

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 264/2009

Coram 1. Dr. Pramod Deo, Chairperson
 2. Shri V.S.Verma, Member
 3. Shri M.Deena Dayalan, Member

Date of Hearing: 24.3.2011

Date of Order: 12.10.2012

IN THE MATTER OF

Approval of tariff for Korba Super Thermal Power Station, Stage I & II (2100 MW) for the period from 1.4.2009 to 31.3.2014.

AND IN THE MATTER OF

NTPC Ltd, New Delhi

...Petitioner

Vs

1. Madhya Pradesh Power Trading Co. Ltd, Jabalpur.
 2. Maharashtra State Electricity Distribution Co. Ltd, Mumbai
 3. Gujarat Urja Vikas Nigam Ltd, Vadodara
 4. Chhattisgarh State Power Distribution Co. Ltd, Raipur
 5. Electricity Department, Govt. of Goa, Panaji
 6. Electricity Department, Administration of Daman & Diu, Daman
 7. Electricity Department, Administration of Dadra & Nagar Haveli, Silvassa
-Respondents**

Parties present

1. Shri V.K.Padha, NTPC
2. Shri V.Ramesh, NTPC
3. Shri Ajay Dua, NTPC
4. Shri S.K.Sharma, NTPC
5. Shri S.Dheman, NTPC
6. Shri Sachin Jain, NTPC
7. Shri A.S.Pandey, NTPC
8. Shri G.K.Dua, NTPC

ORDER

The petitioner, NTPC has made this application for approval of tariff of Korba Super Thermal Power Station, Stage I & II (2100 MW), (hereinafter referred to as “the generating station”) for the period 2009-14, based on 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 2100 MW comprises of three units of 200 MW each and three units of 500 MW each. The date of commercial operation of different units of the generating station is as under:

Units	Date of commercial operation (COD)
Unit-I	1.8.1983
Unit-II	1.1.1984
Unit-III	1.6.1984
Unit-IV	1.3.1988
Unit-V	1.4.1989
Unit-VI / Generating station	1.6.1990

3. The tariff of the generating station for the period from 1.4.2004 to 31.3.2009 was determined by the Commission by its order dated 11.1.2010 in Petition No.128/2009 considering the capital cost of ₹175457.63 lakh as on 31.3.2009. Subsequently, by order dated 29.9.2011 in Petition No.128/2009, the annual fixed charges for the generating station was revised after taking in to consideration the judgments of the Appellate Tribunal for Electricity dated 31.5.2011 and 19.4.2011 in Appeal Nos. 61/2009 and Appeal No.73/2010 respectively, subject to the final outcome of the Civil Appeals (C.A. Nos. 5434/2007 to 5452/2007, 5622/2007 etc C.A Nos.4112-4113/2009 and C.A Nos. 6286 to 6288/2009, and other connected appeals) pending before the Hon'ble Supreme Court. The annual fixed charges determined by the Commission by its order dated 29.9.2011 in Petition No.128/2009 based on the capital cost of ₹176206.55 lakh as on 31.3.2009, is as under:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on loan	1374.23	1175.86	987.78	770.10	632.00
Interest on Working Capital	3171.43	3212.30	3255.02	3304.24	3349.97
Depreciation	6285.74	6331.88	6375.61	6409.80	6475.28
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00
Return on Equity	11868.22	11920.55	11970.16	12008.95	12083.22
O & M Expenses	20280.00	21087.00	21930.00	22800.00	23727.00
Total	42979.62	43727.59	44518.57	45293.09	46267.47

4. The annual fixed charges claimed by the petitioner for 2009-14 vide affidavit dated 11.1.2011 is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1992	2470	5994	20517	19951
Interest on Loan	663	571	642	547	191
Return on Equity	20435	20551	21130	22380	23781
Interest on Working Capital	5421	5546	5757	6189	6366
O&M Expenses	30420	32154	33999	35946	38004
Cost of secondary fuel oil	6085	6085	6102	6085	6085
Compensation Allowance	955	825	975	975	650
Special Allowance	2000	3172	3353	3545	6871
Total	67969	71373	77952	96185	101899

5. Reply to the petition has been filed by the respondent No.1, MPPTCL.

CAPITAL COST

6. Regulation 7 (1) (a) of the 2009 Tariff Regulations provides as under:

*“7. **Capital Cost.** (1) Capital cost for a project shall include: (a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;”*

7. The annual fixed charges claimed in the petition are based on opening capital cost of ₹176129 lakh as on 1.4.2009. However, the capital cost approved by order dated 29.9.2011 is ₹176206.55 lakh as on 31.3.2009.

8. The petitioner vide its affidavit dated 22.11.2010 has furnished the value of capital cost and liabilities as on 1.4.2009 as per books in Form-9A. The details of liabilities and capital cost have been reconciled with the information available with the Commission and the same is as under:

(₹ in lakh)

	As per Form-9A	As per records available with the Commission	Difference
Capital cost as on 1.4.2009, as per books	186783	186782.62	0.38
Liabilities included in the above	650	649.24	0.76

9. The difference in the capital cost and liabilities amounting to ₹0.38 lakh and ₹0.76 lakh respectively is on account of rounding-off errors. Hence, the amounts indicated as per records of the Commission have been considered for the purpose of tariff.

10. The total liabilities included in the gross block, as on 1.4.2009 is ₹649.24 lakh. Out of this, the un-discharged liabilities of ₹553.44 lakh (all corresponding to capital expenditure allowed during 2004-09) have been included in the admitted capital cost of ₹176206.55 lakh (as on 31.3.2009) and the balance differential liabilities pertain to assets disallowed/ not claimed for capitalization.

11. 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”

12. Accordingly, the capital cost, after removal of un-discharged liabilities of ₹553.44 lakh, works out to ₹175653.11 lakh, on cash basis, as on 1.4.2009. The discharge of un-discharged liabilities, if any, made by the petitioner would be included in the capital base as part of the additional capital expenditure, in the year of discharge.

13. The petitioner vide its affidavit dated 12.9.2011, has furnished the details of liabilities discharged during the period 2009-11. Out of the un-discharged liabilities deducted as on 1.4.2009, the petitioner has discharged ₹157.87 lakh and ₹57.76 lakh respectively (all pertaining to liabilities corresponding to assets capitalized during 2004-09) during the years 2009-10 and 2010-11. Accordingly, the liabilities discharged as above, have been allowed during the years 2009-10 and 2010-11.

Actual/Projected Additional Capital Expenditure

14. Regulation 9 of the 2009 Tariff Regulations, as amended on 21.6.2011, 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 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.”

15. The projected additional capital expenditure claimed by the petitioner is as under:

	<i>(₹ in lakh)</i>				
	2009-10	2010-11	2011-12	2012-13	2013-14
Additional capital expenditure	2282.85	1011.78	15432.33	20068.62	19706.78

16. The cut-off date of the generating station has expired. Thus, the petitioner's claim for additional capital expenditure is examined in terms of Regulation 9(2) of the 2009 Tariff Regulations. In this connection, we examine the submissions of the petitioner on the admissibility of additional capital expenditure for 2009-14, in the subsequent paragraphs.

Submissions of the petitioner

17. In its petition, the petitioner has submitted that the estimated capital expenditure claims are of the following nature:

- (i) The additional capital expenditure (as per Regulation 9 (1) and 9 (2) of the Tariff Regulations, 2009) as per the original scope of work of the generating station which has been put to use;
- (ii) The other additional capital expenditure in respect of the existing generating stations which have to be done on on-going basis.

18. The petitioner has also submitted the following in support of its claim in the petition and in its affidavit dated 25.3.2010:

(a) In addition to the capital expenditure covered by Regulation 9 (1) and 9 (2) and 19 (e) of the 2009 Tariff Regulations, there will be capital expenditure of different nature which would be necessary for the efficient operation of the generating station within its life time. No generating station can operate on a sustainable basis to achieve the level of performance parameters specified by the Commission without incurring capital expenditure from time to time. The expenditure on such capital assets to be incurred by generating stations are therefore necessary for proper and effective working and therefore beneficial to the respondents. Over a long period of 25 years of the life of the stations, many a times the Original Equipment Manufacturer (OEM) stop providing spares & service and this necessitates the replacement of obsolete equipment's

with new items, to ensure support from OEMs. Additional capital expenditure for this purpose had constantly been allowed by the Commission under the 2001 and 2004 tariff regulations. However, additional capital expenditure for successful and efficient operation of the generating station has not been included in Regulation 9 of 2009 Tariff Regulations. Accordingly, the petitioner has claimed additional capital expenditure on 'works considered necessary for the efficient operation of the generating stations' in addition to those specified under Regulation 9 (1) and (2) and 19 (e) of the 2009 Tariff Regulations.

