs. 27 Lakh between Rs. 2.68 crore and Rs. 2.95 crore could be due to cash payments and therefore has allowed Rs. 2.95 crore as the cost of land for transmission line, till the account of land agreements submitted.

4.5.12 Under Annexure 4 of its reply dated 27th April 2007 to a discrepancy note issued by the Commission the developer has submitted proofs of a payment made for payments made to the Forest Department towards compensation for cutting of trees. While the developer had claimed a total cost of Rs. 10.82 lakh as this cost of tree compensation in its petition, the proofs submitted add up to Rs. 16.97 Lakh as follows -

a. Payment proof of Rs. 11.04 Lakh to Divisional Forest Officer Palampur for penalty of muck debris and cost of left out trees green standing trees coming in alignment of Neogal SHP.
b. Payment proof of Rs. 28,541 to the H.P. State Forest Department with no explanation for the payment or any supporting document.
c. Payment proof of Rs. 5.64 Lakh to DFO Palampur towards cost of trees.

In order to clear this discrepancy the Commission had asked the developer to re-submit the receipts of payments made to the Forest Department for tree compensation its discrepancy note shared with developer via email on 19th August 2015. In its reply to this discrepancy note on 15th September 2015 the developer submitted in Annexure-E cash receipts totaling to Rs. 48,910. In view of this data discrepancy the

Commission has decided to allow cost of Rs. 48,910 and Rs. 5.64 Lakh as the cost of tree compensation. The cost of Rs. 11.04 Lakh is being disallowed as this cost is towards penalty on the developer and the cost of Rs. 28,541 is being disallowed due to absence of supporting documents.

4.5.13 The Commission after proper perusal of the supporting documents and the justification provided by the petitioner in this regard allows Rs. 5.01 crore of expenditure booked on this account. The Commission approves the total expenditure incurred towards acquisition of land as shown in the table below:-

All values in Rs. crore

S. No.	Head of Works	As per Petition	As per contract/ agreement	As per payment references	Allowed by Commission
1.	Government Land	0.02	0.02	0.02	0.02
2.	Transmission Land	3.64	2.95	2.68	2.95
3.	Private Land	0.29	0.27	0.27	0.27
4.	Forest Land	1.70	1.70	1.70	1.70
5.	Compensation for tree cutting	0.10	-	0.06	0.06
	Total	**5.74**	**4.95**	**4.67**	**5.01**

4.6 Civil Works

4.6.2 The expenditure incurred towards civil works as claimed in the petition and as envisaged in the project DPR has been shown in the table as follows:

All values in Rs. crore

Head of Works	As per DPR	As per Petition	Remarks
Civil Works	29.91	69.02	Civil and Hydro Mechanical works

4.6.3 The developer was directed to justify the reasons for high escalation in civil costs claimed in the petition from the cost envisaged in DPR.

4.6.4 In reply to this query, the developer claimed that the civil costs in DPR were based on 1998 cost levels while the construction began only in 2007 after receiving required clearances.

4.6.5 Since multiple supplementary agreements were signed between the developer and the Government extension in start of construction of the project, the Commission is of the view that the cost levels of 1998 as envisaged in the DPR for civil works needs to be revised for cost levels during the time of construction. Therefore the Commission decided to consider actual cost of civil works for tariff determination subject to availability of supporting contracts and payment references.

4.6.6 The Commission for the verification of the expenses incurred towards civil works directed the developer to furnish details of the contracts for civil works, bills raised by contractors and payment records against these bills.

4.6.7 The developer in its reply to various discrepancy notes submitted the supporting documents for the civil works and claimed final bills raised by contractors for Rs. 55.84 crore for various civil works as against claimed cost of Rs. 69.02 crores in the petition. Further the developer claimed that a payment of Rs. 47.10 crore was made excluding TDS and WCT. Further as per the documents submitted by the developer, a total amount of Rs. 0.53 crore was paid as TDS and Rs. 0.66 crore was paid as WCT for the said contractors.

4.6.8 The Commission analyzed the supporting documents to verify the payments made and claimed by the developer. Following information was deduced by the Commission from the supporting documents submitted by the developer –

a. The developer awarded the contract for civil works to ‘Pioneer Builders' on 20th June 2007 for Rs. 38.26 crore

b. ‘Pioneer Builders’ further awarded sub-contracts to ‘Raj Kumar Engineers’, ‘Jai Santoshi Mata’, ‘Ram Krishna Thakur’, ‘Sanjeev Kumar Anand’ and ‘MCC Power Projects’ for various civil works like Tunnel Excavation, D Chamber, Power House, Surgeshaft, Penstock etc. between 2007 and 2009.

c. However in May 2009, ‘Pioneer Builders’ expressed inability to execute contract due to operational constraints and therefore the developer had to assume the responsibility to make direct payments to sub-contractors for the civil works of the project. No penalty was levied on ‘Pioneer Builders’ for the termination of the project. The developer has submitted in its reply to discrepancy notes that M/s Pioneer Builders were demanding to be compensated for the financial losses suffered by them during the year 2007 and 2008 due to delay in execution of the works because of road blockage by the villagers. Therefore the developer decided that M/s Pioneer Builders will not be compensated for the losses suffered by them and that they will also be not liable for any penalty for breach of contract. While the Commission believes that the contractor should have been penalized by the developer for breach of contract, the Commission has taken a reasonable view on this issue and ignored this lapse by the developer owing to the difficult conditions during construction of the project.

d. Om Hydro awarded further contracts to 'Jai Santoshi Mata' and 'MCC Power Projects' for various civil works.

e. The total value of contracts awarded to various sub-contractors was Rs. 29.19 crore. Against these contracts, total bills of Rs. 25.57 crore were raised by various sub-contractors. Further against these bills raised, a total of Rs. 19.63 crore of payments could be verified from bank statements.

f. Apart from contracts with contractors/sub-contractors, the developer has claimed bills raised for other civil works amounting to Rs. 5.99 crore. The payments for these bills could not be verified against bank statements of the developer.

g. The developer has also claimed Rs. 17.96 crore as cost of steel, cement and establishment materials. The payments for these bills could not be verified against bank statements of the developer.

h. Total TDS for various contractors/sub-contractors was Rs. 0.53 crore against bills raised by various sub-contractors as follows –

Contractor/Sub-Contractor	TDS Amount (Rs. Lakh)
MCC Power Projects	30.13
Ram Krishna Thakur	3.85
Raj Kumar Engineers	3.96
Jai Santoshi Mata	14.83
Total TDS	**52.78**

i. Total WCT for various contractors/sub-contractors was Rs. 0.66 crore as follows –

Contractor/Sub-Contractor	WCT Amount (Rs. Lakh)
MCC Power Projects	34.28
Ram Krishna Thakur	5.26
Raj Kumar Engineers	4.73
Jai Santoshi Mata	21.88
Total TDS	**66.16**

j. On 17thSeptember 2009 the developer signed a contract for a total of Rs. 1.91 crore with 'Jai Santoshi Mata Construction' for Civil works for D Chamber, Intake structure and protection wall. A contract was signed with 'MCC Power Projects' as well on 1st April 2010 for the same civil work for a total of Rs. 2.08 crore. On asking for justification in a discrepancy note, the developer replied that the project was awarded to 'MCC Power Projects' due to slow progress of work by 'Jai Santoshi Mata'. The cost for both these contracts has been claimed by the developer under the capital cost of the project without any provision for penalty on contractor/sub-contractor for delay in the execution of the project. While the Commission believes that only one of these costs should be considered in the capital cost of the project, the Commission has taken a reasonable view on the issue and allowed both these costs claimed by the developer owing to the difficult conditions during construction of the project.

k. The developer amended the contract with 'Ram Krishan Thakur' for Powerhouse, ODY, Control Room, Site Office, Buildings, Penstock in Powerhouse area & Protection wall, signed originally on February 18 2009 for Rs. 1.62 crore to a cost of Rs. 1.72 crore on May 19 2009. The reason given by developer for this amendment is to allow for better co-ordination of works. While the Commission believes that the contracts cost should not be revised and passed on to the consumers because of inadequate planning by the developer, the Commission has taken a reasonable view on the issue and allowed the amended costs claimed by the developer owing to the difficult conditions during construction of the project.

