

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 238/GT/2013

Coram:

Shri Gireesh B. Pradhan, Chairperson

Shri M. Deena Dayalan, Member

Shri A. K. Singhal, Member

Smt. Neerja Mathur, Member (EO)

Date of Hearing : 04.3.2014

Date of Order : 04.7.2014

IN THE MATTER OF

Petition for revision of tariff for the period 1.4.2009 to 31.3.2014 based on the actual capital expenditure incurred during the financial years 2009-10 to 2011-12 and projected capital expenditure during the financial years 2012-13 and 2013-14 in respect of Kopili Hydro Power Station (200 MW) of North Eastern Electric Power Corporation Limited (NEEPCO), Shillong.

AND IN THE MATTER OF

North Eastern Electric Power Corporation Ltd
Brookland Compound
Lower New Colony
Shillong-793 003

.....**Petitioner**

Vs

1. Assam Power Distribution Company Ltd.
"Bijulee Bhawan", Paltanbazar
Guwahati-781 001

2. Meghalaya Energy Corporation Ltd.
Meter Factory Area, Short Round Road
Integrated Office Complex
Shillong-793 001

3. Tripura State Electricity Corporation Ltd.
Bidyut Bhavan, North Banamalipur
Agartala-799 001

4. Power and Electricity Department
Govt. of Mizoram
P&E Office Complex, Electric Veng, Aizwal-796 001

5. Electricity Department
Govt. of Manipur, Keishampat
Imphal-795 001

6. Department of Power
Govt. of Arunachal Pradesh
Vidyut Bhawan
Itanagar-791 111

7. Department of Power
Govt. of Nagaland
Kohima-797 001

8. North Eastern Regional Power Committee
Meghalaya State Housing Finance Co-operative
Society Ltd. Building
Nongrim Hills
Shillong-793 003

9. North Eastern Regional Load Despatch Centre
Dongtiah, Lower Nongrah
Lapalang
Shillong-793 006

.....Respondents

Parties Present

Petitioner: Shri Rana Bose, NEEPCO
Shri Bhaskar Goswami, NEEPCO
Ms. Elizabeth Pyrbot, NEEPCO

Respondents: None

ORDER

The present petition has been filed for revision of annual fixed charges in respect of Kopili Hydroelectric Project (200 MW) ('the generating station') of the petitioner for the period 2009-14 based on actual additional capital expenditure incurred during the years 2009-10, 2010-11 and 2011-12 and the revised projected capital expenditure for the years 2012-13 and 2013-14 in terms of the proviso to clause (1) of Regulation 6 of the Central Electricity Regulatory Commission (Terms and conditions of Tariff) Regulations, 2009 ('the 2009 Tariff Regulations').

2. The date of commercial operation of the units of the generating station is as under:

Units	Date of commercial operation
Unit-I	5.7.1988
Unit-II	22.6.1988
Unit-III	1.5.1997
Unit-IV	12.7.1997

3. The tariff of the generating station for the period 2009-14 was determined by the Commission vide order dated 30.9.2011 in Petition No.294/2009 based on capital cost of ₹26734.91 lakh as on 1.4.2009. The annual fixed charges approved by the Commission vide order dated 30.9.2011 is as follows:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	2324.32	2375.49	2462.95	2608.16	2784.89
Interest on Loan	171.96	145.57	189.09	285.61	403.86
Depreciation	1448.67	582.44	656.34	788.97	950.43
Interest on Working Capital	258.42	250.96	265.88	284.95	306.37
O & M Expenses	3522.42	3723.90	3936.91	4162.10	4400.17
Total	7725.79	7078.36	7511.17	8129.79	8845.72

4. The annual fixed charges approved were based on the year-wise projected additional capital expenditure (including de-capitalization) for the period 2009-14 as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Projected additional capital expenditure	914.44	1036.87	2298.79	3239.01	3501.25

5. The petitioner, in this petition, has claimed the actual capital expenditure for the years 2009-10, 2010-11 and 2011-12 and the revised projected capital expenditure for the years 2012-13 and 2013-14 as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
	Actual			Projected	
Additional Capital Expenditure claimed after accounting for de-capitalization	294.55	265.82	499.57	149.71	1213.56

6. Accordingly, the petitioner has claimed the revised annual fixed charges for the generating station for the period 2009-14, after taking into account the above capital expenditure incurred/to be incurred. The petitioner by affidavit dated 10.10.2013 has confirmed that there was no un-discharged liabilities as on 31.3.2009.

