CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No.321/GT/2018

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

Date of Order: 29th January, 2020

In the matter of

Determination of tariff of Chamera-III Hydroelectric Project (231 MW) for the period 2014-19

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 – 147 001

2. Uttar Haryana Bijli Vitran Nigam Limited
Vidyut Sadan, Plot No. C-16, Sector-6
Panchkula- 134109

3. Dakshin Haryana Bijli Vitran Nigam Limited
Vidyut Sadan, Vidyut Nagar,
Hisar- 125005

4. Haryana Power Purchase Centre
Shakti Bhawan, Sector-6,
Panchkula- 134109

5. Uttar Pradesh Power Corporation Ltd
Shakti Bhawan, 14, Ashok Marg,
Lucknow – 226 001

6. Engineering Department,
Union Territory of Chandigarh, 1st Floor,
UT Secretariat, Sector 9D,
Chandigarh – 160 009

7. North Delhi Power Ltd
33 kV Sub-station, Hudson Lane,
Kingsway Camp, Delhi – 110 009

8. BSES Yamuna Power Ltd
Shakti Kiran Building, Karkardooma,
New Delhi – 110 032

9. BSES Rajdhani Power Ltd
BSES Bhawan, Nehru Place,
New Delhi – 110 019

10. Rajasthan Rajya Vidyut Prasaran Nigam Ltd,
Vidyut Bhawan, Janpath, Jyoti Nagar,
Jaipur – 302 205

11. Jaipur Vidyut Vitran Nigam Ltd
Vidyut Bhawan, Janpath
Jaipur – 302 005

12. Ajmer Vidyut Vitran Nigam Ltd
Old Power House, Hatthi Bhatta,
Jaipur Road, Ajmer – 305 001

13. Jodhpur Vidyut Vitran Nigam Ltd,
New Power House, Industrial Area,
Jodhpur – 342 003

14. Uttarakhand Power Corporation Ltd,
Urja Bhawan, Kanwali Road,
Dehradun – 248001

15. Power Development Department,
New Secretariat, Jammu

16. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House
Shimla – 171 004 **…Respondents**

Parties Present:

Shri Rajiv Shankar Dvivedi, Advocate, NHPC
Shri Piyush Kumar, NHPC
Shri M.G Gokhale, NHPC
Shri V.N Tripathi, NHPC
Shri Dhanush. C.K, NHPC
Shri R.B Sharma, Advocate, BRPL & BYPL
Shri Mohit K. Mudgal, Advocate, BRPL & BYPL
Ms. Sonya Sood, Advocate, BRPL & BYPL
Shri Sanjay Srivastava, BRPL

ORDER

The Petitioner, NHPC has filed this petition for determination of tariff of Chamera-III Hydroelectric Project (3x 77 MW) ('hereinafter referred to as 'the generating station') for the period 2014-19, in terms of the provisions of the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2014 ('the 2014 Tariff Regulations').

Background

2. The generating station located in the Chamba District of the State of Himachal Pradesh was designed as a run of the river scheme with pondage, designed to operate as a peaking plant. The generating station comprises of 3 (three) units of 77 MW each, with annual design energy of 1108.17 MUs. Ministry of Power (MoP), GOI has allocated power amongst the beneficiaries vide its Notification dated 27.3.2012. The Respondent, Himachal Pradesh has been allocated a share of 16.356%, which includes 13% free power, out of which 12% free power is for the home State and the additional 1% is for Local Area Development Fund (LADF). The home State is to provide matching 1% from its 12% free power towards LADF corpus.

3. The administrative approval and expenditure sanction for the project was accorded by the Ministry of Power, GOI vide letter dated 1.9.2005 at an estimated cost of ₹140563 lakh, including IDC & FC of ₹11966 lakh, based on February, 2005 Price Level. As per administrative approval, the generating station was scheduled to be commissioned within 5 years from the date of its issue, that is, by 31.8.2010. However, the units of the generating station have been declared under commercial operation as under:

Unit-II	30.6.2012
Unit-III	30.6.2012
Unit-I	4.7.2012

4. Petition No. 26/GT/2013 was filed by the Petitioner for determination of tariff of the generating station for the period 2012-14 and the Commission by its order dated 24.3.2015 had determined the tariff for the said period. Thereafter, Petition No.194/GT/2015 was filed by the Petitioner for revision of tariff for the period 2012-14 and Petition No. 249/GT/2014 for determination of tariff for the period 2014-19. Since approval of Revised Cost Estimate (RCE) of the project was pending before the MOP, GOI, the Commission by a common order dated 6.2.2017 disposed of these petitions granting liberty to the Petitioner to approach the Commission after approval of RCE. Subsequently, by communication dated 3.7.2018, the Petitioner was advised to file tariff petitions in respect of their generating stations, by enclosing (i) Board approval of the actual cost of the Company and (ii) at least one of the documents namely (a) the DIA report (b) cost approved by CEA/PIB (c) cost approved by CCEA.

5. In terms of the liberty granted as above, the Petitioner filed Petition No. 282/GT/2018 for revision of tariff for the period 2012-14 after truing-up exercise along with the present petition for determination of tariff for the period 2014-19. It was submitted by the Petitioner that the Board of Directors of the Petitioner Company in its 385th meeting on 29.6.2015 had approved the RCE of the project at ₹204944 lakh. The Petitioner also submitted that it had pursued the matter with the MOP, GOI for approval of RCE amounting to ₹208401 lakh. It was also submitted that CEA vide its letter dated 24.9.2012 had advised the Petitioner to resubmit the proposal for vetting of capital cost of the generating station. The Petitioner stated that it had submitted the final revised cost of ₹ 204811 lakh and CEA vide its letter

dated 4.5.2016 had recommended the project cost for ₹204811 lakh. Based on this, the Standing Committee for time & cost overrun, after detailed analysis, had recommended the completion cost of the project as ₹200412 lakh, up to the cut-off date of the generating station i.e. 31.3.2015. The Petitioner clarified that RCE is pending for approval by MOP, GOI. Accordingly, the Commission vide its order dated 28.1.2020 revised the tariff of the generating station for the period 2012-14 after truing-up exercise. The annual fixed charges determined by the Commission in its order dated 28.1.2020 in Petition No. 282/GT/2018 is as under:

(₹ in lakh)

	30.6.2012 to 3.7.2012 (2 Units)	4.7.2012 to 31.3.2013 (all 3 Units)	1.4.2013 to 31.3.2014 (all 3 Units)
Return on Equity	84.73	8831.74	12703.03
Interest on Loan	96.01	9511.79	12021.21
Depreciation	75.24	7679.30	10493.28
Interest on Working Capital	7.50	766.40	1049.01
O & M Expenses	29.13	3030.42	4315.02
Total	**292.60**	**29819.64**	**40581.55**

6. This petition has been filed by the Petitioner for determination of tariff of the generating station for the period 2014-19. The capital cost and the annual fixed charges claimed by the Petitioner for the said period is as under:

