CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 279/2009

Coram: **Dr. Pramod Deo, Chairperson**
Shri S.Jayaraman, Member
Shri V.S.Verma, Member
Shri M.Deena Dayalan, Member

DATE OF HEARING: 14.2.2012 **DATE OF ORDER: 25.5.2012**

IN THE MATTER OF

Approval of tariff of Feroze Gandhi Unchahar Thermal Power Station, Stage-III (210 MW) for the period from 1.4.2009 to 31.03.2014.

AND IN THE MATTER OF

NTPC Ltd, New Delhi **…Petitioner**

Vs

1. Uttar Pradesh Power Corporation Limited, Lucknow
2. Jaipur Vidyut Vitaran Nigam Ltd, Jaipur
3. Ajmer Vidyut Vitaran Nigam Ltd, Ajmer
4. Jodhpur Vidyut Vitaran Nigam Ltd, Jodhpur
5. North Delhi Power Ltd, Delhi
6. BSES-Rajdhani Power Ltd, New Delhi
7. BSES-Yamuna Power Ltd, Delhi
8. Haryana Power Purchase Centre, Panchkula
9. Punjab State Electricity Board, Patiala
10. Himachal Pradesh State Electricity Board, Shimla
11. Power Development Department, Government of J&K, Jammu
12. Power Department, Union Territory of Chandigarh, Chandigarh
13. Uttarakhand Power Corporation Ltd, Dehradun …..**Respondents**

Present:

1. Shri V.K.Padha, NTPC
2. Shri Rohit Chhabra, NTPC
3. Shri Ajay Dua, NTPC
4. Shri R.B.Sharma, Advocate, BRPL
5. Shri Sunil Barnwal, BRPL
6. Shri Manish Garg, UPPCL

ORDER

The petitioner, NTPC has filed this petition for approval of tariff of Feroze Gandhi Unchahar Thermal Power Station Stage-III (210 MW) (hereinafter referred to as “the generating station”) 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 comprises of one unit with the date of commercial operation as 1.1.2007. The tariff of the generating station for the period 1.1.2007 to 31.3.2009 was determined by the Commission vide order dated 10.7.2008 in Petition No. 84/2007 based on the capital cost of ₹74397.06 lakh as on 1.1.2007. Subsequently, by order dated 21.4.2011 in Petition No.181/2009, the Commission revised the annual fixed charges after considering the additional capital expenditure during the period from 1.1.2007 to 31.3.2009 and after taking into consideration the judgment of the Appellate Tribunal for Electricity dated 13.6.2007 in Appeal Nos.139 to 142 of 2006 etc and the judgments dated 10.12.2008 and 16.3.2009 in Appeal Nos. 151 & 152/2007 and Appeal Nos.133, 135 etc., of 2008 respectively, subject to the final outcome of the Civil Appeals (C.A. Nos. 5434/2007 to 5452/2007, 5622/2007 etc., and C.A Nos.4112-4113/2009 and C.A Nos. 6286 to 6288/2009, and other connected appeals) filed by the Commission and pending before the Hon'ble Supreme Court. The annual fixed charges allowed by order dated 21.4.2011 is as under:

(₹ in lakh)

	2006-07 ***(1.1.2007 to 31.3.2007)***	**2007-08**	**2008-09**
Interest on loan	4486.34	4417.02	4414.04
Interest on Working Capital	947.66	957.99	999.33
Depreciation	2909.23	3036.61	3164.75
Advance Against Depreciation	726.85	513.79	2104.76
Return on Equity	3433.34	3583.67	3734.89
O & M Expenses	2362.50	2457.00	2555.70
Total (annualized)	**14865.93**	**14966.09**	**16973.48**

3. In terms of the directions contained in the order of the Commission dated 29.6.2010 in Petition No.245/2009, the petitioner has filed amended petition vide affidavit dated 9.8.2011 taking into consideration the revised figures as per order of the Commission dated 21.4.2011 in Petition No.181/2009. Accordingly, the annual fixed charges claimed by the petitioner for the period 2009-14 are as under.

(₹in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Depreciation	4493	4534	4570	4666	4730
Interest on Loan	4180	3839	3511	3235	2920
Return on Equity	6134	6189	6239	6369	6458
Interest on Working Capital	1588	1595	1606	1616	1627
O&M Expenses	3822	4040	4271	4517	4775
Cost of secondary fuel oil	323	323	324	323	323
Compensation Allowance	0	0	0	0	0
Special Allowance	0	0	0	0	0
Total	**20541**	**20521**	**20523**	**20727**	**20834**

4. Reply to the petition has been filed by the respondents, UPPCL (respondent No.1), JVVNL (respondent No.2), AVVNL (respondent No.3), JdVVNL (respondent No.4), NDPL (respondent No.5), BRPL (respondent No.6) and HPPC (respondent No.8). The petitioner has filed its rejoinder to the said replies.