7. The petitioner has capitalized various expenditures incurred during the years 2009-10, 2010-11 and 2011-12 in the books of the generating station and projected to capitalize the expenditure of capital nature proposed to be incurred during the years 2012-13 and 2013-14. The impact on the annual fixed charges due to capitalization is being claimed after excluding the amount incurred on minor items, expenditures of O&M nature and spares, which are not allowed for additional capitalization for the purpose of tariff as per provisions of the 2009 Tariff Regulations.

8. There are certain works which were necessarily required for efficient operation of the generating station. These works have been undertaken till 31.3.2012 or have been proposed to be undertaken during 2012-13 and 2013-14. The capital expenditure on this account and justification for carrying out these works has been included in the claim.

9. Certain expenditure of the nature of repairs and maintenance was allowed by the Commission vide its order dated 30.9.2011 as projected additional capital expenditure for the period 2009-14, while determining the tariff of the generating station, considering the water acidity problems specific to the generating station causing damage to the underwater parts. The petitioner has already incurred a major part of the allowed expenditure during the period 2009-12 and has also projected expenditure during the years 2012-13 and 2013-14. However, considering the nature of such activities as well as to ensure compliance with the relevant accounting standards/policy, the expenditure has not been claimed as capital expenditure and has been excluded from the scope of the present petition for the purpose of revision of the annual fixed charges.

The petitioner has stated that it proposes to approach the Commission for recovery of such expenditure said to be essential on account of the circumstances peculiar to the generating station and has already been approved by the Commission as projected additional capital expenditure separately as “one time reimbursement” after completion of tariff period 2009-14. At this stage we refrain from making any comments on the averments made by the petitioner.

10. None of the respondents have filed reply to the petition.

11. Clause (1) of Regulation 6 of the 2009 Tariff Regulations empowers the Commission to carry out the exercise of truing up of the capital expenditure incurred during the tariff period and consequent revision of tariff during the next tariff period, that is, the tariff period 2014-19. The proviso to clause (1) of Regulation 6 permits the generating company to file a petition for truing up of the capital expenditure incurred during the tariff period. Clause (1) of Regulation 6 so far as relevant is reproduced here under:

“6. Truing up of Capital Expenditure and Tariff

The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up.

Provided that the generating company or the transmission licensee, as the case may be, may in its discretion make an application before the Commission one more time prior to 2013-14 for revision of tariff.”

12. Accordingly, the present petition is maintainable under the proviso to clause (1) of Regulation 6 of the 2009 Tariff Regulations.

13. Clause (1) of Regulation 9 of the 2009 Tariff Regulations provides for capitalization of the expenditure incurred or projected to be incurred after the date of commercial operation but before the cut-off date, whereas clause (2) of Regulation 9 makes provision for capitalization of expenditure incurred or projected to be incurred

after the cut-off date. Under clause (2), the capitalization of the expenditure incurred after the “cut-off date” is to be allowed on exercise of prudence check by the Central Commission. As defined under clause (11) of Regulation 3 of the 2009 tariff Regulations, “cut-off date” means the 31st March of the year closing after two years of the year of commercial operation of the project, and in case the project is declared under commercial operation in the last quarter of a year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation. Since in case of this generating station, the cut-off date had expired before the start of the tariff period 2009-14 and hence the petitioner’s claim for truing up of the capital expenditure is to be considered in accordance with clause (2) of Regulation 9 of the 2009 Tariff Regulations. Clause (2) of Regulation 9 is extracted hereunder:

“9. Additional Capitalization.-

(2) The capital expenditure incurred or projected to be 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:

(vi) In case of gas/ liquid fuel based open/ combined cycle thermal generating stations, any expenditure which has become necessary on renovation of gas turbines after 15 year of

operation from its COD and the expenditure necessary due to obsolescence or non-availability of spares for successful and efficient operation of the stations.

Provided that any expenditure included in the R&M on consumables and cost of components and spares which is generally covered in the O&M expenses during the major overhaul of gas turbine shall be suitably deducted after due prudence from the R&M expenditure to be allowed.

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

(viii) Any un-discharged liability towards final payment/withheld payment due to contractual exigencies for works executed within the cut-off date, after prudence check of the details of such deferred liability, total estimated cost of package, reason for such withholding of payment and release of such payments etc.

(ix) Expenditure on account of creation of infrastructure for supply of reliable power to rural households within a radius of five kilometers of the power station if, the generating company does not intend to meet such expenditure as part of its Corporate Social Responsibility.”

