CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 280/2009

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

Date of Hearing: 14.6.2011 Date of order: 14.9.2012

IN THE MATTER OF

Approval of tariff of Faridabad Gas Power Station (431.586 MW) for the period from 1.4.2009 to 31.3.2014.

AND

IN THE MATTER OF

NTPC Ltd, New Delhi ……Petitioner

Vs

Haryana Power Purchase Centre, Panchkula ……Respondent

Parties present:

1. Shri V.K.Padha, NTPC
2. Shri Ajay Dua, NTPC
3. Shri D.G.Salpekar, NTPC
4. Shri S.K.Jain, NTPC

ORDER

The petitioner, NTPC has filed this petition for approval of tariff of Faridabad Gas Power Station (431.586 MW) (hereinafter referred to as "the generating station") for the period from 1.4.2009 to 31.3.2014, 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 431.586 MW comprises of two Gas Turbine (GT) units of 140.827 MW each and one Steam Turbine (ST) unit of 149.932 MW. The dates of commercial operation of the different units of the generating station are as under:

	Date of commercial operation (COD)
Unit-I (GT)	1.9.1999
Unit-II (GT)	1.1.2000
Unit-III (ST)	1.1.2001

3. The tariff of the generating station for the period 1.4.2004 to 31.3.2009 was approved by the Commission vide its order dated 9.5.2006 in Petition No.156/2004. Aggrieved by the said order, the petitioner filed Appeal No.140/2006 before the Appellate Tribunal for Electricity ('the Tribunal') and the Tribunal by its common judgment dated 13.6.2007 in Appeal Nos. 139 to 142 etc of 2006 and 10, 11, 23 of 2007) allowed the prayers of the petitioner and remanded the matters for re-determination by the Commission. Against the judgment dated 13.6.2007, the Commission appeal (Civil Appeal No.5434/2007) on certain issues and the same is pending. Meanwhile, the petitioner filed Petition No. 23/2007 before the Commission for revision of annual fixed charges for 2004-09 on account of additional capital expenditure incurred during the years 2004-05 and 2005-06 and the Commission by its order dated 12.11.2008 revised the tariff of the generating station for 2004-09. Against the Commission's order dated 12.11.2008, the petitioner filed Appeal No.58 /2009 before the Tribunal on certain issues. During the pendency of the above appeal, the petitioner filed petition (Petition No. 141/2009) for revision of tariff due to additional capital expenditure during 2006-09. In the said petition, the petitioner filed Interlocutory Application (I.A.No.48/2009) taking into account the revised calculations (in Annexure–I) for fixed charges based on the directions contained in the judgment of the Tribunal dated 13.6.2007 in Appeal Nos.139 to142 etc of 2006, 10, 11 and 23/2007 and the judgment of the Tribunal dated 16.3.2009 in Appeal Nos.133,135 etc of 2008 of the Tribunal (on disallowance of un-discharged liabilities) passed against the various tariff orders for the period 2004-09 in respect of the generating stations of the petitioner. The Commission by its order dated 11.1.2010 disposed of the said petition and determined the revised fixed charges of the generating station for the period 2006-09

based on the capital cost of ₹99260.19 lakh as on 31.3.2009. Against the order dated 11.1.2010, the petitioner filed Appeal No. 74/2010 before the Tribunal raising certain issues.

4. Thereafter, the Tribunal by its judgment dated 8.12.2010 in Appeal No. 58/2009 allowed the prayers of the petitioner in terms of its earlier judgments dated 13.6.2007 in Appeal Nos.139 to142 etc of 2006, 10, 11 and 23/2007, the judgment dated 16.3.2009 in Appeal Nos.133/2008, 135/2008, 136/2008 and 148/2008 and judgment dated 18.8.2010 in Appeal No. 66/2008. Pursuant to this, the Tribunal by its judgment dated 20.10.2011 in Appeal No. 74/2010 allowed the prayers of the petitioner and directed the Commission to pass consequential orders.

5. In compliance with the above decision, Petition No. 23/2007 and Petition No. 141/2009 filed by the petitioner for additional capitalization for the periods 2004-06 and 2006-09 respectively were heard on 17.11.2011 and the Commission by its order dated 21.8.2012 disposed of the said petitions revising the tariff of the generating station for the period 2004-09. The annual fixed charges approved by order dated 21.8.2012 in Petition No. 141/2009 is as under:

(₹ in lakh)

	2004-05	2005-06	2006-07	2007-08 (1.4.2007 to 31.8.2007)	2007-08 (1.9.2007 to 31.3.2008)	2008-09
Interest on loan	5508.43	5195.09	4676.45	4208.49	4101.11	3664.32
Interest on Working Capital	1273.65	1278.10	1281.34	1291.45	1294.15	1297.08
Depreciation	3799.79	3805.62	3815.59	3838.54	3982.06	3992.61
Advance Against Depreciation	0.00	0.00	0.00	0.00	0.00	0.00
Return on Equity	6603.00	6609.09	6619.49	6643.47	6762.66	6773.68
O & M Expenses	3366.00	3500.00	3643.00	3785.00	3785.00	3936.00
Total (*annualised)*	20550.87	20387.91	20035.88	19766.94	19924.98	19663.70

