

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No.160/GT/2012

Coram:

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

Date of Order: 27th June, 2019

IN THE MATTER OF

Revision of tariff of Units I & II of Udupi Thermal Power Station (1200 MW) for the period from 11.11.2010 to 31.3.2014 in terms of the judgment of the Appellate Tribunal for Electricity dated 6.2.2019 in Review Petition No.19/2015 & Review Petition No. 22/2015 in Appeal No. 108 of 2014.

AND

IN THE MATTER OF

Udupi Power Corporation Ltd,
IInd Floor, Le-Parc Richmond,
51, Richmond Road,
Bengaluru-560025

...Petitioner

Vs

1. Power Company of Karnataka Ltd,
KPTCL Building, Kaveri Bhavan, K.G.Road,
Bengaluru -560009
2. Bangalore Electricity Supply Company Ltd,
K.R.Circle, Bengaluru -560001
3. Mangalore Electricity Supply Company Ltd,
Paradigm Plaza, AB Shetty Circle
Mangalore-575001
4. Gulbarga Electricity Supply Company Ltd,
Station Main Road, Gulbarga-585102
5. Hubli Electricity Supply Company Ltd,
Corporate Office, Navanagar, PB Road,
Hubli-580025
6. Chamundeshwari Electricity Supply Company Ltd,
Corporate Office, No. 927, LJ Avenue,
New Kantaraja Urs Road, Sarawathipuram, Mysore-570009



7. Punjab State Power Corporation Ltd,
Head Office, the Mall, Patiala-147001

...Respondents

8. M/s Janajagrithi Samithi (Regd)
C/o Sri Rohit Rao, Advocate & Consultants
Verits Legis, 127, Lawyers Chamber,
Supreme Court, New Delhi-110001

...Objector

ORDER

Petition No.160/GT/2012 was filed by the petitioner, Udupi Power Corporation Ltd (UPCL) for determination of annual fixed charges of both units of Udupi Thermal Power Station (2 x 600 MW) (“the generating station”) from their respective dates of commercial operation i.e. 11.11.2010 till 31.3.2014 in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (“the 2009 Tariff Regulations”). The Commission by order dated 20.2.2014 disposed of the petition by determining the annual fixed charges for the generating station for the said period. Also, by the said order, the Energy Charge Rate (ECR) was worked out on the basis of Weighted Average Price & GCV of coal for the preceding two months from the COD of Unit-I and for the preceding three months from COD of Unit II.

2. Aggrieved by the Commission’s order dated 20.2.2014, various appeals were filed by the parties before the Appellate Tribunal for Electricity (“the Tribunal”) as detailed under:

- (a) Appeal No.108/2014-filed by Power Company of Karnataka Limited and the distribution licensees of Karnataka (PCKL & ors V CERC & ors)
- (b) Appeal No. 119/2014- filed by Udupi Power Corporation Ltd (UPCL V CERC & ors)
- (c) Appeal No. 122/2014-filed by M/s Janajagrithi Samithi, NGO, Karnataka (Janajagrithi Samithi V CERC & ors)



3. The Tribunal by a common judgment dated 15.5.2015, disposed of the above said appeals filed by the parties as under:

“(i) Capital cost has to be revised by CERC based on our findings in paragraphs 58 & 59 above and impact on IDC, if any, due to delay of 3 months allowed on account of visa to Chinese personnel (paragraph 76). Accordingly amount of fixed charges will also be re-determined.

(ii) Energy charges are to be re-determined by CERC based on gross SHR of 2328 kCal/kWh as decided under paragraph 104.

(iii) We do not find merit in other issues raised in Appeal Nos. 108 of 2014 and 122 of 2014. Appeal No. 18 of 2013 does not survive in view of our findings in Appeal No. 108 of 2014.

(iv) There is no merit in Appeal No.119 of 2014 filed by Udupi Power.

(v) CERC has to re-determine the tariff based on the above findings of the Tribunal within 45 days of date of this order. In the interim period, till re-determination of tariff by CERC, Udupi Power will raise bills at the rates determined by CERC in the impugned order i.e. the prevailing rates, subject to adjustment after redetermination of tariff by CERC.”

