

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No.160/GT/2012**

**Coram:**  
**Shri Gireesh B. Pradhan, Chairperson**  
**Shri A.K.Singhal, Member**  
**Shri A.S. Bakshi, Member**

**Date of Order: 10.07.2015**

**IN THE MATTER OF**

Revision of tariff of Udupi Thermal Power Station (2 x 600 MW) for the period from 11.11.2010 to 18.8.2012 for the generating station (Unit-I & Unit-II) and from 19.8.2012 to 31.3.2014 for Unit-II in terms of the judgment of the Appellate Tribunal for Electricity dated 15.5.2015 in Appeal No. 108 of 2014.

**AND**

**IN THE MATTER OF**

Udupi Power Corporation Ltd,  
II<sup>nd</sup> Floor, Le-Parc Richmonde,  
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, Udipi Power Corporation Ltd for determination of annual fixed charges of both units of Udipi Thermal Power Station (2 x 600 MW) (“the generating station”) from their respective dates of commercial operation 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 as under:

	(₹ in lakh)				
	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	
Return on Equity	12032.67	12044.48	12044.48	25932.94	26439.61
Interest on Loan	23360.50	22709.93	21972.83	53071.49	50716.39
Depreciation	13521.00	13521.54	13521.45	28234.19	28685.62
Interest on Working Capital	5307.25	5327.83	5325.44	14684.30	14711.80
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
<b>Total</b>	<b>62989.00</b>	<b>62801.04</b>	<b>62501.76</b>	<b>142423.36</b>	<b>142013.86</b>

2. Also, the Energy Charge Rate (ECR) 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 (generating station) by order dated 20.2.2014 is as under:

	<i>(Paise/kWh)</i>				2013-14
	2010-11	2011-12	2012-13		
	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)	256.317	256.317	256.317	288.296	288.296

3. Aggrieved by the said 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)

4. The common issues considered by the Tribunal in the said appeals were as under:

(a) Capital Cost of the project;

(b) Delay in commissioning of the project on account of Force Majeure events, namely, delay in land acquisition, delay due to the change in Visa Rules for Chinese personnel and delay due to the non availability of 400 KV transmission lines;

(c) Delay in providing start-up power;

(d) Increase in IDC due to delay in commissioning of the project;

(e) Interest rates;

(f) Return on equity and O&M Expenses;

(g) Gross Station Heat Rate;

(h) Auxiliary Power Consumption;

(i) Variable cost/ coal purchase cost admissible (In Appeal No. 108 of 2014 against Commissions order dated 21.2.2014 in Petition No. 12/MP/2013 related to demand of ₹731.38 crores raised by PCKL on Udupi Power).

5. By judgment dated 15.5.2015, the Tribunal disposed of the 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.

6. In compliance to the directions of the Tribunal and based on the findings of the Tribunal in the said judgment dated 15.5.2015 we proceed to re determine tariff of the generating station as stated in the subsequent paragraphs.

### Capital Cost of the Project

7. The Commission in its order dated 20.2.2014 had allowed following items as additional expenditure towards increase in BoP capacity:

(₹ in crore)			
	Details	Additional Expenditure incurred	Allowed
	Performance Guarantee	129.00	129.00
	BTG Civil	5.50	0.00
	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	
	Sea Water System	23.00	23.00
	Cooling Water System		64.85
	Cooling Towers	47.80	
	Cooling Water Pumps	17.05	
	RO & DM Water Plant	31.50	31.50
	Ash Handling System & Air flue	15.50	15.50
	BOP Electrical	29.90	29.90
	Fuel oil System	1.00	1.00

	C&I system	30.60	2.98
	Others		
	Initial Spares	10.00	7.28
	Erection	53.20	27.89
	Design & Engineering	1.00	1.00
	Coal Slurry Pond	9.23	9.23
	Coal Silo	14.08	14.08
	Concrete Road	22.56	0.00
	BTG Spares	30.36	0.00
	Inlet Pipe	25.76	0.00
	<b>Total BoP</b>	<b>611.54</b>	<b>420.22</b>
	<b>Other than BOP</b>		
	Concrete Road		22.56
14	Air & Flue gas systems	<b>109.25</b>	<b>27.34</b>
	Drift Eliminator	<b>5.77</b>	<b>5.77</b>
	Dredging	<b>24.40</b>	<b>24.40</b>
	Total other than BOP	<b>139.42</b>	<b>80.07</b>
	Total	<b>750.96</b>	<b>500.29</b>