(b) Regulations 7(1), 8 and 9 of 2009 Tariff Regulations pertain to the capital cost of new generating station commissioned after 1.4.2009 and do not cover the existing projects commissioned prior to 1.4.2009. Moreover, the term 'additional capital expenditure' defined in Regulation 3 (3) refers to the additional capital expenditure incurred or projected to be incurred, after the date of commercial operation of the project and admitted by the Commission after prudence check, subject to Regulation 9. The scope and meaning of additional capitalization is not confined to Regulation 9 but subject to Regulation 9, which would mean that if additional capitalization is of the nature as referred to in Regulation 9, it would be read subject to the provisions of Regulation 9 and if the additional capitalization is not of the nature as referred to in Regulation 9, the provisions of Regulation 9 could not be applied. Regulation 9 has no application whatsoever to the existing projects and it does not limit the additional capitalisation in the case of existing projects.

(c) The last proviso to Regulation 7 is an independent provision dealing with the existing projects and additional capitalization for the existing projects is comprehensively covered by the said provision. In respect of the existing projects, the additional capital expenditure projected to be incurred from 1.4.2009 till 31.3.2014 and admitted by the Commission after prudence check would qualify to be capitalized, notwithstanding the fact that this expenditure is not covered under Regulation 9 (1) and (2).

(d) Regulation 19 (e) provides for a compensation allowance to meet the expenses of new assets of capital nature, including in the nature of minor assets and normative compensation allowance under Regulation 19 (e) has no relevance to the additional capitalization of a substantive nature incurred by the generating company from time to time. As the Regulations 9 (1) and (2) and 19 (e) do not exclude the additional capital expenditure of substantial nature in respect of the existing generating stations, the additional capital expenditure as projected by the petitioner, to be incurred during the tariff period 2009-14 for the existing generating stations, may be considered and allowed by the Commission.

(e) The additional capital expenditure claimed is necessary and expedient for efficient operation of the generating station and is not incurred on account of any failure or default or any other act of omission or commission on the part of the petitioner. This expenditure is such which has to be necessarily incurred in the ordinary course of running of a generating station and for operating machines for the life span of 25 years.

19. The respondent, No.1, MPPTCL vide its reply dated 23.7.2010 has submitted that the prayer of the petitioner in its petition to consider other additional capital expenditure' in addition to the capital expenditure covered under Regulations 9(1), 9(2) and 19 (e) of the 2009 regulation amounts to additional capitalization over and above the provisions under the 2009 Tariff Regulations. The respondent has objected to the claims of the petitioner and has prayed that the Commission may not allow such additional capital expenditure. In response, the petitioner has reiterated its submissions as made in the original petition and affidavits dated 25.3.2010 and 24.6.2010 and has submitted that the projected additional capital expenditure has been filed in accordance with the existing tariff regulations. It has prayed that the objections of the said respondent be rejected.

20. Similar submissions of the petitioner in its petitions for determination of tariff for 2009-14 have been considered and disposed of by the Commission by its orders dated 20.4.2012, 7.5.2012, 23.5.2012, 25.5.2012 14.6.2012 and 13.7.2012 in Petition Nos. 239/2009, 256/2009, 332/2009, 279/2009, 222/2009 and 323/2009 respectively, pertaining to the determination of tariff of some of the generating stations of the petitioner for 2009-14. The relevant portion of the order is extracted as under:

"We have considered the submissions of the petitioner. The following two issues arise for our consideration:

(a) Whether additional capitalization projected to be incurred after the cut-off date during period 2009-14 is admissible under Regulation 9(2) of the 2009 Tariff Regulations.

(b) Whether additional capital expenditure for successful and efficient operation of the thermal generating station including the gas power stations could be admissible under Regulation 9(2) of the 2009 Tariff Regulations.

As regards the first issue, it is noticed that the last proviso to Regulation 7(2) of the 2009 Tariff Regulations provides that in case of existing projects, capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding the un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year and the tariff period 2009-14, as may be admitted by the Commission, shall form the basis of determination of tariff. Thus, as per the last proviso projected additional capital expenditure to be incurred for the respective years of the tariff period 2009-14 shall be considered by the Commission while determining the tariff in respect of the existing project. The said proviso does not make any distinction between the additional capital expenditure projected to be incurred before the cut-off date and additional capital expenditure projected to be incurred after the cut-off date. It therefore follows that in case of existing projects, additional capital expenditure projected to be incurred after the cut-off date can be considered by the Commission for determination of tariff. Regulation 9 of the 2009 Tariff Regulations provides for the additional capital expenditure to be admissible during the year 2009-14. While Clause (1) of Regulation 9 deals with the expenditure incurred before the cut-off date, Clause (2) of the said regulation deals with the expenditure incurred after the cut-off date. However, Clause (2) of Regulation 9 provides that only expenditure incurred after the cut-off date shall be admissible. It thus emerges that while the additional capital expenditure can be claimed under last proviso to Regulation 7(2) on projection basis, the same is not admissible under Regulation 9(2), since the expenditure has not been incurred. It is a settled principle of law that the provisions of the Act or Regulations should be read harmoniously keeping in view the objective of the legislation. During the period 2004-09, the additional expenditure was being admitted after the same was incurred. However, the Commission decided to allow additional capital expenditure on projection basis during the period 2009-14. In this connection, reference is drawn to paragraphs 10.1.3 and 10.1.4 of the Statement of Reasons to the 2009 Tariff Regulations, wherein the concept of claiming additional capitalization on projection basis has been explained in the following terms:

"10.1.3 The Commission has carefully examined the issue again and is of the view that the generating companies/transmission licensees as well as the beneficiaries should appreciate the regulation in its proper perspective. Apart from meeting the intended objective of certainty of tariff and minimal retrospective adjustments, the procedure would have following additional advantages:

(a) From beneficiaries' perspective, they would be aware of the intended additional capitalization in advance and be able to voice their concern before the Commission about the reasonableness and necessity of additional capitalization before the actual expenditure is made by the generating

companies/transmission licensees. As regards their concern about the expected expenditure being considered in capital base without putting assets to use, the Commission would like to clarify that anticipated expenditure would be considered only after it is found justified and reasonable with the expectation that asset would be put to use. In the absence of expenditure actually made, the same would be taken out from the capital cost at the time of truing up exercise with appropriate refund/adjustment with interest. Further, if the expenditure indeed materializes, the actual retrospective adjustment is expected to be bare minimum as a result of truing up exercise.

(b) From the prospective of the generating companies/transmission licensees, they would be assured of the expenditure to be admitted once accepted by the Commission in the capital cost before making the expenditure. Moreover, they would be more careful about the expenditure to be made as it would require to be justified before the Commission.

10.1.4 The Commission is of the view that the approach adopted with regard to consideration of the expenditure including additional capital expenditure projected to be incurred for the purpose of determination of capital cost is a win-win situation for all. The Commission has decided to retain the said provisions with regard to capital cost including projected additional capital expenditure in Regulations 7 and 9 of these regulations."

It thus emerges from the scheme of the 2009 Tariff Regulations that the additional capital expenditure projected to be incurred after the cut-off date can be admitted by the Commission after prudence check. Keeping in view the scheme of the 2009 Tariff Regulations and in order to remove the inconsistency between last proviso to Regulation 7(2) and Regulation 9(2), we have relaxed in our order dated 13.4.2012 in Petition No. 282 of 2009 the provisions of Regulation 9(2) of the 2009 Tariff Regulations in exercise of our power under Regulation 44 to allow additional capital expenditure projected to be incurred after the cut-off date. The said decision is applicable in the present case.