4. Against the above judgment of the Tribunal dated 15.5.2015, the Respondents PCKL & the discoms of Karnataka filed Review Petition No.19/2015 and the Petitioner also filed Review Petition No. 22/2015 on various grounds as detailed hereunder:

Review Petition No. 22/2015 (UPCL v PCKL & ors)

- (i) Disallowance of Gross Station Heat Rate (GSHR) of 2400 kcal/kwh;
- (ii) Disallowance of ₹141.91 crore on account of error in calculation of EPC cost; and
- (iii) Disallowance of costs due to reliance on erroneous report of Central Power Research Institute (CPRI)

Review Petition No. 19/2015 (PCKL & ors v CERC & ors)

- (i) Cost of Pro-rata increase for each of the Balance of Plant (BOP) items in the EPC Cost;
 - (ii) Erection, Testing & Commissioning expenses;
 - (iii) Foreign Exchange Rate Variation (FERV);
 - (iv) Capital expenditure towards staff colony;
 - (v) Expenses forming part of original EPC cost - double counting;
 - (vi) Non-deduction of revenue earned over and above fuel expenses;
 - (vii) Auxiliary Consumption;
 - (viii) Interest during construction - Unit no.2; and
 - (ix) Energy Charges.
- (PCKL had however not pressed for determination of issues at sl nos. (iii), (vii) and (ix) above)*



5. While so, in compliance with the above directions of the Tribunal in its judgment dated 15.5.2015, the Commission by order dated 10.7.2015 in Petition No. 160/GT/2012 had re-determined the annual fixed charges of the generating station as under:

	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Return on Equity	11414.34	11425.54	11425.54	24683.66	25190.33
Interest on Loan	22160.06	21542.92	20843.70	50522.94	48321.09
Depreciation	12826.19	12826.71	12826.61	26873.04	27324.46
Interest on Working Capital	5238.93	5260.06	5258.44	14506.26	14537.29
O&M Expenses	7422.00	7848.00	8292.00	16584.00	17544.00
Cost of secondary fuel oil	1345.58	1349.26	1345.58	3916.43	3916.43
Total	60407.10	60252.50	59991.87	137086.33	136833.61

6. Also, the Energy charges approved vide order dated 10.7.2015 is as under:

	(Paise/kWh)				
	2010-11 11.11.2010 to 31.3.2011	2011-12 1.4.2011 to 31.3.2012	2012-13		2013-14
			1.4.2012 to 18.8.2012	19.8.2012 to 31.3.2013	
Energy Charge Rate (ex-bus)	254.936	254.936	254.936	286.743	286.743

7. Thereafter, the Commission vide order dated 24.3.2017 in Petition No. 7/GT/2016 revised the tariff of the generating station for the period from 11.11.2010 to 31.3.2014 after truing-up exercise. The capital cost and the annual fixed charges approved by order dated 24.3.2017 are as under:

Capital Cost

	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Opening capital cost	262561.72	262561.72	262561.72	527564.76	534475.76
Add: Additional capital expenditure	0.00	0.00	0.00	6911.00	0.00
Closing capital cost	262561.72	262561.72	262561.72	534475.76	534475.76
Average capital cost	262561.72	262561.72	262561.72	531020.26	534475.76



Annual Fixed Charges

	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Return on Equity	9673.06	9673.06	12092.57	25271.93	25771.90
Interest on Loan	24343.21	25100.85	24456.65	51129.90	47574.07
Depreciation	13574.99	13575.54	13575.44	27502.81	27681.78
Interest on working capital	5261.17	5307.76	5352.35	14548.27	14541.71
O&M Expenses	7422.00	7848.00	8292.00	16584.00	17544.00
Cost of secondary fuel oil	1345.58	1349.26	1345.58	3916.43	3916.43
Total	61620.01	62854.47	65114.59	138953.34	137029.89

8. Subsequently, the Tribunal vide its common judgment dated 6.2.2019 disposed of the Review Petitions No. 19/2015 and 22/2015 filed by the parties as under:

Summary of our finding: -

“24. In view of the above considerations and findings, the Review Petition No.22 of 2015 is partly allowed to the extent of that Issue Nos. 1 & 2, are decided in favour of the Review Petitioner and Issue No.3 (A,B & C) is decided against the Review Petitioner.

25. In view of the above considerations and findings, the Review Petition No.19 of 2015 is partly allowed to the extent of that Issue No. 2 is decided in favour of the Review Petitioner and Issue Nos.1,4,5,6 & 8 are decided against the Review Petitioner. The issue nos.3,7 & 9 are not pressed by the Review Petitioner.

ORDER

For the forgoing reasons, as stated supra, the Review Petition Nos. 19 of 2015 & 22 of 2015 in Appeal Nos.108, 122, 119 of 2014 & 18 of 2013 are allowed in part, as stated above in Paragraph Nos. 24 & 25 (Summary of findings).

Accordingly, CERC is directed to re-determine the tariff of the project in line with our findings as referred above in para 24 & 25 within three months from the receipt of a copy of this Order.”

