

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 182/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: 15.4.2014

Date of Order: 07.8.2014

In the matter of

Revision of tariff of Vindhyachal Super Thermal Power Station, Stage-I (1260 MW) for the period from 1.4.2009 to 31.3.2014 -Truing up of tariff determined by order dated 12.9.2012 in Petition No. 227/2009

And

In the matter of

NTPC Ltd, New Delhi

...Petitioner

Vs

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhavan, Vidyut Nagar, Jabalpur-482 008
2. Maharashtra State Electricity Distribution Company Ltd,
'Prakashgad', Bandra (EAST), Mumbai-400 051
3. Gujarat Urja Vikas Nigam Limited,
Vidyut Bhavan, Race Course, Vadodara-390 007
4. Chhattisgarh State Power Distribution Company Ltd,
Dhagania, Raipur-492 013
5. Electricity Department, Govt. of Goa,
Vidyut Bhavan, Panaji, Goa
6. Electricity Department, Administration of Daman & Diu,
Daman-396 210
7. Electricity Department Administration of Dadra and Nagar Haveli,
Silvassa Via VAPI

...Respondents



Parties present:

For Petitioner: Shri Vivek Kumar, NTPC
Shri A.S.Pandey, NTPC
Shri S.K.Jain, NTPC
Shri A.K.Srivastava, NTPC

For Respondents: None

ORDER

This petition has been filed by the petitioner, NTPC, for revision of tariff of Vindhyachal Super Thermal Power Station, Stage-I (1260 MW) (hereinafter referred to as “the generating station”) for the period from 1.4.2009 to 31.3.2014 in terms of the proviso to Regulation 6 (1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”).

2. The generating station with a capacity of 1260 MW comprises of six units of 210 MW each. The dates of commercial operation of different units of the generating station are as under:

Unit-I	1.9.1988
Unit-II	1.1.1989
Unit-III	1.2.1990
Unit-IV	1.9.1990
Unit-V	1.4.1991
Unit-VI / Generating station	1.2.1992

3. Petition No. 227/2009 was filed by the petitioner for approval of tariff of the generating station for the period 2009-14 and the Commission by its order dated 12.9.2012 approved the annual fixed charges considering the capital cost of ₹148042.37 lakh as on 1.4.2009, after deduction of un-discharged liabilities of ₹445.60 lakh as on 1.4.2009. The annual fixed charges approved by order dated 12.9.2012 was as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	387.42	403.85	420.43	557.50	707.71
Interest on Loan	220.25	171.26	147.87	150.29	141.06
Return on Equity	17288.76	17298.23	17306.90	17356.03	17398.12
Interest on Working Capital	5895.69	5970.27	6062.49	6139.13	6230.16
O&M Expenses	22932.00	24242.40	25628.40	27102.60	28652.40
Cost of Secondary fuel oil	2132.38	2132.38	2138.23	2132.38	2132.38
Compensation Allowance	567.00	630.00	756.00	819.00	819.00
Total	49423.51	50848.40	52460.32	54256.93	56080.84

4. The petitioner presently seeks revision of the annual fixed charges based on the actual additional capital expenditure incurred for the years 2009-10, 2010-11 and 2011-12 and revised projected estimated expenditure for the years 2012-13 and 2013-14 in accordance with clause (1) of Regulation 6 of the 2009 Tariff Regulations.

Clause (1) of Regulation 6 of the 2009 Tariff Regulations provides as under:

"6. Truing up of Capital Expenditure and Tariff

(1) 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."

5. In terms of the above, the petitioner has filed this petition for revision of tariff of the generating station for the period 2009-14. The annual fixed charges claimed by the petitioner for the period 2009-14 in this petition are as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	386.71	463.15	540.77	604.36	904.53
Interest on Loan	241.93	210.92	195.39	182.69	189.74
Return on Equity	17288.34	17128.59	16965.74	16988.01	17058.29
Interest on Working Capital	5916.33	5991.24	6085.79	6162.25	6257.33
O&M Expenses	22932.00	24242.40	25628.40	27102.60	28652.40
Secondary Fuel Oil Cost	2132.38	2132.38	2138.23	2132.38	2132.38
Compensation Allowance	567.00	630.00	756.00	819.00	819.00
Special Allowance	0.00	0.00	0.00	0.00	0.00
Total	49464.69	50798.68	52310.30	53991.30	56013.67

6. Reply to the petition has been filed by the Respondent No.1. MPPMCL and the petitioner has filed its rejoinder to the said reply. The petitioner has also filed additional submissions as directed by the Commission. The petition was listed for directions on 15.4.2014 and order in the petition was reserved.

Capital cost

7. The last proviso to Regulation 7 of the 2009 Tariff Regulations, as amended on 21.6.2011, provides as under:

"Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected 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."

8. The approved capital cost as on 1.4.2009 works out to ₹148042.37 lakh after removing un-discharged liabilities amounting to ₹445.60 lakh (₹40.49 lakh for the period prior to 1.4.2004 and ₹405.11 lakh pertaining to period 2004-09).

Actual/ Projected Additional Capital Expenditure

9. Regulation 9 of the 2009 Tariff Regulations, as amended on 21.6.2011 and 31.12.2012, provides as under:

“9. Additional Capitalisation. (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;*
- (iii) *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 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:*

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.

(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-materialisation 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.”

10. The additional capital expenditure claimed by the petitioner and allowed by order dated 12.9.2012 in

Petition No. 227/2009 is as under:

(₹ in lakh)						
	2009-10 Actual	2010-11 Projected	2011-12 Projected	2012-13 Projected	2013-14 Projected	Total
Additional Capital Expenditure claimed	474.12	25.00	1600.00	5895.00	5400.00	13394.12
Additional Capital Expenditure allowed	208.12	25.00	200.00	1195.00	0.00	1628.12

11. The break-up of the additional capital expenditure allowed by the Commission in its order dated 12.9.2012

in Petition No. 227/2009 is as under.