As regards the second issue, it is noticed that as per the scheme of the 2009 Tariff Regulations, additional capital expenditure incurred or projected to be incurred prior to the cut-off date and the additional capital expenditure incurred after the cut-off date is admissible under Regulation 9(1) and 9(2) of the 2009 Tariff Regulations. We have relaxed the provisions of the Regulation 9(2) to allow the expenditure on projected basis to be incurred after the cut-off date. Regulation 9(2) provides for the different provisions for admissibility of the additional capital expenditure. In respect of the hydro generating stations, Regulation 9(iv) provides for expenditure which has become necessary for successful and efficient operation of the hydro generating stations and similar provisions have been made under Regulation 9(v) in respect of the transmission systems. In case of the thermal generating stations, Regulation 19(e) provides for compensation allowance. Regulation 19(e) of 2009 Tariff Regulations is extracted as under:-

“(e) In case of coal-based or lignite-fired thermal generating station a separate compensation allowance unit-wise shall be admissible to meet expenses on new assets of capital nature including in the nature of minor assets, in the following manner from the year following the year of completion of 10, 15, or 20 years of useful life:

Years of operation	Compensation Allowance (₹ in lakh/MW/year)
0-10	Nil
11-15	0.15
16-20	0.35
21-25	0.65

20. It is evident from the provisions of Regulation 19(e) that the expenditure in case of coal based or lignite fired thermal generating stations is admissible to meet the expenses on new assets of capital nature including in the nature of minor assets. Correspondingly, no provision has been made to admit additional capital expenditure of capital nature for successful operation of the thermal generating station under Regulation 9(2) of the 2009 Tariff Regulations. On the other hand, clear provisions have been made for admitting the expenditure for efficient and successful operation of the hydro generating stations and transmission systems under certain conditions. The provisions of the

Regulation 9(2) are clear and unambiguous in that the expenditure for successful and efficient operation of the thermal generating stations have not been provided since a normative compensation allowance has been provided under Regulation 19(e) of 2009 Tariff Regulations to meet the expenses on new assets of capital nature. In our view, last proviso to Regulation 7(2) cannot be considered as independent of Regulation 9 of 2009 Tariff Regulations. The "additional expenditure projected to be incurred for the respective year of the tariff period 2009-14 as may be admitted by the Commission" occurring in last proviso to Regulation 7(2) have to be considered and allowed in terms of provisions of Regulation 9(2) of 2009 Tariff Regulations. The Commission after taking into account the requirements of the gas based generating stations and coal based thermal generating stations has made specific provisions under Regulation 9(2)(vi) and (viii) through second amendment to the 2009 Tariff Regulations as under:

"(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."

21. Thus, the Commission has consciously provided for the expenditure of specific nature under Regulation 9(2)(vi) and (vii) which are considered necessary for the successful and efficient operation of the coal based thermal generating station and gas based stations. In other words, additional capital expenditure for successful and efficient operation of the generating stations for reasons other than those provided for under Regulation 9(2) of 2009 Tariff Regulations is not permissible.

21. In line with the above decision of the Commission in the said orders, the additional expenditure for the period 2009-14 for this generating station has been considered in terms of the provisions under Regulation 9(2) of the 2009 Tariff Regulations, as discussed in the succeeding paragraphs.

22. The category-wise breakup of the actual/projected additional capital expenditure claimed by the petitioner during 2009-14 is as under:

Sl. No.	Regulations	Actual/Projected additional capital expenditure					
		2009-10 (actuals)	2010-11	2011-12	2012-13	2013-14	
<i>(₹ in lakh)</i>							
A	Ash handling system						
1	Existing Dhanras Ash dyke raising works	9(2)(iii)	511.72	566.00	108.00	0.00	0.00
2	Ash evacuation from Dhanras Ash dyke	9(2)(iii)	0.00	200.00	1000.00	1400.00	500.00
3	Proposed new Ash Dyke 2	9(2)(iii)	0.00	0.00	0.00	0.00	1000.0
4	Addl. pump set & piping system from Stage-II pump house to Ash dyke	9(2)(iii)	0.00	0.00	700.00	900.00	0.00

	Sub-total		511.72	766.00	1808.00	2300.00	1500.00
B	Environmental protection related works						
5	Replacement of Halon system of Stage-II	9(2)(ii)	0.00	0.00	0.00	850.00	0.00
6	Environment Action Plan – under implementation Chlorinator system	9(2)(ii)	30.942	37.45	0.00	0.00	0.00
7	Environment Action Plan - Ambient Air Quality Measurement System	9(2)(ii)	120.77	11.33	0.00	0.00	0.00
8	Environment Action Plan – Fugitive ash control system	9(2)(ii)	106.34	50.00	150.00	157.00	0.00
9	Vapor absorption system for AC	9(2)(ii)	65.55	0.00	0.00	0.00	0.00
10	Water & Steam quality measurement system	9(2)(ii)	72.99	0.00	0.00	0.00	0.00
11	ESP modifications works	9(2)(ii)	0.00	0.00	13415.00	10803.00	12207.00
	Sub-total		396.59	98.78	13565.33	11809.62	12206.78
C	Other Capital Works						
12	CEA Approved R & M Schemes	R&M	1351.23	107.00	0.00	0.00	0.00
13	Stage-2 C&I DDCMS R&M	R&M	0.00	0.00	0.00	2200	2200
14	Energy meters procurement installation	9(2)(ii)	0.00	40.00	0.00	0.00	0.00
15	Stage-I, C&I DDCMS R&M	9(2)(ii)	0.00	0.00	0.00	2900	3000
16	Retrofitting of 6.6 KV vacuum/ SF6 Breaker along with cubical and metering and protection system		0.00	0.00	0.00	800	800
17	Repair of Unit-1&3 Boiler lift		0.00	0.00	59.00	59.00	0.00
18	Modification/up gradation of PLC system in Stage-II DFA system	9(2)(ii)	14.18	0.00	0.00	0.00	0.00
19	Bringing unit data for ERP system	9(2)(ii)	2.02	0.00	0.00	0.00	0.00
20	Final Bill NPCC sewerage township		3.70	0.00	0.00	0.00	0.00
21	Online dissolved gas analyzer system		6.07	0.00	0.00	0.00	0.00
22	Genus energy metering system		(-) 2.65	0.00	0.00	0.00	0.00
	Sub-total		1374.54	147.00	59.00	5959.00	6000.00
	Grand Total		2282.85	1011.78	15432.33	20068.62	19706.78

Deferred works relating to ash pond or ash handling system in the original scope of work-Regulation 9(2)(iii)

23. The petitioner has claimed an expenditure of ₹511.72 lakh and ₹766.00 lakh, ₹1808.00 lakh, ₹2300.00 lakh and ₹1500.00 lakh for the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 respectively, in respect of the Ash dyke raising works and Ash handling system, additional pump set and piping system from Stage-II pump house to Ash dyke, etc., under this

head. The respondent No.1, MPPTCL in its reply has submitted that the expenditure claimed by the petitioner as deferred works cannot be considered under Regulation 9(2)(iii) as the same is inherently covered under Regulation 19 (e) of the 2009 Tariff Regulations.

24. These works relate to the raising of ash dykes and evacuation of existing ash dyke are under the original approved scope of work and has been undertaken in stages during the life of the generating station, as per normal practice without any limitation. Thus, the expenditure of ₹511.72 lakh and ₹766.00 lakh, ₹1808.00 lakh, ₹2300.00 lakh and ₹1500.00 lakh for the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 respectively, claimed under this head is allowed.

Environmental protection related works- Regulation 9(2) (ii)

25. The petitioner has claimed expenditure for ₹396.59 lakh during 2009-10, ₹98.78 lakh during 2010-11, ₹13565.33 lakh during 2011-12, ₹11809.62 lakh during 2012-13 and ₹12206.28 lakh during 2013-14 towards various works related to Environmental system, under this head. The respondent No.1, MPPTCL has submitted that the proposed expenditure based on environmental norms and the consent order of the Ministry of Environment & Forests, (MOE&F) Government of India, cannot be considered as change in law. The respondent has further submitted that the additional capitalization of ₹7608.00 lakh claimed under the head 'other capital works ' is not covered under the provisions of Regulation 9(2)(ii) of the 2009 Tariff Regulations and hence not admissible. In response, the petitioner has clarified that the expenditure is required for compliance with the provisions of the various notifications of the MOE&F, Government of India and also with the provisions of the Air (Control and Prevention of pollution) Act, 1981, and is thus a statutory requirement. We have considered the submissions on the asset-wise claim of the petitioner and the same is discussed as under:

(i) Replacement of Halon system: The petitioner has claimed ₹850 lakh 2012-13 for replacement of Halon system for Stage-II of the generating station to protect the ozone layer.