6. The petitioner, in terms of the directions contained in the order dated 29.6.2010 in Petition No. 245/2009, has amended its petition *vide* affidavit dated 15.9.2010, taking into consideration the revised figures as per order of the Commission dated 11.1.2010 in Petition No.141/2009. Accordingly, the annual fixed charges for the period 2009-14 claimed by the petitioner are given overleaf:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	4786	4778	4780	2407	2418
Interest on loan	3002	2429	1817	1311	982
Return on Equity	11348	11336	11338	11339	11349
Interest on working capital	2546	2559	2577	2541	2564
O & M Expenses	6387	6754	7138	7548	7980
Total	28070	27858	27651	25147	25294

7. Reply to the petition has been filed by the respondent, HPPC and the petitioner has filed its rejoinder to the said reply.

CAPITAL COST

8. 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;"*

9. The annual fixed charges claimed in the petition are based on the opening capital cost of ₹99276 lakh as on 1.4.2009. The annual fixed charges of the generating station approved by order dated 21.8.2012 in Petition No. 141/2009 is based on the capital cost of ₹99388.40 lakh as on 31.3.2009. As such, the opening capital cost as on 1.4.2009 has been considered as ₹99388.40 lakh for the purpose of determination of tariff during 2009-14.

10. The petitioner *vide* its affidavit dated 9.6.2010 has furnished the details of capital cost and liabilities as on 1.4.2009 as per books of accounts in Form-9A. The details of liabilities and capital cost have been reconciled with the information available with the records of the Commission as under:

(₹ in lakh)

	As per Form-9A	As per records of Commission
Capital cost as on 1.4.2009 as per books	102267.94	102267.94
Liabilities included	5185.54	5185.54

11. Out of the total liabilities included in the gross block as on 1.4.2009 are ₹5185.54 lakh, the approved capital cost of ₹99388.40 lakh is inclusive of un-discharged liabilities amounting to ₹5154.31 lakh (₹4948.23

lakh pertaining to the period prior to 1.4.2004 and ₹206.08 lakh pertaining to the period 2004-09) and ₹31.23 lakh pertains to liabilities against the disallowed assets.

12. The last proviso of 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."*

13. Accordingly, the capital cost as on 1.4.2009 works out to ₹94234.09 lakh, after removal of un-discharged liabilities of ₹5154.31 lakh. Further, out of the un-discharged liabilities deducted as on 1.4.2009, the petitioner has discharged liabilities amounting to ₹4658.25 lakh and ₹14.95 lakh during the years 2009-10 and 2010-11 respectively (i.e ₹4584.21 lakh pertaining to liabilities corresponding to assets capitalized during the period prior to 1.4.2004 and ₹88.99 lakh pertaining to liabilities corresponding to assets capitalized during the period 2004-09). The discharge of liabilities amounting to ₹4658.25 lakh and ₹14.95 lakh during the years 2009-10 and 2010-11 lakh respectively, have been allowed during the respective years, as part of the additional capital expenditure allowed for the generating station.

Actual/ Projected Additional Capital Expenditure for 2009-14

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

> *"9. Additional Capitalization. (1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:*
>
> *(i) Un-discharged liabilities;*
>
> *(ii) Works deferred for execution;*
>
> *(iii) Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 8;*
>
> *(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and*
>
> *(v) Change in law:*

Provided that the details of works included in the original scope of work along with estimates of expenditure, un-discharged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff. (2) The capital expenditure incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:

(I) Liabilities to meet award of arbitration or for compliance of the order or decree of a court;

(ii) Change in law;

(iii) Deferred works relating to ash pond or ash handling system in the original scope of work;

(iv) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) including due to geological reasons after adjusting for proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation; and

(v) In case of transmission system any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement of switchyard equipment due to increase of fault level, emergency restoration system, insulators cleaning infrastructure, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system:

Provided that in respect sub-clauses (iv) and (v) above, any expenditure on acquiring the minor items or the assets like tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2009.

"(vi) In case of gas/ liquid fuel based open/ combined cycle thermal generating stations, any expenditure which has become necessary on renovation of gas turbines after 15 year of operation from its COD and the expenditure necessary due to obsolescence or non-availability of spares for successful and efficient operation of the stations.

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

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

(viii) Any undischarged 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 petitioner has claimed the actual/projected additional capital expenditure for the period 2009-14 as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Additional Capital Expenditure	(-) 357.73	30.50	23.00	4.00	278.00

16. The cut-off date for the generating station has expired. Hence, the petitioner's claim for additional capital expenditure has to be examined in terms of Regulation 9 (2) of the 2009 Tariff Regulations. Accordingly, we examine the submissions made by 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 established;
>
> (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 26.3.2010.

(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. 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 the 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 was 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 was not of the nature as referred to in Regulation 9, the provisions of Regulation 9 could not be applied.

