

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No.43/GT/2018

Coram:

**Shri P.K.Pujari, Chairperson
Dr. M.K.Iyer, Member
Shri I.S.Jha, Member**

Date of Order: 28th October, 2019

In the matter of

Approval of tariff of Kishanganga HE Project (330 MW) for the period from anticipated COD of Units- I & II to 31.3.2019 in terms of the CERC (Terms and Conditions of Tariff) Regulations, 2014

And

In the matter of

NHPC Limited
NHPC Office Complex,
Sector-33, Faridabad - 121003

...Petitioner

Vs

1. Power Development Department,
New Secretariat, Jammu - 180001 (J&K)
2. Uttar Pradesh Power Corporation Ltd.
Shakti Bhavan, 14 - Ashok Marg,
Lucknow - 226001 (Uttar Pradesh)
3. Chhattisgarh State Power Distribution Co. Ltd.
Vidyut Seva Bhavan, Danganiya
Raipur - 492013 (Chhattisgarh)

...Respondents

Parties present:

Shri Piyush Kumar, NHPC
Shri A.K. Pandey, NHPC
Shri Jitendra Kumar Jha, NHPC
Ms. Seema, NHPC



ORDER

Kishanganaga Hydroelectric project, which comprises of 3 units of 110 MW each (hereinafter called 'the generating station') is located in the Bandipora District of Jammu & Kashmir and is a run of the river with pondage scheme envisaging diversion of water of Kishanganga (a tributary of river Jhelum) into an underground power house and discharging the tail race water into Wular Lake. The generating station was handed over to the Petitioner for execution by the State Government through MOU signed between the Government of J&K and MOP, GOI in July, 2000. Thereafter, on 20.7.2007, the Ministry of Power conveyed the sanction of Government of India for construction of the generating station at the cost of ₹2238.67 crore (including IDC & FC of ₹165.12 crore) at November 2005 price level. Subsequent to sanction of the Project, major works were awarded to HCC-Halcrow on turnkey basis through International Competitive Bidding at an award price of ₹2919.07 crore. However, due to variation between the sanctioned cost and the award cost, a fresh proposal for revised CCEA approval was processed. Accordingly, the revised CCEA approval was accorded on 14.1.2009 for a total cost of ₹3642.04 crore including IDC & FC of ₹8.52 crore at September, 2007 price level. The revised construction schedule was 84 months and the station was scheduled for commissioning in January, 2016.

2. The Petitioner has filed this petition for determination of tariff of the generating station for the period from the anticipated date of commercial operation of Units-I & II (31.1.2018) and Unit-III (28.2.2018) till 31.3.2019, in terms of the provisions of the CERC (Terms & Conditions of Tariff) Regulations, 2014 (hereinafter called 'the 2014 Tariff Regulations'). Thereafter, the Petitioner vide affidavit dated 14.6.2018 submitted that the actual date of COD of Unit-I was



18.5.2018 and of Units- II & III, it is 24.5.2018. It also submitted that the allocation of power from the project was notified by the MOP, GOI on 31.5.2018. The Petitioner further submitted that as per audited books of accounts, the actual expenditure upto 31.3.2018 is ₹5345.73 crore (excluding liabilities of ₹152.24 crore). The Petitioner, however, prayed that the Commission may consider the project cost of ₹5704.23 crore (audited project cost of ₹5345.73 crore and normative IDC of ₹358.50 crore upto 31.3.2018) for grant of interim tariff. Accordingly, the Commission vide para no. 13 of its order dated 7.8.2018 had granted interim tariff (based on 85% of cash expenditure of ₹534573.73 lakh as per balance sheet as on 31.3.2018) as under:

	<i>(₹ in lakh)</i>	
	18.5.2018 to 23.5.2018	24.5.2018 to 31.3.2019
	COD of Unit-I	COD of Units-II & III/Station COD)
Capital cost as on actual COD based on audited balance sheet as on 31.3.2018	178191.24	534573.73
85% of the above capital cost	151462.56	454387.67
Closing capital cost	151462.56	454387.67