8. As regards capital cost, the Tribunal in Paras 58, 59 and 60 of the judgment dated 15.5.2015 held as under:

*"...We are in agreement with the approach adopted by CERC and the capital cost approved except for the expenditure allowed on the following items:-*

*(I) LITL and DEC had entered into an agreement dated 16.12.2006 for BTG for 2x600 MW capacity for Udupi Project which was cancelled on 24.04.2007. This fact was not brought to the notice of PCKL. Udupi Power has also not furnished the copy of the agreement dated 16.12.2006, whether there was any reduction in price due to revision of contract. The BTG package was standard 2x600 MW right from the beginning. We feel that the benefit for non-disclosure of information should be passed on to the consumers. We agree with CPRI Report and the contention of Learned Counsel for PCKL and Janajagrithi Samithi that cost for performance guarantee for 2x600 MW BTG to DEC of Rs.87.44 crores should not have been allowed by CERC.*

*(II) The performance guarantee charges of Rs.41.33 crores claimed by LITL for extending performance guarantee in respect of BOP for enhancing capacity of the generating station from 1015 to 1200 MW should not have been allowed as additional capital cost has already been allowed for augmenting the capacity of various BOP equipments.*

*(III) There is no justification for increasing additional charges for Control instrumentation (C&I) system by Rs.2.98 crores as only the capacity of the BOP equipment has been increased and increase in BOP capacity to cater to an increase in capacity by about 20% will not result in increase in cost of C&I. CPRI has also recommended the same.*

*(IV) There is no justification for additional cost of Rs.27.34 crores for air and flue gas system as it is part of BTG and the BTG was standard 2x600 MW right from beginning.*

*(V) Expenditure of Rs.9.23 crores on coal slurry pond and Rs.14.08 crores for coal silo has been allowed considering that such expenditure is necessary due to augmentation in capacity. We do not agree that this expenditure is related to increase in capacity and should not have been allowed due to augmentation in capacity.*

(VI) Cost of Rs.1 crore allowed for fuel oil system has to be disallowed as it was part of EPC contract with DEC, the BTG supplier.

(VII) Design and Engineering cost of Rs.1 crore is disallowed as it is already included in over head cost.

We agree with all other costs allowed by CERC and the reason given for allowing such costs. Coal handling plant has been augmented by more than that required for increase in capacity, hence CERC has allowed only proportionate increase in coal handling plant cost (Rs.63.01 crores against Rs.114.50 crores) claimed. Staff colony cost has been allowed for FY 2013-14 after CoD of the units. Staff colony is considered essential for operation and maintenance of the plant.

59. The above cost (I to VII) has to be deducted from the capital cost approved by the CERC. The cost of initial spares which was restricted to 2.5% of increase in BoP cost may be adjusted accordingly.

60. We find that the hard cost approved by CERC for 1200 MW capacity worked out to Rs.3.83 crore MW as against the hard cost of Rs.3.89 crores MW for 1015 MW approved 'in principle' approval of project cost in CERC's order dated 25.10.2005. With the reduction in capital cost as decided by us the hard cost is going to reduce further."

9. In terms of the above findings the expenditure disallowed is summarized as under:

(₹ in crore)	
Performance Guarantee	129.00
Fuel oil System	1.00
C&I system	2.98
Design & Engineering	1.00
Coal Slurry Pond	9.23
Coal Silo	14.08
<b>Total BoP (disallowed)</b>	<b>157.29</b>
<b>Other than BOP</b>	
Air & Flue gas systems	<b>27.34</b>

10. In terms of para 59 of the judgment (as quoted above), the Tribunal has observed that the initial spares which was restricted to 2.5% of increase in BoP cost needs to be adjusted in view of deduction in BoP cost. The revised BoP cost after deduction of ₹157.29 crore towards the items disallowed and deduction of initial spares of ₹7.28 crore allowed by the Commission in order dated 20.2.2014 is worked out as ₹255.65 crore (₹420.22-157.29-7.28 crore). Accordingly, the revised value of initial spares comprising 2.5 % of the revised BoP cost of ₹255.65 crore works out to ₹6.39 crore.

11. Based on the deductions made above and the adjustment of the cost of initial spares, 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		
	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	
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	
	<b>Total BoP</b>	<b>611.54</b>	<b>262.04</b>	
	<b>Other than BOP</b>			
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	
	<b>Total other than BOP</b>	<b>139.42</b>	<b>52.73</b>	
	<b>Total ( Revised)</b>	<b>750.96</b>	<b>314.77</b>	

12. The Commission in its order dated 20.2.2014 had restricted the amount of taxes & duties to ₹15.18 crore pro-rata to the increase allowed in EPC cost of ₹500.29 crore. Consequent upon the revision in increase in the EPC cost to ₹314.77 crore, as above,

the pro-rata amount of taxes & duties, stand revised to ₹9.55 crore [(15.18 X 314.77)/500.29].