14. The reconciliation of the actual capital expenditure claimed for capitalization for the years 2009-10, 2010-11 and 2011-12 with the audited books of accounts is as follows:

	(₹ in lakh)		
	2009-10	2010-11	2011-12
Additions in books	357.45	391.52	616.22
Deletions	9.26	0.00	0.00
Net Additional capital expenditure as per books	348.19	391.52	616.22
Additional capitalization claimed for the purpose of tariff			
Expenditure on security of the power station as well as to officials engaged in operation & maintenance-claimed under Regulation 9(2)(iv)	133.52	102.27	0.00
Replacement of existing damaged/ obsolete assets for smooth operation of the plant-claimed under the Regulation 9(2)(iv)	215.91	221.14	632.53
New assets installed for enhancing plant operational efficiency- claimed under the Regulation 9(2)(iv)	10.39	2.28	3.36
Sub-total- Additions claimed (a)	359.83	325.69	635.89
Deletions considered for the purpose of tariff			
De-capitalization of old assets against replacement by new assets (b)	(-) 65.28	(-) 59.88	(-) 136.32
Net Additional capital expenditure claimed c= (a-b)	294.55	265.82	499.57
Exclusion (not claimed for the purpose of tariff)			
Not related to core activity	6.61	5.71	19.44
Minor assets	3.56	6.42	4.68
Assets of the nature of stocks and spares/ T&P	27.63	5.59	0.89

Assets of O&M nature	1.37	80.83	29.83
De-capitalization of old assets replaced by new assets but not claimed for tariff	0.00	(-) 4.12	(-) 0.44
Sub-total of exclusions (d)	39.17	94.44	54.43
Additional capital expenditure including exclusions (c +d)	333.72	360.25	554.00
Difference with books*	(-) 14.47	(-) 31.27	(-) 62.22

*Due to exclusions of assets not claimed for tariff and due to shifting of certain claims along with de-capitalization from the year 2012-13 to the years 2009-10, 2010-11 and 2011-12.

15. The petitioner was directed to explain the reasons for claiming the expenditure incurred during the year 2012-13 for the years 2009-10, 2010-11 and 2011-12. In response to the Commission's directions, the petitioner vide affidavit dated 9.10.2013 has explained the reasons as under:

The expenditure on replacement of assets (70:30 Cu: Ni cooler Tubes - for thrust oil cooler & LGB/UGB/TGB of oil coolers, generator air coolers, generator transformers; different type of valves for cooling water system; Runner cone etc.) is of capital nature which was wrongly booked under "Maintenance- Plant and machinery" during the years 2010-11 and 2011-12 and has been rectified during 2012-13 and accounted for under proper head with retrospective effect.

16. The petitioner has submitted that the expenditure on replacement of assets (gate valves, non-return valve, pressure reducing valves, 70:30 Cu: Ni Tubes for generator air cooler and generator transformers) though of capital nature was wrongly booked under "Maintenance-Plant and machinery" during the years 2010-11 and 2011-12 and that the error has been rectified during 2012-13 and accounted for under proper head with retrospective effect. The Commission in its order dated 30.9.2011 in Petition No.294/2009 had allowed additional capital expenditure for replacement of the above assets/repair of the assets and for procurement of new assets on account of the damage caused due to acidic nature of water considering the recommendation of expert committee comprising CEA, CWC and CSMRS. As such, retrospective adjustment claimed by the petitioner is being considered for prudence check.

17. The petitioner was directed to furnish the reasons for wide variation between the projected capital expenditure allowed in the order dated 30.9.2011 in Petition No. 294/2009 and the actual capital expenditure

now claimed for the years 2009-10, 2010-11 and 2011-12. In response, the petitioner vide affidavit dated 10.10.2013 has furnished reasons as follows:

(a) Placement of orders for the different items for the generating station took longer time than expected because several rounds of discussions were necessary at various levels as part of the pre-procurement formalities in view of the unique nature of activities which arose mainly out of the reservoir turning acidic in nature.

(b) Poor communication for the remotely located generating station has adversely affected the delivery of materials on schedule.

(c) The dearth of skilled manpower in the area both in the technical as well as non-technical areas is also a deterrent factor to completion of works on time.

(d) Acidification of the reservoir water is a unique occurrence without precedence and therefore its impact on the hydraulic structures as well the underwater parts and the required re-medial measures requires extensive studies by experts. In view of the uniqueness of the problem no standard or proven methodology to approach the same is available for application. Hence, formulation of remedial measures has taken more time than could be envisaged earlier. The petitioner has engaged WAPCOS and National Metallurgical Laboratory (CSIR), Jamshedpur as consultants to study the phenomenon and suggest suitable measures in respect of the following areas:

(i) Reservoir water treatment;

(ii) Methodology for repairing under water parts; and

(iii) Detailed technical specifications for repairing / modification of hydraulic structures.

