

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 7/GT/2017

Coram:

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

Date of Order: 5th April, 2019

In the matter of

Approval of tariff of Parbati Hydroelectric Project, Stage-III (520 MW) for the period from 24.3.2014 to 31.3.2014

And

In the matter of

NHPC Ltd
NHPC Office Complex,
Sector-33, Faridabad
Haryana-121003

.. Petitioner

Vs

1. Punjab State Power Corporation Ltd,
The Mall, Near Kali Badi Mandir,
Patiala - 147001
2. (a) Dakshin Haryana Bijili Vitaran Nigam Ltd,
(b) Uttar Haryana Bijili Vitaran Nigam Ltd
Shakti Bhawan, Sector - 6
Panchkula - 134 109
3. BSES-Rajdhani Power Ltd.
BSES Bhawan, Nehru Place,
New Delhi - 110019
4. Uttar Pradesh Power Corporation Ltd,
Shakti Bhavan, 14, Ashok Marg,
Lucknow - 226001
5. BSES-Yamuna Power Ltd.,
Shakti Kiran Building,
Karkardooma, Delhi-110072
6. (a) Rajasthan Rajya Vidyut Prasaran Nigam Ltd.,
(b) Jaipur Vidyut Vitaran Nigam Ltd.,
Vidut Bhavan, Janpath, Jyoti Nagar,
Jaipur-302005



7. Tata Power Delhi Distribution Ltd.,
Hudson Lane, Kingsway Camp,
New Delhi-110009
8. Jodhpur Vidyut Vitaran Nigam Ltd.,
New Power House, Industrial Area,
Jodhpur-342003
9. Uttaranchal Power Corporation Ltd
Urja Bhawan, Kanwali Road,
Dehradun-248001
10. Ajmer Vidyut Vitaran Nigam Ltd
Old Power House, Hatthi Bhatta,
Jaipur Road, Ajmer-305001
11. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House,
Shimla-171004
12. Engineering Department,
UT Secretariat, Sector 9D
Chandigarh-160009
13. Power Development Department,
Government of J&K, New secretariat,
Jammu-180001 (J&K)

... Respondents

Parties Present:

Shri A.K. Pandey, NHPC
Shri Piyush Kumar, NHPC
Shri Jitender Kumar, NHPC
Shri R.B. Sharma, Advocate, BRPL & BYPL
Shri Mohit Mudgal, Advocate, BRPL & BYPL
Ms. Aayushi Singh, Advocate, TPDDL
Shri Sameer Singh, BYPL
Ms. Shefali Sobti, TPDDL
Shri Manish Garg, UPPCL

ORDER

The Petitioner, NHPC has filed this petition for revision of tariff of Parbati Hydroelectric Project, Stage-III (4 x 130 MW) (hereinafter ‘the generating station’) for the period from 24.3.2014 to 31.3.2014 based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (‘the 2009 Tariff Regulations’).



2. The generating station situated in the State of Himachal Pradesh, is a pondage type scheme, providing peaking support to the grid when operated in tandem with the upstream Parbati HE Project, Stage-II. The project has been sanctioned by the Government of India in November, 2005 at a cost of ₹2304.56 crore at May, 2005 price level. The generating station comprises of four units of 130 MW each and the date of commercial operation (COD) of the units are as under:

Units	COD
I & II	24.3.2014
III	30.3.2014
IV	6.6.2014

3. The project was approved by the Ministry of Power, Govt. of India on 9.11.2005, at an estimated cost of ₹2304.56 crore including IDC & FC of ₹203.42 crore at May, 2005 price level, with the completion schedule of 60 months (November, 2010). The petitioner filed Petition No. 228/GT/2013 and had accordingly prayed for grant of provisional tariff of Units I to III. Considering the fact that the petitioner had neither furnished the approved Revised Cost Estimate (RCE) by the Central Government nor the report on the Capital cost duly vetted by the Designated Independent Agency (DIA) in terms of the guidelines specified by the Commission, the Commission by order dated 25.6.2014 granted provisional tariff based on 85% of the actual capital cost incurred based on audited balance sheet as on 31.12.2013. Pursuant to the declaration of COD of Unit-IV on 6.6.2014, the said petition was amended stating that though the capital cost as on COD of the project 6.6.2014, is ₹259841 lakh (including un-discharged liability of ₹5421 lakh), the capital cost of ₹194153.97 lakh (including un-discharged liability of ₹4784 lakh) has been considered as the capital cost for the three units. Subsequently, the Commission by order dated 28.3.2016 disposed of Petition No.228/GT/2013 revising



the interim tariff granted vide order dated 25.6.2014, by considering 85% of the actual capital cost incurred based on audited balance sheet as on 31.3.2014. Accordingly, the provisional fixed charges allowed for the period from 24.3.2014 to 31.3.2014 by Commission's order dated 28.3.2016 are as under:

	(₹ in lakh)	
	24.3.2014 to 29.3.2014 (Units-I & II)	30.3.2014 to 31.3.2014 (Units-I to III)
Return on Equity	110.01	55.16
Interest on Loan	119.39	59.81
Depreciation	87.35	43.79
Interest on Working Capital	9.02	4.52
O & M Expenses	35.07	17.58
Total	360.83	180.87

4. The Commission in the said order had granted liberty to the petitioner to file fresh petition for determination of tariff of Units I to III of the generating station along with the approved RCE and the report on the capital cost duly vetted by the DIA. The relevant portion of the order is extracted hereunder:

“22. The Petitioner is granted liberty to file fresh petition for determination of final tariff of the units of this generating station in terms of the 2009 Tariff Regulations along with the approved RCE and the report on the capital cost duly vetted by the DIA. Since Unit-IV of the generating station has been declared COD on 6.6.2014, the tariff of the said unit would be governed by the provisions of the 2014 Tariff Regulations. Accordingly, the Petitioner is directed to file a separate petition for the same which would be considered in accordance with law.”

5. In terms of the liberty granted as above, the Petitioner has filed this Petition for approval of tariff for the period 2013-14 in respect of Units I to III of the generating station and has claimed the annual fixed charges as under:

	(₹ in lakh)	
	24.3.2014 to 29.3.2014 (Units I to II)	30.3.2014 to 31.3.2014 (Units I to III)
Depreciation	102.64	51.40
Interest on loan	139.18	69.64
Return on Equity	128.25	64.22
Interest on Working Capital	10.75	5.38
O & M Expenses	44.98	22.49
Total	425.80	213.13



6. During the hearing of the Petition on 21.3.2017, the Commission directed the petitioner to submit the approved RCE within two months. Thereafter, the Petitioner vide affidavit dated 10.10.2018 has enclosed copy of the MOP, GOI letter dated 9.10.2018 conveying the CCEA approval of RCE of the Project for ₹2539.75 crore including IDC & FC of ₹430.72 crore.

7. The Petitioner has filed the additional information in compliance with the directions of Commission with copy to the Respondents. Replies to the Petition have been filed by the Respondents, UPPCL, BRPL and the discoms of Rajasthan. The Petitioner has filed its rejoinder to the said replies. The Commission after hearing the parties on 11.10.2018 reserved its order in the Petition. Based on the submissions of the parties and the documents available on record, we proceed to determine the tariff of the generating station as stated in the subsequent paragraphs.

Capital Cost

8. The Techno-Economic Clearance was accorded by the CEA on 12.11.2003 with a project cost of ₹2228.41 crore including IDC & FC of ₹221.80 crore at July, 2003 PL. The CCEA approval of the project was accorded on 9.11.2005 at an estimated cost of ₹2304.56 crore including IDC & FC of ₹203.42 crore at May, 2005 price level, with the completion schedule of 5 years (60 months) i.e November, 2010.

9. The Petitioner vide affidavit dated 24.11.2016 has submitted the capital cost (including the CWIP up to COD) of the Project as per books of accounts is as under:

(₹ in lakh)		
Date	Capital cost (including liability)	Liability
24.3.2014 (COD of Units I & II)	2308.48	79.91
30.3.2014 (COD of Unit-III)	2357.54	73.76
31.3.2014	2431.33	70.07



6.6.2014 (COD of Unit-IV)	2437.43	60.56
31.3.2015	2441.09	38.36

10. Based on the above, the unit-wise capital cost claimed for the purpose of tariff is as under:

(₹ in crore)					
COD	Capital cost (including liability, IDC, Normative IDC, FC & IEDC)	Liability	IDC & FC	Normative IDC	Capital cost
24.3.2014 (COD of Units I & II)	1284.97	39.23	211.27	81.86	1245.74
30.3.2014 (COD of Unit-III)	1927.41	55.92	317.53	122.88	1871.49
6.6.2014 (COD of Unit-IV)	2598.55	59.91	430.72	165.46	2538.64

11. The capital cost has been apportioned unit-wise for arriving at the capital cost for the purpose of tariff on different dates of COD. The Petitioner has further submitted that the project has been commissioned on 6.6.2014 with revised cost of ₹2611.85 crore including IDC & FC of ₹430.72 crore as approved by the Board of Directors of the Petitioner company and submitted to MOP, GOI on 23.12.2015. It has stated that MOP, GOI vide its letter dated 9.10.2018 has conveyed to the Petitioner the approval of RCE for ₹2539.75 crore including IDC of ₹424.51 crore & FC of ₹621.00 crore. The petitioner has however clarified vide affidavit dated 15.3.2017 that the present petition is for approval of tariff for three units only upto 31.3.2014 considering the capital cost of ₹1927.41 crore as on 31.3.2014.