Capital Cost

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	204241.21	205794.15	206032.48	206887.04	206984.16
Additions	284.69	422.91	840.52	65.18	1916.62
De-capitalization	178.99	356.84	9.63	68.06	-
Discharge of Liability	1,447.24	172.26	23.67	100.01	9.50
Closing Capital Cost	205794.15	206032.48	206887.04	206984.16	208910.28

Annual Fixed Charges

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	10509.08	10542.83	10598.82	10633.93	10686.36
Interest on Loan	11206.81	10344.89	9320.99	7892.86	7021.50
Return on Equity	12970.85	13059.02	12990.24	13107.71	13120.64
Interest on Working Capital	1209.71	1165.65	1341.44	1269.41	1286.80

O&M Expenses	7445.13	6955.89	10570.10	9797.63	10448.19
Annual fixed charges	**43341.59**	**42068.28**	**44821.59**	**42701.55**	**42563.48**
Total recoverable amount on account of re-financing of loan as per para-XI (iii) (c)	-	-	-	91.937	85.183
Total annual fixed charges	**43341.59**	**42068.28**	**44821.59**	**42793.49**	**42648.66**

7. The Petition was heard on 6.2.2019 and the Commission after hearing the parties, vide ROP had sought certain additional information. Thereafter the Petition was heard on 14.5.2019 and Petitioner was directed to file certain additional information. Subsequently, the matter was heard on 27.8.2019 and the Commission after directing the Petitioner to file additional information, reserved its order in the Petition. In response to the above, the Petitioner vide affidavits dated 6.3.2019, 29.5.2019 & 26.9.2019 has filed the additional information with copy to the Respondents. Reply has been filed by the Respondent, UPPCL vide its affidavit dated 4.10.2018 and Respondent, BRPL vide affidavit dated 13.6.2019. Rejoinder to the replies have been filed by the Petitioner vide affidavits 29.3.2019 and 21.6.2019 respectively.

Capital Cost

8. 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 (3) of Regulation 9 provides as under:

> *"9(3) The Capital cost of an existing project shall include the following: (a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;*
>
> *(b) xxxx*
>
> *(c) xxxx"*

9. The capital cost as on 31.3.2014 considered by the Commission in order dated 28.1.2020 in Petition No. 282/GT/2018 is ₹204231.93 lakh. This has been considered as the opening capital cost as on 1.4.2014 for determination of tariff of the generating station for the period 2014-19.

Additional Capital Expenditure

10. Clause (3) of Regulation 7 of the 2014 Tariff Regulations provides that the application for determination of tariff shall be based on admitted capital cost including any additional capital expenditure already admitted upto 31.3.2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014-19.

11. Regulation 14 of the 2014 Tariff Regulations provides as under:

"14. Additional Capitalization and De-capitalization:

(1) The capital expenditure in respect of the new project or an existing project incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Un-discharged liabilities recognized to be payable at a future date;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;

(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and

(v) Change in law or compliance of any existing law:

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff."

(2) The capital expenditure incurred or projected to be incurred in respect of the new project on the following counts within the original scope of work after the cut-off date may be admitted by the Commission, subject to prudence check:

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;

(ii) Change in law or compliance of any existing law;

(iii) Deferred works relating to ash pond or ash handling system in the original scope of work; and

(iv) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.

(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;

(ii) Change in law or compliance of any existing law;

(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;

(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;

(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal / lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up- gradation of capacity for the technical reason such as increase in fault level;

(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and

(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014:

Provided further that any capital expenditure other than that of the nature specified above in (i) to (iv) in case of coal/lignite based station shall be met out of compensation allowance:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation."

12. The year-wise break-up of the actual additional capital expenditure for the period 2014-18 and the projected additional capital expenditure for the year 2018-19, including discharge of liabilities, claimed by the Petitioner in terms of the provisions of Regulation 14(1) & 14(3) of the 2014 Tariff Regulations, is as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Assets/ works under original scope of work (a)	279.51	373.44	361.73	36.14	1436.47
Assets/ works other than original scope of work (b)	5.19	49.47	478.79	29.04	480.15
Discharge of liabilities (c)	1447.24	172.26	23.67	100.01	9.50
Total addition (d)= (a+b+c)	**1731.94**	**595.17**	**864.19**	**165.19**	**1926.12**
De-capitalization (e)	178.99	356.84	9.63	68.06	0.00
Assumed deletions (f)	-	-	-	-	12.69
Net additional capital expenditure claimed (d-e-f)	**1552.95**	**238.33**	**854.56**	**97.13**	**1913.43**

13. The Petitioner in this petition has submitted that the generating station was supposed to complete all works within the original scope of work/ Revised Cost Estimate and purchase all initial spares within the cut-off date. It has however submitted that due to reasons beyond the control of the Petitioner, there has been spillage of the expenditure, beyond the cut-off date of the generating station. The Petitioner has therefore prayed that the Commission may allow the spillage of such essential expenditure which is within the original scope of work of the project

including initial spares, beyond the cut-off date of the generating station i.e. 31.3.2015.

Submissions of the Respondents

14. The Respondent UPPCL in its reply affidavit dated 4.10.2018 has stated that though the Petitioner has submitted the details of net addition and de-capitalization, it has not submitted any details of the discharge of liability. The Respondent has also submitted that initial spares purchased upto 31.3.2015 (cut-off date) within the limit of ₹30.72 crore only (or 1.5% of the project cost) may be considered and any spares purchased after the cut-off date may not be allowed, even if it falls within the limit of ₹30.72 crore. The Respondent BRPL in its reply affidavits dated 31.5.2019 & 13.6.2019 has submitted that the claim for additional capitalization under various heads would show that the details furnished by the Petitioner are extremely sketchy and the same does not help in any manner to conduct the prudence check. It has also submitted that the Petitioner is required to support the claims made within the original scope of work, which has not been done in the present case. The Respondent has further submitted that Regulation 14(2)(iii) is applicable only in respect of coal based thermal generating stations and not to hydroelectric projects and hence the claim of the Petitioner under this clause may be rejected. Accordingly, the Respondent has prayed that the claim of the Petitioner under the original scope of work may be rejected by the Commission.

Rejoinder of Petitioner

15. The Petitioner in its rejoinder to the above replies has clarified that the details of discharge of liabilities has been provided in Form-16 of the Petition. It has also stated that the Commission may allow the capital spares purchased in

subsequent years after cutoff date, as initial spares claimed are within the ceiling limit @ 1.5% of project cost. The Petitioner has further submitted that Regulation 14(1)(iii) of the 2014 Tariff Regulations pertaining to Initial spares, is applicable for projects which have been commissioned during the period 2014-19. Since this generating station was commissioned during the period 2009-14, the deferred works within the original scope including purchase of initial spares have been claimed under Regulation 14(2) of the 2014 Tariff Regulations, which is applicable for capital expenditure within the original scope of work and after the cut-off date. As regards transfer of capital spares supplied with mother plant, the Petitioner has submitted that the cost of these spares was wrongly booked under 'consumable head' and same was not claimed. The Petitioner has stated that corrective action has been taken and spares have been transferred from consumable head to 'capital head' and accordingly, the cost of these spares is claimed. According to the Petitioner, these spares are necessary for the successful and efficient operation of station during its useful life and therefore, the Commission may allow the cost of these spares in the capital cost.