4.6.9 Further the Commission asked the developer to submit the details of selection procedure of the contractor for civil works. Based on the supporting documents submitted by the developer, the Commission has deduced that usual process of competitive method was not followed for awarding the contracts for civil works. Also prima face it appears that 'Pioneer Builders' and Om Hydro Power belong to the same group company, creating conflict of material interest between the parties. While the Commission believes that major contracts should be awarded based on competitive bidding to generate greater efficiency in costs, the Commission has taken a reasonable view on this issue and allowed the contracts awarded in the case of Neogal SHP owing to the difficult conditions during construction of the project.

4.6.10 The Commission after proper perusal of the supporting documents and the justifications provided by the petitioner in this regard allows Rs. 44.78 crore of expenditure booked on this account. The Commission approves the total expenditure incurred towards civil works as shown in the table:

All values in Rs. crore

Contractor	Work	Payment Claimed by developer	Bill amount verified	As per payment references	Allowed by Commission
Major Civil Works					
Raj Kumar	Tunnel Excavation Adit 4	1.54	2.07	0.69	0.69
Jai Santoshi Mata	Tunnel Excavation Adit 1, D Chamber, Wier, Sluice gate, Protection wall	5.30	9.83	4.78	4.78
Ram Krishna Thakur	Power house, ODY, Control room, site office, building, penstock & Protection wall	2.15	2.63	1.65	1.65
MCC Power Projects	Surgeshaft, Excavation and lining of Tunnel (Adit 2,3), Penstock,Hydro mechanical gates, D Chamber, Power House, ODY, Protection wall	13.52	10.54	12.32	12.32
Sanjeev Kumar Anand	Excavation and concreting of Penstock Pedals anchor blocks	0.11	0.14	0.11	0.11
Bekem Infra	Purchase of hoist gates	0.29	0.34	0.05	0.05
Sub Total					**19.63**
Other Civil Works					
Jai Santoshi Mata	Labor supply, power house, Misc works	**0.01**	**-**	**-**	**0.01**
Chaina Ram, Sant Ram, I&PH Department, Jindal, Fabricators, H.N. Explosive, Techno Industries	Borewell, Site development, Machinary Hired, Machinary Maint, Loading and Unloading charges, testing, diesel,explosives etc.	4.68	-	-	4.68
Om Hydro	Labour	1.01	-	-	1.01
Local contractors	Protection walls, HRT supervision & material	0.15	-	-	0.15
Munish Tyagi, B.K. Industries, Schdeva enterprises, Maa Durga welding etc.	Ceiling door and window aluminium work painting etc.	0.07	-	-	0.07
Local Contractors	Penstock Supervision & Material	0.07	-	-	0.07
Sub Total					**5.99**
Material Cost					
Cement		7.51	-	-	7.51
Steel		8.48	-	-	8.48
Establishment		1.96	-	-	1.96
Sub Total					**17.96**
TDS		-	-	**0.53**	**0.53**
WCT		-	-	**0.66**	**0.66**
Grand Total		**47.10**			**44.78**

4.7 Equipment and Machinery

4.7.1 The Petitioner submitted that the contract for supply of Equipment and Machinery for the project was awarded to Boving Fouress.

4.7.2 The Commission had asked the Petitioner to submit supporting documents for the process followed for selection of the contractor. Based on the reply submitted by the developer the Commission has deduced that a due process of competitive bidding was followed for award the E&M contract as follows –

a. Bid Invitation published in newspapers on 08 July 2008
b. Bid documents kept on sale from 10 July 2008 to 28 July 2008
c. 6 bidders purchased bid documents
d. 5 bids were received till deadline of 26 Aug 2008
e. Only one bid (by Boving Fouress Ltd.) was responsive i.e. met all technical and commercial parameters.
f. Puissance De L'eau Power Systems and Flovel Mecamidi Energy deleted certain items from their scope. Also Boom Systems quoted price without taxes. Adjustments were made in these 3 quotes to make them comparable with others.
g. Boving Fouress emerged as Lowest Responsive Bidder.

4.7.3 The project DPR had envisaged a cost of Rs. 29.31 crore for E&M works. The developer has claimed Rs. 23.68 crore as the E&M cost in its petition.

4.7.4 The Commission for the verification of the expenses incurred towards E&M works directed the applicant to furnish details of the contracts, bills raised by contractors and payment records against these bills.

4.7.5 The developer replied to this discrepancy note on 31st July wherein it mentioned the total E&M cost as Rs. 24.54 crore. A Cost of Rs. 86.49 Lakh was added by the developer to the earlier E&M cost of Rs. 23.68 crore claimed in the petition.

4.7.6 Based on the analysis of the supporting documents submitted by the developer, a total of payment of Rs. 23.70 crore could be verified from the bank statements of the developer on account

4.7.7 Further the developer has claimed that a cost of Rs. 86.49 lakh has been spent on establishment cost. No payment record has been submitted by the developer for these costs. The Commission believes such costs consist of several petty expenses and are generally paid in cash. Therefore the commission has decided to allow this establishment cost of Rs. 86.49 lakh to be considered under capital cost of the project.

4.7.8 The Commission after proper perusal of the supporting documents and the justification provided by the petitioner in this regard allows this cost of Rs. 24.55 crore of expenditure booked on this account.

All values in Rs. crore

<table>
<tr><th>S. No.</th><th>Head of Works</th><th>As per Petition</th><th>As per contract/ agreement</th><th>As per payment references</th><th>Allowed by Commission</th></tr>
<tr><td>1.</td><td>E&M</td><td rowspan="2">23.68</td><td>22.69</td><td>22.69</td><td>22.69</td></tr>
<tr><td>2.</td><td>Entry Tax</td><td>0.99</td><td>0.99</td><td>0.99</td></tr>
<tr><td>3.</td><td>Establishment cost</td><td>0.86</td><td>0.86</td><td>-</td><td>0.86</td></tr>
<tr><td></td><td>Total</td><td>24.55</td><td>24.55</td><td></td><td>24.55</td></tr>
</table>

4.8 Transmission Line Cost

4.8.1 The expenditure incurred towards transmission line works as claimed in the petition and as envisaged in the project DPR has been shown in the table as follows:

All values in Rs. crore

Head of Works	As per DPR	As per Petition	Remarks
Transmission Line	1.13	8.04	Land lease for right of way and erection cost of transmission line

4.8.2 The Commission for the verification of the expenses incurred towards transmission line directed the developer to furnish details of the contracts, bills raised by contractors and payment records against these bills.

4.8.3 In its reply dated 18th September 2015 to the discrepancy note issued by the Commission the developer has claimed a cost of Rs. 7.54 crore for Transmission Line and an Establishment Cost of Rs. 0.27 crore, as against cost of Rs. 8.04 crore claimed in the petition.

4.8.4 Further based on the analysis of the bills/agreements submitted by the developer on account of transmission line, the total amount of this bills/agreements add up to Rs. 8.18 crore as against amount of Rs. 8.04 crore claimed in the petition.