Time & Cost Overrun

12. As stated, the project was scheduled to be commissioned during November, 2010. However, only three units of the generating station have been commissioned upto March, 2014, thereby resulting in the time overrun of 40 months upto



31.3.2014. With Unit-IV being declared under commercial operation on 6.6.2014, there is time overrun of 43 months (approx) in the completion of the project from its scheduled date of commissioning. The major causes for time overrun as submitted by the Petitioner is as under:

- (a) Geological reason i.e. excessive seepage, Loose rock for which NHPC has revisited design parameters and taken addition works during construction;*
- (b) Ban on crushing & use of sand and aggregates by Hon'ble High Court of Himachal Pradesh;*
- (c) Strike by POL Companies and Transporter*
- (d) Cloud burst & heavy rains at Salwad area near Adit-II of HRT*
- (e) Poor Law & order at project area*
- (f) Strike by Locals demanding permanent employment in NHPC*
- (g) Poor road conditions which resulted in fall of stator segment*
- (h) Removal / Termination of E & M sub-contractor by BHEL*
- (i) Delay in completion of Pot Head Yard due to geological reason*
- (j) Additional / Extra work, etc.*

13. The Petitioner has submitted that there is cost overrun of ₹307.28 crore and the same is justified on the ground of price escalation and other factors. The major causes of Cost overrun as submitted by the Petitioner are as under:-

- (a) Increase in scope of work*
- (b) Price escalation during extended period of construction.*
- (c) Increase in interest during construction (IDC) due to extended period of construction.*
- (d) Increase in establishment expenditure during extended period of construction.*
- (e) Increase in statutory levies / taxes etc.*

14. Regulation 7(2) of the 2009 Tariff Regulations inter alia provides that the Commission may issue guidelines for vetting of the capital cost of the hydro-electric 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 Aquagreen Engineering



Management Pvt Ltd, New Delhi as DIA for vetting of capital cost and the DIA has submitted its report on time and cost overrun on 12.9.2016. After considering the submissions of the Petitioner, the DIA in the said report has disallowed the (i) time period of 5 months taken by BHEL for termination of E&M sub-contract/re-tendering and remobilisation of sub-contractor out of time overrun of 10 months in the execution of the project and (ii) the time period of 5 months for additional work in Pot head yard. Accordingly, the DIA has recommended the cost of ₹2323.16 crore only as on COD. The Petitioner in this Petition has objected to the report of DIA with regard to the disallowance of time overrun of 10 months and has submitted that removal of sub-contractor was done by BHEL under compelling circumstances as the frequent strikes and non-cooperation by workforce was not only affecting the E&M work but also the civil works. Similarly, due to site condition, the Petitioner had to conduct topographical survey, redesign the entire work and execute the additional work of concreting to stabilize the site. Accordingly, the Petitioner has submitted that the deduction of establishment charges and IDC in the capital cost of the project has no relation to the actual cost incurred thereon.

15. The Respondent, BRPL has submitted that the time overrun is entirely attributable to the slackness of the Petitioner in the project management. It has also submitted that the issue of delay between the contractor and the supplier is required to be sorted out between the Petitioner & BHEL and BHEL & its vendors. The Respondent has further submitted that the delay of 43 months is covered by the situation under para 7.4 (i) of the judgment dated 27.4.2011 of the Tribunal in Appeal No. 72 of 2010 and hence the Petitioner is not entitled to any relief. The Respondent has pointed out that there has been improper coordination between the various contractors and hence the time overrun and cost overrun may not be



allowed as the reasons for delay are attributable to the Petitioner. The Respondent, UPPCL vide affidavit dated 8.3.2017 has submitted that the submissions of the Petitioner in response to the DIA report is not acceptable.