Analysis & Decision

16. It is pertinent to mention that the Commission vide order dated 28.1.2020 in Petition No. 282/GT/2018, has allowed RCE of ₹200412 lakh for the generating station. It is noticed that the Commission in the above mentioned order had allowed the closing capital cost of ₹204231.93 lakh, as on 31.3.2014, which includes Normative IDC of ₹11607.21 lakh and de-capitalization/ deletions of ₹740.28 lakh (₹151.37 lakh in 2012-13 and ₹588.91 lakh in 2013-14). As such, the capital expenditure in respect of assets/works within the original scope of work in the allowed cost of ₹204231.93 lakh, as on 31.3.2014, works out as ₹193365.00

lakh, excluding the Normative IDC of ₹11607.21 lakh and de-capitalization/ deletions of ₹740.28 lakh. Accordingly, the available limit for the additional capital expenditure claimed during the period 2014-19 in respect for assets/works within the original scope of work of the project as on 1.4.2014, works out as ₹7047.00 lakh (RCE of ₹200412 lakh allowed by the Commission) – (capital expenditure of ₹193365.00 lakh in respect of assets/works within the original scope of work as on 31.3.2014.)

Additional Capital Expenditure

2014-15

17. The actual additional capital expenditure claimed by the Petitioner for the period 2014-15 is summarized as under:

(₹ in lakh)

Heads	Amount
Assets/works within the original scope of work of the project (a)	279.51
Assets/works other than within the original scope of work of the project **(b)**	5.19
Discharge of liabilities **(c)**	1447.24
Total (d)=(a)+(b)+(c)	**1731.93**

18. The Petitioner has claimed total actual additional capital expenditure of ₹1731.93 lakh during the year 2014-15 which includes an expenditure of ₹279.51 lakh in respect of assets/works within the original scope of work of project, expenditure of ₹5.19 lakh for assets/works other than under the original scope of work of the project and an amount of ₹1447.24 lakh towards discharge of liabilities.

Assets/Works within the original scope of work of the project

19. The Petitioner has claimed total actual additional capital expenditure of ₹279.51 lakh in 2014-15 towards assets/works such as Land, Roads, Hydro mechanical Works-Dams and Barrages, Control, Metering and Protection system,

Substation-Transformers, Diesel generating sets, Wielding sets, Fire tenders, Furniture-fixtures-office, Club equipment's, Transit hostel/ Guest house equipment's, Networking devices & server televisions/ music systems other than for office, etc., Since the additional capital expenditure of ₹279.51 lakh for assets/works under original scope of project has been claimed within the cut-off date and is within the balance ceiling limit of the completion cost, the same is allowed in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

Assets/works other than within the original scope of work of the project

20. The Petitioner has claimed total additional capital expenditure of ₹5.19 lakh for assets/works other than within the original scope of work of the project. Based on the justification furnished, the admissibility of the claims based on prudence check, is as under:

(₹ in lakh)

S. No	Head of Work / Equipment	Amount claimed	Justification	Reason for admissibility
1	Submersible pump 12.5 hp, head- 42 mtrs, discharge - 800 lpm along with 50 mtr cable- 2Nos.	2.60	Stand by arrangement for Dewatering of Dam drainage galleries	Regulation 14(3)(viii) of the 2014 Tariff Regulations also provides for

2	Non clog submersible pump set, 21 kw with head 27.69 mtr 7 disch.155 m3/hr	2.58	Stand by arrangement for dewatering in case of increase in leakage due to raising of Reservoir level to FRL.	capitalisation of expenditure for additional work which has become necessary for successful & efficient operation of the plant. Considering the nature of the assets/works claimed, these items should have been incorporated in original scope of work. Accordingly, the expenditure is **allowed** and is accounted for in the balance limit of capital cost for original scope of work.
	Total claimed	**5.19**		**5.19**
	Total allowed			

Discharge of liabilities

21. The Petitioner has claimed an amount of ₹1447.24 lakh towards discharge of liabilities in respect of assets/ works within the original scope of work of the project in 2014-15. The undischarged liabilities as claimed by the Petitioner as on 1.4.2014 vide Form-16, is ₹5072.92 lakh. It is observed that the undischarged liabilities claimed by the Petitioner and considered by the Commission as on 31.3.2014 in Petition No. 282/GT/2018 is ₹4758.55 lakh. As such, the liability position claimed by the Petitioner as on 1.4.2014 is in excess by ₹314.37 lakh. The Petitioner has not furnished any explanation for this variation. The Petitioner was directed to furnish the reconciliation statement of the un-discharged liabilities claimed along with the balance sheet in Petition No. 282/GT/2018, and the same has not been furnished. In this background, the opening position of the liabilities has been considered as ₹4758.55 lakh as furnished in Petition No. 282/GT/2018

and the discharge of liabilities for year 2014-15 has been reduced by ₹314.37 lakh. Accordingly, the amount of ₹1132.87 lakh (₹1447.24 - ₹314.37) has been allowed towards discharge of liabilities for 2014-15 in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

22. Accordingly, the total actual additional capital expenditure of ₹1417.57 lakh (₹279.51 + ₹5.19 + ₹1132.87) is allowed in 2014-15.

2015-16

23. The actual additional capital expenditure claimed by the Petitioner for the period is as under:

(₹ in Lakh)

Heads	Amount
Assets/works within the original scope of work of the project (a)	373.44
Assets/works other than within the original scope of work of the project **(b)**	49.47
Discharge of liabilities **(c)**	172.26
Total (d)=(a)+(b)+(c)	**595.17**

24. The Petitioner has claimed total actual additional capital expenditure of ₹595.17 lakh in 2015-16, which includes an expenditure of ₹373.44 lakh in respect of assets/works within the original scope of work of the project, expenditure of ₹49.47 lakh for assets/ works other than within the original scope of work of the project and an amount of ₹172.26 lakh towards discharge of liabilities.

Assets/Works within the original scope of work of the project

25. The Petitioner has claimed total additional capital expenditure of ₹373.44 lakh in 2015-16 for assets/works such as land, buildings, machinery water supply, motor vehicles etc., and initial spares. As regards mandatory spares of ₹78.61 lakh claimed, the Petitioner has stated as follows:

> "*These mandatory spares were supplied along with mother plant but wrongly kept under inventory head. Cost of these spares was not claimed earlier. Now, these spares has been transferred from inventory head to capital head & claimed*

accordingly also, mandatory spares not supplied along with mother plant but required for smooth functioning of Power plant".

26. Considering the fact that the Petitioner has not claimed initial spares till 31.3.2015, the amount of ₹78.61 lakh for mandatory spares is allowed to be capitalized in this year and shall be accounted/adjusted in the balance ceiling limit of initial spares as per regulations. Since the additional capital expenditure of ₹373.44 lakh, including initial spares of ₹78.61 lakh for assets/works under original scope of project claimed after the cut-off date is within the balance ceiling limit of completion cost, the same is allowed.