Since the expenditure for replacement of Halon gas is in terms of the provisions of the Ozone depleting substances (Regulation and Control) Rules, 2000, the expenditure is allowed.

(ii) Replacement of Chlorinator system: The petitioner has claimed Rs 30.942 lakh in 2009-10 and Rs.37.45 lakh in 2010-11 for replacement of chlorinator system which has become obsolete. From the justification submitted by the petitioner, it is noticed that the expenditure claimed is towards the modernization of chlorinator and not in compliance of any statute which require maintenance of proper environmental system. The petitioner is entitled for Special allowance in respect of Units I, II & III as per Regulation 10 of the 2009 Tariff Regulations to meet the expenditure on Renovation & Modernization and also Compensation allowance in respect of Units IV, V & VI as per Regulation 19(e) of the 2009 Tariff Regulations. In view of this, the expenditure claimed under this head is not allowed.

(iii) Ambient air Quality measurement system: The petitioner has claimed expenditure for ₹120.77 lakh during 2009-10 and ₹11.33 lakh during 2010-11 towards Ambient Air Quality Management System (AAQMS). In terms of the letter dated 2.1.2008 of the Chhattisgarh Environment Conservation Board (based on the provisions of the Air (Control and Prevention of pollution) Act, 1981), the petitioner has been directed to install minimum four automatic AAQMS. In compliance with the above notification and directions, the work has been commenced by the petitioner during December, 2008 and is expected to be completed during 2010-11. Since the expenditure is required towards compliance with the provisions of the said statute and directions of the statutory authority, the same is allowed.

(iv) Fugitive ash control system: The petitioner has claimed ₹106.34 lakh in 2009-10, ₹ 50 lakh in 2010-11, ₹150 lakh in 2011-12 and ₹157 lakh in 2012-13 for Ash suppression from ash dyke. It has been submitted that to control the problem of fugitive ash, installation of

fugitive ash control system was started in November, 2005. However, in terms of the directions of the Chhattisgarh Environment Conservation Board vide letters dated 2.1.2008 and 4.3.2010 (based on routine inspection) to take further effective steps to control fugitive ash, the work of fugitive ash control has been taken up by the petitioner in a phased manner during the period 2009-13. Since the expenditure is to prevent fugitive dust emission and is in terms of the directions of the Chhattisgarh Environment Conservation Board, based on the provisions of the Air (Control and Prevention of Pollution) Act, 1981, the same is allowed.

(v) Air conditioning system based Vapor Absorption system: The petitioner has claimed an expenditure of ₹65.55 lakh in 2009-10 for replacement of HCFC-22 (*chloro fluoro carbons*) based vapor compression system with Air condition based Vapor Absorption system which does not use any ozone depleting substance. As per provisions of the Ozone depleting substances (Regulation and Control) Rules, 2000, use of ozone depleting substance like HCFC-22 used in Air conditioning system based on vapor compression system are to be phased out. The petitioner has also furnished the gross block of the old asset as ₹26.39 lakh. In view of this, capitalization of ₹65.55 lakh is allowed along with the corresponding de-capitalization of ₹26.39 lakh i.e. ₹39.16 lakh.

(vi) Water & Steam quality measurement system: The expenditure of ₹72.99 lakh in 2009-10 has been claimed for procurement of analyzer/ instruments to monitor water chemistry parameters which ultimately affect pollutant levels. It has been submitted that these instrument contribute substantially in avoiding boiler leakages which would enable the petitioner to meet the target availability and efficiency norms specified by the Commission. We are of the view that these assets are minor in nature. Since the petitioner is allowed compensation allowance in terms of Regulation 19 (e) to meet the expenditure of this type, the expenditure claimed under this head is not allowed.

(vii) ESP Modification works: The petitioner vide its affidavit dated 24.8.2011 has submitted that the total estimated expenditure towards modification of ESPs is revised to ₹41075.34 lakh (approx), out of which ₹36425 lakh has been projected for capitalization during the period 2009-14. The proposed modification in ESPs includes:

- (a) Addition of 45000 sq. mtrs of collection area in each of Stage-I 200 MW ESPs;
- (b) Addition of 90000 sq. mtrs of collection area in each of Stage-II 500 MW ESPs; and
- (c) Overhaul/replacement of some of existing components to meet the performance requirement.

The original design emission level of ESP at the generating station was 300mg/nm³ and 390mg/nm³ for Stages- I and II respectively, which were in line with the prevailing emission norms. The present level of emission in Stage-I is 291mg/nm³ and that of Stage-II is 223.8mg/nm³. The Chhattisgarh Environment Conservation Board (CECB) vide its letters dated 2.1.2008, 4.3.2010 and 21.6.2011 has directed the petitioner to achieve emission level of less than 50 mg/nm³ within one year and to submit a study report within three months of achieving the same. The CECB has insisted on an early implementation of the ESP modification scheme to achieve the emission level of 50mg/nm³ and in case of non compliance, the generating station would face closure. We take note that recently the Orissa Pollution Control Board has halted the operation of the Talcher generating station of the petitioner in Orissa, on enforcement of stringent emission norms. Keeping this in view, we are conscious of the need for modification of ESP's for the continued operation of the generating station, and also take note, in principle, the claim for additional capital expenditure of ₹41075.34 lakh on this count.

Also, the petitioner vide its affidavit dated 24.8.2011 has submitted that the CECB vide its letter dated 21.6.2011 has conveyed that it had earlier directed by its letter dated 13.4.2010 to the industries located in the state to bring down the emission level to 50mg/nm³ within one and half years from the date of issuance of the said letter and since some of the

industries including the power utilities failed to comply with the norms within the stipulated period, it has by letter dated 21.6.2011 directed the petitioner to furnish Bank Guarantee amounting to 10% value of the equipments required for air pollution control or cost of improvement/modification for a period of one year. In terms of the said letter, in case the necessary works are not completed within a year, the generating station shall furnish a new Bank Guarantee to CECB and renewal of consent of Board shall be done only after submission of Bank Guarantee. For the reasons stated above, the petitioner has prayed for the expenditure on ESP modification for the generating station to be allowed under Regulation 9(2)(ii) i.e change in law and also to allow the capitalization of all charges towards BG and consequential charges for the purpose of tariff.

It is observed that modification of ESPs for the generating station is not likely to be completed during the tariff period 2009-14 and would spill over to the next tariff period. It is pertinent to point out that capitalization of additional expenditure on this count could be considered only after completion of Renovation and Modernization (R&M) of ESPs and on successful demonstration that the emission norm of 50 mg/NM³ has been achieved through performance test. We direct accordingly.

Other capital works

26. The petitioner has claimed additional capital expenditure of ₹1374.54 lakh in 2009-10, ₹147.00 lakh in 2010-11, ₹59.00 lakh in 2011-12, ₹5959.00 lakh in 2012-13 and ₹6000.00 lakh in 2013-14. The asset-wise claim of the petitioner has been discussed as under:

(i) **CEA approved R&M schemes and Stages-I and II C&I DDCMS R&M:** The petitioner has claimed ₹1458.25 lakh (₹795.74 lakh for Stage-1 and ₹662.51 lakh for Stage-II) under CEA approved schemes for the period 2009-14. The Units I, II and III of Stage-I of the generating station has completed 25 years of useful life prior to 1.4.2009 and the petitioner has claimed Special allowance during 2009-14 on this count. In view of this, the expenditure of ₹795.74 lakh for the units of Stage I is not allowed. In respect of the expenditure of ₹662.51 lakh claimed for Stage II, it is observed that CEA has approved the R&M scheme

only in August, 2008 and is a new R&M work during the period 2009-14. Unit IV shall complete useful life of 25 years prior to 2013-14 and the petitioner has claimed Special allowance during 2013-14. As such, the expenditure of ₹45.60 lakh claimed for Unit IV is not allowed. In respect of the claim for ₹616.91 lakh for Unit V, it is noticed that it would complete useful life of 25 years during 2014 and the expenditure in the nature of R&M at the fag end of the useful life of Unit V would not be advisable, without the life extension scheme. Considered under this backdrop, the expenditure could be staggered along with R&M for life extension of the Units of Stage-II. Based on the above discussions, the claim of ₹1458.25 lakh is not justified and has not been allowed.