3. The fixed charges allowed for the interim period by the said order dated 7.8.2018 was subject to adjustment after determination of final tariff of the generating station. The Petitioner was, however, directed to revise the petition based on the actual expenditure till actual COD of the units/station and to furnish at least one of the following documents prior to the determination of final tariff of the generating station:

- a) *DIA report on vetting of capital cost*
- b) *RCE approved by CEA/MOP/PIB/CCEA*

4. In terms of the above directions, the Petitioner has filed revised tariff filing forms based on the actual capital expenditure upto the actual COD of the



generating station. The DIA has also submitted its recommendations on the capital cost of the generating station as on COD and the Petitioner vide its affidavit dated 29.3.2019 has furnished the same along with Revised Cost Estimate (RCE) approved by CEA. Copies of the same have been served on the beneficiaries.

5. In compliance with the directions of the Commission, the Petitioner has filed the additional information and has served copies of the same on the Respondents. Replies to the Petition have been filed by the Respondent, UPPCL by affidavit dated 2.4.2018 and Respondent, CSPDCL vide its affidavits 5.4.2019. The Petitioner has filed its rejoinder to the said reply of UPPCL. The annual fixed charges claimed by the Petitioner vide affidavit dated 18.1.2018 has been revised by the Petitioner in terms of its affidavit dated 29.3.2019. Based on the submissions of the parties and the documents available on record, we proceed to determine the tariff of the generating station for the period 2014-19, on prudence check, as stated in the subsequent paragraphs.

Capital Cost

6. Clause (1) of Regulation 9 of the 2014 Tariff Regulations provides that the capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects. Clause (2) of Regulation 9 provides as under:

“9(2) The Capital Cost of a new project shall include the following:

(a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;

(b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;



(c) Increase in cost in contract packages as approved by the Commission;

(d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;

(e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;

(f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;

7. As stated, the generating station was handed over to the Petitioner for execution by the State Government through MOU signed between Govt. of J&K and MOP, GOI in July 2000. The MOP vide its letter dated 20.7.2007 had conveyed the sanction of GOI for construction of the generating station at the cost of ₹2238.67 crore (including IDC & FC of ₹165.12 crore) at November, 2005 price level. Subsequent to this, major works were awarded to M/s Kishanganga Consortium (HCC-Halcrow) on turnkey basis through ICB. Though the award price was ₹2919.07 crore, a fresh proposal for revised CCEA approval was processed due to variation between the sanctioned cost and the award cost. Accordingly, the RCE of ₹3642.04 crore including IDC & FC of ₹8.52 crore was approved by CCEA on 14.1.2009 at September, 2007 Price Level. The DIA M/s Tata Consulting Engineers Limited in its report on vetting of capital cost has recommended capital cost of ₹5840.97 crore (including cost of Dam Toe Power house & IDC) in which ₹ 5347.04 crore has been incurred upto the COD of the generating station. Further, RCE-II with completion cost of ₹584097 lakh has been examined by CEA on 8.2.2019 and has allowed the completion cost of ₹575593 lakh, including the hard cost of ₹567836 lakh and IDC & FC of ₹7757 lakh, but excluding cost of ₹2556 lakh towards Dam Toe Power House. Accordingly, the capital cost claimed by the Petitioner as on the COD of unit and the generating station, excluding un-discharged liabilities is as under:



(₹ in lakh)

Capital cost	As on 18.5.2018 (COD of Unit-I)	As on 24.5.2018 (COD of Units- II & III /Station COD)
Hard Cost	167354.29	536457.28
IDC	2573.14	7737.44
Normative IDC	12244.42	36805.52
Financial Charges	6.52	19.56
Total Capital Cost	182178.37	581019.80
Less: Undischarged liability	6706.28	15111.21
Capital cost for the purpose of tariff	175472.09	565908.59

8. The IDC amount shown above includes the normative IDC of Rs 36805.52 lakh minus Rs. 2198.33 lakh, which was capitalized in the book of accounts as primarily notional impact.