16. We have examined the matter. As stated, the provisions of Regulation 7 of the 2009 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 of ₹232316.18 lakh as against the claim of the petitioner for ₹244014.74 lakh as on COD of the station and DIA in its report has not vetted the balance additional capital expenditure from COD of the station till cut-off date i.e. completion cost. However, in the present case, it is noticed that the RCE i.e. completion cost of ₹261185.00 lakh as submitted by the petitioner was examined in detail and vetted by MOP, GOI through its nodal agency i.e, the CEA in association with CWC and thereafter, the RCE of ₹253975.00 lakh has been approved by MOP, GOI. In other words, MOP, GOI after having considered the various aspects relating to time and cost overrun and after taking into account various reports and recommendations of CEA and CWC had approved the RCE of the project. Since the RCE had undergone such process and been approved after a detailed review by competent technical bodies, we are inclined to consider the approved RCE cost of ₹253975.00 lakh as the completion cost of the project.

IDC

17. The Petitioner has furnished the details of amount, date of drawl, rate of interest etc. in respect of loans. Based on the above details, IDC has been calculated up to COD of Units I to III of the generating station as under:



(₹ in lakh)

24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
20817.12	31287.20

Normative IDC

18. In terms of clause (a) of Regulation 7 of the 2009 Tariff Regulations, Normative IDC over and above the actual IDC has been worked out considering the debt-equity position corresponding to the actual cash expenditure. This has been allowed for the purpose of tariff as under:

(₹ in lakh)

24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
8185.92	12287.66

Financial Charges

19. The Petitioner in its petition has submitted that the financial charges amounting to ₹310.38 lakh as on 24.3.2014 and ₹466.40 lakh as on 30.3.2014 may be allowed. The same have been considered for the admitted capital cost.

20. Accordingly, the unit-wise break-up of the capital cost allowed for the purpose of tariff is as under:

(₹ in lakh)

	24.3.2014 to 29.3.2014 (Units I & II)	30.3.2014 to 31.3.2014 (Unit-III)
Hard Cost	99183.89	148699.08
IDC	20817.12	31287.20
FC	310.38	466.40
Normative IDC	8185.92	12287.66
Total	128497.32	192739.51
Liability	3923.22	5592.06
Capital cost allowed	124574.10	187147.46

21. It is observed that the unit-wise break-up of the capital cost as allowed above, of ₹124574.10 lakh for Units-I & II and ₹187147.46 lakh for Unit-III is within



the approved RCE of ₹253975.00 lakh and the same is allowed for the purpose of tariff.

Initial Spares

22. The Petitioner has claimed cost of initial spares amounting to ₹2215.00 lakh as per Form 5B and the same is within the ceiling norm of 1.5% of the original capital cost in terms of the 2009 Tariff Regulations. Hence, the same is considered.

Debt-Equity ratio

23. Regulation 12 of the 2009 Tariff Regulations provides as under:

“12. Debt-Equity Ratio (1) For a project declared under commercial operation on or after 1.4.2009, 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 where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

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

***Explanation-** The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilized for meeting the capital expenditure of the generating station or the transmission system.*

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

24. The petitioner has considered the debt equity ratio of 70:30 which has been worked out after considering the debt and cumulative cash expenditure position as on COD. Accordingly, the debt equity ratio of 70:30 has been considered for the purpose of tariff.



Return on Equity

25. Regulation 15 of the 2009 Tariff Regulations provides as under:

“15. Return on Equity. (1)Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 12.

(2) Return on Equity shall be computed on pre-tax basis at the base rate of 15.5% for thermal generating stations, transmission system and run of the river generating station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall be grossed up as per clause (3) of this regulation:

Provided that in case of projects commissioned on or after 1st April, 2009, an additional return of 0.5% shall be allowed if such projects are completed within the timeline specified in Appendix-II:

Provided further that the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever.

(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

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

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

Where “t” is the applicable tax rate in accordance with clause (3) of this regulation.

(5)The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.

26. In accordance with the above Regulations, Return on Equity has been computed as follows:

	(₹ in lakh)	
	24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
Gross Notional Equity	37372.23	56144.24
Addition due to additional capitalization	0.00	0.00



Closing Equity	37372.23	56144.24
Average Equity	37372.23	56144.24
Return on Equity (Base Rate)	16.500%	16.500%
Tax rate for the year	20.961%	20.961%
Rate of Return on Equity	20.876%	20.876%
Return on Equity	128.25	64.22

Interest on loan

27. Regulation 16 of the 2009 Tariff Regulations provides as under:

“(1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year.

(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 annual depreciation allowed.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project.

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered.

