

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 298/2009

**Coram: Shri S. Jayaraman, Member
Shri M.Deena Dayalan, Member**

DATE OF HEARING: 28.10.2010

DATE OF ORDER: 23.1.2012

IN THE MATTER OF

Fixation of tariff in respect of sale of power from Kopili Hydro Electric Project-Stage-II (1 x 25 MW) of North Eastern Electric Power Corporation Ltd, Shillong for the period from 1.4.2009 to 31.3.2014.

AND IN THE MATTER OF

North Eastern Electric Power Corporation Ltd, Shillong

..... Petitioner

Vs

1. Assam State Electricity Board, Guwahati
2. Meghalaya State Electricity Board, Shillong
3. Department of Power, Government of Tripura, Agartala
4. Power and Electricity Department, Government of Mizoram, Aizawl
5. Electricity Department, Government of Manipur, Imphal
6. Department of Power, Government of Arunachal Pradesh, Itanagar
7. Department of Power, Government of Nagaland, Kohima
8. North Eastern Regional Power Committee, Shillong
9. North Eastern Regional Load Despatch Centre, Shillong

.....Respondents

The following were present:

1. Shri P. K. Borah, NEEPCO
2. Shri Rana Bose, NEEPCO
3. Ms. Debjani Dey, NEEPCO
4. Shri A.C.Sarmoh, NEEPCO
5. Shri H.M.Sharma, ASEB
6. Shri K.Goswami, ASEB
7. Shri R.Kapoor, ASEB
8. Shri A.Kharpan, MeECL
9. Shri T.Passah, MeECL
10. Shri A.Gan Choudhury, TSEPCL
11. Shri A.Das, TSEPCL

ORDER

The petitioner has filed this petition for fixation of tariff in respect of Kopili Hydro Electric Project, Stage-II (25 MW) (hereinafter referred to as “the generating



station”) of North Eastern Electric Power Corporation Ltd, for the period from 1.4.2009 to 31.3.2014 in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 regulations”).

2. The date of commercial operation of the generating station is 26.7.2004. The tariff for the generating station for the period from 26.7.2004 to 31.3.2009 along with additional capitalization during the years 2004-05 and 2005-06, was determined by the Commission vide its order dated 1.1.2008 in Petition No.70/2006, based on the capital cost of ₹7927.54 lakh as on 1.4.2004. Subsequently, the annual fixed charges for the period 2006-09 were revised by Commission’s order dated 25.8.2010 in Petition No.214/2009 after considering the impact of additional capital expenditure for the period 2006-09. The annual fixed charges approved by the Commission vide order dated 25.8.2010 is as under:

<i>(Rs in lakh)</i>			
Particulars	2006-07	2007-08	2008-09
Depreciation	210.80	211.84	212.91
Interest on Loan	383.85	340.84	281.39
Return on Equity	339.93	341.61	343.34
Advance Against Depreciation	355.58	354.88	359.06
Interest on Working Capital	34.60	34.55	34.34
O & M Expenses	124.39	129.36	134.54
TOTAL	1449.15	1413.08	1365.58

4. The annual fixed charges claimed by the petitioner for the period 2009-14 is as under:

<i>(₹ in lakh)</i>					
	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	458.43	468.54	486.38	494.36	494.36
Interest on Loan	239.51	216.91	201.80	174.89	138.90
Depreciation	378.68	387.04	401.78	408.37	408.37
Interest on Working Capital	32.27	34.08	35.11	35.57	35.57
O & M Expenses	221.73	234.41	247.82	262.00	276.99
Total	1330.62	1340.98	1372.89	1375.19	1354.19

