CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No.43/GT/2018

Coram:

Shri P.K.Pujari, Chairperson
Shri A.K. Singhal, Member
Dr. M.K.Iyer, Member

Date of Order: 7th August, 2018

In the matter of

Approval of generation 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 Chandra Mohan, NHPC

ORDER

This Petition has been filed by Petitioner, NHPC for approval of tariff of Kishanganga Hydroelectric Project (3 x 110 MW) (hereinafter referred to as 'the generating station / project') for the period from the anticipated date of commercial operation of the units (31.1.2018) till 31.3.2019, in terms of the provisions of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2014 (hereinafter called 'the 2014 Tariff Regulations').

2. Kishanganga Hydroelectric Project, located in the Bandipora District of Jammu & Kashmir, is a Run of the River with pondage scheme (ROR with pondage) 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 project was sanctioned on the basis of a feasibility report prepared by State Government which was further reviewed by the petitioner in October, 2005.

3. The project was handed over to the petitioner for execution by the State Government through MOU signed between Government of J&K and MOP, GOI in July, 2000. Thereafter, Ministry of Power, GOI on 20.7.2007 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.

4. Subsequent to sanction of the Project, the major works were awarded to M/s Kishanganga Consortium (HCC-Halcrow) on turnkey basis through International Competitive Bidding with an award price was ₹2919.07 crore. However, due to variation between sanctioned cost and award cost, a fresh proposal for revised

CCEA approval was processed. Accordingly, 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 project was scheduled for commissioning in January, 2016.

5. The petitioner has filed this petition for determination of tariff based on the anticipated date of commercial operation of Units- I & II as 31.1.2018 and Unit –III as 28.2.2018. In compliance with the directions of the Commission vide ROP of the hearing dated 20.2.2018, the petitioner vide affidavit dated 16.3.2018 has filed the additional information.

6. During the hearing on 22.5.2018, the petitioner prayed for grant of interim tariff for the generating station, based on the audited balance sheet as on 31.3.2018 (2017-18), instead of capital cost of the project as on 30.9.2017. The petitioner vide affidavit dated 14.6.2018 has submitted that the actual date of COD of Unit-I is 18.5.2018 and Units- II & III is 24.5.2018 and the allocation of power from the project has been notified by the MOP, GOI on 31.5.2018.

7. The petitioner has submitted that due to various reasons the project could not be commissioned within the scheduled period and the final sanctioned cost of ₹3642.04 crore. The petitioner has 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). It has also stated that since the actual cost incurred between 1.4.2018 till COD has not yet been firmed up/ audited, 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. The petitioner has submitted that Tata Consulting Engineers Limited has been appointed as the Designated Independent Agency (DIA) for vetting of capital cost of the project and report of DIA is awaited. Revised Cost Estimate (RCE) of the project at a completion cost of ₹5882.01 crore (including IDC & FC) of ₹74.18 crore) at January, 2017 price level has been submitted to CEA/ MOP on 20.4.2017 and the same is under scrutiny of the CEA.

8. The break-up of the capital cost claimed by the petitioner in Form-9 as on actual COD of the generating station vide affidavit dated 14.6.2018 is as under:

(₹ in lakh)

Sl. No.	Particulars	Amount
1	Capital expenditure as per books as on 31.3.2018 (a)	549797.64
2	Liabilities (b)	15223.91
3	Net Cost as per books (c)= (a)-(b)	534573.73
4	Normative IDC (d)	35849.52
5	**Total Capital Cost including NIDC (e)= (c) +(d)**	**570423.26**
6	IDC and normative IDC in sl. No. 5 above (f)	43417.36
7	FC in sl. No. 5 above (g)	19.56
8	IEDC in sl. No. 5 above (h)	94182.07
9	EDC in sl. No. 5 above (i)= (f)+(g)+(h)	137618.99

9. Based on the above, the fixed charges claimed from COD of the station till 31.3.2019 is as under:

(₹ in lakh)

	2018-19	
	18.5.2018 to 23.5.2018	**24.5.2018 to 31.3.2019**
	1 unit	**3 units**
Depreciation*	46.88	7313.92
Interest on Loan	30.13	4699.60
Return on Equity	197.22	30765.54
Interest on Working Capital	8.71	1359.08
O & M Expenses**	60.64	9459.18
Total AFC (annualized)	**343.57**	**53597.32**