(ii) Procurement and installation of Energy Meters: The petitioner has claimed ₹40.00 lakh during 2010-11 for procurement of Energy Meters. In terms of the Energy Conservation Act, 2001, Energy meters are required to be installed in all HT & LT drives above 100 KW, for energy management system in the generating station. In view of this, the expenditure is allowed under this head.

(iii) Retrofitting of 6.6 kV vacuum/sf6 breakers for Stage-I: The petitioner has claimed ₹800.00 lakh each for the years 2012-13 and 2013-14 for Retrofitting of 6.6 kV vacuum/sf6 breakers for Stage-I. These are Renovation & Modernization works for Stage-I of the generating station. Since units of Stage-I of the generating station is entitled for consideration of Special allowance during 2009-14, the expenditure claimed under this head has not been allowed.

(iv) Repair of Boiler Lifts of Units I and III: The petitioner has claimed ₹59.00 lakh in 2011-12 and ₹59.00 lakh in 2012-13 for repair of lifts. Being a repair and maintenance type of work, the expenditure could be considered under O&M and not under this head. Hence, the expenditure claimed is not allowed.

(v) Modification/Up-gradation of PLC system in Stage II DFA system: The petitioner has claimed an expenditure of ₹14.18 lakh under Regulation 9(2)(ii) during 2009-10 for modification/up-gradation of PLC system for Stage II. From the justification submitted by the petitioner, it is observed that the said work is Renovation & Modernization of dry fly ash system, which is not covered under the head "Change in law". In view of this, the expenditure has not been allowed.

(vi) **ERP system:** The petitioner has claimed ₹2.02 lakh during 2009-10 for ERP system. From the justification submitted by the petitioner, it is observed that the asset claimed for capitalization is for efficiency gains and is not a requirement under the head 'Change in law'. It is pertinent to mention that the Commission had allowed an expenditure of ₹374.49 lakh for ERP system during the tariff period 2004-09. In view of this, the expenditure claimed is not allowed.

(vii) **Final bill adjustment for NPPC sewerage township/Online dissolved gas analyzer system/ Energy metering system.** The expenditure is in the nature of minor assets and could only be considered under 'Compensation allowance' in terms of Regulation 19 (e). Thus, the expenditure claimed is not allowed.

27. Based on the above discussions, the additional capital expenditure allowed for the purpose of tariff for the 2009-14 is as under:

Sl. No.	Regulations	Projected Additional Capital expenditure					
		2009-10	2010-11	2011-12	2012-13	2013-14	
	Ash handling system						
1	Existing Dhanras Ash dyke raising works	9(2)(iii)	511.72	566.00	108.00	0.00	0.00
2	Ash evacuation from Dhanras Ash dyke	9(2)(iii)	0.00	200.00	1000.00	1400.00	500.00
3	Proposed new Ash Dyke 2	9(2)(iii)	0.00	0.00	0.00	0.00	1000
4	Addl. pump set & piping system from Stage II pump house to Ash dyke	9(2)(iii)	0.00	0.00	700	900	0.00
	Sub-total		511.72	766.00	1808.00	2300.00	1500.00
	Environmental protection related works						
5	Replacement of Halon system of Stage II	9(2)(ii)	0.00	0.00	0.00	850	0.00
6	Environment Action Plan - Ambient Air Quality Measurement System	9(2)(ii)	120.77	11.33	0.00	0.00	0.00
7	Environment Action Plan – Fugitive ash control system	9(2)(ii)	106.34	50.00	150.00	157.00	0.00
8	Air conditioner based Vapor absorption system	9(2)(ii)	39.16	0.00	0.00	0.00	0.00
	Sub-total		266.27	61.33	150.00	1007.00	0.00
9	Procurement and installation of Energy meters	9(2)(ii)	0.00	40.00	0.00	0.00	0.00
	Total Additional capital expenditure allowed		777.99	867.33	1958.00	3307.00	1500.00

28. Taking in to account the liabilities discharged during 2009-11, the following additional capital expenditure is allowed for the purpose of tariff:

	(₹ in lakh)					
	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Projected additional capital expenditure allowed	777.99	867.33	1958.00	3307.00	1500.00	8410.32
Liabilities discharged	157.87	57.76	0.00	0.00	0.00	215.63
Projected additional capital expenditure allowed	935.86	925.09	1958.00	3307.00	1500.00	8625.95

CAPITAL COST FOR 2009-14

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost	175653.11	176588.97	177514.06	179472.06	182779.06
Projected /actual additional capital expenditure	935.86	925.09	1958.00	3307.00	1500.00
Closing Capital cost	176588.97	177514.06	179472.06	182779.06	184279.06
Average Capital cost	176121.04	177051.51	178493.06	181125.56	183529.06

Debt-Equity Ratio

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

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

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

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

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

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

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

31. The gross loan and equity amounting to ₹89500.67 lakh and ₹86705.89 lakh, respectively, as on 31.3.2009, approved by order dated 29.9.2011 in Petition No. 128/2009, has been considered as gross loan and equity as on 1.4.2009. However, the un-discharged liabilities amounting to ₹553.44 lakh deducted from the capital cost as on 1.4.2004 has been adjusted to debt and equity in the debt-equity ratio of 70:30 for liabilities pertaining to the period 2004-09. As such, the gross normative loan and equity as on 1.4.2009 is revised to ₹89113.26 lakh and ₹86539.85 lakh, respectively. Further, the projected additional expenditure allowed has been allocated in the debt-equity ratio of 70:30, which is subject to truing-up in line with the provisions contained in Regulation 6 of the 2009 Tariff Regulations.

Return on Equity

32. Regulation 15 of the 2009 Tariff Regulations amended on 21.6.2011, provides as stated under:

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

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

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

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

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

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

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 year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.”

33. Return on equity has been worked out @ 23.481% per annum on the normative equity after accounting for additional capital expenditure.

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Notional Equity- Opening	86539.85	86820.61	87098.14	87685.54	88677.64
Addition of Equity due to additional capital expenditure	280.76	277.53	587.40	992.10	450.00
Normative Equity-Closing	86820.61	87098.14	87685.54	88677.64	89127.64
Average normative equity	86680.23	86959.38	87391.84	88181.59	88902.64
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax Rate for the year 2008-09	33.990%	33.990%	33.990%	33.990%	33.990%
Rate of Return on Equity (Pre Tax)	23.481%	23.481%	23.481%	23.481%	23.481%
Return on Equity (Pre Tax) (annualised)	20353.39	20418.93	20520.48	20705.92	20875.23

Interest on loan

34. Regulation 16 of 2009 Tariff Regulations provides as stated overleaf:

“(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.

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

- (a) The gross normative loan of ₹89113.26 lakh as on 1.4.2009 has been considered.
- (b) Cumulative repayment as on 31.3.2009 works out to ₹80411.81 lakh as per order dated 29.9.2011 in Petition No.128/2009 and the same has been considered as cumulative repayment as on 1.4.2009. However, after taking in to account proportionate adjustment (duly taking into account the liability and debt position as on 1.4.2004, along with additions during the period 2004-09) to the cumulative repayment on account of un-discharged liabilities deducted from the capital cost as on 1.4.2009, the cumulative repayment as on 1.4.2009 is revised to ₹80180.77 lakh.
- (c) Accordingly, the net normative opening loan as on 1.4.2009 works out to ₹8932.49 lakh.
- (d) Addition to normative loan on account of additional capital expenditure approved above has been considered.
- (e) Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2009-14. Further, proportionate adjustment has been made to the repayments corresponding to liabilities discharged during the respective years on account of cumulative repayment adjusted as on 1.4.2009.
- (f) In line with the provisions of the above said regulation, weighted average rate of interest on loan has been calculated by applying the actual loan portfolio existing as on 1.4.2009, for the generating station. The calculations for weighted average rate of interest on loan are enclosed as Annexure-I to this order.