(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 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) The Commission has allowed additional capital expenditure for successful and efficient operation in case of hydro power stations and transmission systems under Regulation 9(2) (iv) and (v) of 2009 Tariff Regulations. The additional capital expenditures allowed for hydro generating station and transmission system are equally relevant in case of thermal power stations. It has been further submitted that while compensation allowance for expenditure on minor items in case of coal based station has been allowed under Regulation 19(e), no capital expenditure has been allowed to mitigate the technological obsolescence and for efficient and successful operation throughout the life of the generating station. Moreover, compensation allowance has not been allowed in case of gas based generating station during the entire life of the gas station including extended life of 25 years since it was not possible to estimate the same on normative basis. The petitioner has requested to allow capital expenditure incurred on items mentioned in Regulation 9.2(iv) and (v) in respect of hydro generating station and transmission system may be allowed for the gas based stations for successful and efficient operation of the station for 25 years.

(e) The life of most of the major equipments in a gas station such as Steam turbine, WHRB, Transformers, switchyard, water and auxiliary systems have an estimated life of 25 years. However, for gas stations, the fair life is limited to 15 years in view of shorter life of gas turbine components. It is possible to extend the life of gas stations to 25 years as provided in the regulations by extending the life of gas turbines. For safe and reliable operation of the gas plant on sustainable basis and also to arrest performance deterioration due to ageing, such replacement of components of gas turbines is essential after a definite interval. In view of the above, the additional capital expenditure claimed in addition to those covered by Regulations 9(1) and 9(2) may be permitted subject to prudence check envisaged under Regulations 5 and 6 of the 2009 Tariff Regulations.

(f) The additional expenditure claimed in the petition is necessary and expedient for the effective 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 generating station and for operating machines and equipment for the proposed life span of 25 years.

19. The respondent, HPPC has submitted that the Commission may allow the additional capital expenditure only for assets capitalised after 1.4.2009 as per the 2009 Tariff Regulations. It has also submitted that the prayer of the petitioner to apply the provisions of Regulation 9(2)(iv) and 9(2)(v) of the 2009 Tariff Regulations, applicable to hydrogenating stations and transmission system to gas station also is not as per the 2009 Tariff Regulations and needs to be rejected.

20. Similar submissions of the petitioner in its petitions filed 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, 7.8.2012 and 31.8.2012 in Petition Nos. 239/2009, 256/2009, 332/2009, 279/2009, 225/2009 and 278/2009 respectively, pertaining to the determination of tariff of generating stations of the petitioner for 2009-14 as under:

"16. 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.

17. 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."

18. 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.

19. 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, the additional expenditure for the generating station for the period 2009-14 has been considered under Regulation 9(2) of the 2009 Tariff Regulations, as discussed in the succeeding paragraphs.

22. The category-wise break-up of the additional capital expenditure claimed is as under:

(₹ in lakh)

Sl. No	Work/ equipment	Regulation	Actual/Projected additional expenditure				
			2009-10	2010-11	2011-12	2012-13	2013-14
1	CISF Armoury	9(2)(ii)	0.00	16.00	14.00		
2	Inert Gas Fire Extinguishing System		0.00	0.00	0.00	0.00	278.00
3	Construction of Boundary Wall for NGO Complex as per IB recommendation		0.00	10.00	3.00	0.00	0.00
4	Dumping yard & Vermicomposting shed	Regulation 5, 6 & 7	0.00	0.00	6.00	4.00	0.00
5	10 Nos. Community car parking garage		0.00	4.50	0.00	0.00	0.00
6	Communication Equipment		37.57	0.00	0.00	0.00	0.00
7	OS/ Tag Licensees		7.47	0.00	0.00	0.00	0.00
8	Land De-cap		(-) 402.77	0.00	0.00	0.00	0.00
	Total		(-) 357.73	30.50	23.00	4.00	278.00

23. The claim of the petitioner for additional capital expenditure as above has been examined based on the submissions of the parties and the documents available on record as discussed in the succeeding paragraphs:

De-capitalization of land compensation

24. The petitioner has de-capitalized an amount of ₹402.77 lakh during the year 2009-10 as adjustment towards payment of land compensation pursuant to the order dated 5.2.2009 of the Hon'ble Supreme Court in the SLP/Civil Appeals filed by the petitioner and the land owners. In view of this, the said expenditure is allowed under Regulation 9(2)(i) of the 2009 Tariff Regulations.