5. Reply to the petition has been filed by the respondent No.1, ASEB.
6. During the hearing on 28.10.2010, the respondent No.1, ASEB raised preliminary issue and submitted that revision of tariff of the generating station for 2009-14 by the petitioner after considering the approved additional capital expenditure for the year 2006-09 cannot be considered since the petitioner has not effected the publication of the amended application in terms of Clause (2) of Section 64 of the Electricity Act, 2003 (Act). The respondent No.1 also submitted that the petitioner was required to file details of the annual revenue requirement (ARR) as per Sections 62(5) of the Act and paragraph 5.3 (h) (3) of the Tariff Policy.
7. Clause (2) of Section 64 of the Electricity Act, 2003 provides as under:
“Every applicant shall publish the application, in such abridged form and manner, as may be specified by the appropriate Commission”
8. In line with the above provision, the Commission has notified the Central Electricity Regulatory Commission (Procedure for making of application for determination of tariff, publication of the application and other related matters) Regulations, 2004, wherein Clause (6) of Regulation 3 provides as under:
“The applicant shall, within 7 days after making the application, publish a notice of his application in at least two daily newspapers, one in English language and one in vernacular language, having circulation in each of the State/Union Territory where the beneficiaries are situate in the same language as of the daily newspaper in which the notice of the application is published, as per the specimen given in the schedule to these regulations”
9. It is clear from the above that the notice of the application for determination of tariff needs to be published by the petitioner as per specimen provided in the schedule to the said regulations. The petitioner, in compliance with the above had effected publication of notice of the application for determination of tariff for 2009-14 after posting the same in its web-site and after service of copy of the complete application on each of the beneficiary.

10. During the proceedings held on 17.8.2010, the Commission directed the petitioner to file the adjustment statement of the capital cost, as admitted by the Commission as on 31.3.2009 for the generating stations after taking into consideration the tariff orders of the Commission for the period 2004-09 with copy to the respondents, including the consumer respondent.

11. The petitioner, in terms of the above directions had amended its tariff application by revising the tariff forms of the generating station after taking into consideration the tariff orders of the Commission for the period 2004-09 and after serving copies of the same to all the respondents including the consumer respondent. Since compliance made by the petitioner was as per directions of the Commission, we are of the view that there is no need for the petitioner to again publish notice of the amended application. Moreover, the expense involved in publication of notice of application is required to borne by the respondents. In view of these, the submission of the respondents on this count is liable to be rejected.

12. On the issue of filing details of 'annual revenue requirement', the petitioner has submitted that determination of tariff is governed by the 2009 regulations and there is no provision in the said regulations for filing of annual revenue requirement as part of the tariff petition. As regards compliance with paragraph 5.3 (h)(3) of the Tariff policy, the petitioner has submitted that the same could not be read in isolation and that the Act and the Tariff policy lay out the principles for the Commission to formulate and issue tariff regulations. The 2009 regulations are deemed to have thus fulfilled the requirements of the Act and the tariff policy. The petitioner has thus prayed for rejection of the submissions made by the respondents ASEB.

13. The generating companies or the transmission licensees (as the case may be) are permitted to charge tariff on the basis of the provisions of the tariff regulations specified by the Commission. The 2009 regulations for the control period 2009-14 provide for detailed procedures for calculation of different elements of tariff. The generating companies and transmission licensees are required to file tariff petitions containing the detailed calculation of different elements of tariff in accordance with the provisions of the regulations. The Commission in the course of proceedings also calls for any further information including revised calculations as is considered necessary for determination of tariff. Such data/information is utilized by the Commission for prudence check while determining the tariff of the generating companies and transmission licensees falling within its jurisdiction. Also, in terms of clause (1) of Regulation 6 of the 2009 regulations, the Commission shall carry out truing up, exercise along with the tariff petition filed for the next period with respect to the capital expenditure including additional capital expenditure incurred upto 31.3.2014 as admitted by the Commission after prudence check at the time of truing up and accordingly, in terms of clause (3) of the said regulations, the generating company/transmission licensee (as the case may be) shall submit for the purpose of truing up, details of the capital expenditure and additional capital expenditure incurred for the period from 1.4.2009 to 31.3.2014 duly audited and certified by auditors.

14. The Commission in terms of the powers conferred Section 62(5) of the Act has also notified on 16.4.2010, the Central Electricity Regulatory Commission (Procedures for calculating the expected revenue from tariffs and charges) Regulations, 2010 wherein a generating company or a transmission licensee, who has made an application for determination of tariff under the regulations, shall

submit information in the formats in respect of expected revenue from tariffs and charges determined by the Commission from time to time. The petitioner has filed the said information to the Commission on 30.11.2010. As regards filing of ARR, the Appellate Tribunal for Electricity in its judgment dated 24.5.2011 in Appeal Nos. 100, 103 of 2009 & 146, 151 of 2010 (UPPCL-v- CERC, NTPC & ors) has held as under:

“11.3. The existing regulations of the Central Commission provide for a normative tariff and there is no provision to file ARR as suggested by the appellants. Thus the filing of ARR is not according to the scheme of things as existing in the tariff Regulations. Accordingly, this issue is also decided against the appellant.”