4.8.5 The following information was deduced by the Commission from the documents submitted by the developer –

a. The contract for erection of transmission line was given to 'Devarya Engineering'. The developer has claimed payments of Rs. 2.98 crore to 'Devarya Engineering' for materials like pole structures, towers, conductors etc. However payment of only Rs. 2.55 crore could be verified from the bank statement of the developer. The Commission has decided to allow payments verified against bank statements to be considered into capital cost of the project.

b. The developer has claimed payments of Rs. 0.86 crore to HPSEB for cost of land at Dehan substation, Departmental charges, inspection charges, supervision charges, power evacuation arrangements and testing of outdoor equipment. These payments could be verified against bank statements of the developer and therefore are allowed by the Commission to be considered into capital cost of the project.

c. The developer has claimed payments of Rs. 2.42 Lakh to Northern Railways by HPSEB for cost of overhead electrical crossing and way leave charges. These payments could be verified against bank statements of the developer and therefore are allowed by the Commission to be considered into capital cost of the project.

d. The developer has claimed payments of Rs. 1.36 crore to Devarya Engineering for cost of erection of transmission line and substation. Out of this payments of Rs. 0.71 crore could be verified against bank statements of the developer and therefore the Commission allows Rs. 0.71 crore to be considered into capital cost of the project.

e. The developer has claimed payments of Rs. 1.95 crore to HPSEB for Cost sharing for augmentation of 132/33 kV Dehan Substation. However payments for this cost could not be verified against the bank statements of the developer and therefore the Commission has decided not to allow this cost to be considered into capital cost of the project.

f. The developer has claimed payments of Rs. 0.62 crore for land lease rent to private parties 'Shamsher Singh', 'Ravinder Kumar', 'Daldeep Singh' and 'Jagdish Ram Sood'. Out of this payments of Rs. 0.26 crore could be verified against bank statements of the developer and therefore the Commission allows Rs. 0.26 crore to be considered into capital cost of the project.

g. The developer has claimed payments of Rs. 0.37 crore to Siemens, Netcom Associates and Interface Devices & Services for procurement of Electrical Equipment like insulators, cables, transformer, control panels etc. Out of this payments of Rs. 4.72 Lakh could be verified against bank statements of the developer and therefore the Commission allows Rs. 0.05 crore to be considered into capital cost of the project.

4.8.6 The Commission after proper perusal of the supporting documents and the justifications provided by the petitioner in this regard allows Rs. 4.46 crore of expenditure booked on this account. The Commission approves the total expenditure incurred towards Transmission Line as shown in the table:

All values in Rs. crore

S. No.	Head of Works	As per Petition	As per contract/ agreement	As per payment references	Allowed by Commission
1.	Material	2.55	2.98	2.55	2.55
2a	Payment to HPSEB	0.86	0.86	0.86	0.86
2b	Payment to Railways	0.02	0.02	0.02	0.02
2c	Payment to Devarya	1.36	1.36	0.71	0.71
2.	Sub Total - Transmission Line	2.24	2.24	1.59	1.59
3.	Network Augmentation	1.95	1.95	-	-
4.	Land lease rent	0.41	0.42	0.26	0.26
5.	Electrical Equipment	0.37	0.37	0.05	0.05
	Total	**7.54**	**8.18**	**4.46**	**4.46**

4.9 Preliminary Cost

4.9.1 The expenditure incurred towards preliminary cost as claimed in the petition and as envisaged in the project DPR has been shown in the table as follows:

All values in Rs. crore

Head of Works	As per DPR	As per Petition	Remarks
Preliminary cost	1.37	8.47	For expenses related to consultancy charges, travelling expense, survey & investigation etc.

4.9.2 The Commission for the verification of these expenses directed the developer to furnish details of the contracts, bills raised by contractors and payment records against these bills.

4.9.3 In its reply dated 18th September 2015 to the discrepancy note issued by the Commission the developer has claimed a cost of Rs. 10.06 crore for preliminary expenses, as against cost of Rs. 8.47 crore claimed in the petition.

4.9.4 The majority of the expenses under this head were of small size and paid in cash by the developer. The Commission therefore for the verification of the expenses incurred towards preliminary expenses directed the developer to furnish details of the contracts, bills raised by contractors and payment records against these bills or major expenses under Consultancy Charges, Travelling expenses and Survey Charges.

4.9.5 Based on the supporting documents submitted by the developer for consultancy charges, the Commission analyzed that against a claimed cost of Rs. 114.35 Lakh, the developer submitted bills/contracts of Rs. 63.70 Lakh. The Commission therefore allows Rs. 63.70 Lakh of consultancy charges under preliminary expenses to be considered under capital cost of the project.

4.9.6 Based on the supporting documents submitted by the developer for survey and investigation charges by HPSEB, the Commission analyzed that against the claimed cost of Rs. 483.51 Lakh, the developer is yet to make these payments to HPSEB and the matter of this payment is still under discussion between HPSEB and the developer. The Commission for the purpose of project specific tariff determination is guided by the methodology to consider only actual capital expenditure till the time of project commissioning and therefore does not allow this cost under preliminary expenses to be considered under capital cost of the project. Further in the interest of HPSEBL itself and in the interest of consumers, the Commission directs to HPSEBL to not to recover this cost of Rs. 483.51 Lakh from the developer as in such a scenario, wherein this cost is paid by the developer to HPSEBL, this cost would have to be paid back by HPSEBL to the developer in the form of increased tariff.

4.9.7 Based on the supporting documents submitted by the developer for travelling charges, the Commission analyzed that most of the payments were made in cash and the bills for all such payments were not available with the developer. The developer submitted ledger entries instead of bills as supporting document for these expenses. While the Commission believes that all major expenses should be made against bills, the Commission has allowed the travelling expenses in the case of Neogal SHP owing to the difficult terrain and approach roads to site while construction of the project. The Commission therefore allows Rs. 84.59 Lakh of Travelling charges under preliminary expenses to be considered under capital cost of the project.

4.9.8 The Commission allows Rs. 324.30 lakh of other expenses under Preliminary Cost owing to their small ticket size.

4.9.9 The Commission after proper perusal of the supporting documents and the justifications provided by the petitioner in this regard allows Rs. 4.72 crore of expenditure booked on this account. The Commission approves the total expenditure incurred towards Preliminary Expense as shown in the table:

All values in Rs. crore

S. No.	Head of Works	As per Petition	As per contract/ agreement	Allowed by Commission
1.	Consultancy Charges	1.14	0.63	0.63
2.	Travelling Expense	0.84	0.84	0.84
3.	Survey & Investigation	4.83	-	-
4.	Others	3.24	-	3.24
	Total	10.06		4.72

4.10 Interest During Construction on Term Loan

4.10.1 The Petitioner has claimed Rs. 30.06 Crore as the interest during construction. The petitioner had calculated the interest during construction (IDC) on the total loan amount borrowed and with commissioning date of 6th May 2013.

4.10.2 It is pertinent to mention here that the IDC is calculated on the normative amount of loan during the construction period based on the project cost approved by the Commission.

4.10.3 The developer has claimed a debt to equity ratio of 72.10:27.90 in its petition, however, since the Capital cost claimed by the Petitioner has undergone considerable change, the Commission has considered a debt to equity ratio of 70:30 on normative basis in line with the HPERC SHP Tariff Order 2007 in order to ensure that the capital cost disallowed by the Commission in its prudence analysis is deducted from both the equity and debt component of the project cost.

4.10.4 Based on the normative debt to Equity ratio of 70:30, the total loan amount during the construction period considering the approved capital cost, comes out to be Rs. 71.77 crore.

4.10.5 The methodology followed by the Commission for calculation of IDC during the Construction period has been detailed below:

- The original loan agreement extended Rs. 62 crore as loan amount to the developer at an interest rate of 11.31% p.a.

- Initially, as per the amended loan agreement, the loan of Rs. 62 crore was borrowed for meeting the debt requirement of the project, the disbursements pertaining to this loan has been termed as 'Initial Loan'. This loan amount has attracted the original interest rate of 11.31% p.a. as per the original loan agreement.