Regulation 9(2)(ii)

25. The petitioner has claimed a total expenditure of ₹30.00 lakh (₹16.00 lakh for 2010-11 and ₹14.00 lakh for 2011-12) towards CISF Armoury. The petitioner has submitted that at present one room in CISF control room at main plant gate is being used to store the arms of CISF and as per IB recommendations, the CISF armoury/kot is to be shifted to a safer place by construction of a permanent armoury, preferably near CISF barracks in CISF township and the amounts indicated are as per awards placed. Also, a total expenditure of ₹13.00 lakh (₹10.00 lakh during 2010-11 and ₹3.00 lakh during 2011-12) towards the Construction of Boundary Wall for NGO Complex has been claimed by the petitioner based on the recommendations of IB, subsequent to the visit on 27.10.2005. The petitioner has submitted that a temporary shed was constructed during construction of the plant and at present this building is being used for CSR activities, bank, post office of associates like UPL etc. It has also submitted that a boundary wall separating NGO complex and fire station is recommended by IB during security review to stop unauthorized entry to fire station/CISF office and administrative building. The petitioner has submitted that the expenditure claimed is based on the work order placed on 15.5.2010. Keeping in view the recommendations of IB as regards safety and security of the generating station and its personnel and since the expenditure incurred by

the petitioner is in compliance with the said directions, we are inclined to allow the expenditure claimed as above for capitalisation, under Regulation 9(2) (ii) of the 2009 Tariff Regulations.

26. The petitioner has claimed expenditure of ₹278.00 lakh during 2013-14 towards Inert gas fire extinguishing system. The petitioner has submitted that in order to reduce the production and consumption of chlorofluorocarbons (CFC) and several other Halons (as per Montreal protocol ratified by India during 1992) which are contributory factors for depletion of ozone layer, aggressive measures are being taken by all countries. Accordingly, as per National Fire Protection Association Standard on Clean Agent Fire Extinguishing System (NFPA-2001) the Halon system is to be replaced with CO_2/Inert gas system and the CEA on 18.2.2008 had approved the fixed fire protection system using inert gas system for unit control room and control equipment room areas. Also, the petitioner vide its affidavit dated 21.12.2010 has submitted that that this is a new work to be undertaken without replacement and the system is to be installed at the Central Control Room and the Local Control Rooms. The petitioner has also submitted that expenditure claimed is based on estimate and the actual cost would be known only after the work is awarded.

27. The petitioner has not demonstrated the need for this expenditure based on compliance with the provisions of any statute. It is observed that pursuant to the Montreal protocol ratified in 1992, the petitioner has sought the capitalization of the expenditure during 2013-14, based on the CEA approval on 18.2.2008. It is not clear as to why the petitioner has delayed the capitalization of the expenditure on this count after much efflux of time, and has sought the capitalization of this expenditure during 2013-14 long after the approval of CEA. No reason has been submitted by the petitioner. In case of necessity due to fire hazard, steps could have been taken by the petitioner for capitalization of the same, immediately after approval of CEA. It appears that the said expenditure is required for installation of fire fighting system above the false floor in the central control room and in the two local control rooms where there is no fixed fire fighting system. In the above background, we are not inclined to allow the capitalization of the said expenditure for 2013-14. Even otherwise, the generating station would be eligible for R&M after the period 2009-14 and the petitioner can

undertake the said work during that time. Accordingly, the claim of the petitioner during 2013-14 for expenditure under this head is not allowed.

Regulation 5, 6 & 7

28. The petitioner has claimed a total expenditure of ₹10.00 lakh (₹6.00 lakh in 2011-12 and ₹4.00 lakh in 2012-13) towards Dumping yard and Vermicomposting shed and ₹4.50 lakh during 2010-11 for Community car parking garage. As regards dumping yard & shed, the petitioner has submitted that in order to have a proper waste disposable area and to use the township bio-degradable waste by converting it into vermicompost, the expenditure has been proposed during 2010-11 to make waste disposal area with vermin composting unit. As regards community car parking garage, the petitioner has submitted that the same is required to provide amenities to employees and to protect the property of employees. Additional submission in justification of the said expenditure has also been submitted by the petitioner vide its affidavit dated 1.12.2010. The expenditure claimed by the petitioner is in respect of work which is in the nature of social responsibilities /facilities provided to its employees in the township and hence, we are of the view that the same is required to be borne by the petitioner. There is no reason for us to burden the beneficiaries on this count. In view of this, the capitalization of the said expenditure is not allowed.

29. The petitioner has claimed expenditure for ₹37.57 lakh during 2009-10 for Communication Equipments like Spectrum analyzer, Satellite modem, Switching devices & Ethernet switch, Telephone exchange etc are required under ABT regime for faster decision making and increased communication. The petitioner by affidavit dated 1.12.2010 has submitted that information related to ABT schedules are huge and needed to be managed for sustained and efficient running of the power plant. Similarly, an expenditure of ₹ 7.47 lakh during 2009-10 towards OS/ tag licenses has been incurred to integrate all the functions in the areas like project management, O&M, material management, record keeping etc. In its affidavit dated 1.12.2010, the petitioner has submitted that these licenses are used for making plant parameters available on the PI OPC compliant servers which is being utilized for better monitoring of plant operation parameters

for safe and reliable operation of the generating station. The mater has been examined. It is observed that ABT was implemented in the Northern Region with effect from 1.12.2002 and the expenditure has been claimed during 2009-10 on this count after a long gap of six years. No reason has also been indicated by the petitioner as to why the expenditure is sought to be capitalized during 2009-10. Hence, we are of the view that the expenditure is not justified and accordingly disallow the said claim of the petitioner.

