

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No.117/GT/2018

Coram:

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

Date of Order: 9th October, 2018

In the matter of

Approval of tariff of Koteswar Hydroelectric Project (400 MW) for the period from 1.4.2014 to 31.3.2019

And

In the matter of

THDC India Limited,
(A Joint Venture of Govt. of India & Govt. of U.P),
Pragatipuram, Bypass Road,
Rishikesh -110003 (Uttarakhand)

.....Petitioner

Vs

1. Punjab State Power Corporation Limited
The Mall, Patiala-147 001
2. Haryana Power Utilities (DHVN & UHVN)
Shakti Bhawan, Sector-VI, Panchkula, Haryana-134109
3. Uttar Pradesh Power Corporation Limited
Shakti Bhawan, 14 Ashok Marg, Lucknow-226001,
4. BSES Rajdhani Power Ltd
BSES Bhawan, Nehru Place, New Delhi- 110019
5. BSES Yamuna Power Ltd
Shakti Kiran Building, Karkardooma, Delhi- 110092
6. Tata Power Delhi Distribution Ltd
33 kV Substation, Hudson Line,
Kingsway Camp, Delhi-110009
7. Engineering Department
Chandigarh Administration, Ist Floor, UT Secretariat,
Sector 9-D, Chandigarh-160009



8. Uttrakhand Power Corporation Ltd.,
Urja Bhawan, Kanwali Road, Dehradun -248 001

9. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla-171004

10. Jaipur Vidyut Vitran Nigam Ltd
Vidyut Bhawan, Janpath, Joytinagar,
Jaipur- 302005

11. Ajmer Vidyut Vitran Nigam Ltd
Old Power House, Hathi Bhata, Jaipur Road,
Ajmer- 305001

12. Jodhpur Vidyut Vitran Nigam Ltd
New Power House, Industrial Area, Jodhpur-342003

13. Power Development Department,
Govt. of Jammu and Kashmir,
Civil Secretariat, Jammu- 180001

.....Respondents

Parties present:

Shri M.G.Ramachandran, Advocate, THDC
Ms. Ranjitha Ramachandran, Advocate, THDC
Ms. Anushree Bardhan, Advocate, THDC
Shri Sarosh M. Siddiqui, THDC
Shri Neeraj Kumar Gupta, THDC
Shri Mukesh Verma, THDC
Shri A.K.Porwal, THDC
Shri S.K.Agrawal, Advocate, Rajasthan discoms
Dr. A.P.Sinha, Advocate, Rajasthan discoms
Shri Abhishek Upadhyay, Advocate, TPDDL
Shri Varun Shankar, Advocate, TPDDL
Shri R.B.Sharma, Advocate, BRPL
Shri Mohit Mudgal, Advocate, BRPL

ORDER

This Petition has been filed by Petitioner, THDC for approval of tariff of Koteswar Hydroelectric Power Project (4 x 100 MW) (hereinafter ‘the generating station’) for the period from 1.4.2014 to 31.3.2019 in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).



2. The petitioner is a joint venture company of Government of India and Government of Uttar Pradesh, with GOI holding majority and controlling shares. The generating station is a part of Tehri Hydro Power Complex, which comprises of Tehri HPP Stage-I (1000 MW), Tehri Pumped Storage Plant (1000 MW) and downstream power station Koteshwar Hydroelectric Project (400 MW) in Tehri Garhwal in the State of Uttarakhand. The entire Tehri Power Complex is scheduled to have an aggregate capacity of 2400 MW. The Koteshwar reservoir will function as lower reservoir for Tehri Pumped Storage Plant and regulate the water releases from main Tehri reservoir for irrigation & drinking water requirements purpose.

3. The generating station comprises of four units with a capacity of 100 MW each. The dates of commercial operation of these units of the generating station are as under:

Unit	COD
I	1.4.2011
II	26.10.2011
III	13.2.2012
IV	1.4.2012

4. The petitioner has entered into Power Purchase Agreements with the respondents for the capacity generated from the project. The power allocation from the generating station had been notified on 8.8.2007 by the Ministry of Power, Govt. of India.