18. In the light of the above clarifications, the admissibility of the actual additional capital expenditure in terms of the 2009 Tariff Regulations for the years 2009-10, 2010-11 and 2011-12 under various heads is being discussed in the subsequent paragraphs.

19. The details of works/assets, actual expenditure incurred against these works along with admissibility of the actual expenditure in terms of the 2009 Tariff Regulations is as follows:

2009-10

Sl.No.	Assets/works	Actual exp. incurred/ claimed (₹ in lakh)	Remarks on admissibility
1	Const. of additional security wall on west side	7.68	The wall is required for protection of plant installation considering security aspects of the project. The expenditure of ₹10.09 lakh has already been allowed for these works under Regulation 9(2) (iv)
2	Renovation of false ceiling	10.39	Not allowed under Regulation 9(2) (iv) being in the nature of O& works.
3	Const. of security Barrack at PH complex	21.30	The buildings were constructed for stationing O&M staff and security personnel inside PH premises for longer duration to avoid risk of movement due to security reasons. Expenditure for ₹87.06 lakh has been allowed for these works, including field hostel & watch towers. Hence, allowed under Regulation 9(2) (iv) for security of O&M staff and security personnel for already approved works.
4.	Const. of field hostel	55.37	Allowed under Regulation 9(2) (iv) for already approved works.
5.	Const. of wooden bunker & watch towers	1.10	Allowed under Regulation 9(2) (iv) for already approved works.
6.	Replacement of damaged MOCBs & CT	41.60	Expenditure for ₹37.75 lakh had already been allowed for replacement of these assets. Hence allowed under Regulation 9(2) (iv) for better plant efficiency.
7.	Replacement of damaged coil of transformer winding limb of generator transformer	88.65	Existing coil damaged due to acidic nature of water, which requires replacement by new coil for maintaining plant efficiency. Expenditure for ₹55.23 lakh had already been allowed towards replacement of damaged coil. Hence, allowed under Regulation 9(2) (iv) for already approved works.
8.	Installation of new AC system	36.20	Old AC system was replaced with new one for better plant operation. Expenditure for ₹35.38 lakh had been allowed for these works. Hence allowed under Regulation 9(2) (iv), for already approved works.
9.	Replacement of 70:30 Cu Ni cooler tubes	41.55	Existing cooler tubes damaged due to acidic nature of water were replaced. Expenditure for ₹53.42 lakh had been allowed for replacement of damaged tubes. Hence, allowed under Regulation 9(2) (iv),for already approved works.
10.	Replacement of	7.91	Existing damaged transformer oil filtration machine

	transformer oil filtration machine		was replaced with new one for better plant operation. Expenditure for ₹6.98 lakh had been allowed for procurement of new machine. Hence, allowed under Regulation 9(2) (iv) for already approved works.
11.	Electrification of new field hostel	3.79	Allowed under Regulation 9(2) (iv) for already approved works.
12.	Const. of boundary wall at different locations of project colony & power plant	14.00	It was required to protect the project colony and power plant considering adverse law & order situation, expenditure of ₹10.09 lakh had been allowed. Hence, allowed under Regulation 9(2) (iv) for already approved works.
13.	Purchase of vehicles	30.28	Due to law and order situation, the purchase & fabrication of 2 nos. bullet proof vehicles was made for security escort duties as per directions of the State administration. Hence, allowed under Regulation 9(2) (iv) for security reasons.
	Total claimed	359.83	
	Total allowed		349.44

2010-11

Sl.No.	Assets/works	Actual exp. incurred/ claimed (₹ in lakh)	Remarks on admissibility
1	Procurement of oil cooler tubes for generator CGL & EMCO make	64.56	Existing cooler tubes damaged due to acidic nature of water which were replaced with new tubes. Expenditure for ₹140.00 lakh had been allowed during 2010-11 for replacement of old damaged tubes. Hence, allowed under the regulation 9(2)(iv), for already approved works.
2	Procurement of 70:30 Cu Ni tubes for generator air cooler, Thrust oil cooler, generator	61.71	
3	Replacement of Air Circuit Breakers	5.00	Replacement of old Air Circuit Breakers of Unit -III & IV with the new Air Circuit Breakers for maintaining plant efficiency. Expenditure for ₹10.74 lakh had been allowed during 2009-10 for replacement of old ACBs. Hence allowed under Regulation 9(2)(iv) for already approved works.
4.	Replacement of runner disc & insulation disc of Unit-II	57.14	Replacement of runner disc & insulation disc of Unit-II was made to maintain efficient plant operation. Expenditure for ₹ 54.94 lakh had been allowed during 2009-10 for replacement of old runner disc & insulation disc. Hence, allowed under Regulation 9(2)(iv) for already approved works.
5.	Procurement of 70:30 Cu	32.73	Existing cooler tubes damaged due to acidic nature of