Time and cost overrun

9. The scheduled COD of the generating station is 14.1.2016 i.e. 84 months from date of revised sanction cost of 14.1.2009. Thus, there is time over run of 28 months as on actual COD of the generating station (24.5.2018) from the scheduled COD. The Petitioner has furnished reasons/ justification for the time and cost overrun involved in the commissioning of the project along with PERT chart showing critical path of the project. The main factors responsible for time overrun as considered by DIA in its report are as under:

Sl. No.	Description	Total months
1.	Filling of reservoir as per Indus water treaty	6.5
2.	Intermittent bandhs in Kashmir valley in the year 2010	2.5
3.	Uncertainty in the decision of International court of arbitration during 2012-13	8

10. As stated, the project cost sanctioned by MOP, GOI in January 2009 is ₹3642.04 crore at September 2007 Price level. The revised capital expenditure and cost incurred up to 24.5.2018 (COD) is ₹5840.97 crore (including Dam Toe



powerhouse of ₹27.46 crore) and ₹5347.04 crore respectively. Thus, there is a cost overrun of ₹2198.92 crore in the completion of the project. The main contributing factor for upward revision of the cost, as stated by the Petitioner, is on account of the increase in the cost of Civil Works by ₹1920.11 crore, E & M works by ₹208.45 crore and IDC & FC by ₹70.35 crore.

11. Regulation 10(2) of the 2014 Tariff Regulations inter alia provides that the Commission may issue guidelines for vetting of the capital cost of the hydroelectric projects by an independent agency or experts and in that event, the capital cost as vetted by the said agency or expert may be considered by the Commission while determining tariff. In pursuance of the above, the Commission has notified the guidelines for vetting of capital cost on 2.8.2010 as amended from time to time. The Petitioner had appointed M/s Tata Consulting Engineers Limited as DIA for vetting of capital cost and the DIA has submitted its report on time and cost overrun during December, 2018. After considering the submissions of the Petitioner, the DIA in the said report had observed as under:

“It is observed that there is a major delay in almost all the works except the HRT excavation by TBM reach which has been completed before 06 month of the schedule planned. These delays are majorly due to international court of arbitration interference, social and environmental disturbances in the project.

The project was commissioned in May 2018 and hence there is a total time overrun of 28 months 11 days vis-a-vis the scheduled commissioning i.e., commercial production of energy. Major delays are due to delay in filling of reservoir as per Indus water treaty (6.5 Months), intermittent bandhs in Kashmir valley (2.5 Months delay) in the year 2010, due to the uncertainty in the decision of International court of arbitration during 2012-13 (8 months delay), due to the unrest in the valley (12 months delay), remaining other minor delays occurred due to the labour strikes, landslides, heavy rains, strikes from the locals for employment.

It may not be out of place to mention that Kishanganga HEP is the Major Hydro project to be developed in the Gurez valley near to line of control under very treacherous terrain and hostile climatic conditions with poor logistics.”

12. After analysing the reasons for time and cost overrun, the DIA in its report has made the following conclusions:



“i) The project cost of Kishanganga HEP including IDC & FC sanctioned by GOI in January 2009 was Rs. 3642.04 Crores at September 2007 Price level. The project was started in January 2009 and was scheduled to be commissioned in January 2016 i.e., with an originally envisaged construction period of 84 months (about 7 years). Project was commissioned in May 2018, with a delay of 28 months and 11days. Project cost has been revised to Rs. 5840.97 Crores (including dam toe powerhouse) at May 2018 PL submitted for the approval of CEA/GOI.

ii) The major works of the project viz., Civil, Hydro-mechanical and Electrical works were carried out through Turnkey execution. The combined contract value of the all the packages was Rs. 2919.07 Crores at the time of award of contract as sanctioned by GOI as 1st RCE which was revised to Rs. 3952.51 Crores in the revised 2nd RCE at May 2018 PL out of which Rs. 3822.50 Crores works have been completed and balance amount of Rs. 130.01 Crores contribute to the works which are pending as on COD. Thus, the contract value is actually higher than the sanctioned estimates in 1st RCE by Rs. 1033.44 Crores (35.40%).