9. Accordingly, the Tribunal vide its judgment dated 6.2.2019 partly allowed the Review Petition No. 22/2015 on issues namely, the (i) Disallowance of Gross Station Heat Rate (GSHR) of 2400 kcal/kwh; and (ii) Disallowance of ₹141.91 crore on account of ‘Error in calculation of EPC cost’. Also, by the said judgment, Review Petition No. 19/2015 was partly allowed on the issue of ‘Erection, Testing & Commissioning expenses’. The Commission has been directed to re-determine the tariff of the generating station in terms of findings of the Tribunal in the said judgment.



Accordingly, in terms of the directions of the Tribunal as aforesaid, we proceed to re-determine the tariff of the generating station for the period from 11.11.2010 till 31.3.2014 as stated in the subsequent paragraphs:

Capital Cost of the Project

10. The additional expenditure towards increase in BoP capacity as revised and allowed in Commission's order dated 10.7.2015 is as under:

<i>(₹ in crore)</i>			
	Details	Additional Expenditure	Allowed Revise
1	Performance Guarantee	129.00	0.00
2	BTG Civil	5.50	0.00
3	Coal Handling System		63.01
	Jetty	6.00	
	Unloaders	17.00	
	Coal Conveyor	31.00	
	Stacker & Re-claimer	12.00	
	Coal Stacking Yard	6.00	
	Wagon Loading System	3.00	
	Internal Coal Handling System	39.50	
4	Sea Water System	23.00	23.00
5	Cooling Water System		64.85
	Cooling Towers	47.80	
	Cooling Water Pumps	17.05	
6	RO & DM Water Plant	31.50	31.50
7	Ash Handling System & Air flue	15.50	15.50
8	BOP Electrical	29.90	29.90
9	Fuel oil System	1.00	0.00
	Xx		
11	C&I system	30.60	0.00
12	Others		
	Initial Spares	10.00	6.39
	Erection	53.20	27.89
	Design & Engineering	1.00	0.00
	Coal Slurry Pond	9.23	0.00
	Coal Silo	14.08	0.00
	Concrete Road	22.56	0.00
	BTG Spares	30.36	0.00
	Inlet Pipe	25.76	0.00
	Total BoP	611.54	262.04
	Other than BOP		
13	Concrete Road	-	22.56
14	Air & Flue gas systems	109.25	0.00
15	Drift Eliminator	5.77	5.77
16	Dredging	24.40	24.40
	Total other than BOP	139.42	52.73
	Total (Revised)	750.96	314.77



Erection, Testing & Commissioning expenses

11. As regards Erection, Testing & Commissioning expenses, the Tribunal in its judgment dated 6.2.2019 has decided as under:

22.4..... We hold that the CERC after due consideration of the various contentions of Review Petitioner and Respondent no 2 has approved erection cost to be considered for construction of 1200 MW. In the above Impugned Order it was also categorically held that the Tribunal has examined the capital expenditure item wise and concluded that it is in agreement with the proportionate approach adopted by the CERC. Accordingly, it was the considered view of the Tribunal to uphold the decision of CERC in this regard. It is therefore a natural corollary to apply the proportionate principle to the capital cost based on the decision in Impugned Order. Therefore, we opine that the erection, testing and commissioning expenses shall also be considered on proportionate basis corresponding to the revised capital cost approved in this order. Thus, we find force in the contentions of Review Petitioner and hold that this issue qualifies for review. Accordingly, answered this issue in favour of the Review Petitioner.”

12. The initial spares which were restricted to 2.5% of the increase in BoP cost is required to be adjusted taking into account the deduction in BoP cost. Accordingly, the revised BoP cost excluding initial spares of ₹6.39 crore and after adjustment of ₹10.40 crore (27.89-17.49) is worked out as ₹245.25 crore (262.04-10.40-6.39). Thus, the revised value of initial spares @2.5 % of the revised BoP cost of ₹245.25 crore is worked out as ₹6.13 crore.