36. Based on the above, interest on loan is computed as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Gross opening loan	89113.26	89768.36	90415.92	91786.52	94101.42
Cumulative repayment of loan upto previous year	80180.77	82453.69	84911.83	87940.38	93122.79
Net Loan Opening	8932.49	7314.67	5504.09	3846.14	978.63
Addition due to Additional capitalisation	655.10	647.56	1370.60	2314.90	1050.00
Repayment of loan during the year	2207.01	2434.03	3028.55	5182.41	2028.63
Add: Repayment adjustment on discharges corresponding to un-discharged liabilities deducted as on 1.4.2009	65.90	24.11	0.00	0.00	0.00
Net Repayment	2272.91	2458.14	3028.55	5182.41	2028.63
Net Loan Closing	7314.67	5504.09	3846.14	978.63	0.00
Average Loan	8123.58	6409.38	4675.12	2412.39	489.32
Weighted Average Rate of Interest on Loan	7.6034%	7.4655%	6.9986%	6.5605%	7.4765%
Interest on Loan	617.67	478.49	327.19	158.26	36.58

Depreciation

37. 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.

38. The cumulative depreciation as on 31.3.2009 as per order dated 29.9.2011 in Petition No.128/2009 is ₹149187.08 lakh. Also, proportionate adjustment has been made to the cumulative depreciation on account of un-discharged liabilities deducted as on 1.4.2009. Accordingly, the revised cumulative depreciation as on 1.4.2009 works out to ₹148718.50 lakh. In addition, the value of freehold land as considered in the said order dated 29.9.2011 is ₹824.10 lakh as on 31.3.2009, has been considered for calculation of depreciable value. Accordingly, the balance depreciable value (before providing depreciation) for 2009-10 works out to ₹9048.74 lakh. Since, the generating station is more than 12 years old as on 1.4.2009, from the effective date of commercial operation of the generating station (i.e 8.10.1987), depreciation has been calculated by spreading over of the balance depreciable value. The balance useful life as on 1.4.2009, as per order dated 29.9.2011 in Petition No.128/2009 works out to 4.10 years. Further, proportionate adjustment has been made to the cumulative depreciation corresponding to liabilities discharged during the respective years on account of cumulative depreciation adjusted as on 1.4.2009. Depreciation is calculated as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening capital cost	175653.11	176588.97	177514.06	179472.06	182779.06
Closing capital cost	176588.97	177514.06	179472.06	182779.06	184279.06
Average capital cost	176121.04	177051.51	178493.06	181125.56	183529.06
Depreciable value @ 90%	157767.24	158604.67	159902.06	162271.31	164434.46
Remaining useful life at the beginning of the year	4.10	3.10	2.10	1.10	0.10
Balance depreciable value	9048.74	7545.50	6359.95	5700.65	2681.39
Depreciation (annualized)	2207.01	2434.03	3028.55	5182.41	2681.39
Cumulative depreciation at the end	150925.51	153493.21	156570.66	161753.07	164434.46
Less: Cumulative depreciation reduction on account of discharges out of un-discharged liabilities deducted as on 1.4.2009	(-) 133.66	(-) 48.90	0.00	0.00	0.00
Cumulative depreciation (at the end of the period)	151059.17	153542.11	156570.66	161753.07	164434.46

Operation & Maintenance Expenses

39. The 2009 Tariff Regulations provide the following O&M expense norms for 200 MW and 500 MW units for coal based generating stations.

	(₹ in lakh per MW)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses for 200 MW units	18.20	19.24	20.34	21.51	22.74
O&M expenses for 500 MW units	13.00	13.74	14.53	15.36	16.24

40. Based on above norms, the year wise O&M expenses for the generating station of 2100 MW capacity (3 x 200 MW + 3 x 500 MW) claimed by the petitioner is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12 (leap year)	2012-13	2013-14
O&M Expenses	30420.00	32154.00	33999.00	35946.00	38004.00

41. The operation & maintenance expense claimed by the petitioner based on above norms are in order and has been allowed.

Target Availability

42. The Target Availability of the generating station, considered for the period 1.4.2009 to 31.3.2014 is 85%.

Interest on Working Capital

43. In accordance with sub-clause (a) of clause(1) of Regulation 18 of the 2009 Tariff Regulations, working capital in case of Coal based/Lignite fired generating stations shall cover:

(i) Cost of coal or lignite and limestone, if applicable for one and half months for pit-head generating stations and two months for non pit-head generating stations, for generation corresponding to the normative annual plant availability factor;

(ii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;

(iii) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 19;

(iv) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor, and

(v) Operation and maintenance expenses for one month.

44. Clause (3) of Regulation 18 of the 2009 Tariff Regulations as amended on 21.6.2011 provides as under:

"Rate of interest on working capital shall be on normative basis and shall be considered as follows:

(i) SBI short-term Prime Lending Rate as on 01.04.2009 or on 1st April of the year in which the generating station or 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 30.06.2010.

(ii) SBI Base Rate plus 350 basis points as on 01.07.2010 or as 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 units or station whose date of commercial operation lies between the period 01.07.2010 to 31.03.2014.

Provided that in cases where tariff has already been determined on the date of issue of this notification, the above provisions shall be given effect to at the time of truing up.

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

(a) **Fuel Component in working capital:** The petitioner has claimed following cost for fuel component in working capital based on price and GCV of coal & oil for preceding three months of January 2009 to March, 2009.

	(₹ in lakh)				
	2009-10	2010-11	2011-12 (leap year)	2012-13	2013-14
Cost of coal for 1.5 months	9864.41	9864.41	9891.44	9864.41	9864.41
Cost of Secondary Fuel oil for 2 months	1014.00	1014.00	1017.00	1014.00	1014.00

The claim of the petitioner as above for the cost of coal and secondary fuel oil is found to be in order. However, the amount allowed towards Cost of Secondary Fuel oil for 2 months, after rounding off to two decimal places are as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12 (leap year)	2012-13	2013-14
Cost of Secondary Fuel oil for 2 months	1014.22	1014.22	1017.00	1014.22	1014.22

(b) **Maintenance Spares in working capital:** The petitioner has claimed the following maintenance spares in the working capital.

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of maintenance spares	6275	6596	6995	7384	7731

The 2009 Tariff Regulations provide for maintenance spares @ 20% of the operation and maintenance expenses as specified in Regulation 19. Accordingly, the maintenance spares for the purpose of tariff has been worked out as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of maintenance spares	6084.00	6430.80	6799.80	7189.20	7600.80

(c) Receivables: Receivables have been worked out on the basis of two months of fixed and energy charges (based on primary fuel only) as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Variable Charges -2 months	13152.55	13152.55	13188.58	13152.55	13152.55
Fixed Charges - 2 months	11337.82	11846.40	12324.49	13064.94	13520.37
Total	24490.37	24998.95	25513.07	26217.49	26672.92

(d) O&M Expenses: O&M expense for 1 month claimed by the petitioner for the purpose of working capital is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O & M for 1 month	2615	2748	2915	3077	3221

46. The petitioner has claimed the above O & M expenses for working capital by inclusion of one month expenditure of compensation allowance. Regulation 19 (e) of the 2009 Tariff Regulations provides that "a separate compensation allowance unit-wise shall be admissible to meet expenses on new assets of capital nature including in the nature of minor assets". Hence, the above claim of the petitioner is not admissible. However, in line with the O&M norms specified by the Commission, O&M expenses for 1 (one) month allowed for the purpose of Interest on Working Capital (IWC) is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O & M expenses	2535.00	2679.50	2833.25	2995.50	3167.00

47. 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 is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Coal stock – 1.5 months	9864.41	9864.41	9891.44	9864.41	9864.41
Cost of secondary Fuel oil – 2 months	1014.22	1014.22	1017.00	1014.22	1014.22
O&M expenses – 1 month	2535.00	2679.50	2833.25	2995.50	3167.00
Maintenance Spares	6084.00	6430.80	6799.80	7189.20	7600.80
Receivables	24490.37	24998.95	25513.07	26217.49	26672.92
Total working capital	43988.00	44987.88	46054.56	47280.82	48319.35
Rate of interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest on working capital	5388.53	5511.02	5641.68	5791.90	5919.12

Cost of secondary fuel oil

48. Clause (1) of Regulation 20 of the 2009 Tariff Regulations provides as under:

“20. Expenses on secondary fuel oil consumption for coal-based and lignite-fired generating station. (1) Expenses on secondary fuel oil in Rupees shall be computed corresponding to normative secondary fuel oil consumption (SFC) specified in clause (iii) of regulation 26, in accordance with the following formula:

SFC – Normative Specific Fuel Oil consumption in ml/kWh

= SFC x LPSFi x NAPAF x 24 x NDY x IC x 10

Where,

LPSFi – Weighted Average Landed Price of Secondary Fuel in Rs/ml considered initially.