15. In view of the above, the submissions of the respondent is rejected. Accordingly, we now proceed with the determination of tariff of the generating station for 2009-14.

CAPITAL COST

(A) Capital Cost as on 1.4.2009

16. The last proviso of Clause 2 of Regulation 7 of the 2009 Regulations, provides as under:

“Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 and the additional capital expenditure to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff.”

17. The Commission vide its order dated 25.8.2010 in Petition No. 214/2009 had approved the capital cost of ₹8178.43 lakh as on 31.3.2009, after taking into account the additional capital expenditure for the period 2006-09. Accordingly, in terms of the above proviso, the capital cost of ₹8178.43 lakh has been considered as the opening capital cost as on 1.4.2009.

Additional Capital Expenditure for 2009-14

18. Regulation 9 of the 2009 regulations provides as under:

“9. Additional Capitalization (1) The capital expenditure 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;*
- (ii) Works deferred for execution;*
- (iii) Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 8;*
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and*
- (v) Change in law:*

Provided that the details of works included in the original scope of work along with estimates of expenditure, un-discharged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.

(2) The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, 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;*
- (ii) Change in law;*
- (iii) Deferred works relating to ash pond or ash handling system in the original scope of work;*
- (iv) 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) including due to geological reasons after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation; and*
- (v) 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 of switchyard equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system:*

Provided that in respect sub-clauses (iv) and (v) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, 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. 1.4.2009.

19. The petitioner has claimed the additional capital expenditure in terms of Regulation 9 (2)(iv) of the 2009 regulations as under:

	<i>(₹ in lakh)</i>				
	2009-10	2010-11	2011-12	2012-13	2013-14
Expenditure incurred due to any additional work necessary for successful and efficient plant operation - Regulation 9(2)(iv)	9.00	352.00	285.00	0.00	0.00

20. After examining the asset-wise details and justification for additional capitalization claimed by the petitioner under various categories, the reply of the respondent, ASEB and by applying prudence check, the admissibility of additional capitalization is discussed in the subsequent paragraphs.

Expenditure incurred due to any additional work necessary for successful and efficient plant operation-Regulation 9(2)(iv)

21. As stated above, the petitioner has claimed expenditure of ₹9.00 lakh for 2009-10, ₹352.00 lakh for 2010-11, and ₹285.00 lakh for 2011-12, under this head.

22. The assets projected to be capitalized under this head include Replacement of CW pipe lines, procurement of Turbine gride bearing, fully automatic tan-delta and capacitance test kit, transformer oil filtration plant, cooler tubes, gate valves, pressure reduction valves, submersible pumps, HRT steel lining, under water parts like spiral casing etc and some other assets.

23. We now examine the claim of the petitioner for replacement of assets damaged due to acidic nature of water. It is observed that most of the items/assets which have been damaged and replaced or repaired due to acidic nature of water (pH value 3.36 to 5.44 instead of the normal pH value of 6.5 to 8.5) are sought to be replaced. The quality of the water became evident during the period after June, 2006, when the same was tested by the Geological Survey of India, North Eastern Region, Shillong, the Meghalaya State Pollution Control Board and the Centre for Soil and Material Research Station (CSMRS), New Delhi. The expert committee

comprising of the CEA, CWC and the CSMRS had also visited the project site during the period from 27.2.2009 to 3.3.2009 and has suggested for routine testing of water in the area, concrete core drilling at specified locations in Khandong Dam, test of silt & slush, monitoring of seepage etc., Repair and replacement of corroded machine components, replacement of guide vanes with stainless steel materials, replacement of cooling pipes and tubes with suitable materials with epoxy coating. The expert committee had also recommended various short-term and long-term measures to be taken up. In the light of the recommendations of the expert committee, the petitioner has sought the replacement of assets/repair of assets and procurement of new assets, on account of damage caused due to the acidic nature of water. Taking into consideration the recommendations of the expert committee and since these assets are necessary for the efficient operation of the generating station, we are of the view that the expenditure to be incurred for replacement of the assets/repair of the assets and the procurement of new assets on account of the damage caused due to the acidic nature of water should be allowed in terms of Regulation 9(2)(iv) of the 2009 regulations. We proceed accordingly. However, it is expected that the expenditure towards treatment of the assets in order to encounter the acidic nature of water should not frequent (within a year or two) and should be for a longer period (more than five years), failing which, the expenses cannot be capitalized and would fall under the category of O & M expenses for which the petitioner may be required to approach the Commission separately with a detailed project report for carrying out the renovation works, which would be considered in accordance with law.