**1.50% for first 10 years, 3% for remaining 25 years*
*** reduced by the petitioner to 2% of completion cost in place of 2.5% of as per CERC norms.*

10. The petitioner has filed this application in terms of Regulation 7(1) of the 2014 Tariff Regulations and has prayed for grant of interim order to facilitate interim arrangement for billing of energy supplied to various beneficiaries after COD of Units I & II based on the capital cost claimed. The petitioner has also made publication of the notice of application for determination of tariff in compliance with Regulation 3(6) of the CERC (Procedure for making of application for determination of tariff, publication of the application and other related matters) Regulations, 2004. Copies of the petition have also been served on the respondents. The respondent, UPPCL vide affidavit dated 2.4.2018 has filed its reply to the petition and the petitioner vide affidavit dated 21.5.2018 has filed rejoinder to the said reply.

11. The present petition is required to be revised based on the audited financial details as on COD of all the units of the generating station. While the petitioner has incurred expenditure for the generating station, the respondent beneficiaries are reaping the benefits of such expenditure by way of supply of power. In this background and in order to enable the petitioner to meet its ongoing financial obligations through reasonable recovery of cost of supply of electricity by the petitioner, we consider the grant of interim tariff for the generating station for the period from 18.5.2018 till 31.3.2019, as stated in the subsequent paragraphs.

Time and Cost overrun

12. The scheduled COD of the project was on 13.1.2016 (84 months from date of revised sanction cost on 14.1.2009). Thus, there is time over run of 28 months as on actual COD of the station i.e. 24.5.2018 from the scheduled COD. Similarly, there is cost overrun of ₹2239.97 crore involved in the project. The petitioner has

furnished reasons/ justification for the time and cost overrun involved in the commissioning of the project, including PERT chart showing critical path of the project. The respondent, UPPCL has submitted that the Commission may direct the petitioner to submit documentary proof towards justification for the time overrun. It has also submitted that proportionate IDC & IEDC may be deducted by the Commission after final condonation of the delay. The question of time and cost overrun involved in the project is required to be examined based on the report of the DIA on capital cost along with the submissions of the parties at the time of determination of final tariff of the generating station. Hence, the same has not been considered in this order.

Capital cost

13. The petitioner has submitted that capital cost of the project considered is based on audited books of accounts of the project upto 30.9.2017 amounting to ₹516437.35 lakh and anticipated expenditure upto COD for ₹239.18 crore. It has however submitted that the project cost claimed for the purpose of tariff is ₹ 5755.24 crore which includes normative IDC of ₹351.69 crore upto 28.2.2018. The petitioner has further submitted that RCE of the project amounting to ₹5882.01 crore has been submitted to MOP and the Board of Directors had approved the RCE for the said amount in its Board Meeting held on 28.5.2018. The actual capital expenditure upto 31.3.2018, as per audited books of accounts is ₹5345.73 crore (excluding liabilities of ₹152.24 crore). It is observed that in case of Parbati HEP-III project of the petitioner, wherein time and cost overrun was involved and RCE was yet to be approved by the Central government, the Commission by order dated 25.6.14 in Petition No. 228/GT/2013 had granted interim tariff based on 85% of the

capital cost incurred as per latest available audited balance sheet prior to the COD of the unit/station. In line with this decision, we grant interim tariff of this generating station based on 85% of cash expenditure of ₹534573.73 lakh as per the balance sheet on 31.3.2018 with details as below:

(₹ in lakh)

	18.5.2018 to 23.5.2018 (COD of Unit-I)	24.5.2018 to 31.3.2019 (COD of Unit- II & III/station)
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**

Normative IDC

14. The petitioner has claimed normative IDC amounting to ₹35849.52 lakh while calculating the capital cost for the purpose of tariff. This has not been considered in this order. The same shall be considered at the time of determination of final tariff of the generating station, on prudence check.

15. Return on equity and interest on loan components have been considered in terms of the 2014 Tariff Regulations.

16. Regarding depreciation & O&M expenses allowable to the station in terms of 2014 Tariff Regulations, the petitioner has submitted as follows:

a) Kishanganga HE Project has substantial subordinate loan from Govt. of India having very low interest rate. The repayment schedule of this loan is also deferred by 10 years from COD.

b) Keeping in view present energy market scenario and in order to ensure sale of power, the petitioner has optimized the norms of O&M expenses from 2.5% of project cost to 2.0%.