NAPAF – Normative Annual Plant Availability Factor in percentage

NDY – Number of days in a year, IC - Installed Capacity in MW.

49. In terms of the above, the cost of secondary fuel oil has been calculated on the normative specific fuel oil consumption, the weighted average landed price of secondary fuel price adopted and NAPF of 85%. Accordingly, the cost of secondary fuel is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of secondary fuel oil	6085.34	6085.34	6102.01	6085.34	6085.34

50. The cost of secondary fuel oil arrived at as above shall be subject to fuel price adjustment at the end of each year of tariff period in terms of the proviso to Regulation 20(2) as per the following formula:

$$SFC \times NAPA F \times 24 \times NDY \times IC \times 10 \times (LPSF_y - LPSF_i)$$

Where,

$LPSF_y$ = The weighted average landed price of secondary fuel oil for the year in Rs. /ml

Compensation Allowance

51. Regulation 19 (e) of the 2009 Tariff Regulations, provides as under:

“19(e). In case of coal-based or lignite-fired thermal generating station a separate compensation allowance unit-wise shall be admissible to meet expenses on new assets of capital nature including in the nature of minor assets, in the following manner from the year following the year of completion of 10, 15, or 20 years of useful life:

Years of operation	Compensation Allowance (₹ in lakh/MW/year)
0-10	Nil
11-15	0.15
16-20	0.35
21-25	0.65

52. The petitioner has claimed Compensation Allowance (Unit-wise) to meet the expenses on new assets of capital nature including assets in the nature of minor assets as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Compensation allowance	955.00	825.00	975.00	975.00	650.00

53. Based on the above regulations, the unit-wise compensation allowance allowed is as under:

		(₹ in lakh)						
Sl.No.		Unit -1	Unit-2	Unit-3	Unit -4	Unit-5	Unit-6	Total
1	Capacity (MW)	200	200	200	500	500	500	2100
2	Date of commercial operation	1.8.1983	1.1.1984	1.6.1984	1.3.1988	1.4.1989	1.6.1990	
	Useful life as on 1.4.2009	25.68	25.27	24.85	21.1	20.01	18.85	
3	Actual Useful life							
	(a) 10 years	1.8.1993	1.1.1994	1.6.1994	1.3.1998	1.4.1999	1.6.2000	
	(b) 15 years	1.8.1998	1.1.1999	1.6.1999	1.3.2003	1.4.2004	1.6.2005	
	(c) 20 years	1.8.2003	1.1.2004	1.6.2004	1.3.2008	1.4.2009	1.6.2010	
	(d) 25 years	1.8.2008	1.1.2009	1.6.2009	1.3.2013	1.4.2014	1.6.2015	
	2009-10	0.00	0.00	130.00	325.00	325.00	175.00	955.00

	2010-11	0.00	0.00	0.00	325.00	325.00	175.00	825.00
	2011-12	0.00	0.00	0.00	325.00	325.00	325.00	975.00
	2012-13	0.00	0.00	0.00	325.00	325.00	325.00	975.00
	2013-14	0.00	0.00	0.00	0.00	325.00	325.00	650.00
	Total	0.00	0.00	130.00	1300.00	1625.00	1325.00	4380.00

54. The petitioner's claim of ₹4380.00 lakh as Compensation Allowance for the units which had not completed 25 years of useful life for capital expenditure on assets other than additional capital expenditure under Regulation 19 (e) of the 2009 Tariff Regulations, is found to be in order and is allowed.

Special Allowance-Regulation 10(4)

55. Clause (4) of Regulation 10 of the 2009 Tariff Regulations provide as under:

" (4) A generating company on opting for the alternative in the first proviso to clause (1) of this regulation, for a coal-based/lignite fired thermal generating station, shall be allowed special allowance @ Rs. 5 lakh/MW/year in 2009-10 and thereafter escalated @ 5.72% every year during the tariff period 2009-14, unit-wise from the next financial year from the respective date of the completion of useful life with reference to the date of commercial operation of the respective unit of generating station.

Provided that in respect of a unit in commercial operation for more than 25 years as on 1.4.2009, this allowance shall be admissible from the year 2009-10.

56. The petitioner has opted for Special Allowance for the first four units (3 x 200 MW) units of Stage-I and (1 x 500 MW) unit of Stage-II, to meet the expenses including R & M beyond the useful life of generating station or unit thereof, as follows:

Unit Nos	Capacity (MW)	Date of commercial operation	Year of completion of Useful life	Special Allowance				
				2009-10	2010-11	2011-12	2012-13	2013-14
I	200	1.8.1983	2008-09	1000	1057	1118	1182	1249
II	200	1.1.1984	2008-09	1000	1057	1118	1182	1249
III	200	1.6.1984	2009-10	0	1057	1118	1182	1249
IV	500	1.3.1988	2013-14	0	0	0	0	3123
Year-wise total for the generating station				2000	3172	3353	3545	6871

57. The Special allowance as claimed by the petitioner is found to be in order and is allowed taking into account the values upto two decimal places. The petitioner is not entitled for R&M works of the first four units of the generating station during the period 2009-14.

Annual Fixed Charges

58. The annual fixed charges approved in respect of the generating station for the period 2009-14, is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	2207.01	2434.03	3028.55	5182.41	2681.39
Interest on Loan	617.67	478.49	327.19	158.26	36.58
Return on Equity	20353.39	20418.93	20520.48	20705.92	20875.23
Interest on Working Capital	5388.53	5511.02	5641.68	5791.90	5919.12
O&M Expenses	30420.00	32154.00	33999.00	35946.00	38004.00
Cost of Secondary fuel oil	6085.34	6085.34	6102.01	6085.34	6085.34
Compensation Allowance	955.00	825.00	975.00	975.00	650.00
Special Allowance	2000.00	3171.60	3353.02	3544.81	6870.55
Total	68026.94	71078.42	73946.93	78389.65	81122.21

Note: (i) All figures are on annualized basis.

(ii) 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.

59. The annual fixed charges as approved above shall be trued up at the end of the tariff period as per the provisions of Regulation 6 of the 2009 Tariff Regulations.

Energy /Variable Charge

60. Sub-clause (a) of clause (6) of Regulation 21 of the 2009 Tariff Regulations provides that the Energy Charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the formulae as under:

(a) For coal based and lignite fired stations

$$ECR = \{(GHR - SFC \times CVSF) \times LPPF / CVPF + LC \times LPL\} \times 100 / (100 - AUX)$$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Gross calorific value of primary fuel as fired, in kCal per kg, per litre or per standard cubic metre, as applicable.

CVSF = Calorific value of secondary fuel, in kCal per ml.

ECR = Energy charge rate, in Rupees per kWh sent out.

GHR = Gross station heat rate, in kCal per kWh.

LC = Normative limestone consumption in kg per kWh.

LPL = Weighted average landed price of limestone in Rupees per kg.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month.

SFC = Specific fuel oil consumption, in ml per kWh.

Energy Charge Rate (ECR)

61. The petitioner has claimed Energy Charge Rate (ECR) of 54.40 paisa/kWh based on the weighted average price, GCV of fuel procured and burnt for the preceding three months of January, 2009, February, 2009 and March, 2009. The calculation for ECR is based on the Price & GCV of coal and oil for the preceding three months i.e. January, 2009, February, 2009 and March, 2009. The Energy Charge Rate (ECR) of 54.40 paise/kWh, as calculated by the petitioner is marginally higher than the actual value of 54.39 paise/kWh. Hence, the Energy Charge Rate of **54.39 paise/kWh** has been allowed for the purpose of tariff.