24. Based on the above, on prudence check, the additional capital expenditure allowed/disallowed for the respective years for the period 2009-14 under Regulation 9(2)(iv) has been tabulated under the following heads:

- (a) Assets (towards replacement, repairs and new assets) on account of acidic nature of water;
- (b) Assets (towards replacement, repairs and new assets) other than due to acidic nature of water; and
- (c) Assets disallowed.

(a) Assets allowed (towards replacement, repairs and new assets) on account of damage caused due to acidic nature of water:

Year	Name of asset/works projected to be capitalized	Amount allowed (₹ in lakh)
	NEW ASSETS	
2009-10	Partial replacement of CW pipe lines	1.00
2010-11	REPLACEMENT	
	Procurement of Cu:Ni (70:30) coolers for different coolers	25.00
	REPAIRS	
	Treatment of Stage-II HRT lining	169.0
	Polymer based treatment of the concrete linings of Stage-II Tail Pool, TRT cut and cover	43.00
	NEW ASSETS	
	Procurement of cooling water pipes	10.00
	Procurement of gate valves	20.00
2011-12	NEW ASSETS	
	Replacement of vortex pipes attached with upper cone with stainless steel pipes	9.00
	Procurement of CW pipes	10.00
	Treatment of Stage-II HRT lining	169.00
	Polymer based treatment of the concrete linings of Stage-II Tail Pool, TRT cut and cover	43.00
	Installation of anodic/cathodic protection for the submerged gate guides, associated linings, trash racks etc	4.00
	REPAIRS	
	Treatment of underwater parts like spiral casing, draft tube, embedded pipes and cones for protection from corrosion due to acidic nature of water.	50.00
	Total	285.00

(b) Assets allowed (towards replacement, repairs and new assets) other than due to acidic nature of water

Year	Name of asset/works projected to be capitalized	Amount allowed (₹ in lakh)
2009-10	Replacement, Repairs and New assets	0.00
2010-11	NEW ASSETS	
	Procurement of Transformer Oil filtration plant	40.00
2011-12	Replacement, Repairs and New assets	0.00
	Total	40.00

(C) Assets disallowed

Year	Name of assets disallowed	Amount (₹ in lakh)	Findings
2009-10	Procurement of turbine guide bearing spares	8.00	These assets are in the nature of spares.
	Total	8.00	
2010-11	Procurement of fully automatic Tan delta and capacitance test kit	25.00	These assets are in the nature of O&M expenses
	Procurement of pressure reducing valve (PRV) and motorized gate valve for CW system	10.00	
	Procurement and installation of submersible pumps at Khandong PS.	10.00	Asst pertain to other generating station of the petitioner.
	Total	45.00	

25. Based on the above, the total additional capital expenditure allowed for 2009-14 towards replacement, repairs and new assets, on account of acidic nature of water and for other than acidic nature of water is summarized as under:

	(₹ in lakh)		
	2009-10	2010-11	2011-12
Assets allowed (towards replacement, repairs and new assets) due to acidic nature of water.	1.00	267.00	285.00
Assets allowed (towards replacement, repairs and new assets) other than due to acidic nature of water	0.00	40.00	0.00
Total allowed	1.00	307.00	285.00

26. In regard to some of the new replaced assets, the gross value of the original asset, are not proposed to be deducted by the petitioner during the year 2010-11.

The asset is as under:

(₹ in lakh)			
Year of replacement	Assets	Value of Replacement	Gross value of Old assets
2010-11	Cooler Tubes	25.00	17.90

27. The gross value of the original asset amounting to ₹17.90 lakh for 2010-11 is considered as assumed deletion for the year in which the said asset is replaced, for the purpose of tariff.

Additional capital expenditure for 2009-14

28. Based on the above discussions, the additional capital expenditure allowed for 2009-14 is as under:

(₹ in lakh)					
	2009-10	2010-11	2011-12	2012-13	2013-14
Regulation 9(2)(iv)	1.00	307.00	285.00	0.00	0.00
Assumed deletions	0.00	17.90	0.00	0.00	0.00
Total additional capital expenditure allowed	1.00	289.10	285.00	0.00	0.00

Capital Cost for 2009-14

29. In view of the above discussions, the Capital cost considered for 2009-14 is as under:

(₹ in lakh)					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost as on 1 st April of the financial year	8178.43	8179.43	8468.53	8753.53	8753.53
Additional Capital expenditure allowed	1.00	289.10	285.00	0.00	0.00
Capital Cost as on 31st March of the financial year	8179.43	8468.53	8753.53	8753.53	8753.53

Debt-Equity Ratio

30. Regulation 12 of the 2009 regulations provides as under:

“(1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.”