Capital Cost as on 1.4.2009

5. The annual fixed charges claimed by the petitioner are based on the opening capital cost of ₹86400 lakh (₹90142 lakh as on 31.3.2009 excluding liabilities of ₹3742 lakh). However, the approved capital cost in terms of order dated 21.4.2011 is ₹90141.71 lakh as on 31.3.2009.

6. The petitioner vide its affidavit dated 16.2.2011 has furnished the value 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 records of the Commission are as under:

(₹ *in lakh)*

	As per Form-9A	As per records of Commission	Difference
Capital cost as on 1.4.2009, as per books	91335.26	91335.26	0.00
Liabilities included in the above	3742.22	3742.22	0.00

8. The entire liability of ₹37422.22 lakh (pertaining to assets/works allowed during the priod 1.4.2007 to 31.3.2009) included in the gross block, form part of the approved capital cost of ₹90141.71 lakh, as on 1.4.2009.

9. The last proviso to Clause (2) 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."*

10. Accordingly, in terms of the last proviso to Regulation 7 of the 2009 Tariff Regulations, the capital cost as on 1.4.2009, after removal of un-discharged liabilities of ₹3742.22 lakh works out to ₹86399.48 lakh, on cash basis. The liabilities discharged, if any, by the petitioner would be included in the capital base as additional capital expenditure, in the year of discharge.

11. The petitioner vide its affidavit dated 19.9.2011 has furnished the details of the liabilities discharged during 2009-11. Out of the un-discharged liabilities deducted as on 1.4.2009, the petitioner has discharged ₹310.56 lakh during 2009-10 (pertaining to assets capitalized from 1.1.2007 to 31.3.2009) and ₹115.56 lakh during 2010-11 (pertaining to assets capitalized from 1.1.2007 to 31.3.2009). Further, the petitioner has reversed liabilities of ₹232.68 lakh (corresponding to assets capitalized from 1.1.2007 to 31.3.2009) during 2009-10 and ₹36.53 lakh during 2010-11 (corresponding to assets capitalized from 1.1.2007 to

31.3.2009). The discharge of said liabilities during 2009-10 and 2010-11 has been allowed during the respective years, as part of the additional capital expenditure allowed for the generating station.

Actual/Projected Additional Capital Expenditure

12. 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-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.".

13. The actual/ projected additional capital expenditure claimed by the petitioner for 2009-14 is as under:

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Additional Capital Expenditure claimed	1031.01	121.53	1186.00	2506.00	0.00

14. The cut-off date for the generating station has expired. Hence, the petitioner's claim for additional capital expenditure is required to be examined in terms of the provisions of Regulation 9 (2) of the 2009 Tariff Regulations. Accordingly, 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

15. 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;

(ii) The other additional capital expenditure in respect of the existing generating stations which have to be done on on-going basis.

16. 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. 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 the 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.

(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 in the petition is necessary and expedient for the effective operation of the generating station and is not envisaged to be 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 and equipment for the life span of 25 years.

17. Similar submissions of the petitioner have been considered and disposed of by the Commission by order dated 20.4.2012 in Petition No.239/2009 (NTPC-v-UPPCL & ors) and order dated 7.5.2012 in Petition No. 256/2009 (NTPC-v- APTRANSCO & ors) 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.

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.

18. In line with the above decision, the additional capital expenditure claimed by the petitioner for 2009-14 in this petition, has been considered under the provisions of Regulation 9(2) of the 2009 Tariff Regulations, as stated in the subsequent paragraphs.

19. The break-up of the actual/projected additional capital expenditure claimed by the petitioner is as under:

(₹in lakh)

S.No	**Description**	**Regulation**	**2009-10 (actual)**	**2010-11 (actual)**	**2011-12**	**2012-13**	**2013-14**
Ash Handling related works							
1.	Ash management complex gate	9(2)(iii)	20.52	75.33	0.00	0.00	0.00
2.	Construction of Ash corridor road along side ash pipeline from SS canal	9(2)(iii)	0.00	0.00	62.00	0.00	0.00
3.	MPP –wet ash disposal system	9(2)(iii)	61.25	18.31	0.00	0.00	0.00
Change-in-law							
4.	5 Km. scheme of electrification		-	-	-	2256.00	-
Work in original project cost							
5.	RCC paving & CLSM Stage-III	9(2)(i)	117.78	16.42	0.00	0.00	0.00
6.	Construction of D-Type Quarters.	9(2)(i)	0.00	0.00	100.00	250.00	0.00
7.	Sewerage system in plant	9(2)(iii)	0.00	0.00	124.00	0.00	0.00