- The Petitioner in addition to above borrowed an additional loan amounting to Rs. 22.98 crore. which was termed as "Additional loan" as per the amended loan agreement, the first installment of which was disbursed on June 20th, 2011. The Commission for the purpose of calculation of IDC has considered an amount limited to Rs. 9.77 crore. of this loan equivalent to the remaining amount of normative loan after subtracting the initial loan amount of Rs. 62.00 crore from the normative loan requirement of Rs. 71.77 crore. The rate of interest for this loan amount is taken as Benchmark Rate prevailing on the date of disbursement of each installment in line with that specified in the amended loan agreement.

- Actual loan disbursement schedule has been used for the calculation of the IDC subject to the maximum limit of Rs. 71.77 crore of loan amount.

- The weighted average interest rate of 'Initial Loan' and 'Additional Loan' comes out to be 11.71%, as follows –

Date of Disbursement	Initial Loan	Interest Rate	Additional Loan	Interest Rate
10/06/2008	100,000,000	11.31%	-	12.25%
07/05/2009	100,000,000	11.31%	-	12.25%
29/09/2009	150,000,000	11.31%	-	11.75%
23/02/2010	200,000,000	11.31%	-	11.75%
14/01/2011	46,350,000	11.31%	-	12.75%
20/06/2011	23,650,000	11.31%	66,350,000	14.00%
16/03/2012	-	11.31%	31,368,517	14.75%
Weighted Average Interest Rate			11.71%	

The normative interest on debt allowed in the HPERC SHP Tariff Order was 11.50%. The Commission, therefore, observes that the actual interest rate as calculated by the Commission is in line with the normative figures considered in HPERC SHP Tariff Order.

- As discussed in the previous sections, a time delay of 12 months has been disallowed by the Commission. Therefore the calculation of IDC has been allowed till 6th May 2012 instead of actual COD of 6th May 2013.

- The actual no of days accrued from the date of draw-down of loan installment till the assumed COD of the project i.e. 6th May 2012, has been considered.

- Correspondingly, depending upon the number of days the simple interest has been calculated on the loan amount drawn.

4.10.6 The total IDC as per the methodology explained above therefore works out Rs. 19.01 Crore.

4.10.7 The table below shows the calculation of IDC accrued corresponding to capital cost and assumptions determined by the developer:-

Date of Disbursement	Disbursed Amount (Rs.)	Disbursed cumulative	Initial Loan	Additional Loan	Allowed	Cumulative Allowed	Date till IDC to be considered	No. of Days	Initial Interest Rate	Additional Interest Rate	Interest Amount (Rs.)
10/06/2008	100,000,000	100,000,000	100,000,000	-	100,000,000	100,000,000	06/05/2012	1426	11.31%	-	44,186,466
07/05/2009	100,000,000	200,000,000	100,000,000	-	100,000,000	200,000,000	06/05/2012	1095	11.31%	-	33,930,000
29/09/2009	150,000,000	350,000,000	150,000,000	-	150,000,000	350,000,000	06/05/2012	950	11.31%	-	44,155,479
23/02/2010	200,000,000	550,000,000	200,000,000	-	200,000,000	550,000,000	06/05/2012	803	11.31%	-	49,764,000
14/01/2011	46,350,000	596,350,000	46,350,000	-	46,350,000	596,350,000	06/05/2012	478	11.31%	-	6,865,108
20/06/2011	90,000,000	686,350,000	23,650,000	66,350,000	90,000,000	686,350,000	06/05/2012	321	11.31%	14.00%	10,521,602
16/03/2012	100,000,000	786,350,000	-	31,368,517	31,368,517	717,718,517	06/05/2012	51	11.31%	14.75%	646,492
14/09/2012	20,000,000	806,350,000	-	-	-	-	-	-	-	-	-
		Total	**620,000,000**	**97,718,517**							**190,069,147**

4.11 Gross capital expenditure on the project to be considered for capital cost

4.11.1 Adding up the approved costs under heads of Land, Civil, Transmission Line, Equipment and Machinery, Preliminary, IDC and LADF we get the overall gross capital expenditure of the Neogal SHP.

4.11.2 The total gross capital expenditure of the project, therefore, works out as indicated in the table below:

All values in Rs. crore

S. No.	Head of Works	As per DPR	As per petition	As per analysis of Commission
1.	Land	-	6.17	5.01
2.	Civil Works	29.91	69.02	44.78
3.	Transmission Line	1.13	8.04	4.46
4.	E&M Works	29.31	23.68	24.55
5.	Preoperative expenses	1.37	8.47	4.73
6.	Interest During Construction	-	30.06	19.01
	Total	**61.74**	**147.71**	**102.53**

4.12 Adjustment in capital cost for time dis-allowance

4.12.1 Based on its understanding of the various time delays in the project as discussed under section 4.3 of this order, the Commission believes that the developer could have avoided certain costs or could have completed certain works at a lower cost or could have procured certain equipment/materials at a lower cost, by executing those works or procuring those equipment/material earlier than their actual execution or procurement. Due to absence of detailed data to identify such activities, which could have been executed by the developer at an earlier date, and due to the complications involved in performing such a detailed analysis, the Commission has adjusted such costs using WPI index by adopting the following methodology to account for the increase in project cost due to time delays -

a. The Commission identified broad cost heads which could not have been executed at an earlier date or the cost of which would not have been impacted due to time delays. These cost heads include –

    i. E&M: the contract for E&M was awarded in 2008 well before the scheduled commissioning of the project in April 2010 (42 months after signing of PPA as mentioned in 4th Supplementary Agreement). Also the cost of E&M contract was lower than the cost estimated in the TEC/DPR. Therefore the Commission has not adjusted this cost as per WPI index.

ii. IDC: the IDC is allowed till the date of 6th May 2012 instead of actual COD of 6th May 2013 to take into account time delay disallowance of 1 year by the Commission. Therefore the Commission has not adjusted this cost as per WPI index.

iii. Preliminary expenses: Bank Charges, Rates & Taxes, Transportation expenses and Consultancy charges form significant part of the preliminary expenses. The Commission believes that these costs could not have been avoided by implementing the project on an earlier date and therefore the Commission has not adjusted this cost as per WPI index.

b. After deducting the cost heads discussed above, the Commission has assumed that at least 50% of the remaining costs could have been reduced or avoided by implementing those activities at an earlier date. Such costs include –

i. Land: majority of the land cost is on account of acquisition of land for Transmission Line which was acquired in 2012 and 2013, even though the scheduled COD date was in April 2010 (42 months after signing of PPA as mentioned in 4th Supplementary Agreement). The Commission believes that even though there were force majeure events during the construction of the project, the developer could have acquired these lands at an earlier date at a lower cost.

ii. Civil Work: the developer has claimed in its petition that the cost of several civil works was increased due to re-work on account of damages due to force majeure events. Also contracts for certain civil works were re-awarded as the work performed by previous contractors was delayed or of lower quality. Such contracts which were re-awarded include –

1. Civil works for D Chamber, Intake structure and protection wall – awarded to "Jai Santoshi Mata Constructions" earlier on 17th September 2009 and later to "MCC Power Projects" on 1st April 2010.

2. Excavation and concreting of Penstock Pedals anchor blocks - awarded to "Sanjeev Kumar Anand" earlier on 19th May 2009 and later to "MCC Power Projects" on 18th November 2009.

The Commission believes such civil works could have been planned in a better way by the developer to avoid certain costs.

iii. Transmission Line: the civil works for erection of Transmission lines was done in the years 2011, 2012 and 2013 even though the scheduled COD date was in April 2010 (42 months after signing of PPA as mentioned in 4th Supplementary Agreement). The Commission believes these costs could have been reduced by implementing the project at an earlier date.

c. To account for the cost escalation of such activities, the Commission has adjusted 50% of their cost as per the WPI index for the period of time delay disallowance of 1 year from May 2013 to May 2012. The WPI index for the year 2012 was 164.92 while for the year 2013 was 175.35.