(₹ in lakh)							
Sl. No.	Package Name	Actual	Projected Capitalization				Total
		2009-10	2010-11	2011-12	2012-13	2013-14	
i	Ash Handling System						
ii	Ash Dyke Raising Works. (V-1) 2nd Raising	0.00	0.00	0.00	635.00	0.00	635.00
	Ash Dyke Raising Works. (V-1) 3rd Raising	0.00	0.00	0.00	0.00	0.00	0.00
iii	Ash Dyke Pipe Garlanding System	0.00	0.00	0.00	0.00	0.00	0.00
iv	Weigh Bridge for Ash Disposal	0.00	0.00	0.00	0.00	0.00	0.00
v	Ash Brick Manufacturing Machine	0.00	0.00	0.00	0.00	0.00	0.00
vi	Ash Slurry Pumps & Piping system	0.00	0.00	0.00	200.00	0.00	200.00
	Total Ash Handling System.	0.00	0.00	0.00	835.00	0.00	835.00
	Environmental Activities						
i	Replacement of Halon System Stage-I	0.00	0.00	200.0	0.00	0.00	200.00
ii	Near Zero discharge of water	0.00	0.00	0.00	250.00	0.00	250.00
iii	SOx-NOx & Analyser	0.00	0.00	0.00	110.00	0.00	110.00
iv	Ambient Air Quality Monitoring System	119.00	0.00	0.00	0.00	0.00	119.00

v	Energy Management System for Stage-I	0.00	25.00	0.00	0.00	0.00	25.00
Total Environmental System		119.00	25.00	200.00	360.00	0.00	704.00
Other Capital Works							
i	R&M of DDC-MIS Package for Stage-I	13.12	0.00	0.00	0.00	0.00	13.12
ii	COLTS Gea Energy	55.00	0.00	0.00	0.00	0.00	55.00
iii	Online Bunker Monitoring System	21.00	0.00	0.00	0.00	0.00	21.00
Sub Total		89.12	0.00	0.00	0.00	0.00	89.12
Total (A+B+C)		208.12	25.00	200.00	1195.00	0.00	1628.12
D New Claim							
i	Generator Transformer	0.00	0.00	0.00	0.00	0.00	0.00
ii	De-Capitalization of GT	0.00	0.00	0.00	0.00	0.00	0.00
iii	Generator Transformer	0.00	0.00	0.0	0.00	0.00	0.00
iv	DVR in Units 1 & 3	0.00	0.00	0.00	0.00	0.00	0.00
v	Replacement of PLCC sys of VJ1 & VJ2 lines	0.00	0.00	0.00	0.00	0.00	0.00
Sub Total (New claim)		0.00	0.00	0.00	0.00	0.00	0.00
Total Additional Capitalization		208.12	25.00	200.00	1195.00	0.00	1628.12

12. The actual additional capital expenditure for 2009-12 and projected additional capital expenditure for the years 2012-13 and 2013-14 claimed in Form-9 of this petition is summarized as under:

	(₹ in lakh)				
	2009-10 (actual)	2010-11 (actual)	2011-12 (actual)	2012-13 (Projected)	2013-14 (Projected)
Actual/Projected additional capital expenditure	198.00	911.00	25.00	607.00	1435.00

13. The break-up of the additional capital expenditure claimed by the petitioner in this petition is detailed as under:

Sl. No.	Package Name	Actual Capital Expenditure			Projected Capital Expenditure		Total
		2009-10	2010-11	2011-12	2012-13	2013-14	
(₹ in lakh)							
A	Ash Handling System						
i	Ash Dyke Raising Works. (V-1) 2nd Raising	1.00	0.00	0.00	0.00	0.00	1.00
ii	Ash Dyke Raising Works. (V-1) 3rd Raising	0.00	0.00	0.00	500.00	0.00	500.00
iii	Ash Dyke Pipe Garlanding System	0.00	0.00	0.00	200.00	0.00	200.00
iv	Weigh Bridge for Ash Disposal	0.00	0.00	0.00	0.00	25.00	25.00
v	Ash Brick Manufacturing Machine	0.00	0.00	0.00	0.00	30.00	30.00
vi	Ash Slurry Pumps & Piping system	0.00	0.00	0.00	0.00	0.00	0.00
Total Ash Handling System		1.00	0.00	0.00	700.00	55.00	756.00
B	Environmental Activities						
i	Replacement of Halon System Stage-I	0.00	0.00	0.00	0.00	300.0	300.00
ii	Near Zero discharge of water	0.00	0.00	0.00	0.00	0.00	0.00
iii	SOx-NOx & Analyser	0.00	0.00	0.00	0.00	100.0	100.00
iv	Ambient Air Quality Monitoring	108.00	0.00	0.00	0.00	0.00	108.00

	System						
v	Energy Management System for Stage-I	0.00	21.00	0.00	0.00	0.00	21.00
	Total Environmental System	108.00	21.00	0.00	0.00	400.00	529.00
C	Other Capital Works						
i	R&M of DDC-MIS Package for Stage-I	13.00	0.00	0.00	0.00	0.00	13.00
ii	COLTS Gea Energy	55.00	4.00	0.00	0.00	0.00	59.00
iii	Online Bunker Monitoring System	21.00	0.00	0.00	0.00	0.00	21.00
	Sub Total	89.00	4.00	0.00	0.00	0.00	93.00
	Total (A+B+C)	198.00	25.00	0.00	700.00	455.00	1378.00
D	New Claims						
i	Generator Transformer	0.00	886.00	0.00	0.00	0.00	886.00
ii	De-Capitalization of GT	0.00	0.00	0.00	(-) 173.00	0.00	(-) 173.00
iii	Generator Transformer	0.00	0.00	0.00	0.00	900.00	900.00
iv	DVR in Units 1&3	0.00	0.00	0.00	80.00	80.00	160.00
v	Replacement of PLCC sys of VJ1 & VJ2 lines	0.00	0.00	25.00	0.00	0.00	25.00
	Sub Total(New Claims)	0.00	886.00	25.00	(-) 93.00	980.00	1798.00
	Total Additional Capital Expenditure	198.00	911.00	25.00	607.00	1435.00	3176.00

14. It is observed that the actual/ projected additional capital expenditure claimed for the period 2009-14 is ₹1378.00 lakh as against the additional capital expenditure of ₹1628.12 lakh allowed vide order dated 12.9.2012 in Petition No. 227/2009. The petitioner has further claimed expenditure for ₹1798.00 lakh on New claims. Accordingly, the total claim of the petitioner for 2009-14 works out to ₹3176.00 lakh, excluding the discharge of un-discharged liabilities of ₹13.07 lakh in 2009-10, ₹20.42 lakh in 2010-11 and ₹15.15 lakh in 2011-12. As regards the variation in the amount of the projected expenditure during the various years under different heads, the petitioner has submitted clarification as under:

"The petitioner has stated that the expenditure projected in the original Petition No. 227/2009 was based on tentative estimates, budgetary offers from vendors without considering taxes & duties, escalation and deviation and on past data & experience available in NTPC whereas, the actual expenditure is actual cash flow showing expenditure incurred based on the audited figures."