Provided further that if the generating station 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 re-financing.

(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 beneficiary or the transmission customers 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.”



28. In terms of the above regulations, Interest on loan has been computed as follows:

(₹ In lakh)

	24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
Gross Normative Loan	87201.87	131003.22
Cumulative Repayment up to Previous Year	0.00	102.63
Net Loan-Opening	87201.87	130900.59
Repayment during the year	102.63	51.40
Addition due to Additional Capitalization	0.00	0.00
Net Loan-Closing	87099.24	130849.19
Average Loan	87150.55	130874.89
Weighted Average Rate of Interest on Loan	9.715%	9.710%
Interest	139.18	69.64

Depreciation

29. Regulation 17 of the 2009 Tariff Regulations provides as under:

“(1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.

(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

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

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

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

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III 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 date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation including Advance against Depreciation as admitted by the Commission up to 31.3.2009 from the gross depreciable value of the assets.

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



30. In accordance with the above regulations, the weighted average rate of depreciation of 5.012% for 2013-14 has been considered for the calculation of depreciation. Accordingly, depreciation has been worked out and allowed as under:

	(₹ In lakh)	
	24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
Gross Block as on COD	124574.10	187147.46
Additional capital expenditure	0.00	0.00
Closing gross block	124574.10	187147.46
Average gross block	124574.10	187147.46
Rate of Depreciation	5.012%	5.012%
Depreciable Value	112116.69	168432.71
Remaining Depreciable Value	112116.69	168330.08
Depreciation	102.63	51.40

Operation & Maintenance Expenses

31. Regulation 19 (f) (v) of the 2009 Tariff Regulations provides as under:

“In case of hydro generating station declared under commercial operation on or after 1.4.2009, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding rehabilitation & resettlement works) and shall be subject to annual escalation of 5.72% per annum for subsequent years.”

32. The petitioner has claimed O&M expenses for the period 2009-14 based on original project cost as on cut-off date. The O&M expenses claimed by the petitioner is as under:

(₹ in lakh)	
24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
44.98	22.49

33. The petitioner has claimed O&M expenses for the period 2013-14 based on the original project cost of Rs. 274347.40 lakh as on cut-off date (31.3.2017). As per Regulation 19(f)(v) of the Tariff Regulations, 2009, O&M expense for the first year of operation post COD of the station has to be calculated based on the capital expenditure as on cutoff date. However, pre-COD of the station i.e. when the units are being capitalized on individual dates,



the capital cost as admitted on individual Unit CODs only qualifies for the calculation of O&M expenses. Accordingly, O&M expense allowed to the generating station for the period from 24.03.2014 to 31.3.2014 is as under:

	(₹ in lakh)	
	24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
Total capital expenditure as on COD of the units (a)	124574.10	187147.46
Apportioned R & R Expenditure (₹713.11 lakh) (b)	356.56	534.83
Capital cost considered for O&M expenses (excluding R&R expenses) (c) = (a)-(b)	124217.54	186612.63
O&M Expenses (annualised) (d) = 2% of (c)	2484.35	3732.25
O&M Expenses pro rata (e) = (d)* (no. of days) / 365	40.84	20.45

Interest on Working Capital

34. Regulation 18(1)(c) of the 2009 Tariff Regulations provides that the working capital for hydro based generating stations shall cover:

“(i) Cost of coal for 1.5 months for pit-head generating stations and two months for non-pithead generating stations, for generation corresponding to the normative annual plant availability factor;

(ii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel oil, cost of fuel oil stock for the main secondary fuel oil;

(iii) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 19.

(iv) Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor; and

(v) O&M expenses for one month.”

35. Clause (3) of Regulation 18 of the 2009 Tariff Regulations as amended on 21.6.2011 provides as under:

“Rate of interest on working capital shall be on normative basis and shall be considered as follows: (i) SBI short-term Prime Lending Rate as on 01.04.2009 or on 1st April of the year in which the generating station or unit thereof or the transmission system, as the case may be, is declared under commercial operation, whichever is later, for the unit or station whose date of commercial operation falls on or before 30.06.2010.

(ii) SBI Base Rate plus 350 basis points as on 01.07.2010 or as on 1st April of the year in which the generating station or a unit thereof or the transmission system, as the case may be, is declared under commercial operation, whichever is later, for the units or station whose date of commercial operation lies between the period 01.07.2010 to 31.03.2014.



Provided that in cases where tariff has already been determined on the date of issue of this notification, the above provisions shall be given effect to at the time of truing up.”