Assets/works other than within the original scope of work of the project

27. The Petitioner has claimed additional capital expenditure of ₹49.47 lakh for assets/works other than within the original scope of work of the project. Based on the justification furnished, the admissibility of the claims based on prudence check, is as under:

(₹ in lakh)

S.No	Head of Work / Equipment	Amount claimed	Justification	Reason for admissibility
1	DG set 20 kVA with acoustic enclosure,	3.43	For CISF power supply at Lothal	Since the asset is required for safe and efficient operation of the plant, the expenditure is **allowed** under Regulation 14(3)(iii) of the 2014 Tariff Regulations. However, the Petitioner is directed to furnish documentary evidence in support of the claim at the time of truing-up exercise
2	05 hp submersible motor pump (2 nos)	0.70	For water supply of Karian colony	Since the expenditure is for

3	ECG machine model: maciv2 / 3 channel cardiograph	0.64	Hospital items for employee health and safety	the benefit of the employees working in remote locations of the project and will facilitate the efficient operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations
4	Submersible dewatering pump 30	3.38	For dewatering of aps during flooding in power house	Since the asset is required for safe and efficient operation of the plant, the expenditure is **allowed** under Regulation 14(3)(iii) of the 2014 Tariff Regulations
5	Arc welding set igbt based 400amp	0.51	Mandatory spares for smooth functioning of power station	Since the expenditure is in the nature of minor assets, the same is **not allowed**
6	Thief proof rifle rack - capacity 4 rifles with ammunition box-security-security (2 nos)	0.36	Security requirements (CISF)	Since the asset is required for safe and efficient operation of the plant, the expenditure is **allowed** under Regulation 14(3)(iii) of the 2014 Tariff Regulations. However, the Petitioner is directed to furnish documentary evidence in support of the claim at the time of truing-up exercise
7	Thief proof rifle rack - capacity 10 rifles - 5 rifles on each side, with ammunition box-security (2 nos)	0.46		
8	Electric operated automatic boom barrier (2 nos)	2.28		
9	Electrical operated hump spike tyre buster/ripper	7.36		

10	Universal relay test kit	28.70	Mandatory equipment is for power house, this is required for checking of healthiness of all the relays in generating unit	As the expenditure is in the nature of tools and tackles, the capitalization of the same is **not allowed**
11	Electronic digital weighing machine (capacity:3100gm; accuracy:0.01 gm)	0.46	Mandatory equipment for analysing PPM data of power station & mandatory instruments for smooth functioning of power house	Since the expenditure is in the nature of minor assets, the same is **not allowed**
12	Automatic water level controller cum-indicator	0.66		
13	Electrode oven capacity 25 kg. Temp. Range 50 to 400 deg. Centigrade 1 phase 230 volts (2 nos)	0.53	Mandatory for smooth functioning of power house, this oven is used for keeping different types of electrodes in healthy condition.	
	Total claimed	**49.47**		
	Total allowed			**18.61**

Discharge of liabilities

28. The Petitioner has claimed an amount of ₹172.26 lakh towards discharge of liabilities in 2015-16. Since the expenditure claimed by the Petitioner is within the balance limit of the admitted completion cost of the project, the same is allowed in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

29. Accordingly, the total actual additional capital expenditure of ₹564.31 lakh (₹373.44 + ₹18.61 + ₹172.26) is allowed in 2015-16.

2016-17

30. The total actual additional capital expenditure claimed by the Petitioner for the year 2016-17 is as under:

(₹ In lakh)

Heads	Amount
Assets/works within the original scope of work of the project (a)	361.73
Assets/works other than within the original scope of work of the project **(b)**	478.79
Discharge of liabilities **(c)**	23.67
Total (d)=(a)+(b)+(c)	**864.19**

31. The Petitioner has claimed total additional capital expenditure of ₹864.19 lakh in 2016-17 which includes an expenditure of ₹361.73 lakh in respect of assets/works within the original scope of work of the project, expenditure of ₹478.79 lakh for assets/works other than within the original scope of work of the project and an amount of ₹23.67 lakh towards the discharge of liabilities.

Assets/Works within the original scope of work of the project

32. The Petitioner has claimed additional capital expenditure of ₹361.73 lakh in 2016-17 for assets/works such as Construction of Breast Wall, Retaining Wall, Rock Protection above power intake and Canteen Room, Operator Interface Terminal, Sewerage and Effluent Disposal System, Motor vehicles etc., and initial spares. With regard to claim for mandatory spares of ₹31.99 lakh, the Petitioner has stated the following:

> *"These mandatory spares were supplied along with mother plant but wrongly kept under inventory head. Cost of these spares was not claimed earlier. Now, these spares has been transferred from inventory head to capital head and claimed accordingly."*

33. Considering the fact that the mandatory/initial spares claimed by the Petitioner up to 31.3.2016 are within the ceiling limit of the initial spares allowed, the same is allowed to be capitalized in this year and shall be accounted/adjusted in the balance ceiling limit of the initial spares as per regulations. As the additional capital expenditure of ₹361.73 lakh, including initial spares of ₹31.99 lakh for assets/ works under original scope of work of the project claimed after

the cut-off date is within the balance ceiling limit of the completion cost, the expenditure is allowed to be capitalised.

Assets/works other than within the original scope of work of the project

34. The Petitioner has claimed additional capital expenditure of ₹478.79 lakh for assets/works other than original scope of the project. Based on the justification furnished, the admissibility of the claims based on prudence check, is as under:

(₹ In lakh)

	Head of Work / Equipment	Actual claimed	Justification	Reason for admissibility
1	Rim protection of dam reservoir rd 0.00 to rd 110m kharamukh	448.07	Due to torrential rains in the catchment area of Chamera III reservoir on 22.09.2015 the Chamba bharmour road NH 124 downstream of Kharamukh bridge which form a part of reservoir area got washed away. Bharmour sub division area got cut off from rest of the state. It was directed by DC, Chamba that NHPC should take up the Protection work of reservoir on war footing and restores the road immediately as the washed out road falls in the reservoir area of Chamera III it is obligatory on the part of NHPC, Chamera III to protect the reservoir rim along the existing road. Design team of NHPC Corporate Office visited the site along with site engineers of CPS III w.e.f. 09.10.2015 to 10.10.2015 to inspect above said washed out road near kharamukh bridge. After inspection the design team sent a detailed design/drawing of	Since the asset is required for safe and efficient operation of the plant, the expenditure is **allowed** under Regulation 14(3)(iii) of the 2014 Tariff Regulations.