8.	HP / IP turbine module	9(2)(i)	802.62	0.00	900.00	0.00	0.00
9.	Balance work of various package in original scope		28.84	11.47	0.00	0.00	0.00
	Total		**1031.01**	**121.53**	**1186.00**	**2506.00**	**0.00**

20. After taking into consideration the submissions of the parties, we consider the additional capitalization claims of the petitioner as under:

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

21. The petitioner has claimed the actual/projected expenditure of ₹81.77 lakh during 2009-10, ₹93.64 lakh during 2010-11 and ₹62.00 lakh during 2012-13 for works relating to Ash pond, Ash handling system, Piping system for Ash handling system and for dry ash extraction and transportation system under Regulation 9(2)(iii) of the 2009 Tariff Regulations. The works relating to Ash handling and Ash disposal system are a normal practice and the said works form part of the original scope of work and are normally taken up in stages as and when required. Since these are normal activities done in phases depending upon the requirement with the passage of time, during the useful life of the plant and is covered under original scope of work, the expenditure claimed is allowed to be capitalized under this head.

Expenditure incurred for implementation of scheme for provision of supply of electricity in 5 km area around Central Power plants

22. The petitioner has submitted that in terms of the notification dated 27.4.2010 of the Government of India regarding 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 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.

Other capital works

(a) **RCC Paving & CLSM Road**

23. The petitioner has claimed actual expenditure of ₹117.78 lakh during 2009-10 and ₹16.42 lakh during 2010-11 for RCC Paving and CLSM Road. By affidavit dated 14.11.2011, the petitioner has submitted that the work was in original scope and was awarded on 13.9.2006, before the cut-off date, to M/s Jay Dee construction (the agency) and the delay in execution of work was due to poor mobilization of work by the agency and the said agency had left, without completing the job and is absconding since March, 2010. Pursuant to this, the reconciliation of material issued and work done by the agency is done at site for short closure of contract.

24. The respondent, NDPL has submitted that the claims for capitalisation in respect of deferred works, are not covered under the provisions of Regulation 9(2) of the 2009 Tariff Regulations, except for ash management systems, and the said deferred works should not be allowed to be capitalised.

25. It is observed that the work was within the scope of work and was awarded to M/s Jay Dee Construction by the petitioner on 13.9.2006 before the date of commercial operation of the generating station. On account of poor mobilization by the agency, there was delay in execution of the work and ultimately the agency left the job without completing the work. The petitioner has taken necessary steps to reconcile the material issued and the work done by

the agency and has foreclosed the contract. Since the work was awarded prior to the date of commercial operation and the liability for payment for such work had been incurred by the petitioner prior to the cut-off date, which was discharged during the years 2009-10 and 2010-11, the case is covered under Regulation 9 (2)(viii) of the 2009 Tariff Regulations. Accordingly, the expenditure is allowed.

(b) Construction of D-Type quarters

26. The petitioner has claimed total expenditure of Rs. 100.00 lakh during 2011-12 , Rs. 250.00 lakh during 2012-13 for construction of 'D' Type quarters and has submitted by affidavit dated 14.11.2011 as under:

> " *Work was awarded on 4.5.2007 to M/S UPL and further sublet to M/S Shakti Construction by to M/S UPL well before the cut-off date. Delay in execution of work due to poor mobilization by M/S Shakti Construction. Despite various meetings and follow-up, the work was not progressing well, M/S UPL issued Contract Termination Notice to M/S Shakti Construction. In response to termination notice, the agency filed a case in district court for relief on 14.09.2010. And on the order of the court M/S UPL appointed an Arbitrator on 26.9.2010. Mean while, out of court settlement reached between M/S UPL and the agency on 4.4.2011. Finally the agency restarted the work in the month of May-2011.It is expected that work will be completed in the end of financial year 2011-12 and final payment will be released in the year 2012-13."*

27. From the justification submitted by the petitioner, it is observed that though the work was placed before the cut-off date, the delay in completion of the said work was only on account of poor mobilisation of the agent of the contractor, thereby leading to court cases, arbitration between the contractor and agent and finally leading to out of court settlement. Hence, the delay in execution of the work is not attributable to the petitioner. Since mediation and settlement form part of arbitration process, the capitalisation of the said expenditure during 2011-12 and 2012-13 is allowed, under Regulation 9(2)(i) of the 2009 Tariff Regulations.