30. It is noticed that the petitioner has submitted in paras 13 to 20 of the petition has explained the need for undertaking Life Extension programme through R&M of Gas Turbine components after completion of 15 years life as recommended by the OEM. However, no capital expenditure on account of R&M has been claimed by the petitioner during 2009-14. Further, in response to the reply of the respondent, HPPC that the cost benefit analysis ratio and details of the estimated/proposed/guaranteed life extension period should be submitted by the petitioner under Regulation 10 of the 2009 Tariff Regulations, the petitioner vide its rejoinder dated 30.4.2010 has submitted that no R&M has been proposed for the generating station and no additional capitalization has been proposed for 2009-10.

31. Based on the above discussions, the additional capitalization allowed for capitalization during the period 2009-14 is as given below:

(₹ in lakh)

Work/ equipments	Actual/Projected additional expenditure				
	2009-10	2010-11	2011-12	2012-13	2013-14
CISF Armoury	0.00	16.00	14.00	0.00	0.00
Inert Gas Fire Extinguishing System	0.00	0.00	0.00	0.00	0.00
Construction of Boundary Wall for NGO Complex as per IB recommendation	0.00	10.00	3.00	0.00	0.00
Dumping yard & Vermicomposting Shed	0.00	0.00	0.00	0.00	0.00
10 No. Community Car Parking garage	0.00	0.00	0.00	0.00	0.00
Land De-cap	(-) 402.77	0.00	0.00	0.00	0.00
Communication Equipment	0.00	0.00	0.00	0.00	0.00
OS/ Tag Licensees	0.00	0.00	0.00	0.00	0.00
Total additional capital expenditure allowed	(-) 402.77	26.00	17.00	0.00	0.00

32. Out of the un-discharged liabilities deducted as on 1.4.2009 the petitioner has discharged liabilities amounting to ₹4658.25 lakh in 2009-10 and ₹14.95 lakh in 2010-11 (₹4584.21 lakh pertaining to liabilities

corresponding to assets capitalized during period prior to 1.4.2004 and ₹88.99 lakh pertaining to liabilities corresponding to assets capitalized during 2004-09). Taking into account discharge of liabilities made during the period 2009-11 the additional capital expenditure allowed is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Additional capital expenditure allowed	(-) 402.77	26.00	17.00	0.00	0.00
Liabilities discharged	4658.25	14.95	0.00	0.00	0.00
Additional capital expenditure allowed	4255.48	40.95	17.00	0.00	0.00

Capital Cost for 2009-14

33. Accordingly, 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	94234.09	98489.57	98530.52	98547.52	98547.52
Additional capital expenditure	4255.48	40.95	17.00	0.00	0.00
Closing Capital cost	98489.57	98530.52	98547.52	98547.52	98547.52
Average Capital cost	96361.83	98510.05	98539.02	98547.52	98547.52

Debt-Equity Ratio

34. 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.

35. The gross loan and equity amounting to ₹50973.03 lakh and ₹48415.37 lakh, respectively, as approved as on 31.3.2009 vide order dated 21.8.2012 in Petition No.141/2009 has been considered as gross loan and equity as on 1.4.2009. However, un-discharged liabilities amounting to ₹5154.31 lakh deducted from capital cost as on 1.4.2009 has been adjusted to debt and equity in the ratio of 50:50 for liabilities pertaining to the period prior to 1.4.2004 and proportionately to Debt-Equity ratio pertaining to the tariff period 2004-09. As such the gross normative loan and equity as on 1.4.2009 is revised to ₹48346.13 lakh and ₹45887.96 lakh, respectively. Further, the admitted additional expenditure has been allocated in debt-equity ratio of 70:30 and the same is subject to truing up in terms of Regulation 6 of the 2009 Tariff Regulations.

Return on Equity

36. 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."

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

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Notional Equity- Opening	45887.96	47164.60	47176.89	47181.99	47181.99
Addition of Equity due to additional capital expenditure	1276.64	12.29	5.10	0.00	0.00
Normative Equity-Closing	47164.60	47176.89	47181.99	47181.99	47181.99
Average Normative Equity	46526.28	47170.75	47179.44	47181.99	47181.99
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)	10924.84	11076.16	11078.20	11078.80	11078.80

Interest on loan

38. 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 <u>actual loan portfolio</u> 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.

39. Interest on loan has been worked out as under:

(i) The gross normative loan amounting to ₹48346.13 lakh has been considered as on 1.4.2009.

(ii) Cumulative repayment of loan as on 31.3.2009 is ₹25614.15 lakh as per order dated 21.8.2012 in Petition No.141/2009 and the same has been considered as cumulative repayment as on 1.4.2009. However, after taking into account the 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 due to un-discharged liabilities deducted from capital cost as on 1.4.2009, the cumulative repayment as on 1.4.2009 is revised to ₹24293.74 lakh.

(iii) Accordingly, the net normative opening loan as on 1.4.2009 works out to ₹24052.39 lakh.

(iv) Addition to normative loan on account of admitted additional capital expenditure has been considered.