			protection work of reservoir and reconstruction of road. The cost of Work was Rs 44806702.00	
2	Submersible Dewatering pump 30 hp	0.12	For Dewatering of APS during flooding in Power house	
3	Kirloskar pump (2 nos)	13.86	Due to frequent failure of shaft seal, additional two no.s pumps were purchased to meet the excergencies for smooth functioning of Power Station	Since the asset is related to the security & safe operation of the plant, the expenditure is allowed under Regulation 14(3)(viii) of the 2014 Tariff Regulations
4	Electric motor 25hp/3000rpm	0.49	Spares for smooth functioning of Power Station	As the expenditure is in the nature of spares, the capitalization of the same is **not allowed**
5	Submersible pump 10hp three phase	0.38	Required for colony water supply	Since the expenditure is for the benefit of the employees working in remote locations of the project and will facilitate the efficient operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations
6	Submersible pump 50 hp,37kw, 415v,50hz,3ph, with 20m cable of 7g6+2x1.5 discharge connection	4.76	Original supplied pumps by M/s HCC were found beyond economical repairs and also completed their useful life hence extra pumps were purchased meet the requirement of Mandatory spares for Power House site	As the expenditure is in the nature of spares, the capitalization of the same is **not allowed**
7	Dol starter panel	0.17		Since the expenditure is in the nature of minor assets, the same is **not allowed.**

8	Sewage treatment plant of 5kld (set)	9.35	Replaced the old non-working STP installed by HCC	Since the expenditure is for the benefit of the employees working in remote locations of the project and will facilitate the efficient operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations
9	Motor cycle, bajaj pulsar 150	0.74	Requirement of Security arrangements(CISF)	Since the asset is related to the security & safe operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations
10	Online contact free radar type discharge measurement equipment	0.86	As per requirement of HPPCB to monitor 15% discharge from dam for aquatic life safety	Since the asset is related to marine life safety, the expenditure is **allowed.** However, the Petitioner is directed to furnish supporting documents in justification of the claim at the time of truing-up exercise
	Total claimed	**478.79**		
	Total allowed			**473.37**

Discharge of liabilities

35. The Petitioner has claimed an amount of ₹23.67 lakh towards discharge of liabilities in 2016-17. Since the expenditure claimed by the Petitioner is within the balance limit of the admitted completion cost of the project, the same is allowed in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

36. As such, the total additional capital expenditure of ₹858.77 lakh (₹361.73 + ₹473.37 + ₹23.67) is allowed in 2016-17.

2017-18

37. The total actual additional capital expenditure claimed by the Petitioner for the year 2017-18 is as under:

(₹ in lakh)

Heads	Amount
Assets/works within the original scope of work of the project (a)	36.14
Assets/works other than within the original scope of work of the project **(b)**	29.04
Discharge of liabilities **(c)**	100.01
Total (d)=(a)+(b)+(c)	**165.19**

38. The Petitioner has claimed total actual additional capital expenditure of ₹165.19 lakh during 2017-18 which includes an expenditure of ₹36.14 lakh in respect of assets/ works within the original scope of work of the project, expenditure of ₹29.04 lakh for assets/works other than the original scope of work of the project and an amount of ₹ 100.01 lakh towards discharge of liabilities.

Assets/Works within the original scope of work of the project

39. The Petitioner has claimed total additional capital expenditure of ₹36.14 lakh in 2015-16 for assets/works such as Feeder Panel for High Mast Tower, Hot Dip Galvanized High Mast Tower 20 m with Lantern Carriage, RCC Water Storage Tank, and Capital Spares-CPU boards etc., which also includes initial spares for ₹19.99 lakh. Considering the fact that the initial spares claimed by the Petitioner upto 31.3.2017 are within the ceiling limit of the initial spares allowed, the same is allowed to be capitalized in this year and shall be accounted/adjusted in the balance ceiling limit of the initial spares as per regulations. As the additional capital expenditure of ₹165.19 lakh including initial spares of ₹19.99 lakh for assets/works within the original scope of work of the project claimed after the

cut-off date is within the balance ceiling limit of completion cost, the same is allowed.

Assets/works other than within the original scope of work of the project

40. The Petitioner has claimed total additional capital expenditure of ₹29.04 lakh for assets/works other than within the original scope of work of the project. Based on the justification furnished, the admissibility of the claims based on prudence check, is as under:

(₹ in lakh)

Sl. No	Head of Work / Equipment	Amount claimed	Justification	Reason for admissibility
1	Submersible pump 10hp three phase	0.38	Required for colony water supply due to continuously usage these pumps get their useful life completed within short span and to maintain continuous water supply to colony they are mandatory requirement	Since the expenditure is for the benefit of the employees working in remote locations of the project and will facilitate the efficient operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations
2	Hd 1080p 30x ip dome ptz poe camera	0.76	Security arrangement (CISF Lothal)	Since the asset is related to the security & safe operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations. However, the Petitioner is directed to furnish supporting documents in justification of the claim at the time of truing-up exercise
3	2mp x IP bullet camera,3 to 10.5mm lens	0.42		

4	40 kWp grid synchronized solar pv based power system, make pv power tech	27.48	As per guidelines of Ministry of Power to promote Non Renewable energy source development.	The asset will reduce the O&M expenses of the generating station. As O&M expenses have been allowed to the generating station on normative basis, the capitalization of this asset is **not allowed**, even though it has an indirect impact on the efficient operation of the generating station.
	Total claimed	**29.04**		
	Total allowed			**1.56**

Discharge of liabilities

41. The Petitioner has claimed an amount of ₹100.01 lakh towards discharge of liabilities in 2017-18. Since the expenditure claimed by the Petitioner is within the balance limit of the admitted completion cost of the project, the same is allowed in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

42. Accordingly, the total additional capital expenditure of ₹137.71 lakh (₹36.14 + ₹1.56 + ₹100.01) is allowed in 2017-18.

2018-19

43. The projected additional capital expenditure claimed by the Petitioner in the year 2018-19 is as under:

(₹ In lakh)

Heads	Amount
Assets/works within the original scope of work of the project (a)	1436.47
Assets/works other than within the original scope of work of the project **(b)**	480.15
Discharge of liabilities **(c)**	9.50
Total (d)=(a)+(b)+(c)	**1926.12**

44. The Petitioner has claimed total projected additional capital expenditure of ₹1926.12 lakh in 2018-19 which includes an expenditure of ₹1436.47 lakh in

respect of assets/works within the original scope of work of the project, expenditure of ₹489.40 lakh for assets/works other than within the original scope of work of the project and an amount of ₹9.50 lakh towards discharge of liabilities.

Assets/Works within the original scope of work of the project

45. The Petitioner has claimed projected additional capital expenditure of ₹1436.47 lakh in 2018-19 for assets/works such as feeder panel for trash rack cleaning machine, soling, metalling and premixing of surge shaft road, construction of admin building including electrification, sewerage treatment plant at Karian & at dam body, etc., and mandatory spares for ₹94.00 lakh during the year. Considering the fact that mandatory/initial spares claimed by the Petitioner up to 31.3.2019 are within the ceiling limit of the initial spares allowed, the same is allowed to be capitalized in this year and shall be accounted/adjusted in the balance ceiling limit of initial spares as per regulations. In view of above, the additional capital expenditure of ₹1436.47 lakh including initial spares of ₹94 lakh for assets/works under original scope of project claimed after the cut-off date is within the balance ceiling limit of completion cost and hence, the same is allowed.