Sewerage System in Plant

28**.** The petitioner has claimed expenditure of ₹124.00 lakh during 2011-12 for Sewerage system in plant and the petitioner in its affidavit dated 9.8.2011 has submitted as under:-

"The work was in original scope of work and there has been delay in execution of the contract. Due to taken over project & in absence of any actual drawings for underground systems, sewerage pipe line had to be Re-routed due to fouling of existing underground facilities such as power & IT cables / CW duct etc. Further, lLocation of pump house. no-01 shifted thrice due to fouling of cable trench & others structures near switchyard. Also due to High Water Table the work of pump house no. 01 (near S/Y and ctrl. room) had to be delayed till Dry Climate with deployment of 3-4 Bore wells for lowering water table to undertake 6.8 M deep excavation and at road crossings work had to be taken up in stages, to facilitate traffic movement".

29. The generating station was taken over by the petitioner during 1992. It is observed that there were difficulties in the restoration of the sewerage pipe lines in the absence of drawings of underground facilities. However, there appears to be no justification in the execution of sewerage system after more than three years after the cut-off date, i.e 31.3.2008. In view of this, the justification submitted by the petitioner is not acceptable and accordingly, the expenditure of ₹124.00 lakh during 2011-12 is not allowed to be capitalised.

(c) HP/IP Turbine module

30**.** The petitioner has claimed the expenditure of ₹802.62 lakh during 2009-10, ₹900.00 lakh during 2011-12, for the supply of Rotors of HP and IP turbines and the petitioner vide its affidavit dated 17.2.2010 has submitted as under:-

"*It is submitted that that there is large requirement of Power Plant Equipment in the country. This far an excess of total manufacturing capacity of the equipment manufacturers thus they are unable to meet the order deadlines for even those projects which are scheduled for commissioning. The supply commitments for these projects get a priority over the supply of equipment to be used as spares. The Order for Rotors of HP Turbine and IP Turbine has been placed on 15.06.2007 (PO No. 58501656) that is before the Cut-Off-Date as indicated in our submission dated 29.12.2009. The supplies of these items have been expedited from M/s BHEL"*

31. Also, by affidavit dated 9.8.2011, the petitioner has submitted as under:

"These spares have been ordered before 31.3.2008. The capitalization of spares is within the original scope of work. The spares capitalized upto 31.3.2009 is Rs 9.61 crore which amount is less than 1.19% of Rs 805.52 crore. However, due to very high lead time, there is a delay. Though HPT module has ben received in 2009-10, the IPT module is yet to be received. Delay is due to failure of forging of IP rotor twice at BHEL works."

32. The respondent, UPPCL has submitted that the expenditure proposed to be incurred on initial spares, over and above the ceiling norms, should not be allowed.

33. The date of commercial operation of the generating station is 1.1.2007 and the petitioner is aware that all works within the original scope of the project need to be completed within the cut-off date, in terms of the provisions of the 2004 Tariff Regulations. It is observed that the petitioner had placed orders for spare rotors only after the commercial operation of the generating station, and it had full knowledge of the frequent delays on the part of M/s BHEL to supply the power plant equipments, after the placement of the order. This, according to us, indicates that the petitioner has not taken appropriate monitoring and project management measures, to complete all the works of the generating station within the cut-off date. The claim for capitalisation on the ground that orders were placed prior the cut-off date, but could not be completed due to delays, is not acceptable, considering the fact that no steps were taken by the petitioner for completion of the said work within the cut-off date. In view of this, the claim for capitalisation of the said expenditure is not allowed.

Balance work of various packages within the original scope of work

34. The petitioner has claimed expenditure of ₹28.84 lakh during 2009-10 and ₹11.47 lakh during 2010-11 as balance payment /final settlement made in respect of various works (as detailed in Annexure-I of the affidavit dated 14.11.2011) which are within the original scope of work and has since been completed, except for some minor pending jobs. On prudent check, expenditure of ₹7.55 lakh during 2009-10 and ₹2.86 lakh during 2010-11 only is found justified as balance/ final payment on completion of work, and the same is allowed to be capitalized, in terms of Regulation 9(2)(viii) of the 2009 Tariff Regulations.