iii) The maximum variation in contract value vis-a-vis the sanctioned estimate is under civil works amounting to Rs. 715.40 Crores. The increase in contract value is mainly due to price escalations, exchange rate variations, increase in land costs, addition of new items which were not included during the estimation stage and other minor changes due to remoteness of the location and inhospitable climate and terrain.

iv) The revised completion cost of Kishanganga HEP (May 2018PL) is Rs. 5840.97 Crores (including the cost of dam toe power house amounting to Rs 27.46 Crores). Out of Rs. 5840.97 Crores, works for Rs.5347.04 Crores have been completed as on COD and a balance works of Rs. 493.93 Crores is estimated to be completed. Thus, there is a cost overrun of Rs. 2198.92 Crores for this project. The major increases are due to Price escalation in civil works, inadequate price estimations & over expenditure in Establishments works, increase in the land cost and R & R package, price escalations and exchange rate variation in Power plant equipment's, additional works carried out in environment and ecology than sanctioned amount and increase in IDC & FC due to delay in commissioning of the project.

v) The overall abstract of cost under various head are shown below:

Sl. No.	Description of works	Sanctioned amount	Works Completed as on COD	Works Pending on COD	Total 2 nd RCE as on COD
a)	Civil works	2121.14	2822.20	38.05	2860.25
b)	Establishment	145.87	693.51	11.73	705.24
c)	Land costs	225.63	399.39	105.86	505.24
d)	Power Plant-E & M Equipment	487.14	608.69	86.90	695.59
e)	Environment & Ecology	49.77	126.19	64.68	190.87
f)	H & M works	199.76	269.90	26.19	296.09
g)	IDC&FC	8.52	77.57	1.30	78.87
h)	Others	404.23	349.59	159.23	508.82
	Total	3642.06	5347.04	493.93	5840.97

vi) The project was commissioned in May 2018 with a time overrun of 28 months 11 days. The delay in the commissioning is attributable mainly due to intermittent bandhs/ unrest in Kashmir valley and uncertainties in the decision of International court of arbitration (Year 2012-13). Minor delays occurred due to the labour strikes, landslides, heavy rains and strikes from the locals for employment at



various times during construction. The time overrun of 28 months 11 days has resulted in cost overrun of the project.

vii) The overall cost per MW for Kishanganga HEP (3 X 110 MW) and Dam toe Power house (2.4 MW) amounts to Rs. 17.62 Crores and Rs. 11.44 Crores respectively. The cost per MW for Kishanganga HEP (3 X 110 MW) including the dam toe powerhouse (2.4 MW) amounts to Rs. 17.57 Crores. The amount of expenditure incurred on the completed works per MW as on COD for Kishanganga HEP (3X110 MW) amounts to Rs. 16.20 Crores.

viii) From the review of available data and comparing the cost with the similar other executed projects in the J&K, capital cost of the project (Rs. 5840.9 Crores) and the cost incurred as on COD (Rs. 5347.04 Crores) appears to be reasonable especially keeping in view of remoteness of the project site, inclement weather conditions, snow covered dam site (almost 6 months), proximity to international border, adverse law & order situations and due to the international water disputes.”

13. We have examined the matter. As stated, the provisions of Regulation 10(2) of the 2014 Tariff Regulations and the guidelines for vetting of capital cost issued by the Commission provide that the Commission may consider the capital cost as vetted by the DIA, while determining the tariff of the hydro generating companies. It is noticed that DIA has vetted the capital cost as on COD for ₹534704 lakh (excluding Normative IDC). The Petitioner has claimed capital cost of ₹565908.59 lakh (including Normative IDC of ₹36805.52 lakh as on COD of the generating station). The RCE of ₹584097 lakh as submitted by the Petitioner to MOP, GOI was examined in detail and vetted by CEA and CWC. CEA has vetted capital expenditure of ₹533579 lakh as on COD and the completion cost of ₹575593 lakh excluding cost of ₹2556 lakh for Dam Toe Power House. After considering the CEA recommended cost and on detailed scrutiny of the report of DIA and on prudence check, we are of the considered view that the time overrun of 28 months and 11 days and the cost overrun involved in the generating station is not attributable to the Petitioner. Accordingly, the time & cost overrun has been condoned and the CEA recommended cost of ₹533579 lakh (as on 24.5.2018) and the completion cost of ₹575593 lakh, excluding the cost of ₹2556 lakh for Dam Toe



Power House is allowed for the purpose of tariff, subject to approval of RCE from MOP, GOI. In case of RCE is approved by MOP GOI, the same shall be brought to the notice of the Commission.