	Ni cooler tubes for generator air cooler, Thrust oil cooler		water which were replaced with new tubes. Expenditure for ₹140.00 lakh had been allowed during 2010-11 for replacement of old damaged tubes. Hence, allowed under the regulation 9(2)(iv), for already approved works.
6.	Electrification of new security barracks	0.74	Allowed under Regulation 9(2) (iv) for already approved works.
7.	Purchase of bullet proof vehicles	101.53	Considering the prevailing law & order situation, purchase of bullet proof vehicles (one AC bus & one Scorpio) was made for movement of personnel of the station and escorting police party. Hence, allowed under Regulation 9(2)(iv) for security reasons.
8.	1 no. 625 KVA DG set	2.28	DG set was transferred from Kopili HEP for supply of power at Kopili Power House during emergency situation. Hence allowed considering the emergency supply at PH.
	Total claimed	325.69	
	Total allowed		325.69

2011-12

Sl.No.	Assets/works	Actual exp. incurred/ claimed (₹ in lakh)	Remarks on admissibility
1	Capitalization of two nos. 245 kV SF6 circuit breakers	32.92	The existing MOCBs installed in 1980 were causing frequent breakdowns. The OEM had discontinued supply of spares. Hence MOCBs replaced with SF6 breakers for better performance of the generating station. Expenditure for ₹29.26 lakh allowed during 2009-10 towards replacement of these assets. Work was carried out in 2011-12. Hence, allowed under Regulation 9(2) (iv) for already approved works.
2	Capitalization of winding limb consisting of HV LV coil of generator transformer	92.80	Generator transformer failed due to damage of cooler tubes on account of acidic nature of reservoir water and as such new winding was replaced. . Expenditure for ₹90 lakh was allowed during 2010-11 for replacement of damaged winding of GT. Work was carried out in 2011-12. Hence allowed under Regulation 9(2)(iv) for already approved works.
3.	Capitalization of one no. ABB make 11/220 KV 20 MVA generator transformer	181.48	Not allowed as capitalization of spare assets is not allowed after the cut-off date of the generating station.

4	Single phase generator transformer	3.36	The petitioner has carried out special test of transformer before installation. Not allowed under Regulation 9(2) (iv) as Spare transformer has not been allowed for the purpose of tariff.
5	70:30 oil cooler tubes suitable for CGL make generator transformer	29.48	Existing cooler tubes damaged due to acidic nature of water which were replaced with new tubes. Expenditure for ₹70.00 lakh had been allowed during 2011-12 for replacement of old damaged tubes. Hence, allowed under Regulation 9(2) (iv), for already approved works.
6	Oil cooler tubes for EMCO make & CGL make generator transformer	55.28	Due to acidic nature of reservoir water, cooler tubes bundles (90:10 Cu Ni) of GT were getting damaged. These tubes were replaced with new 70:30 CuNi tubes to keep the plant in operation. Expenditure for ₹70 lakh has already been allowed during 2011-12 for replacement of old damaged tubes. Hence, allowed under Regulation 9(2) (iv) for already approved works.
7	Capitalization of one no. oil cooler for BHEL make turbine generator	14.35	
8	Capitalization of one no. runner	188.22	Expenditure for ₹163.82 lakh has already been allowed during 2009-10 for replacement of old runner along with the de-capitalization of ₹39.42 lakh on projected basis in Petition No.294/2009. NHPC has claimed the same to maintain redundancy but has de-capitalized the gross value of the old asset (₹40.06 lakh) which form part of deletions of ₹97.70 lakh during the year of capitalization (2011-12). This indicates that the runner has been replaced. Further, runner being an underwater part exposed to acidic water is prone to corrosion. As such, the expenditure has been allowed under Regulation 9(2)(iv) for already approved works.
9.	Runner cone for Kopili Unit-I & II	7.04	Due to acidic nature of reservoir water, existing runner cones were damaged. Hence replaced with runner cone to maintain the operation of the plant. Expenditure of ₹27 lakh has been allowed during 2010-11 for replacement of old runner cones. Hence, allowed under Regulation 9(2)(iv) for already approved works.
10.	Numeric distance protection relays	11.35	Existing electro-mechanical relays are becoming obsolete and their replacement was necessary for plant efficiency. Expenditure of ₹50 lakh has been allowed for replacement of old protection relays. Hence, allowed under Regulation 9(2) (iv) for already approved works.
11	Freight charges for carrying	0.34	Carrying cost of runner cones has been allowed