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

(₹ in lakh)

S.No	Description	Regulation	2009-10 (actual)	2010-11 (actual)	2011-12	2012-13	2013-14
Ash Handling related works							
1	Ash management complex gate	9(2)(iii)	20.52	75.33	0.00	0.00	0.00
2	Construction of Ash corridor road along side ash pipeline from SS canal	9(2)(iii)	0.00	0.00	62.00	0.00	0.00
3	MPP –wet ash disposal system	9(2)(iii)	61.25	18.31	0.00	0.00	0.00
Change-in-law							
4	5 Km. scheme of electrification		-	-	-	0.00	-
Work in original project cost							
5.	RCC paving & CLSM Stage-III	9(2)(i)	117.78	16.42	0.00	0.00	0.00
6.	Construction of D-Type Quarters.	9(2)(i)	0.00	0.00	100.00	250.00	0.00
7.	Sewerage system in plant	9(2)(iii)	0.00	0.00	0.00	0.00	0.00
8.	HP / IP turbine module	9(2)(i)	0.00	0.00	0.00	0.00	0.00
9.	Balance work of various package in original scope		7.55	2.86	0.00	0.00	0.00
	Total		**207.10**	**112.92**	**162.00**	**250.00**	**0.00**

36. Taking into account the liabilities discharged during 2009-11, the additional capital expenditure allowed for the purpose of tariff is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Additional capital expenditure allowed	207.10	112.92	162.00	250.00	0.00
Liabilities discharged	310.56	115.56	0.00	0.00	0.00
Additional capital expenditure allowed	**517.66**	**228.48**	**162.00**	**250.00**	**0.00**

Capital cost for 2009-14

37. Accordingly, the capital cost allowed for the purpose of tariff is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost	86399.48	86917.14	87145.63	87307.63	87557.63
Additional capital expenditure	517.66	228.48	162.00	250.00	0.00
Closing Capital cost	**86917.14**	**87145.63**	**87307.63**	**87557.63**	**87557.63**
Average Capital cost	**86658.31**	**87031.39**	**87226.63**	**87432.63**	**87557.63**

Debt-Equity Ratio

38. 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.*

39. The gross loan and equity amounting to ₹63099.20 lakh and ₹27042.51 lakh respectively, as on 31.3.2009 approved vide order dated 21.4.2011 in Petition No.181/2009, has been considered as gross loan and equity as on 1.4.2009. However, un-discharged liabilities of ₹3742.22 lakh deducted from the capital cost as on 1.4.2004 has been adjusted to debt and equity in the ratio of 70:30 for liabilities pertaining to the period from the date of commercial operation. As such, the gross normative loan and equity as on 1.4.2009 is revised to ₹60479.64 lakh and ₹25919.85 lakh, respectively. Further, the admitted additional expenditure as above has been allocated in the debt-equity ratio of 70:30. The same is subject to truing-up in terms of the provisions contained in Regulation 6 of the 2009 Tariff Regulations.

Return on Equity

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

“(1) “(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.”

41. 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	25919.85	26075.14	26143.69	26192.29	26267.29
Addition of Equity due to Additional capital expenditure	155.30	68.55	48.60	75.00	0.00
Normative Equity-Closing	26075.14	26143.69	26192.29	26267.29	26267.29
Average Normative Equity	25997.49	26109.42	26167.99	26229.79	26267.29
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	**6104.47**	**6130.75**	**6144.51**	**6159.02**	**6167.82**

Interest on loan

42. Regulation 16 of 2009 Tariff Regulations provides that:

> *"(1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.*
>
> *(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.*
>
> *(3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year.*
>
> *(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.*
>
> *(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project.*
>
> *Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered.*
>
> *Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.*
>
> *(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.*
>
> *(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.*
>
> *(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.*
>
> *(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute.*
>
> *Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.*

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

(a) The gross normative loan of ₹60479.64 lakh as on 1.4.2009 after adjustment on removal of liabilities has been considered.

(b) Cumulative repayment as on 31.3.2009 works out to ₹9728.94 lakh as per order dated 21.4.2011 in Petition No.181/2009. The same has been considered as cumulative repayment as on 1.4.2009. However, after taking in to account the proportionate adjustment 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 as ₹9325.04 lakh.

(c) Accordingly, the net normative opening loan as on 1.4.2009 works out to ₹51154.60 lakh.

(d) Additions to normative loan on account of admitted additional capital expenditure 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 the discharge of liabilities considered during the respective years on account of cumulative repayment adjusted as on 1.4.2009. Also, proportionate adjustment has been made to the repayments on account of de-capitalizations considered in the projected additional capital expenditure approved above.