15. We now proceed to consider the claims of the petitioner for capitalization based on the available records and submissions of the parties as stated in the subsequent paragraphs

Ash Handling System

16. The Commission in its order dated 12.9.2012 had allowed the projected expenditure of ₹835.00 lakh for Ash Handling System during 2009-14 which included expenditure of ₹635.00 lakh for Ash Dyke Raising works

(2nd & 3rd raising) in 2012-13 and ₹200.00 lakh for Ash Slurry Pumps & Piping system in 2012-13. The petitioner in this petition has claimed expenditure of ₹756.00 lakh during 2009-14 for Ash handling system. This includes actual expenditure of ₹1.00 lakh in 2009-10 for Ash Dyke Raising works (2nd raising), projected expenditure of ₹500.00 lakh in 2012-13 for Ash dyke raising works (3rd Raising), projected expenditure of ₹200.00 lakh in 2012-13 for Ash Dyke Pipe garlanding system, projected expenditure of ₹25.00 lakh in 2013-14 for Weigh Bridge for Ash Disposal and projected expenditure of ₹30.00 lakh for Ash Brick manufacturing machine. The expenditure incurred /projected to be incurred for 2nd & 3rd raising of V-1 Ash Dyke for the years 2009-10 and 2012-13 was approved in order dated 12.9.2012. Moreover, the expenditure for Ash dyke raising & Ash slurry pumps were allowed by the Commission after prudence check, after considering the requirement and the justification submitted by the petitioner for such expenditure. Accordingly, the expenditure of ₹1.00 lakh in 2009-10 and ₹500.00 lakh in 2012-13 has been allowed towards Ash Dyke Raising works. However, the expenditure of ₹200.00 lakh in 2012-13 claimed in this petition for Ash Dyke pipe garlanding system has not been allowed as no proper justification has been furnished. However, liberty is granted to the petitioner to claim the said expenditure with proper justification at the time of truing-up in terms of Regulation 6(1) of the 2009 Tariff Regulations. The expenditure of ₹25.00 lakh for installation of Weigh Bridge for Ash disposal and Ash Brick Manufacturing Machine of ₹30.00 lakh in 2013-14 are required for disposal of Fly Ash. It is noticed that the petitioner is earning revenue by selling of fly ash to outside agencies as a part of 100% ash utilization target in terms of the notification of the Ministry of Environments & Forests, GOI. Accordingly, we are of the view that the expenditure towards Weigh Bridge and Ash Brick Manufacturing Machine shall be met from such revenue earned by the petitioner. Accordingly, the expenditure of ₹25.00 lakh for Weigh Bridge and ₹30.00 lakh for Ash Brick Manufacturing Machine has been disallowed.

Environment System

17. The Commission in its order dated 12.9.2012 had allowed the actual/ projected expenditure of ₹704.00 lakh for Environmental system during 2009-14, which included the projected expenditure of ₹200.00 lakh in 2011-

12 for replacement of Halon System, Stage-I, projected expenditure of ₹250.00 lakh in 2012-13 for Near Zero discharge of water, projected expenditure of ₹110.00 lakh in 2012-13 for SOx-NOx & Analyzer, actual expenditure of ₹119.00 lakh in 2009-10 for Ambient Air Quality Monitoring System and projected expenditure of ₹25.00 lakh in 2010-11 for Energy Management System for Stage-I. The petitioner in this petition has claimed expenditure of ₹529.00 lakh during 2009-14 for Environmental System, which includes projected expenditure of ₹300.0 lakh in 2013-14 for replacement of Halon System, Stage-I, projected expenditure of ₹100.00 lakh in 2013-14 for SOx-NOx & Analyzer, actual expenditure of ₹108.00 lakh in 2009-10 for Ambient Air Quality Monitoring System and actual expenditure of ₹21.00 lakh in 2010-11 for Energy Management System for Stage-I. The expenditure of ₹300.00 lakh in 2013-14 for replacement of Halon System Stage-I, the projected expenditure of ₹100.00 lakh in 2013-14 for SOx-NOx & Analyser and the actual expenditure of ₹108.00 lakh in 2009-10 for Ambient Air Quality Monitoring System has been allowed. However, the petitioner is directed to submit the details of the gross value of the Halon system which was put to use, at the time of truing up in terms of Regulation 6(1) of the 2009 Tariff Regulations. The actual expenditure of ₹21.00 lakh in 2009-10 for Energy Management System for Stage-I has not been allowed considering the fact that the expenditure of such nature had earlier been disallowed by the Commission in its orders determining tariff of other generating stations of the petitioner on the ground that the benefits of reduction in Auxiliary Power Consumption had not been passed on to the beneficiaries during 2009-14 and the same is required to be borne by the petitioner. This decision has been affirmed by the Appellate Tribunal for Electricity in its judgment dated 8.5.2014 in Appeal No. 173/2013. Accordingly, the expenditure of ₹21.00 lakh claimed for Energy Management System has not been allowed in the present case. Based on the discussions above, the additional capital expenditure of ₹508.00 lakh towards Environmental System has been allowed under Regulations 9(2)(ii) of the 2009 Tariff Regulations.

Other Capital Works

18. The Commission in its order dated 12.9.2012 had allowed actual expenditure of ₹89.12 lakh for Other capital works during 2009-14 which included expenditure of ₹13.12 lakh for R&M of DDC-MIS Package for Stage-

I in 2009-10, ₹55.00 lakh for COLTS Gea Energy in 2009-10 and ₹21.00 lakh for Online Bunker Monitoring System for ₹21.00 lakh in 2009-10. The petitioner in this petition has claimed the actual expenditure of ₹93.00 lakh during 2009-12 for Other capital works, which includes the expenditure of ₹13.00 lakh for R&M of DDC-MIS Package for Stage-I in 2009-10, ₹55.00 lakh in 2009-10 and Rs 4.00 lakh in 2010-11 for COLTS Gea Energy and ₹21.00 lakh for Online Bunker Monitoring System in 2009-10. These expenditures were allowed by the Commission on the ground that the said amounts were the balance payments in respect of the works which had already been allowed by the Commission in the previous tariff period (2004-09). Since the actual expenditure claimed by the petitioner in this petition is more or less the same as approved by the Commission by order dated 12.9.2012; the total additional capital expenditure of ₹93.00 lakh claimed by the petitioner has been allowed.