5. The project was originally approved by MOP, GOI on 10.4.2000 at an estimated cost of ₹1301.56 crore including IDC of ₹190.04 crore at the October, 1999 price level with the completion period of 5 years i.e up to March, 2005. The Commission vide order dated 15.5.2014 in Petition No. 116/GT/2013 had



granted provisional tariff for the generating station for the period from 1.4.2011 to 31.3.2014 in terms of the 2009 Tariff Regulations, based on 85% of the actual capital expenditure of ₹236405.71 lakh incurred as per audited balance sheet as on 31.3.2012. The tariff so granted was subject to submission of approved Revised Cost Estimate (RCE) by the Central Government and adjustment after determination of final tariff.

6. Against the order dated 15.5.2014, the petitioner filed Review Petition No. 22/RP/2014 on certain issues and the Commission vide order dated 17.12.2014 disposed of the said review petition as withdrawn, based on the submissions of the petitioner. Thereafter, the petitioner filed Petition No. 49/GT/2015 for revision of tariff of the generating station for the period 2011-14, based on truing-up exercise, considering the actual additional capital expenditure incurred during the period 2011-14 in accordance with Regulation 6(1) of the 2009 Tariff Regulations. The petitioner also filed Petition No. 47/GT/2015 for determination of tariff of the generating station for the period 2014-19. Thereafter, the Commission vide order dated 7.3.2016 in Petition Nos. 116/GT/2013 & 49/GT/2015 and order dated 15.7.2016 in Petition No. 47/GT/2015 (for 2014-19) disposed of these petitions with liberty to file fresh petitions based on approved RCE.

7. Subsequently, vide letter dated 31.3.2017, the Ministry of Power, GOI conveyed to the petitioner the approval of RCE by the Cabinet Committee on Economic Affairs (CCEA). Pursuant to the approval of RCE, the petitioner, in terms of the liberty granted by Commission's order above, filed Petition No. 165/GT/2017 for determination of tariff of the generating station for the period



from COD of Unit-I till 31.3.2014 and the Commission vide order dated 5.9.2018 approved the annual fixed charges as under:

	(₹ in lakh)				
	Unit-I (1.4.2011 to 25.10.2011)	Unit-I & II (26.10.2011 to 12.2.2012)	Unit-I, II & III (13.2.2012 to 31.3.2012)	2012-13 (all 4 units)	2013-14
Return on Equity	1362.33	1475.94	982.42	10605.67	11931.05
Interest on Loan	2877.88	3090.46	2054.95	21830.99	21625.24
Depreciation	1527.72	1655.12	1101.69	11814.40	12520.71
Interest on Working Capital	145.58	157.19	104.60	1306.78	1365.30
O & M Expenses	633.51	686.71	457.26	5217.26	5515.69
Total	6547.02	7065.42	4700.91	50775.10	52957.99

8. The petitioner in this petition has prayed for determination of annual fixed charges of the generating station for the period 2014-19 in accordance with the provisions of the 2014 Tariff Regulations. The capital cost and annual fixed charges claimed by the petitioner for the period 2014-19 are as under:

Capital cost

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
(a) Opening Capital Cost	260813.67	265207.70	271330.39	271975.11	275357.13
(b) Addition during the year / period - Accrual basis	2017.31	6408.76	4603.40	3382.02	2484.15
(c) Less: Un-discharged in above	0.00	636.45	4587.05	0.00	0.00
(d) Add: Addition during the year / period-Cash Basis (d)=(b)-(c)	2017.31	5772.31	16.35	3382.02	2484.15
(e) Less: Decapitalisation during the year / period	88.44	11.28	11.50	0.00	0.00
(f) Add: Discharge of Liability created upto 31.3.2014	2465.16	361.66	3.43	0.00	0.00
(g) Add: Discharge of Liability created after 31.3.2014	0.00	0.00	636.45	0.00	0.00
(h) Closing Capital Cost (h) =(d)-(e)+(f)+(g)	265207.70	271330.39	271975.11	275357.13	277841.28



Annual fixed charges

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	12511.64	12754.03	12911.41	13002.69	13133.80
Interest on Loan	18239.29	16692.41	15148.91	10839.72	9490.81
Return on Equity	15852.27	16732.42	17095.20	17221.90	17452.46
Interest on Working Capital	1399.00	1410.90	1410.45	1340.92	1344.47
O & M Expenses	5906.50	6298.69	6716.93	7162.93	7638.55
Total	53908.70	53888.47	53282.90	49568.16	49060.08

9. Reply to the petition has been filed by the respondent, UPPCL vide affidavit dated 4.5.2018. In compliance with the directions of the Commission vide ROP of the hearing dated 22.5.2018, the petitioner has filed the additional information and has served copies on the respondents. Thereafter, the matter was heard on 8.8.2018 and the Commission, after hearing the parties reserved its order in the petition.

10. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed to determine the tariff of the generating station for the period 2014-19 as stated in the subsequent paragraphs.

Capital Cost

11. 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”



12. The Commission in its order dated 5.9.2018 in Petition No. 165/GT/2017 had approved the closing capital cost of ₹262107.72 lakh as on 31.3.2014. This has been considered as the opening capital cost as on 1.4.2014 for the purpose of determination of tariff of the generating station for the period 2014-19.

Additional Capital Expenditure

13. 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.

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

“14 (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) xxxxxxxx

14(2) xxxxxxxx

14.(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 obsolescence 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.”



15. The year wise breakup of the projected net additional capital expenditure (including discharge of liabilities and excluding un-discharged liabilities) claimed during the period 2014-19 by the petitioner is as under:

<i>(₹ in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
4482.47	6133.96	656.22	3382.02	2484.15

16. The RCE approved by CCEA for the generating station is ₹271735.00 lakh. Due to revision of IDC on account of re-apportionment of the capital cost allowed for the period 1.4.2011 to 1.4.2012, the Commission vide order dated 5.9.2018 in Petition No. 165/GT/2017 had allowed an additional amount of ₹1293.26 lakh. As such, after accounting for this additional IDC amount, the ceiling capital cost in respect of the works completed within the original scope of work of the project amounts to ₹273028.26 lakh (271735 + 1293.26).

17. The Commission vide its order dated 5.9.2018 had allowed capital cost of ₹262107.72 lakh (as on 31.3.2014). Since the allowed capital cost as on 1.4.2014 is ₹262107.72 lakh as against the ceiling capital cost of ₹273028.26 lakh, an amount of ₹10920.54 lakh (273028.26 - 262107.72) is available for consideration in respect of the balance works under the original scope of work of the project for the purpose of tariff. In view of this, we would restrict the additional capital expenditure claimed by the petitioner to ₹10920.54 lakh, for the assets/works under the original scope of the work of the project. Accordingly, we examine the claims of the petitioner for additional capital expenditure during the respective years of the tariff period as under:



2014-15

18. The petitioner has claimed additional capital expenditure of ₹4482.47 lakh (including liability discharged for ₹2465.16 lakh upto 31.3.2014) for assets/ works under the Heads namely, Purchase of PCL Guest House, Hospital building, Purchase of PCL Intertech godown, JCB, Road & Culvert, Internal distribution lines, Sub-station equipment, Vehicles, Power House building, Main generating equipment, Balance work of dam, Penstock and Tunnel and minor assets such as Almirah, Moduler Refrigerator Computer Laptop, Photocopy machines, Unified Threat Management device, Aquaguard, Cooler exhaust fan etc. We notice that the additional capital expenditure claimed is mostly in respect of deferred works/liabilities within the original scope of work and for minor assets within the cut-off date. Since, the total additional capital expenditure ₹4482.47 lakh claimed is within the allowable ceiling limit of ₹10920.54 lakh, we allow the additional capital expenditure of ₹4482.47 lakh (including discharge of liability of ₹2465.16 lakh upto 31.3.2014) claimed by the petitioner under Regulation 14 (1) (ii) of the 2014 Tariff Regulations. As such, the balance additional capital expenditure on assets which can be allowed within the RCE approved cost works out to Rs.6438.07 lakhs (10920.54-4482.47).