(a) In line with the first proviso to Regulation 16(5) of the 2009 Tariff Regulations, the weighted average rate of interest has been calculated applying the actual loan portfolio existing as on 1.4.2009, for the generating station, as shown at Annexure-I to this order. For this purpose, the rate of interest corresponding to individual loans as provided by petitioner has been considered except to the extent stated below for reasons as under:

LIC-III (T4, D5) – The petitioner has calculated weighted average rate of interest (WAROI) considering rate of 8.78% on this loan. However, as per Form-8, this rate of interest is 8.7576%, which was also considered during the period 2004-09. In absence of any reason/ documentary evidence, the rate of interest has been considered as 8.7576%.

44. Interest on loan has been computed as under**:**

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Gross opening loan	60479.64	60842.00	61001.94	61115.34	61290.34
Cumulative repayment of loan upto previous year	9325.04	13858.80	18369.60	22874.06	27389.17
Net Loan Opening	51154.60	46983.20	42632.34	38241.27	33901.17
Addition due to Additional capitalisation	362.36	159.94	113.40	175.00	0.00
Repayment of loan during the year	4475.12	4494.39	4504.47	4515.11	4521.56

Less: Repayment adjustment on account of De-capitalisation	0.00	0.00	0.00	0.00	0.00
Add: Repayment adjustment on discharges corresponding to un-discharged liabilities deducted as on 1.4.2009	58.63	16.42	0.00	0.00	0.00
Net Repayment	4533.75	4510.80	4504.47	4515.11	4521.56
Net Loan Closing	46983.20	42632.34	38241.27	33901.17	29379.61
Average Loan	49068.90	44807.77	40436.81	36071.22	31640.39
Weighted Average Rate of Interest on Loan	8.1165%	8.1019%	8.1107%	8.0953%	8.0795%
Interest on Loan	**3982.66**	**3630.29**	**3279.72**	**2920.08**	**2556.40**

Depreciation

45. 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.

46. The cumulative depreciation as on 31.3.2009 as per order dated 21.4.2011 in Petition No.181/2009 works out to ₹9728.94 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 ₹9325.04 lakh. Further, the value of freehold land amounting to ₹356.49 lakh as on 31.3.2009 as considered in order dated 21.4.2011, is 'nil' has been considered for the purpose of calculating the depreciable value. Accordingly, the balance depreciable value (before providing depreciation) for the year 2009-10 works out to ₹68667.44 lakh. Since, as on 1.4.2009, the useful life of the generating station is less than 12 years from the date of commercial operation of 1.1.2007, depreciation has been calculated @ 5.1641% (weighted average rate of depreciation) for the period 2009-14. Depreciation is calculated as under:

(₹ in lakh)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Opening capital cost	86399.48	86917.14	87145.63	87307.63	87557.63
Closing capital cost	86917.14	87145.63	87307.63	87557.63	87557.63
Average capital cost	86658.31	87031.39	87226.63	87432.63	87557.63
Depreciable value @ 90%	77992.48	78328.25	78503.96	78689.36	78801.86
Balance depreciable value	68667.44	64702.21	60367.12	56048.06	51645.45
Depreciation (annualized)	**4475.12**	**4494.39**	**4504.47**	**4515.11**	**4521.56**
Cumulative depreciation at the end	13800.16	18353.18	22874.06	27389.17	31910.73
Add: Cumulative depreciation reduction on account of discharge of un-discharged liabilities deducted as on 1.4.2009	58.63	16.42	0.00	0.00	0.00
Less: Cumulative depreciation reduction due to de-capitalization	0.00	0.00	0.00	0.00	0.00
Cumulative depreciation (at the end of the period)	13858.80	18369.60	22874.06	27389.17	31910.73

O&M Expenses

47. The 2009 Tariff Regulations lay down the following O&M expense norms for 210 MW coal based thermal generating units:

(₹ in lakh/ MW)

	2009-10	**2010-11**	**2011-12**	**2012-13**	**2013-14**
O&M expenses	18.20	19.24	20.34	21.51	22.74

48. O & M expenses claimed by the petitioner is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
O & M expenses	3822	4040	4271	4517	4775

49. Based on the above norms, the O&M expenses for the generating station, is allowed as claimed by the petitioner.

Normative Annual Plant Availability Factor (NAPAF)

50. The NAPAF of the generating station is considered as 85% for the period 1.4.2009 to 31.3.2014

Interest on Working Capital

51. 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*.

52. 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.

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

(a) **Fuel Component in working capital:** The petitioner has claimed the following cost for fuel component in working capital in its petition based on price and GCV of coal & secondary fuel oil (HFO/LDO) procured and burnt for the preceding three months of January, 2009 February, 2009 and March, 2009 and oil for the month of January, 2009 as latest procurement price.