Claims for New Assets

19. The claim of the petitioner for expenditure of ₹1798.00 lakh on new assets in 2009-14 is discussed below:

Generator Transformer (GT)

20. The petitioner has claimed actual expenditure of ₹886.00 lakh in 2010-11 for purchase of Generator Transformer. The petitioner has stated that the purchase order for Generator Transformer (GT) was placed during September, 2005 as there was no spare GT available at site. The petitioner has also submitted that GT is a critical equipment and has long procurement period of 15-24 months and since the units have been operating with wide frequency and voltage variation during pre ABT period and ageing has also taken place, there were high chances of unexpected failure. The petitioner has further submitted that GT was received at site on November, 2010 and the GT in Unit-IV failed on 16.10.2011 and was replaced with the available spare GT. Accordingly, the petitioner has stated that the availability of a spare GT saved the long outage and also helped in maintaining supply of power to the beneficiaries. The petitioner has also submitted that the estimated de-capitalization value of GT of Unit-IV is ₹173.03 lakh and same was de-capitalized in 2012-13. Based on this, the petitioner has submitted that since GT got damaged and was de-capitalized during 2012-13 and the effect of such de-capitalization has been given in the computations for tariff, this item is required to be considered in the capital cost of the generating station.

21. The petitioner has also claimed projected expenditure of ₹900.00 lakh in year 2013-14 for purchase of spare Generator Transformer. The petitioner has submitted that if no spare transformer is available, the failure of Generator Transformer leads to unit outage for long duration thereby depriving the beneficiaries of a substantial capacity of power since the lead time for procurement of Generator Transformer is 15-24 months (approx). The petitioner has further submitted that considering the age of the existing Generator Transformer, its indispensability and the increased availability norms specified under the 2009 Tariff Regulations, availability of spare Transformer is necessary for the generating station. The petitioner has also submitted that the spare transformer is necessary not only for carrying out the long duration maintenance of ageing fleet of Transformers, but also to counter the threat to grid security due to the sudden failure of the transformer.

22. We have examined the submissions of the petitioner. It is observed that the generating station has been granted Compensation Allowance of ₹3591.04 lakh in terms of Regulation 19(e) of the 2009 Tariff Regulations by Commission's order dated 12.9.2012 in order to meet the expenses of capital nature of assets including minor assets. In view of this, the claim of the petitioner for ₹886.00 lakh and ₹900.00 lakh for the years 2010-11 and 2013-14 respectively has not been allowed.

DVR in Units I & III

23. The petitioner has claimed projected expenditure of ₹80.00 lakh during 2012-13 and ₹80.00 lakh during 2013-14 for installation of DVR in Units I & III. The petitioner has submitted that Units-I and III of the generating station has USSR make Generator Excitation system with single channel AVR and as per CEA (Technical standards for connectivity of the grid) Regulations 2007, the generators above 100 MW shall have automatic voltage regulator with two separate channels having independent inputs and automatic changeover. The petitioner has also submitted that for a generating station of 3260 MW capacity it is necessary to have strongly reliable generator excitation system for all units as per norms, to have similar kind of response from all units AVRs to control the reactive power. The petitioner has further submitted that as all other units have DAVR, it is desirable to replace the existing USSR make single auto channel AVRs of Units-I and III. The petitioner has

stated that the non-availability of spares for these old designs based on discrete electronic component has reduced the reliability of these AVR and response of these AVRs is slower than the new generation DAVR. We have examined the submissions of the petitioner. It is observed that the generating station had been granted Compensation allowance of ₹3591.04 lakh in order dated 12.9.2012 in terms of Regulation 19(e) of the 2009 Tariff Regulations in order to meet the expenses of capital nature of assets including minor assets. In view of this, the claim of the petitioner for ₹80.00 lakh each for 2012-13 and 2013-14 has not been allowed.

Replacement of PLCC system of VJ1 and VJ2 lines

24. The petitioner has claimed actual expenditure of ₹25.00 lakh during 2011-12 for replacement of PLCC system of VJ1 and VJ2 lines at this generating station. The petitioner has submitted that the expenditure was incurred due to the requirement of Power Grid Corporation of India Ltd, (CTU) for the replacement of the existing PLCC system in 400kV VJ1 & VJ2 lines. The petitioner has enclosed the copy of the communication received from CTU and has submitted that as per CTU, the existing PLCC has become obsolete and since no support is available from the OEM, PLCC at the generating station end (Vindhyachal end) of VJ1 & VJ2 lines are also required to be changed in line with the Jabalpur end, for effective communication. We have examined the submissions of the petitioner. It is observed that the generating station had been granted Compensation allowance of ₹3591.04 lakh in order dated 12.9.2012 in terms of Regulation 19(e) of the 2009 Tariff Regulations in order to meet the expenses of capital nature of assets including minor assets. In view of this, the claim of the petitioner for ₹25.00 lakh has not been allowed.

Expenditure for supply of power within 5 km radius

25. The petitioner in Petition No. 227/2009 had submitted that in terms of the notification dated 27.4.2010 of the Government of India of a scheme for provision of supply of electricity in 5 km area around Central Power plants, infrastructure for supply of reliable power to the rural households of the villages within a radius of 5 km of existing and new power stations was required to be created and as per the scheme, the Appropriate Commission shall consider the expenditure incurred for implementation of such scheme for the purpose of determining tariff of the generating station. The petitioner also submitted that DPR for implementation of the scheme was under

preparation and it was not possible to estimate the projected expenditure at that stage. The petitioner further submitted that it would approach the Commission for consideration of the cost incurred in implementation of this scheme for tariff purpose thereafter. In terms of this submissions made by the petitioner, the Commission vide its order dated 12.9.2012 granted liberty to the petitioner to approach the Commission through an appropriate application for consideration of the same in accordance with law.