36. In terms of the above, interest on working capital has been worked out as under:

Receivables

<i>(₹ in lakh)</i>	
24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
70.24	35.16

Maintenance Spares

<i>(₹ in lakh)</i>	
24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
6.13	3.07

O&M Expenses

<i>(₹ in lakh)</i>	
24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
3.40	1.70

Rate of interest on working capital

37. Rate of interest on working capital of 13.20% (9.70% + 3.50%) for the period 24.3.2014 to 31.3.2014 has been considered for the purpose of tariff.

38. Necessary computations in support of calculation of interest on working capital are as under:

	<i>(₹ in lakh)</i>	
	24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
Maintenance Spares	6.13	3.07
O & M expenses	3.40	1.70
Receivables	70.24	35.16
Total	79.77	39.93
Interest on Working Capital	10.53	5.27



Annual Fixed Charges

39. The fixed charges allowed for the purpose of tariff for the period from 24.3.2014 to 31.3.2014 is summarized as under:

	(₹ in lakh)	
	24.3.2014 to 29.3.2014	30.3.2014 to 31.3.2014
Return on Equity	128.25	64.22
Interest on Loan	139.18	69.64
Depreciation	102.63	51.40
Interest on Working Capital	10.53	5.27
O & M Expenses	40.84	20.45
Total	421.43	210.98

Normative Annual Plant Availability Factor (NAPAF)

40. The Commission vide its order dated 25.6.2014 in Petition No. 228/GT/2013 has approved the NAPAF of the generating station as under:

“20. The Petitioner has claimed NAPAF of 31% for this project, while operating it as ROR scheme, prior to the commissioning of the upstream Parbati-II HEP. The Petitioner vide its affidavit dated 22.10.2013 has submitted justification for its claim as under:

(a) It is mentioned in the DPR of the project, as cleared by CEA that Parbati-III HEP will operate as ROR scheme till commissioning of upstream Parbati-II HEP. This is based on the fact that the live storage capacity of Parbati-III HEP is only 1.28 MCM which is not sufficient to provide minimum three hours peaking with four units.

(b) Similarly, the post-sedimentation live storage capacity is only 0.87 MCM which is just sufficient to meet 1.36 hours of peaking. The NAPAF for Parbati-III HEP which has been claimed at 31% is actually based on the operation of the power station as ROR scheme. The same will be reviewed after commissioning of Parbati-II HEP.

Peaking operation of the plant: 21. The Petitioner has proposed to operate the project as Run of River project till the upstream Parbati-II HEP is commissioned. However, the live storage capacity of 1.28 MCM is available which can be utilized to provide peaking power. On perusal of the design energy data and corresponding inflows, it is observed that the generating station can provide 3 hours of daily peaking depending on the inflows. However, due to reduced inflows on account of the non-commissioning of upstream Parbati-II HEP, this generating station would be able to provide maximum available peaking support for three hours in two slots of 1.5 hours each (morning & evening peak). In view of the fact that the generating station has been designed to operate in peaking mode and for that purpose a dam has been constructed whose cost has been embedded in the cost of the project, we find it prudent that the generating station should be operated to provide peaking support to the grid. Accordingly, we direct the Petitioner to provide 1.5 hours of peaking in two slots of morning & evening each, till the upstream Parbati-II HEP is commissioned. Also, in order to facilitate peaking



power from this generating station in the scenario discussed above, we direct the NRLDC to provide schedule to this generating station accordingly. Based on the ₹10-daily Design Energy approved by CEA along with the provision of providing 3 hours of daily peaking (in two slots of morning & evening each for 1.5 hours), the NAPAF of 68% has been worked out and allowed till the commissioning of upstream Parbati-II HEP as against the claim of 31% by the Petitioner based on ROR operation. The computation of NAPAF is enclosed as Annexure-I to this order.

22. We make it clear that no incentive on account of higher PAF and secondary energy (excess of design energy) has been allowed to this generating station, till the commercial operation of all the units of the upstream Parbati-II HEP. Moreover, the annual design energy and NAPAF of the generating station as allowed above is subject to review after the commercial operation of upstream Parbati-II HEP.”

The NAPAF approved by the Commission as above has been considered.