13. In view of the reduction in the additional cost allowed towards increase in BoP capacity, the Capital Cost allowed (excluding IDC, FC etc.) in the table under para 98 of the Commission's order dated 20.2.2014 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
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	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
<b>Capital cost (excluding IDC, FC)</b>	<b>3787.97</b>	<b>484.29</b>	<b>4272.26</b>	<b>2329.76</b>	<b>36.33</b>	<b>4235.93</b>	<b>138.00</b>	<b>4410.26</b>

### **Increase in IDC due to delay in Commissioning of the Project**

14. The Commission in its order dated 20.2.2014 while examining the reasons for the delay in the commissioning of the project had examined the question of "Change in Visa policy" by the Govt. of India and had decided as under:

*"...47. We find force in the submission of the petitioner. In our view, the absence of sufficient number of experts from OEM, who are Chinese nationals, during peak project activities, has had a direct impact on the progress of the project leading to the delay in the completion of the project. Clause 10.1(b) of the PPA, provides that any event, circumstances or the combination of events which have the effect upon the performance of any of the contractors/suppliers of the seller shall constitute an event of Force Majeure. Applying the same principle in this case, we conclude that the change in Visa policy by*



*the Govt. of India has affected the entry of Chinese personnel thereby affecting the commissioning and testing activities of the petitioner, which constitutes an event of Force Majeure. Accordingly, for the above considerations, we hold that the delay of 6 months in the completion of the project due to Change in Visa policy was beyond the control of the petitioner and accordingly allow the same.*

xxx

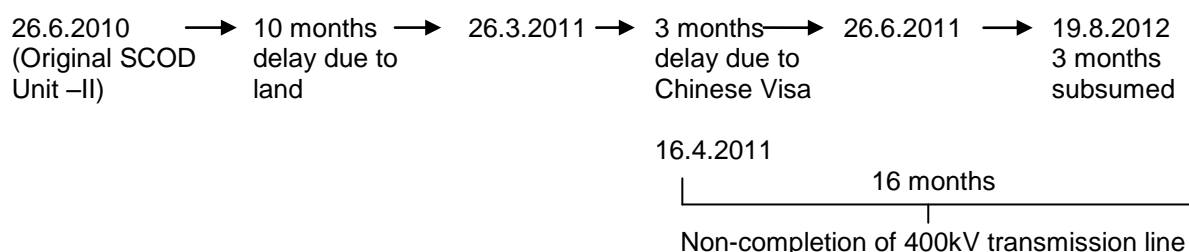
*109. Similarly, the delay of 6 months in the completion of the project due to Change in Visa policy by the Govt of India has been held to be beyond the control of the petitioner for reasons stated there under..."*

15. On this issue, the Tribunal in para 76 of the judgment dated 15.5.2015 had observed as under:

*"...76. We have carefully examined the submissions made by the parties and the findings of CERC. While we agree with the CERC about the delay caused in commissioning of project due to change in visa policy of Government of India, we feel that total delay should not have been allowed by more than 3 months instead of 6 months allowed by the Commission. We find that Ministry of Commerce, Gol by letter dated 20.08.2009 had issued clarification on the requirement of Visa for foreign national engaged in execution of projects/contractual works in India. Subsequently, Ministry of Home Affairs by letter dated 25.09.2009 issued further clarifications/conditions. Accordingly, all foreign nationals in India on business visas and engaged in project or contract work should return to their home country on expiry of visas or by 31.10.2009 whichever is earlier. No visa extension will be granted in such cases. Foreign nationals have to obtain employment visa only in order to come in India to work on projects/contracts. Further, employment visa was to be granted to skilled or qualified professionals such as technical experts/technicians and not for routine, ordinary or secretarial/clerical jobs. The Ministry of Home Affairs also gave timeline for clearance by Intelligence Bureau within 15 days and Ministry of Labour within 45 days. All other directions were general directions. Ministry of Labour & Employment guidelines for granting employment visa stipulate granting of visa to the extent of 1% of total persons on the project or maximum 40 persons for each power project. Udupi Power has stated that in November, 2009, only 4 experts were issued visas and gradually number was increased to 12 in December 2009, 30 in January 2009 and 45 in February 2010 and required number of 65 experts were present during May 2010 to recommence the work. We, therefore, feel that delay of 3 months due to difficulties in the months from November, 2009 to January, 2010 only be allowed as by February 2010, 45 persons, which is as per the guidelines of the Ministry of Labour were available at the project."*