13. Based on the above deductions, the additional expenditure towards increase in BoP capacity is revised and allowed as under:

(₹ in crore)			
	Details	Additional Expenditure incurred	Allowed
1	Performance Guarantee	129.00	0.00
2	BTG Civil	5.50	0.00
3	Coal Handling System		63.01
	Jetty	6.00	
	Unloaders	17.00	
	Coal Conveyor	31.00	
	Stacker & Re-claimer	12.00	
	Coal Stacking Yard	6.00	
	Wagon Loading System	3.00	
	Internal Coal Handling System	39.50	



4	Sea Water System	23.00	23.00
5	Cooling Water System		64.85
	Cooling Towers	47.80	
6	Cooling Water Pumps	17.05	
	RO & DM Water Plant	31.50	31.50
7	Ash Handling System & Air flue	15.50	15.50
8	BOP Electrical	29.90	29.90
9	Fuel oil System	1.00	0.00
11	C&I system	30.60	0.00
12	Others		
	Initial Spares	10.00	6.13
	Erection	53.20	17.49
	Design & Engineering	1.00	0.00
	Coal Slurry Pond	9.23	0.00
	Coal Silo	14.08	0.00
	Concrete Road	22.56	0.00
	BTG Spares	30.36	0.00
	Inlet Pipe	25.76	0.00
	Total BoP	611.54	251.38
	Other than BOP		
13	Concrete Road		22.56
14	Air & Flue gas systems	109.25	0.00
15	Drift Eliminator	5.77	5.77
16	Dredging	24.40	24.40
	Total other than BOP	139.42	52.73
	Total (Revised)	750.96	304.11

14. The Commission in its order dated 10.7.2015 had allowed the following capital cost (excluding IDC, FC etc.) as under:

Description	(₹ in lakh)							
	Cost considered by Commission for (1015 MW) to evaluate capital cost for 1200 MW	Cost increase allowed	Total cost for 1200 MW	Capital cost of Unit-I as on COD (11.11.2010)	Expenditure allowed as additional capital expenditure from 19.8.2012 to 31.3.2013	Capital cost upto COD of Unit-II (19.8.2012)	Additional capital expenditure 2013-14	Final Cost
Cost of Land & site Development	32.80	30.20	63.00	-	5.35	57.65	0.00	63.00
EPC Cost	3526.64	314.77	3841.41	-	6.19	3835.22	0.00	3841.41
Taxes & Duties	108	9.55	117.55	-	6.89	110.66	2.32	119.87
Construction & Pre-commissioning expenses	19.00	22.80	41.80	-	0.00	41.8	0.00	41.80
Overheads	101.53	78.26	179.79	-	8.33	171.46	0.00	179.79



Other Cost		28.71	28.71	-	9.57	19.14	-	28.71
Additional capitalization after COD	--	-	-	--	--	-	135.68	135.68
Capital cost (excluding IDC, FC)	3787.97	484.29	4272.26	2329.76	36.33	4235.93	138.00	4410.26

15. As regards capital cost, the Tribunal vide its judgment dated 6.2.2019 has held as under:

“9.5 It is relevant to note that the claims of the Review Petitioner relating to Miscellaneous Contracts were dismissed by this Tribunal in para 125 of the impugned order with the following observation:

“.....We also do not find any merit in the claim of Udupi Power as the project’s capital cost was allowed by CERC after analyzing all the components of the power project. Therefore, we do not find any reason to intervene in this matter.”

9.6 In view of the observations made above, we find it appropriate to examine the analysis made by the Central Commission in the order dated 03.06.2014. In fact, CERC through its Order in Review Petition No. 14/RP of 2014 had rejected the claim of the Review Petitioner on the ground that it would dilute the competitiveness of lowest bidder. In this regard, we find substance in the submission of the Review Petitioner that even after allowing Rs. 141.91 Crores over and above Rs. 3526.64 Crores approved by CERC in Order dated 20.02.2014, the total cost will come to Rs. 3668.55 Crores which is still lower by Rs. 19.80 Crores as compared to EPC cost of Rs. 3688.35 Crores received from BHEL, Navyuga and Simplex.

9.7 We also considered that the contracts of Rs 141.91 Crore were awarded to LITL, expenditure was incurred, and the works were carried out. Further, the same have been duly certified and audited. Therefore, we opine that these contracts being of prudent nature for` (a) Site Clearance, (b) Soil Investigation, (c) Site Survey, (d) Levelling (e) Site fencing and (f) Plant roads need to be allowed as part of hard cost.

9.8 It is also pertinent to note that CERC in its Order dated 20.02.2014 had given a finding as under:

“ 73..... We find that the hard cost of Rs. 5057.85 Crore (Rs. 4.21 crore/MW) with site specific features is comparable to other similar projects such as Simhadri STAGE II, Indira Gandhi Super Thermal, Sipat Stage-I of NTPC and also comparable to the benchmark hard cost for coal based thermal power projects specified by the commission, which works out as Rs. 4.87 crore/MW for Unit -I and Rs. 4.54 crore for Unit II.”