Assets/works other than within the original scope of work of the project

46. The Petitioner has claimed additional capital expenditure of ₹489.40 lakh for assets/works other than original scope of the plant. The admissibility, of the claims based on prudence check of the justification furnished, is as under:

(₹ in lakh)

Sl. No	Head of Work / Equipment	Amount claimed	Justification	Reason for admissibility
1	Rim Treatment of Dam reservoir area along the Chamba Bharmour Road	250.00	Due to Torrential rains in the catchment area of Chamera III reservoir on 22.09.2015 the Chamba bharmour road NH 124 d/s of Kharamukh bridge which form a part of reservoir area got washed away.	Since the asset is related to the security & safe operation of the plant, the expenditure is **allowed** under Regulation

			Bharmour sub division area got cut off from rest of the state. It was directed by DC , Chamba that NHPC should take up the Protection work of reservoir on war footing and restores the road immediately as the washed out road falls in the reservoir area of Chamera III it is obligatory on the part of NHPC ,Chamera III to protect the reservoir rim along the existing road. Design team of NHPC Corporate Office visited the site along with site engineers of CPS III w.e.f. 09.10.2015 to 10.10.2015 to inspect above said washed out road near kharamukh bridge. After inspection the design team sent a detailed design/drawing of protection work of reservoir and reconstruction of road. This is the balance portion for protection of same road.	14(3)(viii) of the 2014 Tariff Regulations.
2	Supply and erection and commissioning of fixed rope drum hoist for Draft tube gate	145.00	Additional as per CEA guidelines to provide individual hoist for Draft tube gate	Since the asset is related to the security & safe operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations
3	Purchase of submersible pump for dam drainage gallery	17.00	The existing pumps have completed their useful life and are beyond economical repairs hence requiring replacement. Stand by system for dewatering of APS at PH in emergency situation	As the expenditure claimed is towards replacement of submersible pump, the same is allowed. However, as the gross value of the replaced assets is not available and keeping in view

				the COD of generating station, an amount of ₹12.69 lakh has been considered as the de-capitalized value of the old replaced assets. The old asset has been de-capitalized under "Assumed deletions". However, the Petitioner is directed to submit de-capitalised value of old asset at the time of truing up of tariff.
4	Submersible Pump. For APS at PH	30.00	Standby system for dewatering of APS at PH in emergency situation	Since the asset is related to the security & safe operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations
5	Purchase of Urine Analyzer	2.50	Hospital Item for employee health checkup	Since the expenditure is for the benefit of the employees working in remote locations of the project and will facilitate the efficient operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.
6	Purchase of Oxygen Concentrator with AMC	1.15		
7	Purchase of Cell Counter	5.00		
8	Purchase of Portable Battery operated oxygen concentrator	3.00		

9	Purchase of Inflatable boat	10.00	For disaster management arrangement.	Since the asset is related to the security & safe operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations. However, the Petitioner is directed to furnish supporting documents in justification of the claim at the time of truing-up exercise
10	Boom barrier at dam site	3.00	As per security requirement (CISF)	
11	Purchase of ISAT phone-2 (Inmarsat)	2.50	For communication with DAM and Power House during failure of Mobile networks and land line phones.	
12	Mobile signal booster and Accessories	2.50	At present mobile signals are very weak at Dam site. For boosting the mobile signal at DAM mobile signal boaster is required.	
13	Purchase of Biometric Machines	4.00	To maintain the proper record of employees in/out time, Biometric Machines are required.	
14	Purchase of Bio Toilet at GIS, dam site(3 Nos)	4.50	At present there is no toilet at GIS and Dam site. Hence, as per requirement of CISF the Bio toilets are required at Dam site and GIS.	Since the expenditure is for the benefit of the employees working in remote locations of the project and will facilitate the efficient operation of the plant, the expenditure is **allowed** under Regulation 14(3)(viii) of the 2014 Tariff Regulations.
	Total claimed	**480.15**		
	Total allowed			**480.15**

Discharge of liabilities

47. The Petitioner has claimed an amount of ₹9.50 lakh towards discharge of liabilities in 2018-19. Since the expenditure claimed by the Petitioner is within the balance limit of the admitted completion cost of the project, the same is allowed in terms of Regulation 14 (1)(ii) of the 2014 Tariff Regulations.

48. Accordingly, the total additional capital expenditure of ₹1926.12 lakh (₹1436.47 + ₹480.15 + ₹9.50) is allowed in 2018-19.

49. Based on the above discussions, the additional capital expenditure allowed for assets/works within the original scope of work of the project, including initial spares and discharge of liabilities are as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Expenditure allowed for assets/works within the original scope of work of the project (a)	279.51	373.44	361.73	36.14	1436.47	2487.29
Expenditure for assets/works claimed under the Regulation 14 (3)(viii) but allowed/ accounted under assets/works within the original scope of work of the project (b)	5.19	0.00	0.00	0.00	0.00	5.19
Discharge of liabilities considered for assets/ works within the original scope of work of the project (c)	1132.87	172.26	23.67	100.01	9.50	1438.31
Total (d)= (a)+(b)+(c)	**1417.57**	**545.70**	**385.4**	**136.15**	**1445.97**	**3930.79**

50. Accordingly, the total amount of ₹3930.79 is allowed for assets/works within the original scope of work of the project, including initial spares and discharge of liabilities. As stated at para 16 above, an amount of ₹7047.00 lakh is available for consideration in respect of the expenditure towards the balance works/assets within the original scope of work of the project and within the approved RCE and the additional capital expenditure of ₹3930.79 lakh allowed as above is within the said balance amount of ₹7047.00 lakh.

De-capitalization

51. Regulation 14(4) of the 2014 Tariff Regulations provides as under:

"In case of de-capitalisation of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of de-capitalisation shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalisation takes place, duly taking into consideration the year in which it was capitalised."

52. The Petitioner has claimed de-capitalization for old assets like Generator Maintenance seal, wicket gates, Check Valves, Temperature monitor, EPABX system, Safety Relief Valve , Protection System, Power cables, Switchgear, Cooling water system, Generator Step up Transformer, Turbine Accessories, Excitation System, Store shed , etc., and items unusable /unserviceable taken to obsolete, during the period 2014-19, as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
178.99	356.84	9.63	68.06	0.00

53. Since the assets are not in use, the claim of the Petitioner for de-capitalisation of the above said amounts are allowed.

Assumed Deletions

54. As per consistent methodology adopted by the Commission, expenditure on replacement of assets, if found justified is allowed for the purpose of tariff provided that the capitalization of the said asset is followed by the de-capitalization of the original value of the old asset. However, in certain cases where de-capitalization is affected in books during the following years to the year of capitalization of new asset, the de-capitalization of the old asset for the purpose of tariff is shifted to the very same year in which the capitalization of the new asset is allowed. Such de-capitalization which is not a book entry in the year of capitalization is termed as "Assumed deletion". Further, in absence of the gross value of the asset being de-capitalized, the same is calculated by de-escalating the

gross value of new asset @ 5% per annum till the year of capitalization of the old asset.

55. It is observed that the Petitioner has claimed an amount of ₹17.00 lakh in 2018-19 towards submersible pump for dam drainage gallery on replacement basis. As the Petitioner has not furnished the de-capitalized value of the old assets, an amount of ₹12.69 lakh has been considered as the de-capitalised value of the old replaced asset. This has been considered as assumed deletion.