26. Now the petitioner vide affidavit 24.6.2013 has claimed projected expenditure of ₹2750.00 lakh towards implementation of the scheme for power supply within 5 km radius of the generating station in terms of the Detailed Project Report (DPR) based on the notification of the Ministry of Power, GOI dated 27.4.2010. However, the petitioner by affidavit dated 13.3.2014 has submitted that the revised estimate for an amount of ₹1502.00 lakh is expected to be incurred upto the year 2013-14.

27. We have examined the submissions of the petitioner. By order dated 12.9.2012, the petitioner was granted liberty to approach the Commission to claim the expenditure under this head. Accordingly, the petitioner had awarded the work for execution in respect of this generating station on 20.3.2012 and has sought the capitalization of the projected expenditure during 2013-14. Though the said scheme was earlier withdrawn by MOP, GOI by notification dated 25.3.2013, subsequently, by notification dated 5.3.2014 the MOP, GOI has granted exemption from withdrawal of the said scheme in respect of eight generating stations of the petitioner, including this generating station and has observed that capitalization of the said expenditure shall be made through the Commission as per provisions of the scheme. Regulation 9(2)(ix) of the 2009 Tariff Regulations, as amended on 31.12.2012 provides that the Commission in its discretion, may consider the "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". Considering the fact that the 2009 Tariff Regulations provides for additional capitalization of the expenditure towards supply of power within a radius of (five) 5 km and since considerable work has been done in this project, we are of the view that the additional capital expenditure shall be admissible to the petitioner. However, the expenditure on this scheme shall be considered at the time of final determination

of tariff by which time the actual cost of the scheme and the completion certificate including the certificate to the effect that assets have been taken over by the distribution company will be available to the petitioner. We direct accordingly.

28. The actual additional capital expenditure incurred (Stage-wise and Asset-wise) has been reconciled with the Audited Balance sheet of the generating station for the years 2009-10, 2010-11 and 2011-12. The petitioner has reconciled the actual additional capital expenditure for the period 2009-10 to 2011-12 with the books of accounts as under:

		(₹ in lakh)		
		2009-10	2010-11	2011-12
1	Opening Gross Block of the year	149589.47	150147.76	151624.83
2	Closing Gross Block of the year	150147.76	151624.83	151978.09
3	Additional Capitalization as per the books (2-1)	558.29	1477.06	353.26
4	Exclusions for Additional Capitalization as per the Books of Accounts.	316.22	491.42	313.61
5	Additional Capital Expenditure claimed including liability (3-4)	242.08	985.64	39.65
6	Un-discharged liability in above	43.96	74.46	14.59
7	Additional Capital Expenditure claimed on cash basis for the purpose of tariff (5-6)	198.13	911.18	25.06
8	Discharge of Un-discharged liability prior to 1.4.2009	13.07	4.83	0.00
9	Discharge of Un-discharged liability after 1.4.2009	0.00	15.59	15.15
10	Total Additional Capital Expenditure claimed (7+8+9)	211.20	931.59	40.21

29. The summary of exclusions claimed as per books of account is as under:

		(₹ in lakh)			
	Head	2009-10	2010-11	2011-12	Total
1	Capitalization of spares	471.36	718.78	373.03	1563.18
2	De-Capitalization of spares	(-) 199.73	(-) 177.19	(-)126.32	(-) 503.24
3	De-Capitalization of spares	(-) 18.34	0.00	(-) 2.64	(-) 20.98
4	Capitalization of MBOA spares	2.40	2.72	0.00	5.12
5	De-Capitalization MBOA items	(-) 72.03	(-) 29.43	(-) 17.54	(-) 119.00
6	De-Capitalization MBOA items	(-) 0.86	0.0	(-) 0.50	(-) 1.36
7	FERV	(-) 132.17	(-) 1.97	100.08	(-) 34.06
8	Items disallowed	312.0	0.00	0.00	312.00
9	De-capitalization due to liability reversal of R&M	(-) 46.33	0.00	(-) 5.00	(-) 51.33
10	Reversal of liability	(-) 0.09	(-) 21.49	(-)7.49	(-) 29.07
11	Total Exclusions	316.22	491.42	313.61	1121.25

Exclusions

30. We consider the exclusions for the years 2009-10, 2010-11 and 2011-12 under different heads in the claim for the purpose of tariff as discussed in subsequent paragraphs:

Capitalization of spares

31. The petitioner has procured spares amounting to ₹471.36 lakh during 2009-10, ₹718.78 lakh during 2010-11 and ₹373.78 lakh during 2011-12 for maintaining stock of necessary spares. Since capitalization of capital spares over and above the initial spares procured after cut-off date are not allowed for the purpose of tariff as they form part of O&M expenses when consumed, the exclusions of the said amounts during the period 2010-12 are in order and are allowed.

De-capitalized capital spares

32. The petitioner has de-capitalized capital spares amounting to (-)₹218.07 lakh during 2009-10, (-)₹177.19 lakh during 2010-11 and (-)₹128.96 lakh during 2011-12 in books of accounts on these spares becoming unserviceable. After examining the exclusions on account of de-capitalization of spares it is found that an amount of (-)₹218.07 lakh in 2009-10, (-)₹177.19 lakh in 2010-11 and (-)₹126.32 lakh in 2011-12 pertains to spares which were part of the capital cost of the generating station for the purpose of tariff. Hence, exclusion on account of de-capitalization of these spares is not justified and has not been allowed for the purpose of tariff. The balance de-capitalized spares amounting to (-)₹2.64 lakh in 2011-12 do not form part of the capital cost considered for purpose of tariff. Hence, exclusion of de-capitalization of these spares amounting to (-)₹2.64 lakh is in order and has been allowed.

Capitalization of Miscellaneous Bought Out Assets (MBOA)

33. The petitioner has capitalized MBOA spares in books of accounts amounting to ₹2.40 lakh during 2009-10 and ₹2.72 lakh during 2010-11. Since capitalization of minor assets is not allowed after cut-off-date, the exclusion of ₹5.12 lakh is in order and has been allowed.