Design Energy

41. As regards Design Energy, the Commission vide its order dated 25.6.2014 has observed as under:

“19. The Petitioner has submitted that the completion of upstream Parbati-II HEP has been delayed due to various reasons and the said project could not be made operational prior to the commissioning of this generating station. It has also submitted that the tail race water of Parbati-II HEP would not be available for generation at this project and therefore, this generating station would operate as ROR scheme till the commissioning of upstream Parbati-II HEP, based on the fact that the live storage capacity of this project is only 1.28 MCM which is not sufficient to provide minimum three hours peaking with four units. It has further submitted that the post-sedimentation live storage capacity is only 0.87 MCM which is just sufficient to meet 1.36 hours of peaking. The Petitioner has also submitted that the annual design energy of this project, on stand-alone basis, till the commissioning of upstream Parbati-II HEP, with downstream discharge as 1.15 cumecs and updated discharge series (1973-74 to 2010-11) approved by CEA, in a 90% dependable year would be 701.40 Million Units. It has stated that the design energy of this project would be reviewed by CEA on the commissioning of upstream Parbati-II HEP. Considering the above, we allow the design energy of 701.40 Million Units as approved by CEA till the commissioning of the upstream Parbati-II HEP.”

42. The Petitioner has claimed the Design Energy of 701.40 MU as approved by CEA till the commissioning of Parbati-II HEP of the Petitioner. However, during the course of hearing, the Petitioner, in its bid to reduce the tariff of the generating station has requested the Commission to consider the original Design Energy (1977.20 MU) in respect of this generating station for calculation of Energy Charge Rate (ECR) even though matching inflows are not available due to non-commissioning of the up-stream project .



43. The Commission vide ROP of the hearing dated 25.7.2017 had directed the Petitioner to discuss the proposal based on the original sanctioned cost and the original design energy with the Respondents and to arrive at a mutual settlement, and submit the status prior to next date of hearing. In compliance with the directions of the Commission, the Petitioner vide its affidavit dated 12.9.2017 had submitted that the proposal was discussed with the beneficiaries on 11.8.2017, in the presence of the following beneficiaries:-

- a) BSES Rajdhani Power Ltd, New Delhi (BRPL)
- b) U.P Power Corporation Ltd. (UPPCL)
- c) BSES Yamuna Power Ltd, New Delhi (BYPL)
- d) UT Chandigarh
- e) Rajasthan Urja Vikas Nigam Ltd.(RUVNL)
- f) Tata Power Delhi Distribution Ltd, New Delhi (TPDDL)
- g) Haryana Power Purchase Center (HPPC)

44. The Petitioner has further submitted that during the meeting the following was proposed by NHPC:-

(i) As sanction of RCE of the project may take considerable time, Commission may consider the original sanctioned cost of ₹ 2304.56 crore of the project for determination of tariff at present.

(ii) In order to allow tariff for all the four units and for reduction in composite tariff, Commission may consider the original design energy .i.e. 1977.20 MU of the project for the purpose of tariff.

(iii) As NHPC is in process of commissioning one unit of Parbati-II Power station and the generation from Parbati-III Project is likely to increase, Commission may review the provision of Clause 22 of the tariff order dated 25.6.2014 and allow NHPC to maximize generation from available water, so that composite tariff is further reduced. This will be in the interest of beneficiaries.

45. In response to the above, the Respondent, UPPCL vide affidavit dated 21.8.2017 has submitted as under:

(a) Proposal of NHPC is against the principles of tariff determination enshrined in Section 61 of Electricity Act, 2003. Section 61(d) provides for safeguarding of consumers interest and at the same time, recovery of the cost of electricity in a reasonable manner. The Petitioner seeks to recover



100% of capacity charges when it is in a position to generate only 35% of installed capacity. This is against commercial prudence.

(b) UPPCL rejects proposal of NHPC to recover capacity charges in full (i.e ₹237.82 crore for first year) till commissioning of Parbati-II HEP. Post commissioning of Parbati-II, it is expected that NHPC will be able to generate 1977.2 MUs. Once CERC/CEA confirms the design energy of Parbati III HEP as 1977.20 MU, UPPCL has no objection to recovery of capacity charges based on original sanctioned cost or RCE as approved by CERC/CEA.

46. The Respondent, TPDDL has submitted the following:

- (i) TPDDL appreciates the approach adopted by NHPC for reduction in tariff of Parbati-III, but the proposed tariff of ₹ 5.34 per unit as informed by M/s NHPC during the meeting is very high in comparison to the rate at which power is available in the power markets. Sourcing power at such a high tariff will put un-necessary burden on TPDDL consumers and hence the same is not acceptable to us.
- (ii) The revised proposal submitted by NHPC will become financially viable for the beneficiaries only when Parbati-II HEP is fully commissioned, constraints regarding water availability are removed for this generating station thereby making it capable of generating power corresponding to its full Design Energy (1977.20 MUs).
- (iii) In view of the above, at present we are not in a position to provide our consent towards NHPC proposal for determination of tariff in respect of this generating station as mentioned above.