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff:

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

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

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

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

31. The petitioner has submitted that the additional capital expenditure has been financed through internal resources and others. In terms of the above said regulation, the debt-equity ratio of 70:30 has been considered on the additional capital expenditure after adjustment of un-discharged liability, for the purpose of tariff.

Return on Equity

32. Regulation 15 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Second Amendment) Regulations, 2011 provides as under:

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

(2) Return on equity shall be computed on pre-tax basis at the base rate of 15.5% to be grossed up as per clause (3) of this regulation.

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

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

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

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

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

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

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

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

33. The petitioner has considered Rate of Return on Equity @ 18.674%, based on prevailing MAT rate (Basic rate of 15%+10% surcharge+3% education Cess = 16.995%) for 2009-10.

34. In this order, Return on equity has been worked out @17.481% per annum on the normative equity, after accounting for the additional capital expenditure, considering the base rate of 15.5% and MAT rate of 11.33%. The computation of Return on equity is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Notional Equity	2453.53	2453.83	2540.56	2626.06	2626.06
Addition due to Additional capitalization	0.30	86.73	85.50	0.00	0.00
Closing Equity	2453.83	2540.56	2626.06	2626.06	2626.06
Average Equity	2453.68	2497.19	2583.31	2626.06	2626.06
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Min Alt. Tax rate for the year 2008-09	11.330%	11.330%	11.330%	11.330%	11.330%
Rate of Return on Equity	17.481%	17.481%	17.481%	17.481%	17.481%
Return on Equity	428.92	436.52	451.58	459.05	459.05

35. The petitioner’s prayer for grossing up the base rate of Return on Equity based on the tax rates viz, MAT, surcharge, any other cess, charges, levies etc as per the relevant Finance Act, will be guided by the provisions of Regulation 15 as extracted above.

Interest on loan

36. Regulation 16 of the 2009 regulations provides as under:

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

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

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

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

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

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

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute.

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.

37. The interest on loan has been computed as under:

- (a) The opening gross normative loan as on 1.4.2009 has been arrived at in accordance with the provisions of the above regulations.
- (b) The repayment of loan for the respective years of the period 2009-14 has been considered equal to the depreciation allowed for that year.
- (c) The petitioner has submitted the statement of actual interest rate incurred on the Syndicate loan carrying a floating rate of interest for the period 2008-09 to arrive at the rate of interest at 8.813% as on 1.4.2009. However, as regards syndicate loan, the rate of interest of 7.94% has been

considered as on 1.4.2009 (i.e the carried over rate of interest existing as on 31.3.2009) for the years 2009-10 and 2010-11.

- (d) Since the actual loan is repaid in the year 2010-11, the weighted average rate of interest on loan for the year 2010-11 has been considered for the years 2011-12, 2012-13 and 2013-14.

38. The calculation for weighted average rate of interest on loans is annexed to this order. Based on the above, the interest on loan for the purpose of tariff is worked out as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Normative loan	5724.90	5725.60	5927.97	6127.47	6127.47
Cumulative Repayment upto previous year	2820.85	3199.35	3584.57	3983.06	4388.15
Net Loan-Opening	2904.04	2526.24	2343.40	2144.41	1739.32
Repayment during the year	378.50	385.21	398.50	405.09	405.09
Additions due to Additional Capitalisation	0.70	202.37	199.50	0.00	0.00
Net Loan-closing	2526.24	2343.40	2144.41	1739.32	1334.23
Average Loan	2715.14	2434.82	2243.91	1941.86	1536.77
Weighted Average Rate of Interest on loan	7.940%	7.940%	7.940%	7.940%	7.940%
Interest on Loan	215.58	193.32	178.17	154.18	122.02

Depreciation

39. Regulation 17 of the 2009 regulations provides that:

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

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

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

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

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

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system.

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting 3/4th the cumulative depreciation including Advance against

Depreciation] as admitted by the Commission upto 31.3.2009 from the gross depreciable value of the assets.