2015-16

19. The petitioner has claimed additional capital expenditure of ₹6133.96 lakh, which includes an expenditure of ₹4783.15 lakh towards works/assets under the original scope of work, ₹482.23 lakh towards balance payments for works/assets within the original scope of work, ₹506.94 lakh for works/assets towards safe & efficient operation of the plant and ₹361.66 lakh towards discharge of liabilities upto 31.3.2014. The petitioner has also furnished justification in support of the



said claims. The justification and admissibility of the claims are examined and allowed as under:

(₹ in lakh)			
Works/ Items	Amount Claimed	Justification	Analysis
Power House - Civil works	1685.58	Certain balance Civil works such as drainage arrangement in Main Access Tunnel, flooring and finishing of Power House Auxiliaries etc. were executed under a separate contract of 'Balance Civil works of Koteshwar HEP' against Ag. No. THDC/RKSH/CC-331/AG dated 12.11.2014. These works were essentially required for safe operation of power plant and aesthetic purpose of the plant. Provisions for the expenditure also exist in the approved RCE-2012, i.e. in the original scope of work.	Allowed , as the claimed expenditure of Rs. 4783.15 lakh is for assets/works of original scope and is still within approved RCE cost.
Civil Work of Dam	2956.94	Certain balance Civil works such as plugging of Diversion Tunnel, stabilization of left bank in the area of Diversion Tunnel, drainage arrangement through dam galleries and finishing of Galleries etc. which were essentially required for safe and uninterrupted operation of power plant. These plants were executed under a separate contract of 'Balance Civil works of Koteshwar HEP' against Ag. No. THDC/RKSH/CC-331/AG dated 12.11.2014. Provisions for the expenditure were also exist in the Approved RCE-2012, i.e. in the original scope of work.	
Balance Work of Penstock	102.84		
Balance Work of Tailrace Tunnel	37.79		
Amount claimed	4783.15	Amount allowed	4783.15

20. The additional capital expenditure claimed by the petitioner towards balance payment of works under the original scope of work beyond the cut-off date is as under:



(₹ in lakh)

DFO Forest Tehri - Land Unclassified	63.00	Payment to Forest Division, New Tehri, towards development of green belt around Koteshwar reservoir, which was mentioned in condition No. 10 of 338 hac. of lease deed. Forest land transferred to Koteshwar Project by State Forest Department. These items are in the original scope of work.	Allowed, as the claimed expenditure of Rs. 482.23 lakh is for assets/works of original scope and is still within approved RCE cost.
Field Hostel Building	6.15	Balance payment against construction of Field Hostel (24 Nos. Room) for O&M staff (under MOU dated 27.3.2009 with UPRNN) since the project is situated at remote area and there were not sufficient accommodation in project area.	
Main Generating Equipment	413.08	Payment has been made to M/S BHEL against Agreement No. CD/196/Supply of Services/AG/March-2003 related to expenditure on erection of EM equipment at Koteshwar Power House (Units 1, 2, 3, & 4) i.e. in the original scope of work.	
Total amount claimed	482.23	Total amount allowed	482.23

21. Further, The petitioner has claimed additional capital expenditure of ₹506.94 lakh towards efficient operation of plant as under:

(₹ in lakh)

Works/Assets	Amount	Justification	Analysis
Rehab. Expenses- Alignment of Road	30.24	Compensation had been paid to affected families as part of Rehabilitation activities.	Considering the fact that the assets/works will facilitate the successful and efficient operation of plant, the same is allowed under Regulation 14(3) (viii) of the 2014 Tariff Regulations.
Building for Transmission, Plant & Equipment	252.04	Due to geological reasons, the old Sub-station was badly damaged -cracks were developed at various portion of the structure. Therefore, it was essential to construct a new building at safe location for shifting of Sub-station. The same was required for safe & efficient plant operation.	
Purchase of Office Building from BHEL	43.09	Store building was purchased from M/S BHEL for safe storage of Spare Parts of KHEP Power House. The same was essentially required for safe operation of power plant.	