Net additional capital expenditure allowed

56. Based on the above discussions, the net additional capital expenditure allowed for the purpose of tariff for the period 2014-19 is summarised as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Assets/works within the original scope of work of the project (a)	279.51	373.44	361.73	36.14	1436.47
Assets/works other than within the original scope of work of the project **(b)**	5.19	18.61	473.37	1.56	480.15
Discharge of liabilities **(c)**	1132.87	172.26	23.67	100.01	9.50
Total additions d=(a+b+c)	**1417.57**	**564.31**	**858.77**	**137.71**	**1926.12**
De-capitalisation (e)	178.99	356.84	9.63	68.06	0.00
Assumed deletion (f)	0.00	0.00	0.00	0.00	12.69
Net additional capital allowed (d+e+f)	**1238.58**	**207.47**	**849.14**	**69.65**	**1913.43**

57. The discharge of liabilities allowed as above is subject to revision at the time of truing up exercise. The Petitioner is directed to furnish the statement showing the reconciliation of un-discharged liabilities as per balance sheet for each year of the period 2014-19, along with the un-discharged liability and discharges thereof claimed and the reconciliation of un-discharged liabilities, as on 31.3.2014 (in Petition No. 282/GT/2018) with that of 1.4.2014 (in Petition No. 321/GT/2018), duly certified by Auditor.

Capital Cost for 2014-19

58. In view of the above, the capital cost allowed for the purpose of tariff for the period 2014-19 is as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	204231.93	205470.51	205677.98	206527.12	206596.77
Additional Capital Expenditure allowed for the purpose of tariff	1238.58	207.47	849.14	69.65	1913.43
Capital Cost as on 31st March of the year	**205470.51**	**205677.98**	**206527.12**	**206596.77**	**208510.20**

Debt-Equity ratio

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

"19. Debt-Equity Ratio: (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.

60. The debt-equity ratio of 70:30 has been considered in terms of the above regulations

Return on Equity

61. 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:

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."

62. 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."

63. Return on Equity (ROE) has been calculated in terms of the above Regulations. It is observed that the Petitioner while claiming ROE has grossed up the base rate of 16.5% with the effective tax rate for the respective year. However, as per consistent methodology adopted by the Commission for allowing ROE on projected basis, the MAT rate of 2013-14 has been considered. The same is subject to revision based on the effective tax rate of each financial year along with the Cost Audit Report to be furnished by the Petitioner at the time of truing up exercise. Accordingly, ROE has been calculated as follows:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	61252.53	61624.10	61686.34	61941.09	61961.98
Addition due to additional capital expenditure	371.57	62.24	254.74	20.89	574.03
Closing equity	61624.10	61686.34	61941.09	61961.98	62536.01
Average equity	61438.32	61655.22	61813.71	61951.53	62248.99
Return on equity (Base Rate)	16.500%	16.500%	16.500%	16.500%	16.500%
Tax rate for the year	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre Tax)	20.876%	20.876%	20.876%	20.876%	20.876%
Return on Equity (Pre Tax) (pro-rata)	**12825.86**	**12871.14**	**12904.23**	**12933.00**	**12995.10**

Interest on loan

64. 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 Decapitalization 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 refinancing 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 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."

65. The Petitioner has submitted that in order to reduce the rate of interest on loan, re-financing of loan has been done as per Regulation 26 (7) of 2014 Tariff Regulations. It has stated that in terms of the said regulation, the benefit of re-financing is to be shared between the generating company and beneficiaries in the ratio of 1:2. The Petitioner has also stated that the refinancing charge is to be passed on to beneficiaries on actual basis. In terms of the submissions of the Petitioner and as per Regulations 26(7) of 2014 Tariff Regulations, the benefit of re-financing of loan is directed to be shared between the generating company and beneficiaries in the ratio of 1:2. In case of any dispute, the parties are at liberty to make an application in accordance with Regulation 26(9) of the 2014 Tariff Regulations.

66. The salient features for computation of interest on loan are as under:

(a) The opening gross normative loan as on 1.4.2014 has been arrived at in accordance with Regulation 26 of the 2014 Tariff Regulations.

(b) The weighted average rate of interest has been worked out on the basis of the actual loan portfolio of respective year applicable to the project.

(c) The repayment for the year of the tariff period 2014-19 has been considered equal to the depreciation allowed for that year.

(d) The interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.

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

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	142979.41	143846.41	143991.64	144586.04	144634.79
Cumulative Repayment up to Previous Year	18247.82	28748.36	39273.83	49854.31	60469.04
Net Loan-Opening	124731.59	115098.05	104717.81	94731.73	84165.75
Repayment during the year	10500.55	10525.47	10580.48	10614.73	10666.12
Addition due to Additional Capital expenditure	867.01	145.23	594.40	48.75	1339.40
Net Loan-Closing	115223.34	104967.60	94738.47	84213.39	74847.91
Average Loan	119977.47	110032.82	99728.14	89472.56	79506.83
Weighted Average Rate of Interest on Loan	9.340%	9.397%	9.330%	8.807%	8.814%
Interest on loan (pro-rata)	**11205.84**	**10339.62**	**9304.90**	**7880.12**	**7007.54**

Depreciation

68. 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 upto 31.3.2014 from the gross depreciable value of the assets.

(7) The generating company or the transmission license, 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) alongwith 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."

69. The weighted average rate of depreciation of 5.13%, 5.12 %, 5.13%, 5.14 % and 5.14% calculated as per the 2014 Tariff Regulations has been considered for

calculation of depreciation for the years 2014-15, 2015-16, 2016-17, 2017-18 and 2018-19 respectively. Accordingly, depreciation has been computed as follows:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	204231.93	205470.51	205677.98	206527.12	206596.77
Additional capitalization	1238.58	207.47	849.14	69.65	1913.43
Closing capital cost	205470.51	205677.98	206527.12	206596.77	208510.20
Average capital cost	204851.22	205574.25	206102.55	206561.95	207553.48
Cost of free hold land	256.31	256.31	256.31	256.31	256.31
Rate of depreciation	5.126%	5.120%	5.134%	5.139%	5.139%
Depreciable value	184135.42	184786.14	185261.62	185675.07	186567.45
Remaining depreciable value	165887.60	156062.80	146080.7816	135916.08	126213.61
Depreciation	**10500.55**	**10525.47**	**10580.48**	**10614.73**	**10666.12**

O&M expenses

70. Sub-clause (c) of clause (3) of Regulation 29 of the 2014 Tariff Regulations provide the following:

> *"29. Operation and Maintenance Expenses: (3) Hydro Generating Station (c) In case of the hydro generating stations, which have not been in commercial operation for a period of three years as on 1.4.2014, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation and resettlement works) for the first year of commercial operation. Further, in such case, operation and maintenance expenses in first year of commercial operation shall be escalated @6.04% per annum up to the year 2013- 14 and then averaged to arrive at the O&M expenses at 2013-14 price level. It shall be thereafter escalated @ 6.64%per annum to arrive at operation and maintenance expenses in respective year of the tariff period."*

71. The Petitioner has claimed O&M expenses based on actual O&M expenditure for the period 2014-19 as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
7445.13	6955.89	10570.10	9797.63	10478.19

72. The Respondent UPPCL in its reply has submitted that only normative O&M expenses may be allowed by the Commission as per Regulation 29 (3) (c) of the 2014 Tariff Regulations and the claim for excess O&M for ₹174.96 crore by the Petitioner on the basis of actual O&M, may be rejected. The Petitioner has clarified that in case of a new project, O&M expenses in the initial years of operation are on normative basis as per Regulation 29(3)(c). However, it has stated

that at a subsequent stage, O&M expenses are to be allowed on actual basis, subject to prudence check. It has also stated that in Petition No.249/GT/2014, the O&M expenses were claimed on normative basis. The Petitioner has added that since the project is under operation for the last 6 years and the actual O&M expenses are known till 2017-18, the O&M expenses claimed on actual basis may be allowed.