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

40. The weighted average rate of depreciation of 4.628%, calculated as above, has been considered for the calculation of depreciation. Asset amounting to ₹17.90 lakh has been de-capitalized during 2010-11, The amount of cumulative depreciation allowed in tariff against these de-capitalized assets has been calculated on *pro rata* basis and the same has been adjusted from the cumulative depreciation of the year of de-capitalization. Accordingly, depreciation has been worked out as under:

	<i>(₹ in lakh)</i>				
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross block as on 31.3.2009	8178.43	8179.43	8468.53	8753.53	8753.53
Additional capital expenditure during 2009-14	1.00	289.10	285.00	0.00	0.00
Closing gross block	8179.43	8468.53	8753.53	8753.53	8753.53
Average gross block	8178.93	8323.98	8611.03	8753.53	8753.53
Rate of Depreciation	4.628%	4.628%	4.628%	4.628%	4.628%
Depreciable value @ 90%	7361.03	7491.58	7749.92	7878.17	7878.17
Balance useful life of the asset	30.3	29.3	28.3	27.3	26.3
Remaining Depreciable value	4562.70	4314.74	4195.52	3925.27	3520.18
Depreciation	378.50	385.21	398.50	405.09	405.09

Operation & Maintenance Expenses

41. Clause (f) of Regulation 19 of the 2009 regulations provides for normative operation and maintenance expenses for hydro generating stations as under:

“(i) Operation and maintenance expenses, for the existing generating stations which have been in operation for 5 years or more in the base year of 2007-08, shall be derived on the basis of actual operation and maintenance expenses for the years 2003-04 to 2007-08, based on the audited balance sheets, excluding abnormal operation and maintenance expenses, if any, after prudence check by the Commission.

(ii) The normalized operation and maintenance expenses after prudence check, for the years 2003-04 to 2007-08, shall be escalated at the rate of 5.17% to arrive at the normalized operation and maintenance expenses at the 2007-08 price level respectively and then averaged to arrive at normalized average operation and maintenance expenses for the 2003-04 to 2007-08 at 2007-08 price

level. The average normalized operation and maintenance expenses at 2007-08 price level shall be escalated at the rate of 5.72% to arrive at the operation and maintenance expenses for year 2009-10:

Provided that operation and maintenance expenses for the year 2009-10 shall be further rationalized considering 50% increase in employee cost on account of pay revision of the employees of the Public Sector Undertakings to arrive at the permissible operation and maintenance expenses for the year 2009-10.

(iii) The operation and maintenance expenses for the year 2009-10 shall be escalated further at the rate of 5.72% per annum to arrive at permissible operation and maintenance expenses for the subsequent years of the tariff period.

(iv) In case of the hydro generating stations, which have not been in commercial operation for a period of five years as on 1.4.2009, operation and maintenance expenses shall be fixed at 2% of the original project cost (excluding cost of rehabilitation & resettlement works). Further, in such case, operation and maintenance expenses in first year of commercial operation shall be escalated @5.17% per annum up to the year 2007-08 and then averaged to arrive at the O&M expenses at 2007-08 price level. It shall be thereafter escalated @ 5.72% per annum to arrive at operation and maintenance expenses in respective year of the tariff period.

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

42. The year-wise break-up of the O&M expenses claimed by the petitioner for 2009-14 as per provisions of the above regulations, considering the project cost of ₹7761.62 lakh as on date of commercial operation of the generating station is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
O&M Expenses	221.73	234.41	247.82	262.00	276.99

43. The date of commercial operation of the generating station is 26.7.2004 and the cut-off date is 31.3.2006. The admitted capital cost as per order of the Commission dated 25.8.2010 in Petition No.214/2009 is ₹8091.15 lakh, as on 31.3.2006. The petitioner has considered an employee cost percentage of 48.5 % in the O&M expenses claimed as above.