De-Capitalization of Miscellaneous Bought Out Assets (MBOA)

34. The petitioner has also excluded de-capitalized MBOA in books of accounts amounting to (-)₹72.89 lakh during 2009-10, (-)₹29.43 lakh during 2010-11 and (-)₹18.04 lakh during 2011-12 in books of accounts on these MBOA becoming unserviceable. After examining the exclusion on account of de-capitalization of MBOA, it is

noticed that an amount of (-)₹72.03 lakh in 2009-10 and (-)₹29.43 lakh in 2010-11 and (-)₹17.54 lakh in 2011-12 pertains to MBOA which were part of the capital cost of the generating station for the purpose of tariff. Hence, exclusion on account of de-capitalization of these spares is not justified and has not been allowed for the purpose of tariff. Some of the other de-capitalized MBOA amounting to (-)₹0.86 lakh in 2009-10 and (-)₹0.50 lakh in 2011-12 do not form part of the capital cost and had been earlier disallowed by the Commission. Hence, exclusion of de-capitalization of these assets amounting to (-)₹0.86 lakh in 2009-10 and (-)₹0.50 lakh in 2011-12 is in order and has been allowed.

FERV

35. The petitioner has excluded an amount of (-)₹132.17 lakh during 2009-10, ₹(-) 1.97 lakh during 2010-11 and ₹100.08 lakh during 2012-13 on account of impact of FERV. As the petitioner has billed FERV directly on the beneficiaries, the exclusion of FERV is in order and has been allowed.

Items disallowed

36. The petitioner has excluded an amount of ₹312.00 lakh during 2009-10 on account of Acoustic Steam Leakage Detection System which had earlier been disallowed by the Commission. Hence, the exclusion is in order and has been allowed.

Reversal of Liability

37. The petitioner has excluded an amount of ₹(-) 46.33 lakh during 2009-10 and (-)₹5.0 lakh on account of reversal of liability corresponding to Acoustic Steam Leakage Detection System and Ash Dyke Stage-I. The petitioner has submitted that as the admitted capital base as on 31.3.2009 has already been reduced by excluding the un-discharged liability as on 1.4.2009. Hence, exclusion of reversal of liability of (-)₹51.33 lakh, has been allowed.

38. The petitioner has also excluded an amount of (-)₹0.09 lakh during 2009-10, (-)₹21.49 lakh in 2010-11 and (-)₹7.49 lakh in 2011-12 on account of reversal of liability corresponding to LT breakers USSR make, T/S metering

system and additional lighting and power point in plant. The petitioner has submitted that the admitted capital base as on 31.3.2009 has already been reduced by excluding the un-discharged liability as on 1.4.2009. Hence, the exclusion of reversal of liability of (-) ₹29.07 lakh, has been allowed.

39. Based on the above, the details of exclusions claimed vis-à-vis allowed, on cash basis, during 2009-12 is as under:

(₹ in lakh)				
	2009-10	2010-11	2011-12	Total
Exclusions allowed under different heads				
Capitalization of spares	471.36	718.78	373.03	1563.17
De-capitalization of spares	0.00	0.00	(-) 2.64	(-) 2.64
Capitalization of MBOA	2.40	2.72	0.00	5.12
De-capitalization of MBOA	(-) 0.86	0.00	(-) 0.50	(-) 1.36
FERV	(-) 132.17	(-) 1.97	100.08	(-) 34.06
Items disallowed	312.00	0.00	0.00	312.00
De-capitalization due to reversal of liability of R&M	(-) 46.33	0.00	(-) 5.00	(-) 51.33
Reversal of liability	(-) 0.09	(-) 21.49	(-) 7.49	(-) 29.07
Exclusion allowed (A)	606.31	698.31	457.48	1761.83
(B) Exclusions not allowed under different heads				
De-Capitalization of spares	(-) 218.07	(-) 177.19	(-) 126.32	(-) 521.58
De-Capitalization MBOA items	(-) 72.03	(-) 29.43	(-) 17.54	(-) 640.58
Exclusion not allowed (B)	(-) 290.10	(-) 206.62	(-) 143.86	(-) 640.58
Total exclusions (A+B)	316.22	491.42	313.61	1121.25

40. Based on the above discussions, the actual additional capital expenditure for the years 2009-10, 2010-11 and 2011-12 and the projected additional capital expenditure during 2012-13 and 2013-14, excluding discharge of un-discharged liabilities is allowed, as summarized as under:

(₹ in lakh)							
	Head of work / Equipment	2009-10 (actual)	2010-11 (actual)	2011-12 (actual)	2012-13 (Projected)	2013-14 (Projected)	Total
A	Ash Handling System						
i	Ash Dyke Raising Works. (V-1) 2nd Raising	1.00	0.00	0.00	0.00	0.00	1.00
ii	Ash Dyke Raising Works. (V-1) 3rd Raising	0.00	0.00	0.00	500.0	0.00	500.00
iii	Ash Dyke Pipe Garlanding System	0.00	0.00	0.00	0.00	0.00	0.00
iv	Weigh Bridge for Ash Disposal	0.00	0.00	0.00	0.00	0.00	0.00
v	Ash Brick Manufacturing Machine	0.00	0.00	0.00	0.00	0.00	0.00
vi	Ash Slurry Pumps & Piping system.	0.00	0.00	0.00	0.00	0.00	0.00
	Total	1.00	0.00	0.00	500.00	0.00	501.00
B	Environmental Activities						
i	Replacement of Halon System Stage.-I	0.00	0.00	0.00	0.00	300.0	300.00
ii	Near Zero discharge of water	0.00	0.00	0.00	0.00	0.00	0.00

iii	SOx-NOx & Analyser	0.00	0.00	0.00	0.00	100.00	100.00
iv	Ambient Air Quality Monitoring System.	108.00	0.00	0.00	0.00	0.00	108.00
v	Energy Management System for Stage-I	0.00	0.00	0.00	0.00	0.00	0.00
	Total	108.00	0.00	0.00	0.00	400.00	508.00
C	Other Capital Works						
i	R&M of DDC-MIS Package for Stage-I	13.00	0.00	0.00	0.00	0.00	13.00
ii	COLTS Gea Energy	55.00	4.00	0.00	0.00	0.00	59.00
iii	Online Bunker Monitoring System	21.00	0.00	0.00	0.00	0.00	21.00
	Total	89.00	4.00	0.00	0.00	0.00	93.00
D	New Claims						
i	Generator Transformer	0.00	0.00	0.00	0.00	0.00	0.00
ii	De-capitalization of GT	0.00	0.00	0.00	0.00	0.00	0.00
iii	Generator Transformer	0.00	0.00	0.00	0.00	0.00	0.00
iv	DVR in Units I&III	0.00	0.00	0.00	0.00	0.00	0.00
v	Replacement of PLCC sys of VJ1 & VJ2 lines	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	0.00	0.00	0.00	0.00	0.00
E	Total (A to D)	198.00	4.00	0.00	500.00	400.00	1102.00
F	Add : Exclusions not allowed	(-) 290.10	(-) 206.62	(-) 143.86	0.00	0.00	(-) 640.58
	Total Additional capitalization allowed (E+F)	(-) 92.10	(-) 202.62	(-) 143.86	500.00	400.00	461.42