4.12.2 The following table depicts the total project cost as per the analysis of the Commission under which the project could have been completed if the developer had avoided time delay of 1 year during the construction the project.

All values in Rs. crore

S. No.	Head of Works	Cost as per analysis of Commission	To be considered for WPI indexation	Cost after WPI indexation
1.	Land	5.01	Yes	4.86
2.	Civil Works	44.78	Yes	43.45
3.	Transmission Line	4.46	Yes	4.33
4.	E&M Works	24.55	No	24.55
5.	Preoperative expenses	4.73	No	4.73
6.	Interest During Construction	19.01	No	19.01
	Total	**101.67**		**100.92**

4.13 Interest from idle cash

4.13.1 The Commission directed the Petitioner to furnish details of any interest earned on idle cash in the bank account or interest earned from investments during the construction period.

4.13.2 The Petitioner submitted that an interest amount of Rs. 0.77 crore. was earned by the Petitioner on idle cash.

4.13.3 The Commission has accordingly deducted this amount of Rs. 0.77 crore from the capital cost of the project.

4.14 Insurance Claim

4.14.1 The Commission directed the developer to furnish details of any amount received from Insurance Companies against damage to the property of project during force majeure events.

4.14.2 The developer had made an insurance claim of Rs. 3.54 crore from New India Assurance Company on 22nd January 2011, against cost of damages and repairs on account of cloud burst and consequential floods in 2010. The developer in its claim had mentioned the following costs of repairs and damages –

Works	Cost (Rs.)
Civil works including compound wall and temporary constructions	1,96,21,930
Tunnelling related works	30,02,781
Removal of debris	86,99,760
Third party liability	41,23,700
Total	**3,54,48,171**

4.14.3 The developer further submitted firm bills of Rs. 2.95 crore to the New India Assurance Company on 29th June 2011.

4.14.4 The Insurance Company paid the developer Rs. 1.42 crore against this claim on 1st March 2012. The developer has submitted a claim settlement intimation voucher as the supporting document for this payment.

4.14.5 The Commission for the purpose of project specific tariff determination is guided by the methodology to consider actual capital expenditure made into the project. Therefore the Commission has considered insurance payment as a reimbursement of expenditure incurred on various civil works which are otherwise allowed by the Commission as capital expenditure.

4.14.6 The Commission has accordingly deducted this amount of Rs. 1.42 crore from the capital cost of the project.

4.15 Net Capital Expenditure of the project

4.15.1 The Net Capital Expenditure of the project, after deducting Insurance Claims and Interest on Idle Cash from the gross capital expenditure, works out as indicated in the table below:

All values in Rs. crore

S. No.	Head of Works	As per analysis of Commission (Rs. Crore)
1.	Gross Capital Cost	100.92
2.	Less: Interest from Idle Cash	0.77
3.	Less: Insurance Claims	1.42
	Net Capital Cost	**98.73**

4.16 Local Area Development Fund (LADF)

4.16.1 The GoHP hydro power policy for plants exceeding the capacity of 5MW mandates developer of a Small Hydro Power Plant in the State to deposit an amount equal to 1.5% of the project cost incurred, towards Local Area Development Fund for development of the project affected area.

4.16.2 The developer has submitted that as per the GoHP hydro power policy the LADF amount works out to be Rs. 2.25 Crore and the same amount has been considered as a capital cost head by the developer in its petition. The Commission has asked the developer to furnish the details of actual LADF payments made along with their supporting payment references. In its reply to the discrepancy note the developer has submitted two payment receipts of Rs. 15.5 Lakh on 30.12.2011 and Rs. 5 lakh on 30.10.2014 as against LADF. The developer has submitted that the remaining amount would be deposited against LADF eventually in future installments.

4.16.3 The Commission in accordance with the GoHP policy on Hydro Power projects and in line with the GoHP's policy to promote hydropower development allows LADF of Rs.1.50 crore which is 1.5% of the Approved Total Capital Cost. The Commission expects the developer to make this payment of Rs. 1.50 crore towards LADF in due time. The table shown below depicts the approved expenditure incurred towards LADF:

S. No.	Head of Works	As per Petition (Rs. Cr.)	Approved (Rs. Cr.)
1	LADF	2.25	1.50

4.16.4 The Total Capital cost therefore works out to be Rs. 100.23 crore as follows:

S. No.	Head of Works	As per analysis of Commission (Rs. Crore)
1.	Net Capital Expenditure	98.73

S. No.	Head of Works	As per analysis of Commission (Rs. Crore)
2.	Add: LADF	1.50
	Total Capital Cost	**100.23**

4.17 Capital Cost

4.17.1 The Commission observes that the Total Capital Cost of Rs. 100.23 crore works out to be Rs. 6.68 crore per MW for the 15 MW Neogal SHP. The HPERC SHP Tariff Order 2007 had assumed a normative capital cost of Rs. 6.5 crore per MW for the calculation of generic tariff for SHPs of upto 5 MW. The Commission believes that while the capital cost of projects greater than 5 MW should have lower capital costs than SHPs of less than 5 MW owing to efficiencies of scale, the capital cost of Rs. 6.68 crore per MW calculated by the Commission is reasonable and specific to the Neogal SHP.

4.17.2 The Commission has accordingly computed the tariff for Neogal SHP based on a total capital cost of Rs. 100.23 crore in the subsequent chapter to be applicable after the commissioning of the project.

Chapter 5

Determination of Tariff

5.1 Period for determination of tariff

5.1.1 The applicant has prayed for determination of project specific levelised tariff for sale of power from Neogal SHP for a period of 40 years. The Commission therefore has determined a project specific levelised tariff for a period of 40 years for the useful life of the project from the date of actual commencement of generation. However this shall not in any way entitle the developer to own, operate and maintain the project beyond the period for which the authorization is given by GoHP to the developer as per the provisions of Implementation Agreement, including clause 30 of Supplementary Implementation Agreement dated 30th May, 2007.

5.2 Design energy and net saleable energy

5.2.1 As per the petition, Design Energy of the project at 75% dependable year as provided in DPR is 81.35 MU. The Petitioner has claimed 71.86 MU of gross generation at 75% dependable year after considering water releases at the rate of 15% of the dependable flows for respective periods which has been stated to have been done as per GoHP policy. As per the Notification No. PC-F(2)-1/2005 issued by Government of Himachal Pradesh on 9th September 2005, the quantum of minimum flow of water to be released and maintained should be threshold value of not less than 15% of the minimum inflow observed in the lean season and not of the dependable flows during the respective periods. Accordingly the Commission reworked the calculations of gross generation considering 15% mandatory water release as follows –

S.No.	Period	10 Dly	Inflow (I)	Mandatory release for river (15%) (M)	Flow available for Power Generation (I-M)	Power (limited to 15 MW)	Energy
			Cumec	Cumec	Cumec	MW	MU
1	Jun	1	2.76	0.12	2.64	8.78	2.11
2		2	2.79	0.12	2.67	8.88	2.13
3		3	3.42	0.12	3.30	10.97	2.63
4	Jul	1	4.3	0.12	4.18	13.90	3.34
5		2	7.12	0.12	7.00	15.00	3.60
6		3	8.25	0.12	8.13	15.00	3.96
7	Aug	1	10.07	0.12	9.95	15.00	3.60
8		2	7.16	0.12	7.04	15.00	3.60
9		3	5.53	0.12	5.41	15.00	3.96