30 HP Submersible Pump set with Controller	2.10	30 HP Submersible Pump set were procured for dewatering of seepage water of Dam Galleries / Dam pit area the same was required for safe & efficient plant operation.	
TATA Hitachi Hydraulic Excavator	78.46	TATA Hitachi Hydraulic Excavator procured for removal of muck deposited at Jurasi Nala/ Sain Nala to protect Koteshwar Reservoir and Safety of Stores situated at Jurasi Nala and for for other construction activities of Koteshwar project. The same is required for meeting out emergent situation, safe & efficient plant operation.	
TATA Dumper LPK2518TC	41.73	TATA Dumper LPK2518TC was procured for various construction activities of Koteshwar Project. The same is required for meeting out emergent situation, safe & efficient plant operation.	
TATA Safari	9.27	For the inspection of various site works at Koteshwar Project. These works were necessary for successful and efficient plant operation.	
Pre-fabricated Dock system	39.68	For proper mooring and facilitate boarding in department survey boat / barge, a Prefab Dock system has been installed at Koteshwar. these works are necessary for successful and efficient plant operation.	
Extension of LAN Equipment	1.22	Extension of Local Area Network was done through radio devices from Administrative Block to Q.C. Lab & Dam top. these works are necessary for successful and efficient plant operation.	
Metering Instrument	9.11	Water level measuring instrument installed at Dam Top under HM Department, Koteshwar Project, procured for measurement of Reservoir level, these works are necessary for successful and efficient plant operation.	Since the asset is in the nature of tools & tackles, the expenditure is not allowed .
Amount claimed	506.94	Amount allowed	497.83
Discharge of liability created upto 31.3.2014	361.66	Discharge of liability created upto 31.3.2014	361.66*
Total amount claimed	6133.98	Total amount allowed	6124.87

* After accounting for the above allowed expenditure of Rs. 4783.15 lakh, Rs.482.23 lakh and discharges of Rs.361.66 lakh for assets/works of original scope, the balance additional capital expenditure on assets which can be allowed within the approved RCE works out to Rs.811.03 lakhs (6438.07-4783.15-482.23-361.66).



Works/Assets	Amount claimed	Justification	Remarks
EOT Crane 2-EOT-II	4.13	Purchase of essential components of EOT Crane. These works were necessary for successful and efficient plant operation.	Since the Procurement/ capitalization of spares after the cut-off date is not permissible in terms of the 2014 Tariff Regulations, the expenditure is not allowed .
Construction Plant & Machinery	2.58	Purchase of essential components of Tata Hitachi hydraulic Excavator deployed Koteshwar Project. These works were necessary for successful and efficient plant operation.	
Submersible Pump	0.13	Submersible Pump was procured for washing & cleaning of mud and foreign particles from the gates installed at intake structure for smooth & efficient operation of intake gates. These works were necessary for successful and efficient plant operation.	Considering the fact that the assets/ works will facilitate the successful and efficient operation of plant, the same is allowed under Regulation 14(3) (viii) of the 2014 Tariff Regulations.
Wifi System for Admin Building	4.45	Wi-Fi system have been installed at Admin Building, Guest House, old field hostel, new field hostel, Power House, Dam and Switchyard at Koteshwar project, these works are necessary for successful and efficient plant operation.	
Dell Server	2.13	Dell Power Edge R620 Server procured for server room to make it antivirus server, these works are necessary for successful and efficient plant operation.	
Microsoft Win Server	0.55	Window Server 2012 R2 (OS) purchased for Dell Server, these works are necessary for successful and efficient plant operation.	
Mobile Phone/ Cordless Phone etc. For CISF Fire Wing	2.37	Walkie-Talkie sets with other accessories purchased for newly inducted CISF Fire Wing. These items were required for Security and Safety of the plant.	



			documentary evidence in support of the expenditure, at the time of truing up of tariff.
Total amount claimed	16.34	Total amount allowed	9.63
Discharge of liability created upto 31.3.2014	3.43	Discharge of liability created upto 31.3.2014	3.43
Discharge of liability created after 31.3.2014	636.45	Discharge of liability created after 31.3.2014	636.45**
Total amount claimed	656.22	Total amount allowed	649.51

**After accounting for the above allowed expenditure of Rs. 3.43 lakh and Rs. 636.45 lakh for discharges towards assets allowed during previous year, the balance additional capital expenditure on assets which can be allowed within the approved RCE works out to Rs. 171.15 lakhs (811.03-3.43-636.45).