Discharge of liabilities

41. Out of the un-discharged liabilities deducted as on 1.4.2009, the petitioner has discharged an amount of ₹13.07 lakh, ₹4.83 lakh and reversed ₹46.42 lakh, ₹20.96 lakh and ₹12.49 lakh during the year 2009-10, 2010-11 and 2011-12 respectively (all pertaining to the period 2004-09 and reversal of ₹12.49 for the period prior to 1.4.2004). In addition to above discharges and reversals, the petitioner has also discharged ₹15.59 lakh and ₹15.15 lakh (all pertaining to period 2009-14) during 2011-12 and reversed ₹0.53 lakh during 2010-11 (all pertaining to period 2009-14) respectively. Accordingly, the liabilities discharged during the respective years as detailed below has been allowed as part of the additional capital expenditure allowed for the generating station.

(₹ in lakh)

		2009-10	2010-11	2011-12	2012-13	2013-14
Un-discharged liabilities as on 1.4.2009 (corresponding to allowed assets)-A	445.60					
Discharges during the period out of liabilities as on 1.4.2009 (corresponding to allowed assets)-B		13.07	4.83	0.00	0.00	0.00
Reversals during the period out of liabilities as on 1.4.2009 (corresponding to allowed assets)-C		46.42	20.96	12.49	0.00	0.00
Addition during the period 2009-14 (corresponding to allowed assets)-D		43.96	0.67	8.54	0.00	0.00
Discharges during the period 2009-14 (corresponding to allowed assets)-E		0.00	15.59	15.15	0.00	0.00
Reversal of liabilities out of liabilities added		0.00	0.53	0.00	0.00	0.00

during 2009-14 (corresponding to allowed assets)-F						
Discharges of liabilities for the period (B+E)		13.07	20.42	15.15	0.00	0.00

42. The actual/projected additional capital expenditure allowed after adjustment of discharges of liabilities is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Net additional capital expenditure allowed prior to adjustment of discharges of liabilities	(-) 92.10	(-) 202.62	(-) 143.86	500.00	400.00
Discharges of liabilities	13.07	20.42	15.15	0.00	0.00
Actual/ Projected additional capital expenditure allowed	(-) 79.03	(-) 182.20	(-) 128.71	500.00	400.00

43. Based on the above, the capital cost considered for the purpose of tariff for 2009-14 is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost	148042.37	147963.35	147781.14	147652.43	148152.43
Additional capital expenditure Allowed	(-) 79.03	(-) 182.20	(-) 128.71	500.00	400.00
Closing capital cost	147963.35	147781.14	147652.43	148152.43	148552.43
Average Capital Cost	148002.86	147872.25	147716.79	147902.43	148352.43

Debt-Equity Ratio

44. Regulation 12 of the 2009 Tariff Regulations provides that:

(a) 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.

45. Accordingly, gross loan and equity amounting to ₹74447.14 lakh and ₹73595.23 lakh, respectively as allowed in order dated 12.9.2012 in Petition No. 227/2009 has been considered as gross loan and equity as on 1.4.2009. Further, the admitted actual/ projected additional capital expenditure as above has been allocated in debt-equity ratio of 70:30. This is subject to truing-up in terms of Regulation 6 of the 2009 Tariff Regulations.

Return on Equity

46. Regulation 15 of the 2009 Tariff Regulations, as amended on 21.6.2011, provides that:

“(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:

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 charges 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 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.”

47. Return on equity has been worked out based on the grossing up of the base rate with respect to actual tax rate applicable to the petitioner as a generating company for the years 2009-10, 2010-11 and 2011-12 and for the balance years, the rate of grossing up as applicable for the year 2011-12 per annum has been considered on the normative equity after accounting for actual/projected additional capital expenditure. Accordingly, return on equity worked out is as given under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Notional Equity-Opening	73595.23	73571.53	73516.86	73478.25	73628.25
Addition of equity due to additional capital expenditure	(-) 23.71	(-) 54.66	-38.61	150.00	120.00
Normative Equity-closing	73571.53	73516.86	73478.25	73628.25	73748.25
Average Normative Equity	73583.38	73544.20	73497.56	73553.25	73688.25
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax Rate for the year 2008-09	33.990%	33.218%	32.445%	32.445%	32.445%
Rate of Return on Equity (Pre Tax)	23.481%	23.210%	22.944%	22.944%	22.944%
Return on Equity(Pre Tax)- Annualised	17278.11	17069.61	16863.28	16876.06	16907.03

Interest on loan

48. Regulation 16 of the 2009 Tariff Regulations provides that:

“(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.

49. The interest on loan has been worked out as under:

- (a) The gross normative loan of ₹74447.14 lakh as on 1.4.2009 has been considered.
- (b) Cumulative repayment as on 1.4.2009 amounting to ₹70110.06 lakh as considered in order dated 12.9.2012 in Petition No. 227/2009 has been considered.
- (c) Accordingly, the net normative opening loan as on 1.4.2009 works out to ₹4337.08 lakh.
- (d) Addition to normative loan to the tune of 70% of additional capital expenditure approved above has been considered on year to year basis.
- (e) In line with the provisions of the Regulation 16(5) stated above, the weighted average rate of interest has been calculated considering the actual loan portfolio. In case of loans carrying floating rate of interest, the rate of interest as provided by the petitioner has been considered for the purpose of tariff. This is subject to truing-up.
- (f) The cumulative repayment has been adjusted @70% due to de-capitalization of assets/works.