44. From the year-wise break-up of actual O&M expenses for the years 2004-05 to 2007-08 as furnished by the petitioner, the employee cost percentage has been worked out as 46.7 % of the O&M expenses as shown below:

(₹ in lakh)

	2003-04	2004-05	2005-06	2006-07	2007-08	Average normalized at 2007-08 PL level
Employee cost (Considered)	-	83.06	132.18	161.38	172.99	
Average normalized Employee cost at 2007-08 price level	-	96.62	146.20	169.72	172.99	146.38
O&M Expense Considered	-	189.9	300.49	351.33	330.13	
Average normalized O&M at 2007-08 PL	-	220.90	332.36	369.49	330.13	313.22
Percentage of employee cost (146.38 / 313.22*100)						46.7 %

45. In terms of the provisions of Regulation 19(f)(iv) above, the O & M expenses during the first year of commercial operation (i.e 2004-05) is calculated at 2% of projected cost of ₹8091.15 lakh which works out to ₹161.82 lakh. After escalation of this amount at 5.17% upto 2007-08 to arrive at the O&M expenses at 2007-08 price level, the O&M expenses for the year 2005-06, 2006-07 and 2007-08 is worked as ₹170.19 lakh, ₹178.99 lakh and ₹188.24 lakh respectively. The average O&M expenses work out to ₹174.81 lakh. In order to arrive at the O&M expenses for the period 2009-14, the said amount of ₹174.81 lakh is further escalated at 5.72% per annum and enhanced considering 50% increase in employee cost in the year 2009-10.

46. In the instant case, O&M expenses of the 2007-08 price level has been arrived at after escalation of the amount of ₹161.82 lakh at 5.17% upto the year 2007-08.

47. In view of the above, the O&M expenses allowed for 2009-14 is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses	241.00	254.79	269.36	284.77	301.06

48. The difference in the O&M expenses allowed and that claimed by the petitioner is on account of the difference in the calculation of employee cost percentage and the methodology for calculation of O & M as per provisions of Regulation 19(f) (iv) of the 2009 regulations by the petitioner. While the petitioner has calculated O&M expenses considering 35% employee cost (as per format given as example in the regulations specified by the Commission), the actual employee cost percentage is worked out as 46.7%.

Interest on Working Capital

49. In accordance with sub-clause (c) of clause (1) of Regulation 18 of the 2009 regulations, working capital in case of hydro generating stations shall cover:

- (i) *Receivables equivalent to two months of fixed cost;*
- (ii) *Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 19;*
- (iii) *Operation and maintenance expenses for one month.*

50. Clauses (3) and (4) of Regulation 18 of the 2009 regulations, the rate of interest on working capital shall be equal to the short-term Prime Lending Rate of State Bank of India as on 1.4.2009 or on 1st April of the year in which the generating station or a unit thereof is declared under commercial operation, whichever is later. Interest on working capital shall be payable on normative basis notwithstanding that the generating company has not taken working capital loan from any outside agency.

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

- (a) **Receivables:** In terms of the provisions of the above regulations, receivables equivalent to two months of fixed cost, considered for the purpose of tariff, is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Receivables	216.23	217.29	222.08	223.09	220.47

(b) **Maintenance Spares:** In terms of the provisions of the above regulations, maintenance spares considered for the purpose of tariff, is as stated below:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	36.15	38.22	40.40	42.72	45.16

(c) **O&M Expenses:** In terms of the provisions of the above regulations Operation and maintenance expenses for one month considered for the purpose of tariff, is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O & M expenses	20.08	21.23	22.45	23.73	25.09

52. In terms of Clauses (3) and (4) of Regulation 18 of the 2009 regulations, the SBI PLR as on 1.4.2009 was 12.25%. This has been considered by the petitioner. The same interest rate has been considered in the calculations, for the purpose of tariff.

53. Necessary computations in support of calculation of interest on working capital is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	36.15	38.22	40.40	42.72	45.16
O & M expenses	20.08	21.23	22.45	23.73	25.09
Receivables	216.23	217.29	222.08	223.09	220.47
Total	272.46	276.74	284.93	289.54	290.72
Interest on Working Capital	33.38	33.90	34.90	35.47	35.61

Annual Fixed Charges

54. The annual fixed charges approved for the generating station for the period from 1.4.2009 to 31.3.2014 is as under:

	<i>(₹ in lakh)</i>				
	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	428.92	436.52	451.58	459.05	459.05
Interest on Loan	215.58	193.32	178.17	154.18	122.02
Depreciation	378.50	385.21	398.50	405.09	405.09
Interest on Working Capital	33.38	33.90	34.90	35.47	35.61
O & M Expenses	241.00	254.79	269.36	284.77	301.06
Total	1297.37	1303.75	1332.50	1338.56	1322.83

55. The petitioner shall be entitled to compute and recover the annual fixed charges and energy charges in accordance with Regulation 22 of the 2009 regulations.

56. The recovery of the annual fixed charges shall be subject to truing up, in terms of Regulation 6 of the 2009 regulations.