16. While examining the issue of delay in COD of the project on account of land acquisition, the Commission in its order dated 20.2.2014 had condoned the time overrun of 8.5 months for Unit-I and the time overrun of 10 months for Unit-II on the ground that the same was beyond the control of the petitioner. Similarly, the delay of 16 months due to non-availability of 400 kV transmission line had been condoned by the Commission in order dated 20.2.2014. The delay on account of change in visa policy which was considered as 6 months by the Commission (From November 2009 to May 2010) has

been directed to be considered as 3 months (From November 2009 to January 2010) by the Tribunal in Judgment dated 15.5.2015. Accordingly, the period of 3 months as stated above has only been considered to be beyond the control of the petitioner as regards delay in commissioning of the project. However, there would not be any impact in the computation of IDC as allowed by the Commission in order dated 20.2.2014 as the period of 3 months disallowed by Tribunal was running concurrently with the period of delay of 16 months (from 16.4.2011 to 19.8.2012) in declaration of the COD of Unit-II due to non-completion of the 400 kV transmission line by respondent PKCL which had already been condoned by the Commission. The same is illustrated as under:



17. With the reduction in the capital cost to ₹4235.93 crore as allowed as on COD (19.8.2012) of Unit-II (as shown in table under para 13 above), the IDC of ₹1165.33 crore allowed in order dated 20.2.2014 is also required to be reduced proportionately.

	As allowed in Commission's Order dated 20.2.2014	As revised now
Hard Cost	4427.08	<b>4235.93</b>
IDC	1074.15 {4427.08 x 1165.33/4802.84}	<b>1027.78</b> {4235.93 x 1165.33/4802.84}

### Financing Charges

18. The petitioner's claim for ₹27.00 crore towards Financing Charges has been allowed as the same relates to commitment charges paid to financial institution towards draws made by the petitioner.

## FERV

19. The Commission in its order dated 20.2.2014 had considered the Forex component of US\$140 million (US\$ 120 million towards EPC contract plus US\$ 20 million towards BTG guarantee) to work out the admissible hard cost. Accordingly, FERV component of ₹79.34 crore was allowed. In terms of the judgment of Tribunal dated 15.5.2015 the Forex component of US \$120 million towards EPC contract only has been considered and US \$20 million towards BTG guarantee has been disallowed. Accordingly, the FERV component of ₹79.34 crore allowed in order dated 20.2.2014 stand revised to ₹54.06 crore.

20. Based on the above discussions the capital cost claimed and allowed (on accrual basis) as on 19.8.2012 in para 115 of the order dated 20.2.2014 is stand modified as under:

(₹ in lakh)				
Particulars (1)	Capital claimed (2)	Capital cost claimed (based on cost incurred up to 19.8.2012) (3)	Capital cost allowed on 19.8.2012 (i.e. COD of Unit-II) (4)	Reduction (3 - 4)
Hard Cost	484995.00	480284.00	423593.00	56691.00
IDC	118849.99	118849.99	102777.57	16072.42
FC	3411.00	2699.60	2699.60	0.00
FERV	15510.41	15510.41	5405.59	10104.83
<b>Total</b>	<b>622766.40*</b>	<b>617344.00</b>	<b>534475.76</b>	<b>82868.25</b>

\*capital cost claimed on accrual basis by considering un-discharged liabilities as part of claimed capital cost.

21. Accordingly, the capital cost allocated to Unit-I as shown in para 116 of the Commission's order dated 20.2.2014 stand modified as under:

(₹ in lakh)			
Particulars (1)	As allowed on 19.08.2012 (i.e. COD of Unit-II) (2)	Ratio of allocation to Unit-I (3)	As allowed on 11.11.2010 (i.e. COD of Unit-I) (4)
Hard Cost	423593.00	55.00%	232976.15
IDC	102777.57	34.27% (i.e. as capitalised in books)	35222.36

FC	2699.60	42.80% (i.e. as capitalised in books)	1155.39
FERV	5405.59	52.85% (i.e. as capitalised in books)	2856.82
<b>Total</b>	<b>534475.76</b>		<b>272210.72</b>

22. The capital cost claimed and allowed as on respective COD's as shown in paragraph 117 of the Commission's order dated 20.2.2014 stand revised as under:

	<i>(₹ in lakh)</i>	
	<b>Claimed</b>	<b>Allowed</b>
COD of Unit-I (i.e. 11.11.2010)	315992.00	272210.72
COD of Unit-II / Station (i.e. 19.8.2012)	622766.40	534475.76

23. The petitioner's claimed capital cost as on respective COD's are on accrual basis. The gross block as on COD of Unit-I and COD of Unit-II is inclusive of un-discharged liabilities amounting to ₹24132.00 lakh and ₹17431.00 lakh. The Capital cost for the purpose of tariff has been allowed on cash basis in terms of the 2009 Tariff Regulations as on the respective COD's of the Units of the generating station. Accordingly, the table under para 119 of the Commission's order dated 20.2.2014 stand revised as under:

	<i>(₹ in lakh)</i>	
	<b>COD of Unit-I (i.e. 11.11.2010)</b>	<b>COD of Unit-II / Station (i.e. 19.08.2012)</b>
Capital cost as allowed above (on accrual basis)	272210.72	534475.76
Less: Un-discharged liabilities	24132.00	17431.00
<b>Capital cost allowed (on cash basis)</b>	<b>248078.72</b>	<b>517044.76</b>

24. The un-discharged liabilities deducted as above shall be allowed as additional capital expenditure during the year in which the same is discharged as payments by the petitioner.

25. Based on the above, capital cost allowed for the period 2009-14 in para 122 of the Commission's order dated 20.2.2014 stand revised as under:

(₹ in lakh)

	<b>2010-11</b> <b>(11.11.2010</b> <b>to 31.3.2011)</b>	<b>2011-12</b>	<b>2012-13</b> <b>(01.4.2012 to</b> <b>18.8.2012)</b>	<b>2012-13</b> <b>(19.8.2012 to</b> <b>31.3.2013)</b>	<b>2013-14</b>
Opening capital cost	248078.72	248078.72	248078.72	517044.76	520676.76
Add: Projected ACE	0.00	0.00	0.00	3632.00	13800.00
<b>Closing capital cost</b>	<b>248078.72</b>	<b>248078.72</b>	<b>248078.72</b>	<b>520676.76</b>	<b>534476.76</b>
Average capital cost	248078.72	248078.72	248078.72	518860.76	527576.76

26. Consequent upon the above, the computation of Return on Equity (para 126), Interest on Loan (paras 127 to 129) and Depreciation (para 131) in Commission's order dated 20.2.2014 stand revised as under:

### Return on Equity

27. Return on equity is worked as under:

(₹ in lakh)

	<b>2010-11</b> <b>(11.11.2010</b> <b>to 31.3.2011)</b>	<b>2011-12</b>	<b>2012-13</b> <b>(01.4.2012 to</b> <b>18.8.2012)</b>	<b>2012-13</b> <b>(19.8.2012 to</b> <b>31.3.2013)</b>	<b>2013-14</b>
Normative Equity - Opening	58964.45	58964.45	58964.45	126841.59	127931.19
Add: Addition to equity on account of Projected additional capital expenditure	0.00	0.00	0.00	1089.60	4140.00
Normative Equity - Closing	58964.45	58964.45	58964.45	127931.19	132071.19
Average Equity	58964.45	58964.45	58964.45	127386.39	130001.19
<b>Return on Equity</b>	<b>11414.34</b>	<b>11425.54</b>	<b>11425.54</b>	<b>24683.66</b>	<b>25190.33</b>

### Interest on loan

28. The interest on loan has been worked out as mentioned below:

- (a) The gross normative loan corresponding to approved debt-equity ratio as on respective COD's works out to Rs.189114.27 lakh and Rs.390203.17 lakh, respectively.

- (b) The net loan opening as on COD of Unit-I is same as gross loan. Hence, cumulative repayment of loan up to previous year/period is nil.
- (c) Depreciation allowed for the period under consideration has been considered as repayment.
- (d) Average net loan is calculated as average of opening and closing.
- (e) Weighted average rate of interest has been calculated as shown below:
- (i) The rate of interest considered in calculation in case of all loans is on annual rest basis.
- (ii) Actual draws as submitted in petition has been considered.