50. The necessary calculation for interest on loan is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross opening loan	74447.14	74391.82	74264.28	74174.18	74524.18
Cumulative repayment of loan upto previous year	70110.06	70289.41	70529.41	70814.69	71259.94
Net Loan Opening	4337.08	4102.41	3734.87	3359.49	3264.24
Addition due to Additional capitalisation	-55.32	-127.54	-90.10	350.00	280.00
Repayment of loan during the year	369.48	379.02	383.27	445.25	558.37
Less: Repayment adjustment on account of de-capitalization	203.07	144.63	100.70	0.00	0.00
Add: Repayment adjustment on account of discharges / reversals corresponding to un-discharged liabilities deducted as on 1.4.2009	12.93	5.60	2.71	0.00	0.00
Net Repayment	179.35	239.99	285.28	445.25	558.37
Net Loan Closing	4102.41	3734.87	3359.49	3264.24	2985.87
Average Loan	4219.74	3918.64	3547.18	3311.87	3125.06
Weighted Average Rate of Interest on Loan	5.7387%	5.0347%	4.8519%	4.8828%	5.0431%
Interest on Loan	242.16	197.29	172.11	161.71	157.60

Depreciation

51. Regulation 17 of the 2009 Tariff 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[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.”

52. The cumulative depreciation works out to ₹128151.13 lakh as on 1.4.2009 after accounting for adjustment of un-discharged liabilities. After considering the approved additional capital expenditure for the year 2009-10 above, the balance depreciable value before providing depreciation for the year 2009-10 works out to ₹2800.69 lakh. Depreciation has been calculated by spreading over of the balance depreciation over the remaining life of the generating station for 2009-14. Further, proportionate adjustment has been made to the cumulative depreciation on account of de-capitalization of assets and also on account of discharges/reversal of liabilities out of un-discharged liabilities deducted from capital cost as on 1.4.2009. The necessary calculations in support of depreciation are as shown below:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening capital cost	148042.37	147963.35	147781.14	147652.43	148152.43
Closing capital cost	147963.35	147781.14	147652.43	148152.43	148552.43
Average capital cost	148002.86	147872.25	147716.79	147902.43	148352.43
Depreciable value @ 90%	130951.82	130834.26	130694.35	130861.43	131266.43
Balance useful life of the station	7.58	6.58	5.58	4.58	3.58
Balance depreciable value	2800.69	2493.95	2138.65	2039.22	1998.98
Depreciation (annualized)	369.48	379.02	383.27	445.25	558.37
Cumulative depreciation at the end	128520.61	128719.33	128938.97	129267.45	129825.82
Less: Cumulative depreciation reduction due to de-capitalization	231.80	185.95	127.58	0.00	0.00
Add: Cumulative depreciation adjustment on account of discharges / reversal of liabilities out of liabilities	51.50	22.32	10.81	0.00	0.00

deducted as on 1.4.2009					
Net Cumulative depreciation (at the end of the period)	128340.31	128555.70	128822.20	129267.45	129825.82

O&M Expenses

53. O&M expenses as considered in order dated 12.9.2012 as stated below has been considered.

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses	22932.00	24242.40	25628.40	27102.60	28652.40

Interest on Working Capital

54. Cost of coal for 1.1/2 months and cost of secondary fuel for 2 months as considered in order dated 12.9.2012 as stated below, has been considered.

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of coal – 1.1/2 months	14159.17	14159.17	14197.96	14159.17	14159.17
Cost of secondary fuel oil – 2 month	355.40	355.40	356.37	355.40	355.40

55. Maintenance spares as considered in order dated 12.9.2012 as stated below, has been considered.

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	4586.40	4848.48	5125.68	5420.52	5730.48

56. Receivables have been worked out on the basis of two months of fixed and energy charges as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Variable Charges -2 months	18878.90	18878.90	18930.62	18878.90	18878.90
Fixed Charges - 2 months	8236.12	8436.04	8665.71	8944.00	9240.66
Total	27115.01	27314.93	27596.33	27822.90	28119.55

57. O&M expenses for 1 month for the purpose of working capital as considered in order dated 12.9.2012 has been considered.

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O & M for 1 month	1911.00	2020.20	2135.70	2258.55	2387.70

58. SBI PLR of 12.25% has been considered in the computation of the interest on working capital. Necessary computations in support of calculation of interest on working capital are given as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of coal – 1.1/2 months	14159.17	14159.17	14197.96	14159.17	14159.17
Cost of secondary fuel oil –2 month	355.40	355.40	356.37	355.40	355.40
Maintenance Spares	4586.40	4848.48	5125.68	5420.52	5730.48
O&M expenses – 1 month	1911.00	2020.20	2135.70	2258.55	2387.70
Receivables – 2 months	27115.01	27314.93	27596.33	27822.90	28119.55
Total working capital	48126.98	48698.18	49412.04	50016.54	50752.30
Rate of interest	12.2500%	12.2500%	12.2500%	12.2500%	12.2500%
Interest on working capital	5895.56	5965.53	6052.98	6127.03	6217.16

Annual Fixed Charges for 2009-14

59. The annual fixed charges for the period 2009-14 in respect of the generating station are summarized as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	369.48	379.02	383.27	445.25	558.37
Interest on Loan	242.16	197.29	172.11	161.71	157.60
Return on Equity	17278.11	17069.61	16863.28	16876.06	16907.03
Interest on Working Capital	5895.56	5965.53	6052.98	6127.03	6217.16
O&M Expenses	22932.00	24242.40	25628.40	27102.60	28652.40
Cost of secondary fuel oil	2132.38	2132.38	2138.23	2132.38	2132.38
Compensation Allowance	567.00	630.00	756.00	819.00	819.00
Total	49416.70	50616.23	51994.26	53664.03	55443.95

Note: (1) All figures are on annualized basis. (2) All the figures under each head have been rounded. The figure in total column in each year is also rounded. Because of rounding of each figure the total may not be arithmetic sum of individual items in columns.

60. The annual fixed charges allowed as above are subject to truing up as per Regulation 6 of the 2009 Tariff Regulations.

61. The difference in the annual fixed charges determined by order dated 12.9.2012 and those determined by this order shall be adjusted in accordance with Regulation 6 (6) of the 2009 Tariff Regulations.

62. Petition No. 182/GT/2013 is disposed of in terms of the above.

-S/d-
(Neerja Mathur)
Member (EO)

-S/d-
(A.K.Singhal)
Member

-S/d-
(M. Deena Dayalan)
Member

-S/d-
(Gireesh B. Pradhan)
Chairperson