14. It is noticed that the capital cost of ₹565908.59 lakh claimed by the Petitioner as on COD of the station includes ₹44562.53 lakh of Soft cost (including Normative IDC of ₹36805.52 lakh and Financing Charges of ₹19.56 lakh). The same is being dealt in the following para.

IDC and Normative IDC

15. The Petitioner has furnished the details of the amount, date of drawl, rate of interest etc. in respect of loans. In addition to above and in terms of Regulation 9 (2) (b) (ii) of the 2014 Tariff Regulations, the Normative IDC (up to SCOD) over and above the actual IDC has been worked out, considering the quarterly debt-equity position corresponding to actual cash expenditure as per Form-14A. It is pertinent to mention that the Petitioner has drawn subordinate debt amounting to ₹267667 lakh up to the COD. However, there is no interest on the subordinate debt during construction and the interest which accrues shall be paid annually after commissioning. Accordingly, IDC and normative IDC have been allowed as under:

	<i>(₹ in lakh)</i>	
	As on 18.5.2018 (Unit-I)	As on COD of the station (24.5.2018) - (all units)
IDC	2573.14	7737.44
Normative IDC	1450.51	4351.52
Total	4023.65	12088.96

Financial Charges

16. The Petitioner has claimed financial charges for ₹19.56 lakh as on COD of the generating station and the same has been considered in the capital cost.



Capital Cost considered for tariff

17. Based on the above, the capital cost as on COD of unit/station worked out as under:

(₹ in lakh)

	As on 18.5.2018 (Unit-I)	As on COD of the station (24.5.2018) (all units)
Hard Cost	167354.29	536457.28
IDC	2573.14	7737.44
Normative IDC	1450.51	4351.52
FC	6.52	19.56
Total Capital cost	171384.46	548565.80
Liabilities	6706.28	15111.21
Net Capital Cost	164678.18	533454.59

18. After accounting for the allowed normative IDC of ₹4351.52 lakh, the completion cost of the project works out to ₹579944.52 lakh (i.e. CEA recommended completion cost of ₹575593 lakh and allowed Normative IDC of ₹4351.52 lakh). As such, the above capital cost as on CODs of unit/station as worked out at para 17 above is well within the completion cost of ₹579944.52 lakh. Accordingly, the same is allowed for the purpose of tariff.

Additional Capital Expenditure

19. The Petitioner has not claimed any additional capital expenditure for the period from 24.5.2018 to 31.3.2019.

20. The Petitioner has submitted the audited balance sheet of ₹529505.54 lakh as on 30.6.2018. However, the Petitioner has not furnished the audited capital cost as on COD of the Unit-I (18.5.2018) and COD of the generating station (24.5.2018). The Petitioner is granted liberty to submit the auditor certificate of capital cost as on COD of Unit-I and of the generating station at the time of truing up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.



Capital Cost for 2014-19

21. Accordingly, the capital cost allowed for the purpose of tariff for 2014-19 is as under:

	(₹ in lakh)	
	18.5.2018 to 23.5.2018 (Unit-I)	24.5.2018 to 31.3.2019 (Units I, II & III)
Opening Capital Cost	164678.18	533454.59
Additional Capitalization	0.00	0.00
Closing Capital Cost	164678.18	533454.59

22. The Petitioner has not indicated expenditure for initial spares in revised Form 5 B of the Petition. The Petitioner is directed to furnish the details of initial spares at the time of truing up.