(₹ in lakh)

	2009-10	2010-11	2011-12 (leap year)	2012-13	2013-14
Cost of coal for 2 months	4201	4201	4213	4201	4201
Cost of secondary fuel oil 2 months	54	54	54	54	54

The fuel component in working capital based on the norms specified by the Commission which is worked out as under is considered for the purpose of tariff.

(₹ in lakh)

	2009-10	2010-11	2011-12 (leap year)	2012-13	2013-14
Cost of coal for 2 months	4201.34	4201.34	4212.85	4201.34	4201.34
Cost of secondary fuel oil 2 months	53.87	53.87	54.02	53.87	53.87

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

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance spares	764	808	854	903	955

The 2009 Tariff Regulations provides for maintenance spares @ 20% of the operation & maintenance expenses as specified in regulation 19. Accordingly, the maintenance spare @ 20% is worked out and allowed as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance spares	764.40	808.08	854.28	903.42	955.08

(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	4201.34	4201.34	4212.85	4201.34	4201.34
Fixed Charges - 2 months	3381.72	3367.97	3353.67	3339.38	3325.58
Total	**7583.06**	**7569.30**	**7566.52**	**7540.72**	**7526.91**

(d) **O&M Expenses:** The petitioner has claimed O&M expenses for one month, as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	1013-14
O & M expenses (1month)	319	337	356	376	398

However, in terms of O&M norms specified under the 2009 Tariff Regulations, O&M expenses for one month, works out as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
O & M expenses	318.50	336.70	355.95	376.43	397.95

54. 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 as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of Coal – 2 months	4201.34	4201.34	4212.85	4201.34	4201.34
Cost of Secondary Fuel Oil-2 months	53.87	53.87	54.02	53.87	53.87
O & M expenses – 1 month	318.50	336.70	355.95	376.43	397.95
Maintenance Spares	764.40	808.08	854.28	903.42	955.08
Receivables – 2 months	7583.06	7569.30	7566.52	7540.72	7526.91
Total Working Capital	**12921.16**	**12969.29**	**13043.62**	**13075.77**	**13135.15**
Rate of Interest	12.2500%	12.2500%	12.2500%	12.2500%	12.2500%
Total Interest on Working capital	**1582.84**	**1588.74**	**1597.84**	**1601.78**	**1609.06**

Cost of secondary fuel oil

55. 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.*

56. The petitioner has claimed secondary fuel oil cost as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of secondary fuel oil	323	323	324	323	323

57. 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	323.22	323.22	324.11	323.22	323.22

58. 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 x NAPAF x 24 x NDY x IC x 10 x (LPSFy – LPSFi)

Where,

LPSFy = The weighted average landed price of secondary fuel oil for the year in ₹/ml

ANNUAL FIXED CHARGES

59. 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	4475.12	4494.39	4504.47	4515.11	4521.56
Interest on Loan	3982.66	3630.29	3279.72	2920.08	2556.40
Return on Equity	6104.47	6130.75	6144.51	6159.02	6167.82
Interest on Working Capital	1582.84	1588.74	1597.84	1601.78	1609.06
O&M Expenses	3822.00	4040.40	4271.40	4517.10	4775.40
Cost of Secondary fuel oil	323.22	323.22	324.11	323.22	323.22
Total	**20290.32**	**20207.79**	**20122.05**	**20036.31**	**19953.46**

Note: (*1) All figures are on annualized basis.*

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

60. The annual fixed charges as calculated above shall be trued up as per the provisions of Regulation 6 of the 2009 Tariff Regulations.

Energy /Variable Charge

61. Sub-clause (a) of clause (6) of Regulation 21of 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 x CVSF) x LPPF / CVPF + LC x LPL} x 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.

62. The petitioner has claimed an Energy Charge Rate (ECR) of 177.16 paise/kWh. The Energy charge rate has been computed based on the weighted average price, GCV of coal procured and burnt for the preceding three months of January,2009, February,2009 and March, 2009 and fuel oil for the month of January, 2009 only as latest procurement price. Accordingly, ECR has been worked out for the purpose of tariff based on the following:

Description	Unit	2009-14
Capacity	MW	1X210=210
Gross Station Heat Rate	Kcal/kWh	2500
Auxiliary Energy Consumption	%	9.00
Weighted average GCV of coal	Kcal/kg	3850.00
Weighted average price of coal	Rs/MT	2492.621
Rate of energy charge-(Ex-bus)	paise/kWh	**177.156**

63. The Energy Charge Rate claimed by the petitioner, based on the operational norms specified by the Commission, is in order and allowed.