(v) 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 discharges of liabilities considered during the respective years on account of cumulative repayment adjusted as on 1.4.2009.

(vi) The petitioner has considered GOI loans whereas, in line with the provisions of the above regulations, the weighted average rate of interest on loan has been calculated by applying the actual loan portfolio (after taking into account the Bonds) existing as on 1.4.2009. In addition to the above, rate of interest in respect of loan from State Bank of Indore has been considered @ 7.35% p.a. as given in Form 8 (instead of 7.40% considered by petitioner) submitted in petition.

40. 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	48346.13	51324.96	51353.63	51365.53	51365.53
Cumulative repayment of loan upto previous year	24293.74	30130.55	34894.28	39654.93	42058.81
Net Loan Opening	24052.39	21194.41	16459.35	11710.60	9306.72
Addition due to Additional capitalisation	2978.84	28.67	11.90	0.00	0.00
Repayment of loan during the year	4655.46	4759.24	4760.64	2403.88	2403.88
Add: Repayment adjustment on discharges corresponding to un-discharged liabilities deducted as on 1.4.2009	1181.36	4.49	0.00	0.00	0.00
Net Repayment	5836.81	4763.73	4760.64	2403.88	2403.88
Net Loan Closing	21194.41	16459.35	11710.60	9306.72	6902.84
Average Loan	22623.40	18826.88	14084.98	10508.66	8104.78
Weighted Average Rate of Interest on Loan	9.4313%	9.5312%	9.6054%	9.6020%	9.5994%
Interest on Loan	2133.67	1794.42	1352.91	1009.04	778.01

Depreciation

41. 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."

42. The cumulative depreciation as on 31.3.2009 as per order dated 21.8.2012 in Petition No.141/2009 is ₹35741.63 lakh. Further, proportionate adjustment has been made to this 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 ₹33888.06 lakh. Further, the value of freehold land considered is ₹8983.22 lakh as on 31.03.2009. Land value amounting to ₹402.77 lakh has been de-capitalized during the year 2009-10. Therefore, value of freehold land of ₹8580.45 lakh has been considered for calculation of the depreciable value. The balance depreciable value before providing depreciation for 2009-10 works out to ₹45115.18 lakh. The effective date of commercial operation of the generating station is 28.3.2000. Depreciation has been calculated by applying the deprecation rate @ 4.8312% for 2009-12 and spreading over the balance depreciable value from 2012-13 onwards. The balance useful life as on 1.4.2009, works out to 15.99 years. Further, proportionate adjustment has been made to the cumulative depreciation corresponding to discharges of liabilities considered during the respective years on account of cumulative depreciation adjusted 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	94234.09	98489.57	98530.52	98547.52	98547.52
Closing capital cost	98489.57	98530.52	98547.52	98547.52	98547.52
Average capital cost	96361.83	98510.05	98539.02	98547.52	98547.52
Depreciable value @ 90%	79003.24	80936.64	80962.72	80970.37	80970.37
Remaining useful life at the beginning of the year	15.99	14.99	13.99	12.99	11.99
Balance depreciable value	45115.18	40717.94	35979.40	31226.41	28822.53
Depreciation (annualized)	4655.46	4759.24	4760.64	2403.88	2403.88
Cumulative depreciation at the end	38543.52	44977.94	49743.96	52147.84	54551.72
Add: Cumulative depreciation adjustment on account of discharges out of un-discharged liabilities deducted as on 1.4.2009	1675.18	5.38	0.00	0.00	0.00
Cumulative depreciation (at the end of the period)	40218.70	44983.32	49743.96	52147.84	54551.72

Operation & Maintenance expenses

43. Clause (c) of Regulation 19 of Regulation of the 2009 Tariff Regulations provide the following O&M expense norms for Open Cycle Gas Turbine / Combined Cycle generating stations as under:

(₹ in lakh/MW)

	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses for Gas Turbine/ Combined cycle generating stations	14.80	15.65	16.54	17.49	18.49

44. The O&M expenses claimed and allowed during 2009-14 are as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses claimed	6387	6754	7138	7548	7980
O&M expenses allowed	6387.47	6754.32	7138.43	7548.44	7980.03

Normative Plant Availability Factor (NAPAF)

45. The Normative Plant Availability Factor of the generating station is considered as 85% for the period 1.4.2009 to 31.3.2014.

Interest on Working Capital

46. Regulation 18 (1) (b) of the 2009 Tariff Regulations provides that the working capital for Open-cycle Gas Turbine/Combined Cycle thermal generating stations shall cover:

"(i) Fuel cost for one month corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;

(ii) Liquid fuel stock for ½ month corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel, cost of main liquid fuel.

(iii)Maintenance spares @ 30% of operation and maintenance expenses specified in regulation 19.

(iv)Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel, and

(v) Operation and maintenance expenses for one month.

47. 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."