Debt-Equity Ratio

23. Regulation 19 of the 2014 Tariff Regulations provides as under:

“19(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:

ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.”

24. Accordingly, the debt equity ratio of 70:30 has been considered in terms of the above regulations.

Return on Equity

25. Regulation 24 of the 2014 Tariff Regulations provides as under:



“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that

i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:

ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

iv). the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues.

vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.

26. Regulation 25 of the 2014 Tariff Regulations provides as under:

“Tax on Return on Equity

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”.

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

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

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the



estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess.

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/DICs as the case may be on year to year basis."

27. In line with the above regulations, grossing up of base rate has been done with MAT Rate of the year 2013-14. The Petitioner shall furnish the effective tax rates along with Tax Audit report for the period 2014-19, at the time of truing up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations. Accordingly, Return on Equity has been worked out as under:

	(₹ in lakh)	
	18.5.2018 to 23.5.2018 (Unit-I)	24.5.2018 to 31.3.2019 (Unit I, II & III)
Opening Equity	49403.45	160036.38
Addition due to Add Cap	0.00	0.00
Closing Equity	49403.45	160036.38
Average Equity	49403.45	160036.38
Return on Equity (Base Rate)	16.500%	16.500%
Tax rate for the year	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	20.876%	20.876%
Return on Equity (Pre Tax)	169.54	28558.00

Interest on loan

28. Regulation 26 of the 2014 Tariff Regulations provides as under:

"26. Interest on loan capital: (1) *The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.*



(2) *The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.*

(3) *The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset*

(4) *Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.*

(5) *The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized: Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered: Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered*

(6) *The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.*

(7) *The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1*

(8) *The changes to the terms and conditions of the loans shall be reflected from the date of such refinancing.*

(9) *In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:*

Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

29. The salient features for computation of interest on loan is as under:

i) The opening gross normative loan as on COD has been arrived at in accordance with Regulation 26 of the 2014 Tariff Regulations.

ii) The weighted average rate of interest has been worked out on the basis of the actual loan portfolio of the respective year applicable to the generating station.



iii) The repayment for the year 2018-19 has been considered equal to the depreciation allowed for that year.

iv) Interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.

30. Accordingly, interest on loan has been worked out as under:

	(₹ in lakh)	
	18.5.2018 to 23.5.2018 (Unit-I)	24.5.2018 to 31.3.2019 (Unit I, II & III)
Gross Normative Loan	115274.72	373418.21
Cumulative Repayment up to Previous Year	0.00	40.61
Net Loan-Opening	115274.72	373377.61
Repayment during the year	40.61	6839.91
Additional Capitalization	0.00	0.00
Net Loan-Closing	115234.12	366537.70
Average Loan	115254.42	369957.65
Weighted Average Rate of Interest on Loan	0.43%	1.42%
Interest on loan	8.12	4480.14

Depreciation

31. Regulation 27 of the 2014 Tariff Regulations provides as under:

“27. Depreciation:

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.



(3) *The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset: Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:*

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff: Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

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

(5) *Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system: Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.*

(6) *In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 31.3.2014 from the gross depreciable value of the assets.*

(7) *The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.*

(8) *In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.”*

32. Regulation 47 of the 2014 Tariff Regulations provides as under:

“47. Norms to be ceiling norms: *Norms specified in these regulations are the ceiling norms and shall not preclude the generating company or the transmission licensee, as the case may be, and the beneficiaries and the long-term transmission customers /DICs from agreeing to the improved norms and in case the improved norms are agreed to, such improved norms shall be applicable for determination of tariff.”*

33. The Petitioner has submitted that since the major loan portion in respect of the generating station is the subordinate debt, the repayment of the same will start only from 11th year after COD of the generating station. Accordingly, the



Petitioner has the leverage of adopting a lower depreciation rate during the initial period of 10 years in deviation to the norms specified by the Commission. However, in order to moderate the tariff of the generating station in the initial years and to give considerable relief to the Respondents, the Petitioner has adopted a depreciation rate of 1.50% in the initial period of 10 years against the calculated depreciation rate of 5.00%. From the 11th year onwards, the Petitioner shall apply depreciation rate of approx. 3% (i.e. spreading of balance depreciation in 25 years) so that total 90% of the cost is recovered in 35 years. Accordingly, depreciation has been computed as under:

	(₹ in lakh)	
	18.5.2018 to 23.5.2018 (Unit-I)	24.5.2018 to 31.3.2019 (Units I, II & III)
Opening Gross Block	164678.18	533454.59
Additional Capitalization	0.00	0.00
Closing Gross Block	164678.18	533454.59
Average Gross Block	164678.18	533454.59
Rate of Depreciation	1.50%	1.50%
Depreciable Value	148210.36	480109.13
Remaining Depreciable Value	148210.36	480068.53
Depreciation	40.61	6839.91

Operation and Maintenance Expenses

34. Regulation 29 (3) (d) of the 2014 Tariff Regulations provides as under:

a. xxxxx

b. xxxxx

c. xxxx

d. *In case of the hydro generating stations declared under commercial operation on or after 1.4.2014, operation and maintenance expenses shall be fixed at 4% and 2.50% of the original project cost (excluding cost of rehabilitation & resettlement works) for first year of commercial operation for stations less than 200 MW projects and for stations more than 200 MW respectively and shall be subject to annual escalation of 6.64% per annum for the subsequent years.*

35. The Petitioner has prayed that O&M expenses may be allowed at the rate of 2% as against 2.50% specified under the above said regulations. It is noticed that the Commission after considering the submissions of the Petitioner and the



Respondent, UPPCL has allowed the O&M expenses at the rate of 2% of the original project cost for the reasons stated in its order dated 7.8.2018. The relevant portion is extracted hereunder:

“20. However, with regard to the reduced O&M norm of 2% as proposed by the petitioner, the respondent, UPPCL has proposed that for the year 2018-19, the allowable O&M expenses shall not exceed `96.69 crore based on the O&M expenses of similar projects. This proposal of the respondent has not been agreed to by the petitioner on the ground that it has already reduced the norm to 2% of the original project cost. As such, Commission is not inclined to accept the proposal of UPPCL with regard to further lowering of the O&M expenditure in comparison to the reduced norm acceptable to the petitioner.

21. In view of the fact that the proposal of the petitioner provides benefits to the respondents by way of reduction in tariff as compared to the CERC norms, the Commission is inclined to allow the depreciation rate of 1.50% for the first ten years and O&M expenses for the first year of operation at the rate of 2% of the original project cost....”

36. In view of the above, the O&M expenses @ 2% of the original project cost (excluding cost of R&R works) has been considered in this order.

37. Since the project cost as on the cut-off date of the generating station i.e. 31.3.2021 is not available, the capital cost as on 31.3.2019 has been considered for the purpose of O&M expenses. The Petitioner has indicated an amount of Rs 39937.69 lakh towards Rehabilitation and Resettlement cost as on COD of the generating station and the same is considered for the calculation of the admissible O&M expenses. Based on the above, the O&M expenses allowed for the period 18.5.2018 to 31.3.2019 is worked out as under:

	(₹ in lakh)	
	18.5.2018 to 23.5.2018 (Unit-I)	24.5.2018 to 31.3.2019 (Units I, II & III)
Capital cost considered as on COD of Units/station	164678.18	533454.59
Less: R&R expenses	13312.56	39937.69
Capital cost for the purpose of O&M expenses	151365.62	493516.90
Annualized O&M expenses @ 2% of above	3027.31	9870.34



Number of days	6	312
O&M expenses allowed	49.76	8437.11

The O&M charges for Unit-I have been computed based on the actual expenditure as on COD and considering R&R expenses on prorata basis.

Interest on working capital

38. Sub-section (c) of Clause (1) of Regulation 28 of the 2014 Tariff Regulations provides as under:

“28. Interest on Working Capital:

(1) The working capital shall cover

(c) Hydro generating station including pumped storage hydro electric generating Station and transmission system including communication system:

(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expense specified in regulation 29; and

(iii) Operation and maintenance expenses for one month.”