	runner cone		as above. Hence, expenditure allowed .
12	Procurement of different type of valves for cooling water system	12.24	Replacement made on account of frequent failure of gate valves due to acidic nature of reservoir water. Expenditure of ₹20 lakh has been allowed during 2010-11 for replacement of old valves. Hence, allowed under Regulation 9(2)(iv) for already approved works.
13	Runner cone for Kopili Unit-III & IV	7.04	Due to acidic nature of reservoir water, existing runner cones got eroded and hence replaced with new runner cones to maintain the operation of the plant. Expenditure for ₹27 lakh already allowed during 2010-11 for replacement of old runner cones. Hence, allowed under the regulation 9(2) (iv), for already approved works.
	Total claimed	635.89	
	Total allowed		451.06

20. Accordingly, the following actual additional capital expenditure on account of addition of assets has been allowed during the period 2009-12:

	(₹ In lakh)		
	2009-10	2010-11	2011-12
Additional Capital Expenditure claimed	359.83	325.69	635.89
Additional Capital Expenditure allowed	349.44	325.69	451.06

Deletions

21. The deletions for the different years to be considered for the purpose of tariff are as follows:

	(₹ In lakh)		
	2009-10	2010-11	2011-12
De-capitalization claimed	(-) 65.28	(-) 59.88	(-) 136.32

22. On scrutiny, the deletion in respect of following asset has not been considered as the corresponding addition of ₹181.48 lakh for the said asset has not been allowed

(₹ In lakh)	
2011-12	
De-capitalization of old generator transformer	(-) 38.62

23. Accordingly, the following deletions have been considered for the purpose of tariff for the period 2009-12:

	(₹ In lakh)		
	2009-10	2010-11	2011-12
De-capitalization allowed	(-) 65.28	(-) 59.88	(-) 97.70

Exclusions in additions and deletions (incurred, capitalized in books but not to be claimed for tariff purpose)

24. The petitioner has prayed that following positive/negative entries affected in books of accounts on account of replacement of minor assets, purchase of capital spares, purchase of miscellaneous assets may be excluded/ignored for the purpose of tariff.

	(₹ In lakh)		
	2009-10	2010-11	2011-12
Not related to core activity	6.61	5.71	19.44
Minor assets	3.56	6.42	4.68
Assets of O&M nature	1.37	80.83	29.87
Assets of the nature of stocks and spares/ T&P	27.63	5.59	0.89
De-capitalization of old assets replaced by new assets but not claimed for tariff	0.00	(-) 4.12	(-) 0.44
Total exclusions	39.17	94.44	54.43

25. The expenditure not related to core activity and the expenditure incurred on procurement/replacement of minor assets is not allowable for the purpose of tariff after the cut-off date, as per the 2009 Tariff Regulations. Accordingly, the petitioner itself has put these additions under exclusions category i.e. positive entries are to be ignored for the purpose of tariff. As such, the above exclusions of the positive entries are allowed for the purpose of tariff. Further negative entry of ₹4.12 lakh and ₹0.44 lakh pertaining to de-capitalization of assets in lieu of excluded additions i.e. additions not claimed/considered for the purpose of tariff, are also allowed to be ignored/excluded for the purpose of tariff.

Actual Additional capital expenditure allowed

26. In view of above deliberations, following actual additional capital expenditure for period 2009-12 is allowed for the purpose of tariff:

(₹ In lakh)

	2009-10	2010-11	2011-12
Additions allowed (a) Additions against works approved/ additions not projected earlier but incurred and claimed under Regulation 9(2)(iv)	349.44	325.69	451.06
Deletions allowed (b)	(-) 65.28	(-) 59.88	(-) 97.70
Net Additional Capital Expenditure allowed for tariff purpose (c)= (a)+(b)	284.16	265.81	353.36

Projected Additional Capital Expenditure for 2012-13 and 2013-14

27. The petitioner has revised the projected additional capital expenditure for the years 2012-13 and 2013-14 from ₹3239.01 lakh and ₹3501.25 lakh respectively allowed vide order dated 30.9.2011 in Petition No. 294/2009 to ₹149.71 lakh and ₹1213.56 lakh respectively. The overall projected expenditure now claimed is less than the expenditure allowed earlier. This has been allowed presently, subject to truing up in accordance with clause (1) of Regulation 6 of the 2009 Tariff Regulations.