17. Accordingly, the petitioner has prayed that it be allowed following depreciation rates and O&M expenses in deviation to 2014 Tariff Regulations:

Sl No.	Parameters	Existing CERC Norms	Deviated Norms on which petitioner has calculated the AFC
1	Depreciation	Weighted average rate of depreciation based on Straight Line Method (approx. 5.00%) for 12 years. Remaining depreciation after 12 years of COD to be spread over the balance useful life of assets (i.e. 23 years).	Rate of depreciation has been considered as **1.50% for initial 10 years** from COD of the Station. Thereafter, the remaining depreciation is to be spread over the balance useful life of assets (i.e. 25 years) which is approx. 3%.
2	O&M Expenses (values considered from affidavit dated 14.6.2018)	O&M Expenses at 2.50% of original project cost (excluding cost of R&R works) for first year after COD of the Station is **₹13832.53 lakh.**	O&M Expenses of **₹11066.03 lakh** @ 2 % of original project cost (excluding cost of R&R works).

18. With regard to the deviated norms, the petitioner has submitted as follows:

*"The above deviations stand approved by NHPC Board of Directors in 411th BOD held on 21.012.2017. Copy of board resolution is annexed as **Annex-XI**. In order to meet requirement of regulation 48(1) of CERC Tariff Regulations, 2014, the calculation of first full year tariff and levellised tariff as per CERC norms and deviated norms have been worked out in **Annex-XII** and its abstract is tabulated as under:*

(₹/ Unit)

	Existing CERC Norms	***Deviated Norms***
First Full Year Tariff	*6.13*	*4.49*
Levellised Tariff	*6.36*	*5.28*

From above it has been concluded that tariff calculated by deviated norms is lower than the tariff calculated as per CERC norms and hence deviation sought by petitioner meets the requirement of regulation 48(1) of CERC Tariff Regulations, 2014.

19. With regard to the reduced deprecation rate proposed by the petitioner, the respondent, UPPCL vide its affidavit dated 2.4.2018 has agreed to the deviated norm of depreciation while consenting to purchase power from the project subject to the condition that it will have the right to refusal in case the Commission does not agree to the proposal of the petitioner with regard to the reduced depreciation rate.

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. However, in view of the fact that capital cost for the purpose of provisional tariff has been allowed as 85% of cash expenditure as per latest available balance sheet, the deviated norms shall be applied on the same base.

22. Accordingly, O & M Expenses has been worked out and allowed for the purpose of interim tariff as under:

(₹ in lakh)

	18.5.2018 to 23.5.2018 (Unit-I)	24.5.2018 to 31.3.2019 (Units II & III)
Capital cost considered as on COD of Units/station	151462.56	454387.67
Less: R&R expenses	4851.23	14553.70
Capital cost for the purpose of O&M expenses	146611.32	439833.97
Annualized O&M expenses **@ 2% of above**	2932.23	8796.68
Number of days	6	312
O&M expenses allowed for the period	48.20	7519.35

23. Based on the above and after carrying due prudence check, the pro-rata fixed charges allowed for the purpose of interim tariff is as under:

(₹ in lakh)

	2018-19	
	18.5.2018 to 23.5.2018 (Unit- I)	24.5.2018 to 31.3.2019 (Units- II & III)
Return on Equity	155.93	24325.22
Interest on Loan	24.25	3749.05
Depreciation	37.35	5826.12
Interest on Working Capital	6.92	1078.18
O & M Expenses	48.20	7519.35
Total	**272.65**	**42497.92**

Normative Annual Plant Availability (NAPAF)

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.

Design Energy

25. CEA while granting Techno-Economic Clearance for the project has approved the Design Energy (DE) of 1712.96 MUs. The month-wise breakup for the same is as under:

Month	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

26. The interim fixed charges granted above are subject to adjustment after determination of final tariff of the generating station. The petitioner is directed to revise the petition along with the tariff filing forms, based on the actual expenditure till COD of the units/station and subsequent additional capital expenditure, if any. The petitioner is also directed to furnish at least one of the following 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

Sd/-	***Sd/-***	***Sd/-***
(Dr. M.K.Iyer)	**(A.K.Singhal)**	**(P.K.Pujari)**
Member	**Member**	**Chairperson**