Rate of interest on working capital

39. Clause (3) of Regulation 28 of the 2014 Tariff Regulations provides as under:

“Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later.”

40. Accordingly, in terms of the above regulations, Interest on working capital has been calculated as under:

	<i>(₹ in lakh)</i>	
	18.5.2018 to 23.5.2018 (Unit-I)	24.5.2018 to 31.3.2019 (Unit I, II & III)
Maintenance Spares	7.46	1265.57
O & M expenses	4.15	703.09
Receivables	45.84	8260.52
Total	57.45	10,229.18
Interest Rate	12.20%	12.20%
Interest on Working Capital	7.01	1247.96



Annual Fixed Charges

41. Based on the above, the annual fixed charges approved for the generating station is summarized as under:

(₹ in lakh)

	18.5.2018 to 23.5.2018 (Unit-I)	24.5.2018 to 31.3.2019 (Units I, II & III)
Return on Equity	169.54	28558.00
Interest on Loan	8.12	4480.14
Depreciation	40.61	6839.91
Interest on Working Capital	7.01	1247.96
O & M Expenses	49.76	8437.11
Total	275.04	49563.12

Normative Annual Plant Availability (NAPAF)

42. The Commission in its order dated 7.8.2018 has considered the NAPAF of 90% in terms of the 2014 Tariff Regulations as under:

“24. Kishanganga is a run of the river with pondage type hydro project. NAPAF of such stations as per 2014 Tariff Regulations is 90%. Further allowance of 5% has been stipulated in these regulations for the projects affected by the silt. The petitioner has claimed NAPAF of 85% without giving any details with respect to the likely silt level and number of days for which plant would be required to be stopped due to high silt level. As such, in absence of such details, the NAPAF of 85% as adopted by the petitioner is not acceptable and accordingly NAPAF of 90% is fixed as per 2014 Tariff Regulations. However, the petitioner is directed to collect data for one year with respect to silt level, number of days silt has affected the plant operation and the impact of the same on PAF, based on which Commission may consider down ward revision of NAPAF.”

43. Accordingly, the NAPAF of 90% has been allowed for the generating station for the period 2018-19.

Design Energy (DE)

44. CEA while granting Techno-Economic Clearance for the project has approved the DE of 1712.96 MUs and the same has been approved by the Commission in its order dated 7.8.2018. The month- wise break up of DE is as under:



Months	10 days monthly Design Energy	Design Energy (MUs)
April	I	75.24
	II	75.24
	III	75.24
May	I	75.24
	II	75.24
	III	82.76
June	I	75.24
	II	75.24
	III	75.24
July	I	75.24
	II	75.24
	III	82.76
August	I	69.00
	II	65.39
	III	63.16
September	I	53.55
	II	52.97
	III	48.14
October	I	47.73
	II	49.71
	III	47.89
November	I	19.64
	II	17.36
	III	16.73
December	I	6.61
	II	4.48
	III	3.60
January	I	8.64
	II	8.71
	III	9.24
February	I	11.85
	II	13.22
	III	10.51
March	I	37.82
	II	46.89
	III	82.19
Total		1712.96

45. The DE as aforesaid has been considered for the generating station for the period 2018-19.



Application Fee and Publication Expenses

46. The Petitioner has sought reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2018-19. The Petitioner has deposited the filing fees for the period 2018-19 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. The Petitioner has also submitted that it has incurred charges towards publication of the tariff petition in the newspapers. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations, the Petitioner is entitled to recover filing fees and the expenses incurred on publication of notices directly from the respondents on production of documentary proof, directly recovered from the respondent beneficiaries on pro rata basis. Excess amount, if any, shall be adjusted against the petition to be filed for the next tariff period.

47. The annual fixed charges approved for the period 2018-19 as above are subject to revision based on the truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations.

48. Petition No. 43/GT/2018 is disposed of in terms of the above.

Sd/-
(I.S.Jha)
Member

Sd/-
(Dr. M.K.Iyer)
Member

Sd/-
(P.K.Pujari)
Chairperson