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

Fuel cost and Energy charges

49. The petitioner has claimed the cost for fuel component in working capital in the petition based on price and GCV of APM gas, RLNG and Naphtha for preceding three months from January, 2009 to March, 2009. The mode of operation between APM gas, RLNG achieved by the generating station during the year 2008-09 was 83.61%, 1.51% and 14.88% respectively. The same has been used to arrive at the Fuel component (for one month) and Energy Charges (for two months) for the purpose of working capital. Accordingly, the fuel components (one month) and energy charges (for two months) is worked out as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Fuel Cost for one month	4207.46	4207.46	4218.98	4207.46	4207.46
Liquid fuel stock (Naphtha) for 1/2 month	962.64	962.64	965.28	962.64	962.64
Energy charges for 2 months	8414.91	8414.91	8437.97	8414.91	8414.91

50. The cost of fuel and energy charge computed as above has been considered for the purpose of tariff.

Maintenance Spares

51. The petitioner has claimed the following maintenance spares in the working capital as given overleaf:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of maintenance spares	1916	2026	2142	2265	2394

52. The 2009 Tariff Regulations provide for maintenance spares @ 30% of the operation & maintenance expenses specified under Regulation 19. Accordingly, the maintenance spares claimed by the petitioner is allowed for the purpose of tariff.

Receivables

53. Receivables have been worked out on the basis of two months of fixed and energy charges as shown below:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Variable Charges-2 months	8414.91	8414.91	8437.97	8414.91	8414.91
Fixed Charges- 2 months	4434.80	4485.83	4480.50	4093.37	4130.94
Total	12849.72	12900.75	12918.47	12508.28	12545.85

O&M Expenses

54. O&M expenses for 1 month for the purpose of working capital are allowed as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
O& M for 1 month	532.29	562.86	594.87	629.04	665.00

55. 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
Fuel Cost (APM & RLNG) - 1 month	4207.46	4207.46	4218.98	4207.46	4207.46
Liquid Fuel (Naphtha) Cost - 1/2 month	962.64	962.64	965.28	962.64	962.64
Maintenance Spares	1916.24	2026.30	2141.53	2264.53	2394.01
O&M expenses – 1 month	532.29	562.86	594.87	629.04	665.00
Receivables – 2 months	12849.72	12900.75	12918.47	12508.28	12545.85
Total working capital	20468.35	20660.00	20839.13	20571.95	20774.97
Rate of interest	12.2500%	12.2500%	12.2500%	12.2500%	12.2500%
Interest on working capital	2507.37	2530.85	2552.79	2520.06	2544.93

Annual Fixed charges for 2009-14

56. 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	4655.46	4759.24	4760.64	2403.88	2403.88
Interest on Loan	2133.67	1794.42	1352.91	1009.04	778.01
Return on Equity	10924.84	11076.16	11078.20	11078.80	11078.80
Interest on Working Capital	2507.37	2530.85	2552.79	2520.06	2544.93
O&M Expenses	6387.47	6754.32	7138.43	7548.44	7980.03
Total	26608.81	26915.00	26882.99	24560.23	24785.65

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

Energy Charge Rate (ECR)

57. Energy Charge rate (ECR) in Rs./kWh on ex-power plant on month to month basis shall be calculated up to three decimal places in accordance with the formulae under Regulation 21(6)(b) of the 2009 Tariff Regulations is as under:

For gas and liquid fuel based stations

ECR = GHR x LPPF x 100 / {CVPF x (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,

58. The petitioner has claimed an Energy Charge rate (ECR) (ex-bus) of 97.70 paisa/kWh for APM gas, 408.55 paisa/kWh for LNG and 503.45 paisa/kWh for Naphtha based on the weighted average

price, GCV of fuel procured and burnt for the preceding three months from January, 2009 to March, 2009 and as per operational norms specified under the 2009 Tariff Regulations. The weighted average Energy Charge Rate (ECR) has been claimed as 162.749 paise/kWh. The Energy Charge Rate based on the operational norms specified by the Commission works out as under, and the same is allowed:

	Unit	2009-14		
Capacity	MW	431.586		
GAS		APM	LNG	NAPTHA
Normative Heat Rate	Kcal/kWh	2000	2000	2000
Aux. Energy Consumption	%	3	3	3
Weighted average rate of fuel	₹/1000SCM & ₹ /KL	4431.236	18553.832	19175.501
Weighted average GCV of fuel	Kcal/SCM & Kcal/L	9351.777	9363.665	7937.667
Rate of energy charge ex-bus	paise/kWh	97.699	408.551	498.095
Mode of Operation on Fuel during 2008-09 (% of schedule generation)	%	83.61	1.51	14.88
Weighted average cost of fuel in 2008-09 – (Ex Bus)	paise/kWh	161.972		

59. The petitioner shall be entitled to recover the energy charges in accordance with Regulation 21(6)(b) of the 2009 Tariff Regulations.

Application fee and the publication expenses

60. The petitioner has sought approval for the reimbursement of fee of ₹863172/- each for the years 2009-10, 2010-11 and 2011-12 paid by it for filing the petition and for the expenses incurred for publication of notices in connection with the petition. The petitioner by its affidavit dated 29.4.2010 has submitted an amount of ₹42771/- has been incurred by it for publication of notice in the newspapers.