2017-18

(₹ in lakh)

Works/Assets	Amount claimed	Justification	Analysis
Dam & Barrages	2267.47	Due to Geological surprise occurred in December, 2010 plugging of diversion tunnel and stabilization of left bank slopes etc. were balance to execute. Works of about 1100.00 lacs shall be executed for Balance Civil works of Diversion Tunnel plugging and works of about ₹1167.47 lacs shall be executed for the stabilization of left bank in the area of Diversion Tunnel and stabilization of dump muck piles etc. All these works are essentially required for safe and uninterrupted operation of power plant. These works are being executed under a separate contract of 'Balance Civil works of Koteshwar HEP' against Ag. No. THDC/RKSH/CC-331/AG dated 12.11.2014. Provision for the expenditures also exists in the approved RCE-2012, i.e. in the original scope of work.	The claim exceeds the balance expenditure of Rs. 171.15 lakhs available with in the approved RCE. As such, the amount allowed is restricted to Rs.171.15 lakh only. The balance available under RCE becomes nil.



Building for Generation Plant & Equipment.	1094.55	Certain balance Civil works such as Composite lining in Main Access Tunnel, flooring and finishing of Power House Auxiliaries etc. are being executed under the contract of 'Balance Civil works of Koteshwar HEP' against Ag. No. THDC/RKSH/CC-331/AG dated 12.11.2014. These works are essentially required to protect the delicate instruments for safe operation of power plant and aesthetic purpose of the plant. Provision for the expenditure also exists in the approved RCE-2012, i.e. in the original scope of work.	
Steel Girder Bridge	20.00	To facilitate the villagers of Left Bank area and to ease out the approach to the left bank of Project, construction of steel girder bridge is proposed by replacing the existing old and used Bailey Bridge. These works are necessary for successful and efficient plant operation.	Considering the fact that the assets/ works will facilitate the successful and efficient operation of plant, the same is allowed under Regulation 14(3) (viii) of the 2014 Tariff Regulations.
Total amount claimed	3382.02	Total amount allowed	191.15

2018-19

(₹ in lakh)

Works/Assets	Amount	Justification	Analysis
Dam & Barrages	1109.48	Due to Geological surprise occurred in December, 2010 plugging of diversion tunnel and stabilization of left bank slopes etc., were balance to execute. Provision for ₹329 Lacs has been made for the balance Civil works of Diversion Tunnel plugging and ₹ 780.48 Lacs for stabilization of left bank in the area of Diversion Tunnel, stabilization of dump muck piles etc. All these works are essentially required for safe and uninterrupted operation of power plant. These works are scheduled to be executed during 2018-19 under the contract of 'Balance Civil works of Koteshwar HEP' against Ag. No. THDC/RKSH/CC-331/AG dated 12.11.2014. Provision for the expenditures also exists in the Approved RCE-2012, i.e. in the original scope of work.	The claim exceeds the approved RCE. As such, the amount claimed is not allowed .



Building for Generation Plant & Equipment.	994.67	Certain balance Civil works such as Composite lining in Main Access Tunnel, flooring and finishing of Power House Auxiliaries etc. shall be executed during 2018-19 under the contract of 'Balance Civil works of Koteshwar HEP' against Ag. No. THDC/RKSH/CC-331/AG dated 12.11.2014. These works are essentially required to protect the delicate instruments for safe operation of power plant and aesthetic purpose of the plant. Provision for the expenditure also exists in the approved RCE-2012, i.e. in the original scope of work.	
Steel Girder Bridge	380.00	To facilitate the villagers of Left bank area and to ease out the approach to the left bank of Project, construction of steel girder bridge is proposed by replacing the existing old and used Bailey Bridge. These works are necessary for successful and efficient plant operation.	Considering the fact that the assets/ works is not part of RCE and will facilitate the successful and efficient operation of plant, the same is allowed under Regulation 14(3) (viii) of the 2014 Tariff Regulations.
Total amount claimed	2484.15	Total amount allowed	380.00

De-capitalization

22. 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.”

23. The petitioner in Form 9 B (i) has claimed de-capitalization of assets as under:

(₹ in lakh)		
2014-15	2015-16	2016-17
88.44	11.28	11.50

24. It is noticed that these assets are not in use and accordingly the claim of the petitioner for de-capitalization is allowed in terms of the above Regulation.