10	Sept	1	3.61	0.12	3.49	11.61	2.79
11		2	3.12	0.12	3.00	9.98	2.39
12		3	13.03	0.12	12.91	15.00	3.60
13	Oct	1	4.43	0.12	4.31	14.33	3.44
14		2	2.77	0.12	2.65	8.81	2.12
15		3	1.97	0.12	1.85	6.16	1.63
16	Nov	1	1.34	0.12	1.22	4.06	0.98
17		2	1.05	0.12	0.93	3.10	0.74
18		3	1.01	0.12	0.89	2.97	0.71
19	Dec	1	0.87	0.12	0.75	2.50	0.60
20		2	0.78	0.12	0.66	2.20	0.53
21		3	0.96	0.12	0.84	2.80	0.74
22	Jan	1	1.18	0.12	1.06	3.53	0.85
23		2	1.16	0.12	1.04	3.47	0.83
24		3	1.31	0.12	1.19	3.96	1.05
25	Feb	1	1.54	0.12	1.42	4.73	1.13
26		2	1.72	0.12	1.60	5.33	1.28
27		3	1.65	0.12	1.53	5.09	0.98
28	Mar	1	2.25	0.12	2.13	7.09	1.70
29		2	2.32	0.12	2.20	7.32	1.76
30		3	2.56	0.12	2.44	8.12	2.14
31	Apr	1	2.99	0.12	2.87	9.55	2.29
32		2	3.11	0.12	2.99	9.94	2.39
33		3	3.14	0.12	3.02	10.04	2.41
34	May	1	4.20	0.12	4.08	13.57	3.26
35		2	3.86	0.12	3.74	12.44	2.98
36		3	3.59	0.12	3.47	11.54	3.05
							77.28

5.2.2 The Commission for the calculation of tariff has considered 77.28 MU as gross generation.

5.2.3 Auxiliary consumption and Transformation Loss of 1.00% and Transmission losses of 0.7% have been claimed by the developer in its petition. The Commission has also considered the same which are in line with the normative assumptions of HPERC SHP Tariff Order 2007.

5.2.4 The developer in its petition has claimed 16% of free power for the first 12 years and 21% for the balance period as per Clause 6 of the 4th Supplementary Agreement. The Commission observes that the rates of royalty claimed by the developer in the petition include the enhanced rates applicable in case of failure of the developer to commission the project within the stipulated period as per the provisions of clause 6.3 of the 4th Supplementary Agreement. The relevant provisions of National Hydro Policy and Tariff Policy specify that the maximum royalty to be considered for determination of tariff shall be limited to 13% in any year including 1% for LADF. The Commission declines to accept any claim beyond the aforesaid limits particularly when the enhancement is on account of failure on the part of the developer to commission the project within stipulated timelines. The Commission has accordingly calculated the tariff assuming 12% royalty excluding 1% additional free power for LADF. Further the Commission has also calculated the tariff using 13% royalty including 1% additional free power for LADF, however this tariff would be applicable only for the time periods where the additional free power for LADF is actually provided by the developer.

5.2.5 The net saleable design energy from the station at the interconnection point, in accordance with the PPA for a tariff year after providing free power to GoHP has been shown in the table below:

	Rate	Unit	Generation units
Gross Generation	-	MU	77.28
Auxiliary & Transformation Loss	1.00%	MU	0.77
Transmission Losses	0.70%	MU	0.54
Royalty	12.00%	MU	9.12
Net Saleable		MU	66.86

The net saleable energy has been considered as per the above computation instead of the same claimed by the Petitioner.

5.3 Subsidy by MNRE/State Government

5.3.1 The Commission directed the Petitioner to furnish details of any kind of subsidy availed by the Petitioner.

5.3.2 The Petitioner submitted that a subsidy amount of Rs. 6.20 crore is to be considered as per the MNRE policy for the State of Himachal Pradesh. Accordingly, this subsidy amount will have to be accounted on project specific basis.

5.3.3 As the petitioner has stated that this amount of Rs. 6.20 Crore has been received, therefore, the Commission has adjusted 90% of the subsidy amount as additional loan repayment during the first year of operation, for the determination of tariff. 10% of the subsidy amount has been allowed by the commission towards administrative expenses spent while availing the loan or other incidental expenses.

5.4 Depreciation

5.4.1 The Petitioner has claimed a depreciation rate of 5.83% for the first 12 years and 0.72% for the balance period as per the Norms of CERC 2012 Regulations.

5.4.2 As stated in paragraph 1.2.7 of this Tariff Order the Commission has been guided by the financial norms adopted in HPERC SHP Tariff Order 2007 for the purpose of project specific tariff determination of the project. The HPERC SHP Tariff Order

2007 assumes a flat depreciation rate of 2.25% and also provides advance against depreciation to cater to the loan repayment requirement. In this case also depreciation matching with the loan repayment requirements for the normative loan has been provided in the initial years and the residual depreciation has been allowed in the later years after loan repayment.

5.5 O&M

5.5.1 The Petitioner has claimed a base year O&M costs of Rs. 19.03 Lakh per MW with an escalation of 5.72% per annum as per the Norms of CERC 2012 Regulations.

5.5.2 As stated in paragraph 1.2.7 of this tariff order the Commission has been guided by the financial norms adopted in HPERC SHP Tariff Order 2007 for the purpose of project specific tariff determination of Neogal SHP. The HPERC SHP Tariff Order 2007 assumes base year O&M costs as 2.25% of the Capital Cost of the project with an escalation of 4% per annum. The Commission therefore has adopted the norms as per HPERC SHP Tariff Order 2007 for the calculation of tariff in this order and accordingly calculated base year O&M cost as Rs. 15.03 Lakh per MW (which is 2.25% of Capital Cost of Rs. 100.23 crore divided by 15 MW) with an escalation of 4% per annum.

5.6 Interest on Term Loan

5.6.1 The Petitioner has claimed an interest on term loan rate of 12.58% as the actual rate of interest.

5.6.2 However based on the analysis of original loan agreement and the amended loan agreement, for the determination of project specific tariff the Commission has considered 11.71% interest rate on term loan which is the weighted average interest rate of the initial loan amount and the additional loan amount as calculated in paragraph 4.10.5 of this tariff order.

5.7 Working Capital

5.7.1 The Petitioner has claimed the following assumptions for the working capital:-

a. O&M charges of 1 month
b. Maintenance spares as 15% of O&M expenses
c. Receivables for debtors as 1 month

5.7.2 As stated in paragraph 1.2.7 of this tariff order the Commission has been guided by the financial norms adopted in HPERC SHP Tariff Order 2007 for the purpose of project specific tariff determination of Neogal SHP. The HPERC SHP Tariff Order 2007 makes the following assumptions for the calculation of working capital requirements

a. O&M charges of 1 month
b. Maintenance spares as 1% of project cost
c. Receivables for debtors as 2 month

The Commission therefore has adopted the norms for calculation of working capital requirement as per HPERC SHP Tariff Order 2007 for the calculation of tariff in this order. Further the Commission has assumed the rate of interest for working capital as 13.75% as per HPERC SHP Tariff Order 2007.

5.8 Return on Equity (RoE)

5.8.1 The Petitioner has claimed rate of RoE as 20% for the first 10 years and 24% for the balance period.

5.8.2 As stated in paragraph 1.2.7 of this tariff order the Commission has been guided by the financial norms adopted in HPERC SHP Tariff Order 2007 for the purpose of project specific tariff determination of Neogal SHP. The HPERC SHP Tariff Order 2007 considered RoE of 14% and the same has been adopted by the Commission for the calculation of tariff in this order. MAT and Corporate Tax rates and the mechanism for adjustment in case of variation have been provided at par with the provisions of SHP tariff order 2007.

5.9 Tax

5.9.1 The Petitioner has claimed corporate tax rate of 30% and Minimum Alternate Tax (MAT) rate of 18.50% in the petition as per CERC Tariff Order dated 25th October 2012.