62. The Energy Charge Rate has been computed on the operational norms as under:

Description	Unit	2009-14
Capacity	MW	3X200+3X500
Gross Station Heat Rate	Kcal/kWh	2446.43
Aux. Energy Consumption	%	7.21
Weighted average GCV of oil	Kcal/l	10193.87
Weighted average GCV of coal	Kcal/kg	3570.47
Weighted average price of oil	Rs/Kl	38917.3
Weighted average price of coal	Rs/MT	739.65
Rate of energy charge ex-bus	Paise/kWh	54.39

63. However, the Energy charge on month to month basis shall be billed by the petitioner in terms of Regulation 21 (6) (a) of the 2009 Tariff Regulations.

Application fee and the publication expenses

64. The petitioner has sought approval for the reimbursement of fees amounting to ₹42.00 lakh each paid by it for the years 2009-10, 2010-11 and 2011-12 respectively, towards the filing the petition and for the expenses incurred for publication of notices in connection with the petition.

The petitioner by its affidavit dated 22.3.2010 has submitted that an expenditure of Rs.4,28,276/- has been incurred by it for publication of notice in the newspapers.

65. In terms of Regulation 42 of the 2009 Tariff Regulations and based on our decision in order dated 11.1.2010 in Petition No.109/2009, the filing fees in respect of main petitions for determination of tariff and the expenses on publication of notices are to be reimbursed. Accordingly, the expenses incurred by the petitioner for petition filing fees for the years 2009-10, 2010-11 and 2011-12 and for publication of notices in connection with the present petition, as stated above shall be directly recovered from the beneficiaries, on *pro rata* basis.

66. The petitioner by its affidavit dated 28.4.2011 has prayed for the following reliefs, which is disposed of as under:

(a) **Recovery of RLDC Fees and Charges:** The claim of the petitioner towards recovery of RLDC fees & charges incurred by the petitioner pursuant to the notification of the Central Electricity Regulatory Commission (Fees and Charges of Regional Load Despatch Centre and other related matters) Regulations, 2009, has not been considered at this stage and the same would be dealt with separately in accordance with law.

(b) **Expenditure incurred for implementation of scheme for provision of supply of electricity in 5 km area around Central Power plants:** The petitioner has 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, the petitioner is required to create 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 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 has submitted that DPR for implementation of the scheme is under preparation and it was not possible to estimate the projected expenditure at this stage. The petitioner has further submitted that it would approach the Commission for consideration of the cost incurred in implementation of this scheme for tariff purpose thereafter. The petitioner is at liberty to approach the Commission through an appropriate application, which would be considered in accordance with law.

(c) **Recovery of additional cost due to increase in water charges over and above the O&M expenses:** The petitioner has submitted that there has been manifold increase in the water charges levied by the State Governments /State Government agencies and the O&M expense norms for 2009-14 notified by the Commission cannot cover any abnormal/unnatural increase in any cost component which is beyond the control of the utility. The petitioner has further submitted that the additional cost incurred in respect of the increase in water charges over and above the O&M expenses be permitted to be billed and recovered additionally from the beneficiaries. We notice that the petitioner has filed Petition No.121/2011 claiming the same relief and the matter has been heard on 13.10.2011.

Accordingly, the relief prayed for in this petition would be governed by the final decision to be taken by the Commission in Petition No. 121/2011.

67. In addition to the above, the petitioner is entitled to recover other taxes etc levied by statutory authorities in accordance with the 2009 Tariff Regulations, as applicable.

68. The petitioner is already billing the respondents on provisional basis in accordance with the Commission's order dated 6.7.2011. The provisional billing of tariff shall be adjusted in accordance with the proviso to Regulation 5 (3) of the 2009 Tariff Regulations.

69. This order disposes of Petition No.264/2009.

Sd/-
[M.DEENA DAYALAN]
MEMBER

Sd/-
[V.S.VERMA]
MEMBER

Sd/-
[DR.PRAMOD DEO]
CHAIRPERSON

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

Sl. no.	Name of loan	Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
1	United Bank of India (T1, D1)	Net opening loan	71.43	35.71	-	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	35.72	35.71	-	-	-
		Net Closing Loan	35.71	-	-	-	-
		Average Loan	53.57	17.86	-	-	-
		Rate of Interest	7.3560%	7.3560%	7.3560%	7.3560%	7.3560%
		Interest	3.94	1.31	-	-	-
2	UCO Bank (T1, D1)	Net opening loan	285.71	142.86	-	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	142.85	142.86	-	-	-
		Net Closing Loan	142.86	-	-	-	-
		Average Loan	214.29	71.43	-	-	-
		Rate of Interest	7.3600%	7.3600%	7.3600%	7.3600%	7.3600%
		Interest	15.77	5.26	-	-	-
3	UCO Bank, (D-5)	Net opening loan	771.43	385.71	-	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	385.72	385.71	-	-	-
		Net Closing Loan	385.71	-	-	-	-
		Average Loan	578.57	192.86	-	-	-
		Rate of Interest	7.4000%	7.4000%	7.4000%	7.4000%	7.4000%
		Interest	42.81	14.27	-	-	-
4	SBI-I (T1, D9)	Net opening loan	857.14	571.43	285.71	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	285.71	285.71	285.71	-	-
		Net Closing Loan	571.43	285.71	-	-	-
		Average Loan	714.29	428.57	142.86	-	-
		Rate of Interest	11.6500%	11.6500%	11.6500%	11.6500%	11.6500%
		Interest	83.21	49.93	16.64	-	-
5	State Bank of Patiala	Net opening loan	42.86	21.43	-	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	21.43	21.43	-	-	-
		Net Closing Loan	21.43	-	-	-	-
		Average Loan	32.14	10.71	-	-	-
		Rate of Interest	7.3053%	7.3053%	7.3053%	7.3053%	7.3053%
		Interest	2.35	0.78	-	-	-
6	State Bank of Saurashtra (T1, D3 &4)	Net opening loan	285.71	142.86	-	-	-
		Add: Addition during the period	-	-	-	-	-

		Less: Repayment during the period	142.85	142.86	-	-	-
		Net Closing Loan	142.86	-	-	-	-
		Average Loan	214.29	71.43	-	-	-
		Rate of Interest	7.3553%	7.3553%	7.3553%	7.3553%	7.3553%
		Interest	15.76	5.25	-	-	-
7	IBRD-Main	Net opening loan	892.67	735.41	566.25	384.28	188.54
	(\$0.15 @ Rs.44.31/\$)	Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	157.26	169.16	181.97	195.74	188.54
		Net Closing Loan	735.41	566.25	384.28	188.54	-
		Average Loan	814.04	650.83	475.27	286.41	94.27
		Rate of Interest	4.2900%	4.2900%	4.2900%	4.2900%	4.2900%
		Interest	34.92	27.92	20.39	12.29	4.04
8	Euro Bond - 5.5%	Net opening loan	6.92	6.92	-	-	-
	(\$0.16 @ Rs.44.31/\$)	Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	-	6.92	-	-	-
		Net Closing Loan	6.92	-	-	-	-
		Average Loan	6.92	3.46	-	-	-
		Rate of Interest	6.9722%	6.9722%	6.9722%	6.9722%	6.9722%
		Interest	0.48	0.24	-	-	-
9	CBI	Net opening loan	960.00	640.00	320.00	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	320.00	320.00	320.00	-	-
		Net Closing Loan	640.00	320.00	-	-	-
		Average Loan	800.00	480.00	160.00	-	-
		Rate of Interest	7.0000%	7.0000%	7.0000%	7.0000%	7.0000%
		Interest	56.00	33.60	11.20	-	-
10	LIC - III (T4 D4)	Net opening loan	510.00	450.00	390.00	330.00	270.00
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	60.00	60.00	60.00	60.00	60.00
		Net Closing Loan	450.00	390.00	330.00	270.00	210.00
		Average Loan	480.00	420.00	360.00	300.00	240.00
		Rate of Interest	8.7281%	8.7281%	8.7281%	8.7281%	8.7281%
		Interest	41.89	36.66	31.42	26.18	20.95
11	Gross Total	Net opening loan	4683.87	3132.33	1561.97	714.28	458.54
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	1551.54	1570.36	847.69	255.74	248.54
		Net Closing Loan	3132.33	1561.97	714.28	458.54	210.00
		Average Loan	3908.10	2347.15	1138.12	586.41	334.27
		Rate of Interest	7.6034%	7.4655%	6.9986%	6.5605%	7.4765%
		Interest	297.15	175.23	79.65	38.47	24.99