29. The interest on normative loan computation is as shown below:

	(₹ 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	189114.27	189114.27	189114.27	390203.17	392745.57
Cumulative Repayment of Loan	0.00	4940.12	17766.83	22702.72	39234.57
Net Loan Opening	189114.27	184174.15	171347.45	367500.45	353510.99
Addition of loan due to projected additional capital expenditure	0.00	0.00	0.00	2542.40	9660.00
Repayment of loan (Normative)	4940.12	12826.71	4935.89	16531.85	27324.46
Net Loan Closing	184174.15	171347.45	166411.56	353510.99	335846.53
Average Loan	186644.21	177760.80	168879.50	360505.72	344678.76
Weighted Average Rate of Interest on Loan	11.8729%	12.1191%	12.3424%	14.0145%	14.0192%
<b>Interest on Loan</b>	<b>22160.06</b>	<b>21542.92</b>	<b>20843.70</b>	<b>50522.94</b>	<b>48321.09</b>

### Depreciation:

30. Depreciation has been worked out 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	248078.72	248078.72	248078.72	517044.76	520676.76
Add: Projected ACE	0.00	0.00	0.00	3632.00	13800.00
Closing capital cost	248078.72	248078.72	248078.72	520676.76	534476.76
Average capital cost	248078.72	248078.72	248078.72	518860.76	527576.76
Rate of depreciation	5.1702%	5.1704%	5.1704%	5.1792%	5.1792%
Depreciation for the period	4940.12	12826.71	4935.89	16531.85	27324.46

<b>Depreciation (annualised)</b>	<b>12826.19</b>	<b>12826.71</b>	<b>12826.61</b>	<b>26873.04</b>	<b>27324.46</b>
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### 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 on this issue by judgment dated 15.5.2015 has 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 has been considered for revision of tariff. Based on this the fuel component in working capital (table under para 140) as allowed in Commission’s order dated 20.2.2014 is revised as under:

	(₹ in lakh)				
	<b>2010-11 (11.11.2010 to 31.3.2011)</b>	<b>2011-12 (1.4.2011 to 31.3.2012)</b>	<b>2012-13 (1.4.2012 to 18.8.2012)</b>	<b>2012-13 (19.8.2012 to 31.3.2013)</b>	<b>2013-14</b>
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. The receivable component of the working capital as allowed in para 143 of the Commission's order dated 20.2.2014 is 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
Variable Charges - 2 months	17615.82	17664.09	17615.82	39627.26	39627.26
Fixed Charges - 2 months	10067.85	10042.08	9998.64	22847.72	22805.60
<b>Total</b>	<b>27683.67</b>	<b>27706.17</b>	<b>27614.47</b>	<b>62474.98</b>	<b>62432.86</b>

35. Accordingly, calculation of interest on working capital as in para 145 of the Commission's order dated 20.2.2014 is 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
Cost of coal for 2 months	17565.80	17613.93	17565.80	39527.21	39527.21
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
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	27683.67	27706.17	27614.47	62474.98	62432.86
<b>Total working capital</b>	<b>47626.66</b>	<b>47818.73</b>	<b>47803.96</b>	<b>107453.77</b>	<b>107683.65</b>
Rate of interest	11.000%	11.000%	11.000%	13.500%	13.500%
<b>Interest on working capital</b>	<b>5238.93</b>	<b>5260.06</b>	<b>5258.44</b>	<b>14506.26</b>	<b>14537.29</b>

36. In view of above, the annual fixed charges allowed in para 150 of the Commission's order dated 20.2.2014 is 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	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	5238.93	5260.06	5258.44	14506.26	14537.29



Capital					
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
<b>Total</b>	<b>60407.10</b>	<b>60252.50</b>	<b>59991.87</b>	<b>137086.33</b>	<b>136833.61</b>

**Note:** (i) All figures are on annualized basis. (ii) All the figures under each head have been rounded. (iii) 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.

### Energy Charge Rate

37. The Energy Charge Rate (ECR) worked out and allowed in Commissions order dated 20.2.2014 is revised as under:

	(Paise/kWh)				2013-14
	2010-11	2011-12	2012-13		
	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)	254.936	254.936	254.936	286.743	286.743

38. The tariff determined by this order shall be adjusted against the tariff recovered by the petitioner, in terms of the directions of the Tribunal in judgment dated 15.5.2015. The tariff determined as above is subject to truing-up in terms of Regulation 6 of the 2009 Tariff Regulations.

39. With this, the directions of the Tribunal in judgment dated 15.5.2015 in the said appeals stand implemented.

**-Sd/-**  
**(A.S.Bakshi)**  
**Member**

**-Sd/-**  
**(A. K. Singhal)**  
**Member**

**-Sd/-**  
**(Gireesh B. Pradhan)**  
**Chairperson**