5.9.2 The Commission while determining the project specific tariff has considered the actual MAT and Corporate Tax Rates for the years 2013-14 and 2014-15 while assuming the current Tax rates and MAT rates for the future balance period of the project, as follows –

	FY	**Tax Rate**	**Type**

For 1st year	2013-14	20.01%	MAT
For 2nd – 10th year	2014-15 to 2022-23	20.01%	MAT
From 11th year onwards	2023-24 onwards	32.45%	Corporate

5.9.3 The generic levelised tariff determined in the order dated 18.12.2007 is subject to adjustment on account of variation in the tax rates. Accordingly, in case of any changes in these tax rates, the tariff under this order shall also be suitably adjusted as per the formulae given in the subsequent paragraphs.

5.10 Levelised Tariff

5.10.1 Based on the approved Capital Cost of the project as discussed above and various operational and financial parameters as detailed subsequently, the Commission has calculated the tariff for each year of the useful life of the plant i.e. 40 years.

5.10.2 The discount rate considered for the purpose of levelisation is equal to 9.99% which is post-tax weighted average cost of the capital (WACC) calculated using 70:30 debt to equity ratio, 14% post tax RoE, 11.71% interest on term loan and an average tax rate of 29.35% for the 40 years period of plant operation.

5.10.3 The parameters considered by the Commission to determine the levelised tariff for power generated from the Petitioner's hydro power project have been summarized in the table below:

S. No.	Parameters	Unit	As per Petition	Approved
1.	**Capacity**	MW	15	15
2.	**Capital Cost (after time disallowance)**	Rs. Cr.	147.71	100.23
3.	**Gross energy generation**	MU	71.86	77.28
4.	**Useful Life**	Years	40	40
5.	**Auxiliary Consumption & Transformation Loss**	%	1.00	1.00
6.	**Transmission loss**	%	0.70	0.70
7.	**Net Saleable Energy**			
	For first 12 years	MU	59.34	66.86
	For remaining life	MU	55.81	66.86
8.	**Debt-Equity ratio**	No unit	72.1% : 27.9%	70:30
9.	**Repayment Period**	Years	12	12
10.	**Interest rate**	%	12.58	11.71
11.	**Return on Equity**			

S. No.	Parameters	Unit	As per Petition	Approved
	For first 10 years	%	20	14
	From 11th year onwards	%	24	14
12.	**MAT & Corporate Tax**		Tax included in ROE	Tax approved as additional item
13.	**Depreciation**			
	For first 12 years	%	5.83	5.83
	From 11th year onwards	%	0.72	0.72
	Residual Value	%	10	10
14	**O&M Expenses**			
	For Base Year	Rs. Cr/MW	0.19	0.15
	Escalation Rate	%	5.72	4.00
15	**Interest on Working Capital**	%	13.50	13.75
16	**MNRE Subsidy**	Rs. Cr.	-	90% of 6.20 = 5.58 (Adjusted in the 1st year for repayment)
17	**Levelised Tariff**	**Rs. /kwh**	**4.52**	**2.31**

- The O&M expenses for base year has been considered on as 2.25% of the approved project cost
- The following MAT Rate and Corporate Tax Rate has been considered.

	FY	Tax Rate	Type
For 1st year	2013-14	20.01%	MAT
For 2nd – 10th year	2014-15 to 2022-23	20.01%	MAT
From 11th year onwards	2023-24 onwards	32.45%	Corporate

Approved Tariff for Neogal SHP

Units Generation	Unit	1	2	3	4	5	6	7	8	9	10
Installed Capacity	MW	15	15	15	15	15	15	15	15	15	15
Gross Generation @75% dependable year	MU	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28
Auxiliary Consumption & Transformation loss	MU	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Transmission losses	MU	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Royalty @12%	MU	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12
Net Saleable Energy	MU	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86
Tariff Components (Fixed Charge)											
O&M Expenses	Rs. Cr.	2.26	2.35	2.44	2.54	2.64	2.74	2.85	2.97	3.09	3.21
Depreciation	Rs. Cr.	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55	5.55
Interest on term loan	Rs. Cr.	7.55	6.53	5.85	5.17	4.48	3.80	3.11	2.43	1.74	1.06
Interest on working Capital	Rs. Cr.	0.52	0.53	0.54	0.55	0.56	0.57	0.58	0.60	0.61	0.62
Return on Equity	Rs. Cr.	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21
Tax	Rs. Cr.	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Total Fixed Cost	**Rs. Cr.**	**20.92**	**20.01**	**19.43**	**18.85**	**18.28**	**17.71**	**17.15**	**16.59**	**16.04**	**15.50**
Per Unit Cost of Generation											
O&M expenses	Rs/kWh	0.34	0.35	0.36	0.38	0.39	0.41	0.43	0.44	0.46	0.48
Depreciation	Rs/kWh	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Interest on term loan	Rs/kWh	1.13	0.98	0.88	0.77	0.67	0.57	0.47	0.36	0.26	0.16
Interest on working capital	Rs/kWh	0.08	0.08	0.08	0.08	0.08	0.09	0.09	0.09	0.09	0.09
Return on Equity	Rs/kWh	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Tax	Rs/kWh	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13
Total COG per unit	**Rs/kWh**	**3.13**	**2.87**	**2.78**	**2.69**	**2.61**	**2.52**	**2.44**	**2.36**	**2.27**	**2.19**
Discount Factor	**9.98%**	1.000	0.909	0.827	0.751	0.683	0.621	0.565	0.513	0.467	0.424
Net Value of Generation Cost	**Rs/kWh**	3.13	2.61	2.30	2.02	1.78	1.57	1.38	1.21	1.06	0.93

Levelised Tariff	**Rs. 2.31/kWh**

Units Generation	Unit	11	12	13	14	15	16	17	18	19	20
Installed Capacity	MW	15	15	15	15	15	15	15	15	15	15
Gross Generation @75% dependable year	MU	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28
Auxiliary Consumption & Transformation loss	MU	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Transmission losses	MU	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Royalty	MU	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12
Net Saleable Energy	MU	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86
Tariff Components (Fixed Charge)											
O&M Expenses	Rs. Cr.	3.34	3.47	3.61	3.76	3.91	4.06	4.22	4.39	4.57	4.75
Depreciation	Rs. Cr.	5.55	5.55	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Interest on term loan	Rs. Cr.	0.37	0.02								
Interest on working Capital	Rs. Cr.	0.64	0.66	0.67	0.69	0.71	0.73	0.75	0.78	0.80	0.83
Return on Equity	Rs. Cr.	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21
Tax	Rs. Cr.	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37
Total Fixed Cost	**Rs. Cr.**	**15.48**	**15.27**	**10.54**	**10.70**	**10.87**	**11.05**	**11.23**	**11.43**	**11.63**	**11.83**
Per Unit Cost of Generation											
O&M expenses	Rs/kWh	0.50	0.52	0.54	0.56	0.58	0.61	0.63	0.66	0.68	0.71
Depreciation	Rs/kWh	0.83	0.83	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Interest on term loan	Rs/kWh	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working capital	Rs/kWh	0.10	0.10	0.10	0.10	0.11	0.11	0.11	0.12	0.12	0.12
Return on Equity	Rs/kWh	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Tax	Rs/kWh	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Total COG per unit	**Rs/kWh**	**2.11**	**2.08**	**1.37**	**1.40**	**1.42**	**1.45**	**1.48**	**1.50**	**1.53**	**1.57**
Discount Factor	**9.98%**	0.386	0.351	0.319	0.290	0.264	0.240	0.218	0.198	0.180	0.164
Net Value of Generation Cost	**Rs/kWh**	0.81	0.73	0.44	0.40	0.37	0.35	0.32	0.30	0.28	0.26