Design Energy

57. The month-wise details of design energy in respect of the generating station is indicated in the table as under:

Month	Design Energy (MUs)
April	0.72
May	14.88
June	17.28
July	18.60
August	18.60
September	15.95
October	0.27
November	0.00
December	0.00
January	0.00
February	0.00
March	0.00
Total	86.30

58. Monthly energy charges shall be computed in terms of the provisions contained in Regulation 22 of the 2009 regulations.

Application fee and the publication expenses

59. The petitioner has sought approval for the reimbursement of fee paid by it for filing the petition for determination of tariff for the generating station. However,

the details of the actual expenditure incurred for publication of notice in the newspapers, has not been submitted by the petitioner.

60. Regulation 42 of the 2009 regulations provides as under:

“The application filing fee and the expenses incurred on publication of notices in the application for approval of tariff, may in the discretion of the Commission, be allowed to be recovered by the generating company or the transmission licensee, as the case may be, directly from the beneficiaries or the transmission customers, as the case may be.”

61. The Commission in its order dated 11.1.2010 in Petition No.109/2009 (pertaining to approval of tariff for SUGEN power plant for the period from DOCO to 31.3.2014) had decided that filing fees in respect of main petitions for determination of tariff and the expenses on publication of notices are to be reimbursed.

62. Accordingly, the expenses towards application filing fees amounting to ₹4.00 lakh each for the years 2009-10, 2010-11, 2011-12, 2012-13 and 2014 in shall be directly recovered from the beneficiaries, on *pro rata* basis. The reimbursement of charges towards the publication of notices in newspapers shall also be recovered on *pro rata* basis, on submission of documentary proof of the same.

63. The difference between the provisional annual fixed charges already recovered by the petitioner and the annual fixed charges determined by this order shall be liquidated by the respondents in terms of the decision contained in our order dated 26.8.2011 in Petition No. 175/2011(*suo motu*).

64. Petition No.298/2009 is disposed of in terms of the above.

Sd/-
[M.DEENA DAYALAN]
MEMBER

Sd/-
[S. JAYARAMAN]
MEMBER

ANNEXURE

Calculation of Weighted Average Rate of Interest on Actual Loans

<i>(₹ in lakh)</i>						
Sl.	Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
	1	3	4	5	6	7
1	MOP Loan					
	Gross loan - Opening	3023.00	3023.00	3023.00	3023.00	3023.00
	Cumulative repayments of Loans upto previous year	3023.00	3023.00	3023.00	3023.00	3023.00
	Net loan - Opening	0.00	0.00	0.00	0.00	0.00
	Add: Drawal(s) during the Year	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year	0.00	0.00	0.00	0.00	0.00
	Net loan - Closing	0.00	0.00	0.00	0.00	0.00
	Average Net Loan	0.00	0.00	0.00	0.00	0.00
	Rate of Interest on Loan					
	Interest on loan	0.00	0.00	0.00	0.00	0.00
2	Syndicated Loan					
	Gross loan - Opening	3023.00	3023.00	3023.00	3023.00	3023.00
	Cumulative repayments of Loans upto previous year	2233.17	2830.90	3023.00	3023.00	3023.00
	Net loan - Opening	789.83	192.10	0.00	0.00	0.00
	Add: Drawal(s) during the Year	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year	597.73	192.10	0.00	0.00	0.00
	Net loan - Closing	192.10	0.00	0.00	0.00	0.00
	Average Net Loan	490.97	96.05	0.00	0.00	0.00
	Rate of Interest on Loan	7.940%	7.940%	-	-	-
	Interest on loan	38.98	7.63	0.00	0.00	0.00
3	Total Loan					
	Gross loan - Opening	6046.00	6046.00	6046.00	6046.00	6046.00
	Cumulative repayments of Loans upto previous year	5256.17	5853.90	6046.00	6046.00	6046.00
	Net loan - Opening	789.83	192.10	0.00	0.00	0.00
	Add: Drawal(s) during the Year	0.00	0.00	0.00	0.00	0.00
	Less: Repayment (s) of Loans during the year	597.73	192.10	0.00	0.00	0.00
	Net loan - Closing	192.10	0.00	0.00	0.00	0.00
	Average Net Loan	490.97	96.05	0.00	0.00	0.00
	Interest on loan	38.98	7.63	0.00	0.00	0.00
	Weighted average Rate of Interest on Loans	7.940%	7.940%	-	-	-