Additional Capital Expenditure

28. Accordingly, the additional capital expenditure allowed for the purpose of is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
	Actual	Actual	Actual	Projected	Projected
Additional Capital Expenditure allowed	284.16	265.81	353.36	149.71	1213.56

Capital Cost

29. Based on the above discussions, the year-wise capital cost considered for the period 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	26734.91	27019.07	27284.88	27638.24	27787.95
Additional Capital Expenditure allowed	284.16	265.81	353.36	149.71	1213.56
Capital cost as on 31 st March of the financial year	27019.07	27284.88	27638.24	27787.95	29001.51

Return on Equity

30. Regulation 15 of the 2009 Tariff Regulations provides as under:-

“15. (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% for thermal generating stations, transmission system and run of the river generating station, and 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage and shall 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:

Rate of pre-tax return on equity = 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 financial year during the tariff period shall be trued up in accordance with Regulation 6 of these Regulations”.

31. The Rate of Return on Equity considered by the petitioner is as follows:

	2009-10	2010-11	2011-12	2012-13	2013-14
	ACTUAL			PROJECTED	
Base Rate	15.50%	15.50%	15.50%	15.5%/16.5%	16.50%
Applicable Tax Rate (MAT)	16.995%	19.931%	20.008%	20.008%	20.961%
Tax Rate	15.0%	18.0%	18.5%	18.5%	18.5%
Surcharge	10%	7.50%	5%	5%	10%
Education cess	3%	3%	3%	3%	3%
Rate of ROE (pre-tax)	18.674%	19.358%	19.377%	19.689%	20.876%

Note: - Base Rate has been changed from 15.5% to 16.5% for the storage type generating stations including pumped storage hydro generating stations and run of river generating station with pondage vide Central Electricity Regulatory Commission (Terms and Conditions of Tariff) (Third Amendment) Regulations, 2012, w.e.f. 01-01-2013. The rate of ROE (pre-tax) for the year 2012-13 (19.689%) is the composite rate calculated for the year.

32. In consideration of the above rates, Return on Equity has been computed as follows:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Notional Equity	13159.45	13244.70	13324.44	13430.45	13475.36
Addition due to Additional Capital Expenditure	85.25	79.74	106.01	44.91	364.07
Closing Equity	13244.70	13324.44	13430.45	13475.36	13839.43
Average Equity	13202.07	13284.57	13377.45	13452.91	13657.40
Rate of return on equity	18.674%	19.358%	19.377%	19.689%	20.876%
Return on Equity	2465.36	2571.63	2592.15	2648.74	2851.12

33. Regulation 16 of the 2009 Tariff Regulations provides as under:-

"16. (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."

34. The computation of interest on loan in tariff is based on the following:

(i) The opening gross normative loan as on 1.4.2009 of each unit has been arrived at in accordance with Regulation 16 of the 2009 Tariff Regulations.

(ii) The weighted average rate of interest has been worked out on the basis of the actual loan portfolio of respective year applicable to the project up to 2010-11.

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

(iv) The repayment for the year of the tariff period 2009-14 has been considered equal to the depreciation allowed for that year.

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

35. Accordingly, Interest on Loan has been calculated as follows:

(` in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Normative Loan	13575.46	13774.37	13960.43	14207.79	14312.58
Cumulative Repayment up to Previous Year	11005.18	12437.06	12976.00	13529.37	14096.24
Net Loan-Opening	2570.28	1337.31	984.43	678.42	216.34
Repayment during the year	1431.88	538.94	553.37	566.87	599.65
Addition due to Additional Capitalization(2009-14)	198.91	186.07	247.35	104.80	849.49
Net Loan-Closing	1337.31	984.43	678.42	216.34	466.18
Average Loan	1953.79	1160.87	831.43	447.38	341.26
Weighted Average Rate of Interest on Loan	7.94%	7.94%	7.94%	7.94%	7.94%
Interest on loan	155.11	92.17	66.02	35.52	27.10

Depreciation

36. Regulation 17 of the 2009 Tariff Regulations provides as under:-

*“17. **Depreciation** (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 the cumulative depreciation as admitted by the Commission up to 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.”