47. The Respondent, HPPC has submitted as under:

- (a) NHPC should consider the original sanctioned cost of the project i.e. ₹2304.56 crore and original Design Energy of 1977.20 MUs, so that the composite tariff per unit will be approx. ₹2.80/- per Unit. However, even after considering the RCE amount submitted for ₹2611.85 crore subject to approval of MOP, GOI, the composite tariff shall be approx ₹3.20/- per unit (based on the original DE of 1977.20 MUs) as proposed in the meeting. The consequences of low NAPAFA due to less water flow (because of delay in upstream Parbati-II project), the beneficiaries should not be penalized.
- (b) NHPC proposed tariff of ₹5.48/- & ₹5.34/- per unit by considering less DE of 701.40 MUs & 800.65 MUs respectively on account of delay in commissioning of upstream Parbati-II project shall not be accepted. Accordingly, consequences of delay of commissioning of Parbati-II should not be passed on to the beneficiaries of this generating station.
- (c) MOP vide its 9.10.2018, while approving RCE has approved the Design Energy of 1963.29 MUs in place of 1977.20 MUs after considering the



additional mandatory release as finalized by Government of Himachal Pradesh.

48. We have examined the proposal of the Petitioner and the submissions of the Respondents herein. The proposal of the Petitioner suggests that it is willing to reduce tariff by reducing the ECR based on the original design energy. However, the Petitioner has not suggested any such relief towards the recovery of capacity charges due to the non-commissioning of Parbati-II HEP of the Petitioner. The Respondent beneficiaries, apart from relief in Energy Charges as suggested by the Petitioner, are also seeking relief in capacity charges due to low NAPAF (68% in place of 90% for pondage plants) due to low inflows on account of the non-commissioning of Parbati-II HEP. In our view, the consequences on account of the non-commissioning of the upstream project (Parbati-II HEP) cannot be considered on the downstream project (this generating station) in terms of lower recovery of capacity and energy charges except to the extent agreed to by the generator. Further, the Commission in its earlier order dated 25.6.2014 had decided the issue of lower NAPAF and the same was accepted by the Respondents and have therefore attained finality. However, as already decided, no incentive shall be allowed to the generating station on account of higher PAF in comparison to NAPAF of 68%, till the commercial operation of all units of the upstream Parbati II HEP. In view of the proposal of the Petitioner to consider the original Design Energy instead of the Design Energy of 701.40 MUs, thereby leading to overall reduction in tariff, the Design Energy of 1963.29 MUs as considered in the approval of RCE by the MOP, GOI in its letter dated 9.10.2018 has been considered for the generating station month-wise as detailed under:



Months	10 Days Monthly	Design Energy
April	1-10	28.88
	11-20	30.65
	21-30	43.86
May	1-10	55.76
	11-20	61.43
	21-31	71.39
June	1-10	71.65
	11-20	104.65
	21-30	89.52
July	1-10	118.56
	11-20	118.56
	21-31	130.42
August	1-10	118.56
	11-20	118.56
	21-31	130.42
September	1-10	111.01
	11-20	81.86
	21-30	57.43
October	1-10	41.14
	11-20	33.31
	21-31	31.63
November	1-10	25.39
	11-20	23.62
	21-30	22.81
December	1-10	19.83
	11-20	19.14
	21-31	21.68
January	1-10	19.18
	11-20	18.7
	21-31	20.87
February	1-10	18.6
	11-20	18.51
	21-29	16.92
March	1-10	19.73
	11-20	22.04
	21-31	27.02
Total		1963.29

49. The Petitioner has sought reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2013- 14. The Petitioner has deposited the filing fees for the period 2013-14 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. The Petitioner has also incurred charges towards publication of the tariff petition in the newspaper. Accordingly, in terms of the



2009 Tariff Regulations, the Petitioner is entitled to recover the filing fees and the expenses incurred on publication of notices for the period 2013-14 directly from the Respondents. Accordingly, the expenses incurred by the Petitioner towards tariff application filing fees and publication of notices in connection with the present petition shall be directly recovered from the Respondent beneficiaries on pro rata basis.

50. Petition No. 7/GT/2017 is disposed of in terms of the above.

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

Sd/-
(P.K. Pujari)
Chairperson