9.9 We thus find substance in the submissions of Review Petitioner that even if Rs. 141.91 Cr. is added to the capital cost as approved by the CERC in Order dated 20.02.2014, it will work out to Rs. 3.95 Crore per MW which is well below the benchmark of Rs 4.87 Crore per MW and Rs 4.54 Crore MW respectively for Unit 1 and Unit 2 as observed by the CERC in its order dated 20.02.2014. Hence, in view of findings in above mentioned paragraphs, we allow the Review on this issue.”



16. Based on the above decision, the amount of ₹141.91 crore has been considered as part of EPC cost incurred by the Petitioner on Site Clearance, Soil Investigation, Site Survey, Leveling, Site fencing, Plant roads etc. Accordingly, the EPC cost stands revised from ₹3526.64 crore (as considered in order dated 10.7.2015) to ₹3668.55 crore.

17. The Commission in its order dated 10.7.2015 had also restricted the amount of taxes & duties to ₹108.00 crore on *pro rata* basis corresponding to EPC cost of ₹3526.64 crore for 1015 MW capacity. Consequent upon the revision of EPC cost to ₹3668.55 crore as above, the taxes and duties have been worked out as ₹112.35 crore $[(108.00 \times 3668.55) / 3526.64]$.

18. Further, the Commission in its order dated 10.7.2015 had restricted the amount of taxes & duties to ₹9.55 crore *pro rata* to the increase in EPC cost of ₹314.77 crore. Consequent upon revision of the expenditure allowed towards increase in BoP capacity to ₹304.11 crore (from ₹314.77 crore), the *pro rata* taxes & duties stands revised as ₹9.23 crore $[(9.55 \times 304.11) / 314.77]$.

19. Based on the above, the Capital cost (excluding IDC, FC) as allowed in Order dated 10.7.2015 stands modified as under:

(₹ in crore)								
Description	Cost considered by Commission for (1015 MW) to evaluate capital cost for 1200 MW	Cost increase allowed	Total cost for 1200 MW	Capital cost of Unit-I as on COD (11.11.2010)	Expenditure allowed as additional capital expenditure from 19.8.2012 to 31.3.2013	Capital cost upto COD of Unit-II (19.8.2012)	Additional capital expenditure 2013-14	Final Cost
Cost of Land & site	32.80	30.20	63.00	-	5.35	57.65	0.00	63.00



Development								
EPC Cost	3668.55	304.11	3972.66	-	6.19	3966.47	0.00	3972.66
Taxes & Duties	112.35	9.23	121.58	-	6.89	114.69	2.32	123.90
Construction & Pre-commissioning expenses	19.00	22.80	41.80	-	0.00	41.8	0.00	41.80
Overheads	101.53	78.26	179.79	-	8.33	171.46	0.00	179.79
Other Cost		28.71	28.71	-	9.57	19.14	-	28.71
Additional capitalization after COD	--	-	-	--	--	-	135.68	135.68
Capital cost (excluding IDC, FC)	3934.23	473.31	4407.54	2404.03*	36.33	4371.21	138.00	4545.54

*@55% of capital cost upto COD of Unit-II as considered in earlier orders

20. Accordingly, the capital cost as on COD of Unit-I (11.11.2010) is revised as under:

(₹ in lakh)	
Capital cost (on cash basis) approved as on COD of Unit-I vide Commission's order dated 24.3.2017	262561.72
Add: Addition due to change in EPC cost, Taxes and duties (excluding impact on IDC)	7440.40
Add: Impact on IDC due to above adjustment	1124.87
Capital cost allowed as on 11.11.2010	271126.99*

* excluding corresponding un-discharged liabilities of ₹649.00 lakh.

21. Similarly, the capital cost as on COD of Unit-II (19.8.2012) is worked out as under:

(₹ in lakh)	
Capital cost (on cash basis) approved as on COD of Unit-II vide order dated 24.03.2017	527564.76
Add: Addition due to change in EPC cost, Taxes and duties (excluding impact on IDC)	13528.00
Add: Impact on IDC due to above adjustment	3282.34
Capital cost allowed as on 19.08.2012	544375.09

* excluding corresponding un-discharged liabilities of ₹6911.00 lakh.

Additional Capital Expenditure

22. The discharge of un-discharged liabilities amounting to ₹6911.00 lakh corresponding to the admissible capital cost as on COD of Unit-II, as considered in order dated 24.3.2017 has been considered as additional capital expenditure for the period 19.8.2012 to 31.3.2013, for the purpose of tariff revision.



Capital Cost for 2009-14

23. Accordingly, the capital cost approved for the generating station for 2009-14 stands revised as under:

	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Opening capital cost	271126.99	271126.99	271126.99	544375.09	551286.09
Add: Additional capital expenditure	0.00	0.00	0.00	6911.00	0.00
Closing capital cost	271126.99	271126.99	271126.99	551286.09	551286.09
Average capital cost	271126.99	271126.99	271126.99	547830.59	551286.09

Debt-Equity Ratio

24. The debt-equity ratio as considered in order dated 24.3.2017 has been retained for the purpose of revision of tariff.