37. The generating station declared under commercial operation on 12.7.1997 and has completed 12 years of operation on 12.7.2009. Accordingly, the remaining depreciable value has been spread over the balance useful life of the assets from the year 2010-11 to 2013-14. The weighted average rate of depreciation of 5.328% has been considered for the calculation of depreciation during 2009-10. Assets amounting to ₹65.28 lakh, ₹59.88, ₹97.70 lakh, ₹36.86 lakh have been de-capitalized during the years 2009-10, 2010-11, 2011-12 and 2012-13 respectively. As per the prevailing practice, the amount of cumulative depreciation allowed in tariff against those de-capitalized assets has been calculated on *pro rata* basis. The same has been adjusted against the cumulative depreciation of the year of de-capitalization. Accordingly, the depreciation has been computed as follows:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross Block as on 31.3.2009	26734.91	27019.07	27284.88	27638.24	27787.95
Additional capital expenditure during 2009-14	284.16	265.81	353.36	149.71	1213.56
Closing gross block	27019.07	27284.88	27638.24	27787.95	29001.51
Average gross block	26876.99	27151.97	27461.56	27713.09	28394.73
Rate of Depreciation	5.328%	-	-	-	-
Depreciable Value	24189.29	24436.77	24715.40	24941.78	25555.25
Balance Useful life of the asset	-	22.28	21.28	20.28	19.28
Remaining Depreciable Value	13162.26	12007.89	11775.98	11496.52	11561.68
Depreciation	1431.88	538.94	553.37	566.87	599.65

O&M Expenses

38. The following O & M Expenses as allowed in the order dated 30.9.2011 in Petition No. 294/2009 is considered:

	(₹ In lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O & M Expenses	3522.42	3723.90	3936.91	4162.10	4400.17

Interest on Working Capital

39. The petitioner is entitled to claim interest on working capital as per the 2009 Tariff Regulations. The components of the working capital and the petitioner's entitlement to interest thereon are discussed hereunder.

(i) Receivables

As per Regulation 18(1) (c) (i) of the 2009 Tariff Regulations, receivables as a component of working capital will be equivalent to two months' of fixed cost. The petitioner has claimed the receivables on the basis of 2 months' of annual fixed charges claimed in the petition. In the tariff being allowed, receivables have been worked out on the basis of 2 months' annual fixed charges.

(ii) Maintenance spares

Regulation 18 (1) (c) (ii) of the 2009 Tariff Regulations provides for maintenance spares @ 15% per annum of the O & M expenses as part of the working capital from 1.4.2009. The value of maintenance spares has accordingly been worked out.

(iii) O & M expenses

Regulation 18(1) (c) (iii) of the 2009 Tariff Regulations provides for operation and maintenance expenses for one month to be included in the working capital. The petitioner has claimed O&M expenses for 1 month of the respective year. This has been considered in the working capital.

(iv) Rate of interest on working capital

In accordance with clause (3) of Regulation 18 of the 2009 Tariff Regulations rate of interest on working capital shall be on normative basis and shall be equal to State Bank of India Base Rate as on 1st April 2009 or on 1st April of the year in which the generating station or a unit thereof or the transmission system, as the case may be, is declared under commercial operation, whichever is later, for the unit or station whose date of commercial operation falls on or before 30.6.2010. The State Bank

of India Base Rate was 12.25% as on 1.4.2009. The interest on working capital for the assets covered in the petition has been worked out accordingly.

40. Necessary computations in support of interest on working capital are appended below:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	528.36	558.59	590.54	624.32	660.03
O & M expenses	293.54	310.33	328.08	346.84	366.68
Receivables	1305.90	1196.61	1235.38	1281.53	1361.77
Total	2127.80	2065.52	2154.00	2252.69	2388.48
Interest on Working Capital @12.25%	260.66	253.03	263.86	275.95	292.59

Annual Fixed Charges

41. The revised annual fixed charges allowed for 2009-14 are summarized hereunder:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	2465.36	2571.63	2592.15	2648.74	2851.12
Interest on Loan	155.11	92.17	66.02	35.52	27.10
Depreciation	1431.88	538.94	553.37	566.87	599.65
Interest on Working Capital	260.66	253.03	263.86	275.95	292.59
O & M Expenses	3522.42	3723.90	3936.91	4162.10	4400.17
Total	7835.43	7179.67	7412.31	7689.19	8170.63

42. In all other aspects, the order dated 30.9.2011 shall continue to apply. The annual fixed charges allowed as above are subject to truing-up as per Regulation 6 (1) of the 2009 Tariff Regulations.

43. The difference in the annual fixed charges determined by order dated 30.9.2011 and those determined by this order shall be adjusted in accordance with Regulation 6 (6) of the 2009 Tariff Regulations.

44. Petition No 238/GT/2013 stands disposed of.

Sd/-
(Neerja Mathur)
Member (EO)

Sd/-
(A. K. Singhal)
Member

Sd/-
(M. Deena Dayalan)
Member

Sd/-
(Gireesh B. Pradhan)
Chairperson