Additional capital expenditure allowed (Net) for the period 2014-19

25. Based on the above, the additional capital expenditure allowed for the period 2014-19 are as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Additional capital expenditure allowed	4482.47	6124.87	649.51	191.15	380.00
De- capitalization	88.44	11.28	11.50	0.00	0.00
Additional capital expenditure allowed (Net)	4394.03	6113.59	638.01	191.15	380.00

Capital cost

26. As stated, the closing capital cost allowed by the Commission in order dated 5.9.2018 in Petition No. 165/GT/2017 is ₹262107.72 lakh as on 31.3.2014. The same has been considered as the opening capital cost as on 1.4.2014. Accordingly, the capital cost allowed for the period 2014-19 is as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	262107.72	266501.75	272615.34	273253.35	273444.50
Additional capital expenditure allowed	4394.03	6113.59	638.01	191.15	380.00
Closing capital cost	266501.75	272615.34	273253.35	273444.50	273824.50

Debt-Equity Ratio

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

“19. Debt-Equity Ratio (3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.”

28. Accordingly, the debt equity ratio as on 31.3.2014, as per order dated 5.9.2018 in Petition No. 165/GT/2017 has been considered for opening capital cost. However, the debt equity ratio of 70:30 has been considered for the purpose of additional capitalization.



Return on Equity

29. 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% has been allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

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

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

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

30. 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:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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.”

31. In terms of the above regulations, the base rate has been grossed up with MAT Rate i.e. 20.961% for the year 2013-14. Accordingly, Return on Equity has been computed as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	58695.66	60013.87	61847.95	62039.35	62096.69
Addition due to Add Cap	1318.21	1834.08	191.40	57.35	114.00
Closing Equity	60013.87	61847.95	62039.35	62096.69	62210.69
Average Equity	59354.76	60930.91	61943.65	62068.02	62153.69
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)	12390.90	12719.94	12931.36	12957.32	12975.21

32. The petitioner is however directed to submit the effective tax rates along with the tax Audit report for the period 2014-19 at the time of revision of tariff



based on true-up exercise in terms of Regulation 8 of the 2014 Tariff Regulations.

Interest on loan

33. 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 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 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.”

34. In terms of the above regulations, interest on loan has been calculated as under:

- a) The opening gross normative loan as on COD of each unit has been arrived at in accordance with Regulation 26 of the 2014 Tariff Regulation.
- 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.

35. Accordingly, interest on loan for the purpose of tariff is as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	203412.06	206487.88	210767.39	211214.00	211347.81
Cumulative Repayment up to Previous Year	28619.64	41191.02	54010.69	66983.14	79972.63
Net Loan-Opening	174792.42	165296.87	156756.70	144230.86	131375.17
Repayment during the year	12571.38	12819.68	12972.45	12989.49	12999.71
Addition due to Additional Capitalization	3075.82	4279.51	446.61	133.81	266.00
Net Loan-Closing	165296.87	156756.70	144230.86	131375.17	118641.46
Average Loan	170044.64	161026.78	150493.78	137803.02	125008.32
Weighted Average Rate of Interest on Loan	12.3995%	12.2835%	12.1468%	9.5785%	9.2909%
Interest on loan	21084.69	19779.72	18280.18	13199.46	11614.40

Depreciation

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

“27. (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system



including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof

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

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

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

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

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

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

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

(7) The generating company or the transmission 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) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.



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

37. The weighted average rate of depreciation of 4.756% calculated in terms of the above regulations has been considered for the period 2014-19. Accordingly, depreciation has been computed as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	262107.72	266501.75	272615.34	273253.35	273444.50
Additional Capitalization	4394.03	6113.59	638.01	191.15	380.00
Closing Gross Block	266501.75	272615.34	273253.35	273444.50	273824.50
Average Gross Block	264304.74	269558.55	272934.35	273348.93	273634.50
Land related cost	461.78	461.78	461.78	461.78	461.78
Rate of Depreciation	4.756%	4.756%	4.753%	4.752%	4.751%
Depreciable value	237458.66	242187.09	245225.31	245598.43	245855.45
Remaining Depreciable value	208839.02	201009.73	191230.51	178634.01	165901.53
Depreciation	12571.38	12819.68	12972.45	12989.49	12999.71