Return on Equity

25. Return on equity has been computed as under:

	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Normative Equity - Opening	64442.66	64442.66	64442.66	133546.28	135546.14
Add: Addition to equity on account of additional capital expenditure	0.00	0.00	0.00	1999.86	0.00
Normative Equity - Closing	64442.66	64442.66	64442.66	135546.14	135546.14
Average Equity	64442.66	64442.66	64442.66	134546.21	135546.14
Rate of Return on Equity	15.500%	15.500%	19.377%	19.377%	19.610%
Return on Equity	9988.61	9988.61	12487.05	26071.02	26580.60

Interest on Loan

26. Interest on loan has been worked out as mentioned below:

(i) The gross normative loan corresponding to approved debt-equity ratio as on respective COD's works out to ₹206684.33 lakh and ₹410828.82 lakh, respectively.

(ii) Cumulative repayment of loan up to previous year/period being nil, the net loan opening as on COD of Unit-I is same as gross loan.



- (iii) Depreciation allowed for the period under consideration has been considered as repayment.
- (iv) Average net loan is calculated as average of opening and closing.
- (v) Weighted average rate of interest has been calculated and considered.
- (vi) The rate of interest considered in the calculation in case of all loans is on annual rest basis.
- (vii) Actual draws as submitted in the petition, has been considered.

27. Interest on normative loan has been computed and allowed as under:

	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Gross Opening Loan	206684.33	206684.33	206684.33	410828.82	415739.96
Cumulative Repayment of Loan	0.00	5399.09	19417.49	24811.96	42266.85
Net Loan Opening	206684.33	201285.24	187266.84	386016.85	373473.11
Addition of loan due to additional capital expenditure	0.00	0.00	0.00	4911.14	0.00
Repayment of loan (Normative)	5399.09	14018.40	5394.47	17454.89	28552.43
Net Loan Closing	201285.24	187266.84	181872.37	373473.11	344920.68
Average Loan	203984.78	194276.04	184569.60	379744.98	359196.89
Weighted Average Rate of Interest on Loan	12.3231%	13.3417%	13.6829%	13.8898%	13.6603%
Interest on Loan	25137.33	25919.68	25254.48	52745.95	49067.37

Depreciation

28. Depreciation has been worked out and allowed as under:

	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Average capital cost	271126.99	271126.99	271126.99	547830.59	551286.09
Rate of depreciation	5.1702%	5.1704%	5.1704%	5.1792%	5.1792%
Depreciation for the period	5399.09	14018.40	5394.47	17454.89	28552.43
Depreciation (annualised)	14017.84	14018.40	14018.30	28373.46	28552.43
Cumulative Depreciation at the end	5399.09	19417.49	24811.96	42266.85	70819.28



Normative Annual Plant Availability Factor (NAPAF)

29. NAPAF of 85% as allowed in order dated 24.3.2017 has been considered.

O & M Expenses

30. O&M expenses as allowed in order dated 24.3.2017 has been considered.

Gross Station Heat Rate

31. The Commission in order dated 20.2.2014 had worked out the Gross Station Heat Rate (GSHR) of 2340.58 kCal/kWh and allowed the same for the purpose of determination of tariff. The relevant portion of the order is extracted as under:

“...161. As per the guaranteed turbine cycle heat rate of 1945 kCal/kWh and boiler efficiency of 88.5% along with the deviation of 6.5 % as per the 2009 Tariff Regulations, the Gross Heat Rate works out to 2340.59 kcal/kWh. Without the margin of Auxiliary consumption of 6.5%, the Gross Heat Rate works out as 2197.74 kcal/kWh. In light of this, achieving a GSHR of 2220 kcal/kWh as per submission of the respondents 1 to 6 is not possible. Also, the EPC contract was finalized in 2006 and there was no possibility for the petitioner to specify the Station Heat Rate as per the 2009 Tariff Regulations. In view of above, we consider a GSHR of 2340.59 kCal/kWh based on guaranteed turbine cycle heat rate 1945 kCal/kWh and boiler efficiency of 88.5% with a deviation of 6.5 % from the guaranteed design value.”