73. The matter has been considered. The generating station has not been in commercial operation for a period of three years as on 1.4.2014. As such, the O&M expenses for the generating station has been calculated in terms of Regulation 29 (3) (c) of the 2014 Tariff Regulations. Accordingly, the capital cost of ₹205470.50 lakh as on cut-off date (31.3.2015) allowed as above is considered for the calculation of O&M expenses. The Rehabilitation & Resettlement (R&R) cost as on the cut-off date is not available. The Petitioner has submitted that an amount of ₹154.00 lakh towards R&R has been capitalised till 31.3.2014. Accordingly, the same is considered for the purpose of calculation of O&M expenses for the period 2014-19. The Petitioner is however directed to furnish the amount of R&R cost capitalised up to the cut-off date at the time of truing up of tariff. Accordingly, O&M expenses allowed is as under:

(₹ in lakh)

Total capital expenditure upto cut-off date i.e. 31.3.2015	205470.51
R&R Expenses as on 31.3.2014	154.00
Capital cost considered for O&M expenses (Excluding R&R expenses)	205316.51
O&M Expenses @2% p.a. for the first year i.e. 2012-13	4106.33
O & M Expenses for year 2013-14 (escalated by 6.04% of the above)	4354.35
Average O&M Expenses for 2012-13 at 2013-14 price level	**4230.34**

74. The average O&M expenses of ₹4230.34 lakh for 2012-13 has been escalated @6.64% per annum to arrive at the O&M expenses in the respective year of the period 2014-19. Accordingly, O&M expenses has been worked out and allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
4511.24	4810.78	5130.22	5470.86	5834.13

Interest on Working Capital

75. 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 hydroelectric 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

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

> *"Interest on working Capital: (3) 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."*

77. In terms of the above regulations, interest on working capital is worked out as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	676.69	721.62	769.53	820.63	875.12
O&M expenses	375.94	400.90	427.52	455.91	486.18
Receivables	6681.26	6598.22	6493.00	6320.72	6255.19
Total	7733.88	7720.74	7690.05	7597.26	7616.48
Interest rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on working capital	**1044.07**	**1042.30**	**1038.16**	**1025.63**	**1028.23**

Annual Fixed Charges

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

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on equity	12825.86	12871.14	12904.23	12933.00	12995.10
Interest on loan	11205.84	10339.62	9304.90	7880.12	7007.54
Depreciation	10500.55	10525.47	10580.48	10614.73	10666.12
Interest on working capital	1044.07	1042.30	1038.16	1025.63	1028.23
O&M expenses	4511.24	4810.78	5130.22	5470.86	5834.13
Total	**40087.56**	**39589.32**	**38957.98**	**37924.35**	**37531.11**

Normative Annual Plant Availability Factor (NAPAF)

79. In terms of Regulation 37(4) of 2014 Tariff Regulations, NAPAF of 85% has been considered for the generating station for the period 2014-19.

Design Energy (DE)

80. As regards DE, the Respondent BRPL has submitted that the Commission in its Order dated 24.3.2015 in Petition No. 26/GT/2015 has observed that the Central Electricity Authority (CEA) has approved the annual design energy of 1108.17 MU and any change in the design annual design energy of 1108.17 MU would require the approval of CEA. It has also stated that the practice of approaching CEA with another set of data and getting fresh annual design energy is not a healthy tradition. The Respondent has added that while the Petitioner submits one set of data to CEA to seek the TEC of the project to justify its economic viability and immediately after the construction of the project, the Petitioner approaches CEA with another set of data with the sole purpose to reduce the design energy. Accordingly, the Respondent has submitted that the DE set out in the TEC may be considered for tariff purpose. The Respondent has also pointed out that the Commission in the event of modification of design energy, had not allowed the benefits of secondary energy level upto the design energy allowed at the time of TEC by the CEA i.e. design energy of 1234 MU to the Petitioner. The Petitioner in its rejoinder has clarified that that the DE of the Project as approved by CEA is 1108.17 MU. It has also stated that subsequently due to environmental reasons and

maintaining downstream discharge, a proposal was sent to CEA for review of DE to 1086.37 MU, however, no decision has been conveyed by CEA. Accordingly, the Petitioner has prayed that that the Commission may consider the original DE of 1108.17 MU for determination of tariff.

81. We notice that the DE approved by CEA is 1108.17 MU. Accordingly, the same has been considered for the generating station as detailed under:

Month	10 Daily	Design Energy (MUs)
April	I	19.41
	II	28.12
80.54	III	33.01
May	I	44.71
	II	52.67
155.31	III	57.93
June	I	52.67
	II	52.67
154.47	III	49.13
July	I	51.29
	II	52.67
161.89	III	57.93
August	I	52.67
	II	52.67
163.27	III	57.93
September	I	46.57
	II	39.12
119.78	III	34.09
October	I	29.63
	II	24.95
78.79	III	24.21
November	I	19.67
	II	17.89
52.85	III	15.29
December	I	13.73
	II	12.69
38.05	III	11.63
January	I	11.09
	II	9.83
30.69	III	9.77
February	I	9.14
	II	9.23
24.75	III	6.38
March	I	9.70
	II	15.68
47.78	III	22.40
Total		**1108.17**

Application Fee and Publication Expenses

82. The Petitioner has sought reimbursement of filing fee of ₹5082000/- and also the expenses incurred towards publication of notices in the application of tariff for the period 2014-19. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations, the Petitioner is entitled to recover the filing fees and the expenses incurred on publication of notices for the period 2014-19 directly from the Respondent on submission of documentary proof.

84. In addition, the Petitioner is entitled recovery of statutory taxes, levies, duties, cess etc. levied by the statutory authorities in accordance with the 2014 Tariff Regulations.

83. The annual fixed charges approved for the period 2014-19 as above are subject to revision based on the truing-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations. The tariff recovered by the Petitioner in terms of the earlier orders of this Commission shall be adjusted against the tariff determined by this order.

84. Petition No. 321/GT/2018 is disposed of in terms of the above.

Sd/-	Sd/-	Sd/-
(I.S Jha)	**(Dr. M.K Iyer)**	**(P.K Pujari)**
Member	**Member**	**Chairperson**