Units Generation	Unit	21	22	23	24	25	26	27	28	29	30
Installed Capacity	MW	15	15	15	15	15	15	15	15	15	15
Gross Generation @75% dependable year	MU	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28
Auxiliary Consumption & Transformation loss	MU	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Transmission losses	MU	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Royalty	MU	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12
Net Saleable Energy	MU	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86
Tariff Components (Fixed Charge)											
O&M Expenses	Rs. Cr.	4.94	5.14	5.34	5.56	5.78	6.01	6.25	6.50	6.76	7.03
Depreciation	Rs. Cr.	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Interest on term loan	Rs. Cr.										
Interest on working Capital	Rs. Cr.	0.85	0.88	0.91	0.94	0.98	1.01	1.05	1.09	1.14	1.18
Return on Equity	Rs. Cr.	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21
Tax	Rs. Cr.	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37
Total Fixed Cost	**Rs. Cr.**	**12.05**	**12.28**	**12.51**	**12.76**	**13.02**	**13.28**	**13.56**	**13.85**	**14.16**	**14.47**
Per Unit Cost of Generation											
O&M expenses	Rs/kWh	0.74	0.77	0.80	0.83	0.86	0.90	0.94	0.97	1.01	1.05
Depreciation	Rs/kWh	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Interest on term loan	Rs/kWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working capital	Rs/kWh	0.13	0.13	0.14	0.14	0.15	0.15	0.16	0.16	0.17	0.18
Return on Equity	Rs/kWh	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Tax	Rs/kWh	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Total COG per unit	**Rs/kWh**	**1.60**	**1.63**	**1.67**	**1.70**	**1.74**	**1.78**	**1.82**	**1.87**	**1.91**	**1.96**
Discount Factor	**9.98%**	0.149	0.135	0.123	0.112	0.102	0.092	0.084	0.076	0.069	0.063
Net Value of Generation Cost	**Rs/kWh**	0.24	0.22	0.21	0.19	0.18	0.16	0.15	0.14	0.13	0.12

Units Generation	Unit	31	32	33	34	35	36	37	38	39	40
Installed Capacity	MW	15	15	15	15	15	15	15	15	15	15
Gross Generation @75% dependable year	MU	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28	77.28
Auxiliary Consumption & Transformation loss	MU	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77	0.77
Transmission losses	MU	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54	0.54
Royalty	MU	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12	9.12
Net Saleable Energy	MU	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86	66.86
Tariff Components (Fixed Charge)											
O&M Expenses	Rs. Cr.	7.31	7.61	7.91	8.23	8.56	8.90	9.26	9.63	10.01	10.41
Depreciation	Rs. Cr.	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68	0.68
Interest on term loan	Rs. Cr.										
Interest on working Capital	Rs. Cr.	1.23	1.28	1.33	1.39	1.45	1.52	1.58	1.65	1.73	1.81
Return on Equity	Rs. Cr.	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21	4.21
Tax	Rs. Cr.	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37	1.37
Total Fixed Cost	**Rs. Cr.**	**14.80**	**15.14**	**15.50**	**15.88**	**16.27**	**16.67**	**17.10**	**17.54**	**18.00**	**18.48**
Per Unit Cost of Generation											
O&M expenses	Rs/kWh	1.09	1.14	1.18	1.23	1.28	1.33	1.38	1.44	1.50	1.56
Depreciation	Rs/kWh	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10	0.10
Interest on term loan	Rs/kWh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Interest on working capital	Rs/kWh	0.18	0.19	0.20	0.21	0.22	0.23	0.24	0.25	0.26	0.27
Return on Equity	Rs/kWh	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63	0.63
Tax	Rs/kWh	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Total COG per unit	**Rs/kWh**	**2.01**	**2.06**	**2.11**	**2.17**	**2.23**	**2.29**	**2.35**	**2.42**	**2.49**	**2.56**
Discount Factor	**9.98%**	0.057	0.052	0.047	0.043	0.039	0.036	0.032	0.029	0.027	0.024
Net Value of Generation Cost	**Rs/kWh**	0.12	0.11	0.10	0.09	0.09	0.08	0.08	0.07	0.07	0.06

5.10.4 Accordingly, the levelised tariff for a period of 40 years for power generated from the Petitioner's Small Hydro plant is determined as Rs 2.31 / kWh of the net saleable energy delivered at the interconnection point.

5.10.5 This levelised tariff would be applicable from the date of actual commencement of operation of the project.

5.10.6 As mentioned in para 5.1, this shall not in any way entitle the developer to own, operate and maintain the project beyond the period for which the authorization is given by GoHP to the developer as per the provisions of Implementation Agreement, including clause 30 of Supplementary Implementation Agreement dated 30th May, 2007.

5.10.7 The dues of the developer on account of determination in tariff shall be cleared by the HPSEBL within next 3 months' time from the date of issuance of this tariff order or within 2 months from the date of presentation of the bill by the developer whichever is later. The Commission considers it reasonable to allow a simple interest @ 8% per annum on the amount of arrears starting from the due dates of respective monthly bill(s) till the aforesaid due date. However, in case of any delay by the HPSEBL in making payment beyond the due date, the delayed payment beyond such due date shall attract interest rates as mentioned in the PPA.

5.10.8 The developer has claimed in its petition that an additional free power of 1% on account of LADF. The Commission has calculated the levelised tariff of Rs. 2.34/ kWh assuming 13% royalty including 1% additional free power for LADF, however this tariff would be applicable only for the time periods where the additional free power for LADF is actually provided by the developer. As stated in paragraph 5.2.4 of this tariff order, any enhanced free power beyond the limit of 13% (including 1% additional free power for LADF) would not be considered for the determination of tariff.

5.10.9 Tax holiday benefit in the Income Tax in the form of exemption over a period of 10 years under Section 80IA of the Income Tax Act has been considered. Minimum Alternate Tax (MAT) @ 20.01% (inclusive of surcharge and cess) for years FY2014-15 to FY2022-23 have been provided for in the tariff. Thereafter Income Tax at the rate of 32.45% (inclusive of surcharge and cess) has been considered.

5.10.10 In case of any change in the rates of MAT and Corporate Tax w.r.t. the rates considered in this order, the aforesaid tariff shall be subject to the adjustment as per the formulae given in the following paragraphs.

5.10.11 Any change in the MAT from 20.01%, in the first ten years of generation of the project, shall be payable/ adjustable by the respective party as per the following formula. -

(421 x revised effective MAT rate) - (421 x 0.2001) Lakh rupees.

Where,

421 is the return on equity in Lakh considered in this order

0.2001 is the effective MAT rate considered in this order

Revised effective MAT rate shall be expressed as a fraction

Illustration:-

Considering effective MAT rate from first April 2016 as 20.55%

Then, in FY2016-2017 the additional tax payable by the Board to the developer shall be as under:-

(421 x 0.2055) - (421 x 0.2001) Lakh = 86.52 – 84.24 = 2.27 Lakh rupees.

5.10.12 Any change in the Income Tax from 32.45%, from the eleventh year of generation of the project, shall be payable/ adjustable by the respective party as per the following formula.-

(421 x revised effective Corporate Tax rate) - (421 x 0.3245) Lakh rupees.

Where,

421 is the return on equity in Lakh considered in this order.

0.3245 is the effective corporate Tax rate considered in this order.

Revised effective corporate tax rate shall be expressed as a fraction

Illustration:-

Considering effective corporate tax rate from first April 2016 as 31.00%

Then, in FY2016-17 the additional tax payable/ adjustable by the HPSEBL to the IPP shall be as under:-

(421 x 0.31) - (421 x 0.3245) Lakh = 130.51 – 136.61 = - 6.10 Lakh rupees (payable by the developer)

5.10.13 The payments/ adjustments, if any, on account of change in the rates of MAT and corporate tax on above lines shall be made at the end of each relevant financial year as per the above formulae.

-Sd/-
S.K.B.S. Negi
Chairman

Date: 28th April, 2016
Place: Shimla