32. The Tribunal vide its judgment dated 15.5.2015 had observed as under:

“104. CERC has also found deviation in the formula for variable charges in the PPA. PCKL has contended that when Udupi Power itself had in 2005 agreed to reduce gross SHR by 50 kCal/kWh, then for 2009-14 they should allow reduction of 50 kCal/kWh over 2333.41 kCal/kWh (performance test gross SHR of 2193 kCal/kWhx1.065) i.e. 2283.41 kCal/kWh. If we apply the same formulation to parameters guaranteed by OEM (2233 kCal/kWh as referred to by PCKL), the gross SHR with operating margin of 6.5% as per the Regulation less 50 kCal/kWh would work out to 2328 kCal/kWh. We are therefore, inclined to allow gross SHR of 2328 kCal/kWh. Accordingly decided. We want to make it clear that above gross SHR has been decided specific to the circumstances of this case.”

33. Accordingly, the GSHR of 2328 kCal/kWh was considered for revision of tariff and based on this, the fuel component in working capital as allowed in Commission's order dated 10.7.2015 is as under:

	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12 (1.4.2011 to 31.3.2012)	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Cost of coal for 2 months	17565.80	17613.92	17565.80	39527.21	39527.21



Cost of Secondary Fuel oil for 2 months	224.26	224.88	224.26	652.74	652.74
Cost of Lime for 2 months	50.02	50.16	50.02	100.04	100.04

34. On the issue of GSHR, the Tribunal in its judgment dated 6.2.2019 in Review Petition No. 22/2015 has decided the following:

“8.4 In view of the above, it is clear that there was no agreement on reduction of GSHR by 50 kCal/kWh. Further, there is no such provision in the PPA regarding reduction of GSHR by 50 kCal/kWh. This Tribunal relied on the submission made by PCKL which has been proven to be an inference drawn from extant CERC Tariff Regulations and provisions of the PPA. Further, it is relevant to note that both the parties after signing of the PPA had agreed that tariff parameters will be determined by Appropriate Commission and there is no mention of reduction of 50 kCal/kWh therein. It is also noted that the Respondent No. 1 did not raise this issue before the Central Commission. Had there been such agreement, the Respondent No. 1 would have raised it before the Commission.

8.5 Further, the Tribunal in its Judgment dated 08.11.2017 in Appeal No. 226 of 2016 has observed as below:

“(f)(i) The relevant extract from Section 61 of the Act is reproduced below: “Section 61. (Tariff regulations): The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely:- (a) the principles and methodologies specified by the Central Commission for determination of the tariff applicable to generating companies and transmission licensees;”

Section 61 of the Act empowers the Appropriate Commission to formulate tariff regulations and once the tariff regulations are notified the Appropriate Commission is bound to follow it.”

8.6 In view of the above judgment it is clear that once the Tariff Regulation is notified under Section 61 of the Electricity Act, 2003 by the Regulatory Commission, it is bound to follow that. Accordingly, the review on this issue is allowed and SHR applicable for UPCL plant shall be strictly as per Regulations of the Central Commission as agreed by the Parties in the PPA without any such reductions.”

35. It is evident from the above observations of the Tribunal in the said judgment that the Heat Rate applicable to the petitioner should be strictly as per regulations of the Commission as agreed by the parties in the PPA. It is pertinent to mention that the Commission in its order dated 20.2.2014 in Petition No. 160/GT/2012 had considered the GSHR of 2340.59 kCal/kWh (1945 x 1.065/0.885) based on guaranteed turbine cycle heat rate 1945 kCal/kWh, boiler efficiency of 88.5% and operating margin of 6.5 % from the guaranteed design value in terms of the 2009 Tariff Regulations. However, the



Tribunal vide its judgment dated 15.5.2015 on the basis of formulation in the 2009 Tariff Regulations, had decided the Gross SHR of 600 MW of the Petitioner as 2328 kCal/kWh (2193 kCal/kWh x 1.065), considering the OEM guaranteed parameter of 2233 kCal/kWh (as referred to by PCKL) with the operating margin of 6.5% as per Regulations, less 50 kCal/kWh (as submitted by PCKL). Thus, the order of the Commission dated 20.2.2014 stood merged with the above judgment dated 15.5.2015 of the Tribunal, which was implemented by the Commission vide order dated 10.7.2015. It is pertinent to mention that the said findings of the Tribunal were specific to the circumstances of the case. By judgment dated 6.2.2019, the Tribunal has observed that the parties had not agreed for the reduction of GSHR by 50 kCal/kWh and hence the SHR of the generating station is to be allowed without such reductions. These observations of the Tribunal in judgment dated 6.2.2019 based on the interpretation of the 2009 Tariff Regulations has modified the earlier findings of the Tribunal in judgment dated 15.5.2015. In other words, with the reduction of 50 kCal/kWh in GSHR being rectified on review, the judgment dated 15.5.2015 stood merged with the judgment dated 6.2.2019 and the same is required to be implemented. Accordingly, the GSHR of 2378 kCal/kWh (2233 kCal/kWh X 1.065) is considered for the purpose of tariff determination of the generating station for the period 2009-14.