61. 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 on application filing fees for the years 2009-10, 2010-11 and 2011-12 and expenses towards

publication of notices in connection with the present petition shall be directly recovered from the beneficiaries, on *pro rata* basis on production of documentary proof. The filing fees in respect of the balance years of the tariff period would be recoverable as and when paid by the petitioner in terms of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012.

62. The claim of the petitioner towards recovery of RLDC fees & charges is disposed of in terms of the Commission's order dated 6.2.2012 in Petition No. 140/MP/2011.

63. 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.

64. 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.

65. This order disposes of Petition No. 280/2009.

Sd/-	*Sd/-*	*Sd/-*	*Sd/-*
[M. Deena Dayalan]	[V.S Verma]	[S. Jayaraman]	[Dr. Pramod Deo]
Member	Member	Member	Chairperson

ANNEXURE-I

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

Sl. no.	Name of loan		2009-10	2010-11	2011-12	2012-13	2013-14
1	SBI(T1,D4)	Net opening loan	357.14	-	-	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	357.14	-	-	-	-
		Net Closing Loan	-	-	-	-	-
		Average Loan	178.57	-	-	-	-
		Rate of Interest	11.6500%	11.6500%	11.6500%	11.6500%	11.6500%
		Interest	20.80	-	-	-	-
2	State Bank of Indore(T1,D1 &D2)	Net opening loan	714.29	357.14	-	-	
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	357.14	357.14	-	-	-
		Net Closing Loan	357.14	-	-	-	-
		Average Loan	535.71	178.57	-	-	-
		Rate of Interest	7.3500%	7.3500%	7.3500%	7.3500%	7.3500%
		Interest	39.38	13.13	-	-	-
3	HDFC(T1,D1) (due to merger of bank of Punjab)	Net opening loan	714.29	357.14	-	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	357.14	357.14	-	-	-
		Net Closing Loan	357.14	-	-	-	-
		Average Loan	535.71	178.57	-	-	-
		Rate of Interest	7.3100%	7.3100%	7.3100%	7.3100%	7.3100%
		Interest	39.16	13.05	-	-	-
4	SBP (T1,D1&D2)	Net opening loan	1,428.57	714.29	-	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	714.29	714.29	-	-	-
		Net Closing Loan	714.29	-	-	-	-
		Average Loan	1,071.43	357.14	-	-	-
		Rate of Interest	7.3053%	7.3053%	7.3053%	7.3053%	7.3053%
		Interest	78.27	26.09	-	-	-
5	Indian Bank(T1,D1)	Net opening loan	285.71	142.86	-	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	142.86	142.86	-	-	-
		Net Closing Loan	142.86	-	-	-	-
		Average Loan	214.29	71.43	-	-	-
		Rate of Interest	7.3100%	7.3100%	7.3100%	7.3100%	7.3100%
		Interest	15.66	5.22	-	-	-
6	SBI-II (T1,D3)	Net opening loan	85.71	57.14	28.57	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	28.57	28.57	28.57	-	-
		Net Closing Loan	57.14	28.57	-	-	-

		Average Loan	71.43	42.86	14.29	-	-
		Rate of Interest	11.6500%	11.6500%	11.6500%	11.6500%	11.6500%
		Interest	8.32	4.99	1.66	-	-
7	SBI-IV (T1,D4)	Net opening loan	1,700.00	1,457.14	1,214.29	971.43	728.57
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	242.86	242.86	242.86	242.86	242.86
		Net Closing Loan	1,457.14	1,214.29	971.43	728.57	485.71
		Average Loan	1,578.57	1,335.71	1,092.86	850.00	607.14
		Rate of Interest	10.0000%	10.0000%	10.0000%	10.0000%	10.0000%
		Interest	157.86	133.57	109.29	85.00	60.71
8	Bond series XIII A	Net opening loan	25,140.60	22,347.20	19,553.80	16,760.40	13,967.00
		Add: Addition during the period					
		Less: Repayment during the period	2,793.40	2,793.40	2,793.40	2,793.40	2,793.40
		Net Closing Loan	22,347.20	19,553.80	16,760.40	13,967.00	11,173.60
		Average Loan	23,743.90	20,950.50	18,157.10	15,363.70	12,570.30
		Rate of Interest	9.5800%	9.5800%	9.5800%	9.5800%	9.5800%
		Interest	2,274.67	2,007.06	1,739.45	1,471.84	1,204.23
9	Gross Total	Net opening loan	30,426.31	25,432.91	20,796.66	17,731.83	14,695.57
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	4,993.40	4,636.26	3,064.83	3,036.26	3,036.26
		Net Closing Loan	25,432.91	20,796.66	17,731.83	14,695.57	11,659.31
		Average Loan	27,929.61	23,114.79	19,264.24	16,213.70	13,177.44
		Rate of Interest	9.4313%	9.5312%	9.6054%	9.6020%	9.5994%
		Interest	2,634.12	2,203.11	1,850.40	1,556.84	1,264.95