O&M expenses

38. Regulation 29 (3) (c) of the 2014 Tariff Regulations provides as under:

“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. ”

39. The petitioner has claimed O&M expenses as under:

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
5906.50	6298.69	6716.93	7162.93	7638.55

40. The COD of the generating station is 1.4.2012. The project cost as on cut-off date (31.3.2015) allowed as above is ₹266501.75 lakh. The Rehabilitation & Resettlement cost of ₹4344.56 lakh indicated by the petitioner has been



considered. Accordingly, O&M expenses allowed in terms of above Regulations for first year of the generating station is as under:

(₹ in lakh)	
Total capital expenditure up to cut-off date	266501.75
R & R Expenditure	4344.56
Capital cost considered for O&M expenses (excluding R&R expenses)	262157.19
O&M Expenses @2% p.a. for first year i.e. 2012-13	5243.14
O&M Expenses for 2013-14 (escalated by 6.04% of above)	5559.83
Average O&M Expenses for 2012-13 & 2013-14 at 2013-14 price level	5559.83

41. Accordingly, O & M Expenses have been worked out and allowed as under:

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
5929.00	6322.69	6742.51	7190.22	7667.65

Interest on Working Capital

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

“28. Interest on Working Capital: (1) The working capital shall cover

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

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

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

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

Rate of interest on working capital

43. 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.”

44. In terms of the above regulations, the Bank Rate of 13.50% (Base Rate + 350 Basis Points) as on 1.4.2014 has been considered by the petitioner. This has been considered. Necessary computations in support of interest on working



capital are appended below:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	889.35	948.40	1011.38	1078.53	1150.15
O & M expenses	494.08	526.89	561.88	599.18	638.97
Receivables	8893.90	8839.08	8719.33	7939.13	7757.63
Total	10277.34	10314.37	10292.59	9616.85	9546.75
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	1387.44	1392.44	1389.50	1298.27	1288.81

Annual Fixed Charges

45. Based on the above discussions, 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	12390.90	12719.94	12931.36	12957.32	12975.21
Interest on Loan	21084.69	19779.72	18280.18	13199.46	11614.40
Depreciation	12571.38	12819.68	12972.45	12989.49	12999.71
Interest on Working Capital	1387.44	1392.44	1389.50	1298.27	1288.81
O & M Expenses	5929.00	6322.69	6742.51	7190.22	7667.65
Total	53363.41	53034.47	52315.99	47634.77	46545.77

Normative Annual Plant Availability Factor

46. Clause (4) of Regulation 37 of the 2014 Tariff Regulations provides for the Normative Annual Plant Availability Factor (NAPAF) for hydro generating stations already in operation. Accordingly, NAPAF of 67% as allowed by the Commission vide order dated 15.5.2014 in Petition No. 116/GT/2013 has been allowed. However, the same is subject to review based on the actual PAF for the period 2012-17 at the time of truing up of the tariff.

Design Energy

47. CEA vide letter dated 6.8.2012 had approved the Design Energy (DE) of 1154.84 MUs. Accordingly, the same has been considered for the generating station month-wise as detailed under:



Months	Period (10 days monthly)	Design Energy (MUs)
April	I	29.81
	II	30.6
	III	35.61
May	I	40.11
	II	36.42
	III	42.81
June	I	40.01
	II	42.02
	III	12.6
July	I	13.6
	II	14.1
	III	20.41
August	I	52.12
	II	51.11
	III	67.73
September	I	31.51
	II	33.41
	III	20.31
October	I	22.91
	II	19.61
	III	14.9
November	I	18.91
	II	19.6
	III	20.31
December	I	32.5
	II	33.41
	III	37.81
January	I	35.8
	II	36.41
	III	41.82
February	I	39.42
	II	32.01
	III	28.31
March	I	35.31
	II	35.8
	III	35.71
Total		1154.84

Application Fee and Publication Expenses

48. The petitioner has sought reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2014- 19. The petitioner has deposited the filing fees for the period 2014-19 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 newspapers. 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 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.

49. 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.

50. Petition No. 117/GT/2018 is disposed of in terms of the above.

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

Sd/-
(A.K.Singhal)
Member

Sd/-
(P.K.Pujari)
Chairperson