Interest on Working Capital

36. Working capital has been calculated considering the following elements:

Fuel Component in working capital

37. The fuel component of working capital considered in working capital is as under:



	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Cost of coal for 2 months	17944.62	17993.78	17944.62	40379.64	40379.64
Cost of lime for 2 months	50.02	50.16	50.02	100.04	100.04
Cost of Secondary Fuel oil for 2 months	224.26	224.88	224.26	652.74	652.74

Maintenance Spares

38. Maintenance spares in working capital as allowed in order dated 24.3.2017 has been considered.

O & M Expenses

39. O&M expenses in working capital as allowed in order dated 24.3.2017 has been considered.

Receivables

40. Receivable component of working capital has been worked out on the basis of two months of fixed and energy charges as under:

	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Variable Charges - 2 months	17994.64	18043.94	17994.64	40479.69	40479.69
Fixed Charges - 2 months	10547.74	10757.72	11144.20	23758.37	23418.50
Total	28542.38	28801.66	29138.84	64238.06	63898.19

41. The Rate of interest on working capital as considered in order dated 24.3.2017 has been considered for revision of tariff. Necessary computations in support of calculation of interest on working capital are as under:

	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Cost of coal for 2 months	17944.62	17993.78	17944.62	40379.64	40379.64
Cost of lime for 2	50.02	50.16	50.02	100.04	100.04



months					
Cost of secondary fuel oil for 2 months	224.26	224.88	224.26	652.74	652.74
O&M Expenses	618.50	654.00	691.00	1382.00	1462.00
Maintenance spares	1484.40	1569.60	1658.40	3316.80	3508.80
Receivables	28542.38	28801.66	29138.84	64238.06	63898.19
Total working capital	48864.19	49294.08	49707.15	110069.28	110001.42
Rate of Interest	11.0000%	11.0000%	11.0000%	13.5000%	13.5000%
Interest on working capital	5375.06	5422.35	5467.79	14859.35	14850.19

Annual Fixed Charges

42. Accordingly, the annual fixed charges for the period 2009-14 in respect of the generating station stands revised as under:

	(₹ in lakh)				
	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
Return on Equity	9988.61	9988.61	12487.05	26071.02	26580.60
Interest on Loan	25137.33	25919.68	25254.48	52745.95	49067.37
Depreciation	14017.84	14018.40	14018.30	28373.46	28552.43
Interest on working capital	5375.06	5422.35	5467.79	14859.35	14850.19
O&M Expenses	7422.00	7848.00	8292.00	16584.00	17544.00
Cost of secondary fuel oil	1345.58	1349.26	1345.58	3916.43	3916.43
Total	63286.42	64546.31	66865.19	142550.21	140511.01

Note: 1) All figures are on annualized basis.

2) All the figures under each head have been rounded. The figure in total column in each year is also rounded. Because of rounding of each figure the total may not be arithmetic sum of individual items in columns.

43. The pro rata tariff to be calculated using the bases (as considered in order dated 10.7.2015) is as under:

	2010-11 (11.11.2010 to 31.3.2011)	2011-12	2012-13 (1.4.2012 to 18.8.2012)	2012-13 (19.8.2012 to 31.3.2013)	2013-14
No of days in year	365	366	365	365	365
No. of days for which tariff is to be calculated	140.583	366	140.458	224.542	365

Energy Charge Rate

44. The Energy Charge Rate (ECR) worked out and allowed in Commission's order dated 10.7.2015/24.3.2017 stands revised as under:



(Paise/kWh)

	2010-11	2011-12	2012-13		2013-14
	(11.11.2010 to 31.3.2011)	1.4.2011 to 31.3.2012	1.4.2012 to 18.8.2012	(19.8.2012 to 31.3.2013)	
Energy Charge Rate (ex-bus)	260.419	260. 419	260.419	292.911	292.911

45. The tariff determined by this order shall be adjusted against the tariff recovered by the petitioner in terms of the Commission's orders dated 10.7.2015 and 24.3.2017. With this, the directions of the Tribunal in its judgment dated 6.2.2019 in Review Petition Nos. 19/2015 & 22/2015 in Appeal No. 108 of 2014 stands implemented.

Sd/-
(I. S. Jha)
Member

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

Sd/-
(P. K. Pujari)
Chairperson