64. The Energy charge on month to month basis shall be billed by the petitioner as per Regulation 21 of the 2009 Tariff Regulations.

65. The learned counsel for the respondent, BRPL has submitted that the power supply made by petitioner to its housing colonies is to be accounted for and accordingly adjusted, as the entire power belongs to the beneficiaries to the extent of their respective shares. He also submitted that the undue benefit derived by the petitioner on this count is not in consonance with the provisions of Section 61(d) of the Act. In response, the petitioner has submitted that in terms of the definition of 'generating station' under Section 2(30) of the Act, colony consumption constitutes part of Auxiliary consumption and no undue benefit is derived out of this by the petitioner. It is also noticed from the Electricity (Removal of Difficulty) Fourth order, dated 8.6.2005 issued by the Central Government that the supply of electricity by a generating company to the housing colonies of, or township housing the operating staff of its generating station will be deemed to be an integral part of it activity of generating electricity

and the generating company shall not be required to obtain license under the Act for supply of electricity. Thus, the supply of electricity to the housing colony or township housing the operating staff of the generating station having deemed to form an integral part of the generating company by the said order, the submissions of the respondent BRPL stands rejected.

Application fee and the publication expenses

66. The petitioner has sought approval for the reimbursement of fees of ₹420000/- each paid by it for the years 2009-10, 2010-11 and 2011-12 towards filing the tariff petition and for the expenses incurred for publication of notices in connection with the petition. The petitioner by its affidavit dated 28.4.2010 has submitted that an expenditure of ₹528895/- has been incurred by it for publication of notice in the newspapers.

67. In terms of Regulation 42 of the 2009 Tariff Regulations and based our decision contained in order dated 11.1.2010 in Petition No.109/2009, the expenses towards filing of tariff application and the expenses incurred 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 shall be directly recovered from the beneficiaries, on *pro rata* basis. The filing fees in respect of the balance years would be recoverable as and when paid by the petitioner in terms of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012.

68. In addition to the above, the prayers of the petitioner for the following reliefs have been disposed of as under:

Water Charges: In this petition, the petitioner has claimed additional water charges due to increase in water charges by the State Government and has proposed recovery of the same directly from the beneficiaries. It is noticed that the petitioner has filed separate application (Petition No.121/2011) under Regulation 44 of the 2009 Tariff Regulations read with Regulation 111 and other related regulations of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 for recovery of additional cost incurred due to abnormal increase in water charges for its various generating stations. This petition is pending for consideration of the Commission and the decision taken in the said petition would be applicable to this generating station.

69. In terms of the submission of the petitioner, the claim towards RLDC Fees and Charges is disposed of in terms of our order dated 6.2.2012 in Petition No.140/MP/2011 (NTPC-v-POSOCO Ltd & ors).

70. 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.

65. 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.

66. This disposes of Petition No.279/2009.

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	Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
1	Euro Bonds-II(5.875%)	Net opening loan	6,868.48	6,868.48	6,868.48	6,868.48	6,868.48
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	-	-	-	-	-
		Net Closing Loan	6,868.48	6,868.48	6,868.48	6,868.48	6,868.48
		Average Loan	6,868.48	6,868.48	6,868.48	6,868.48	6,868.48
		Rate of Interest	7.4476%	7.4476%	7.4476%	7.4476%	7.4476%
		Interest	511.53	511.53	511.53	511.53	511.53
2	Bank of Maharashtra-II(T1,D1)	Net opening loan	900.00	600.00	300.00	-	-
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	300.00	300.00	300.00	-	-
		Net Closing Loan	600.00	300.00	-	-	-
		Average Loan	750.00	450.00	150.00	-	-
		Rate of Interest	7.3100%	7.3100%	7.3100%	7.3100%	7.3100%
		Interest	54.83	32.90	10.97	-	-
3	Corporation Bank-II(T1,D1)	Net opening loan	4,642.86	3,928.57	3,214.29	2,500.00	1,785.71
		Add: Addition during. the period	-	-	-	-	
		Less: Repayment during the period	714.29	714.29	714.29	714.29	714.29
		Net Closing Loan	3,928.57	3,214.29	2,500.00	1,785.71	1,071.43
		Average Loan	4,285.71	3,571.43	2,857.14	2,142.86	1,428.57
		Rate of Interest	7.2000%	7.2000%	7.2000%	7.2000%	7.2000%
		Interest	308.57	257.14	205.71	154.29	102.86
4	HDFC-IV(T1,D1)	Net opening loan	1,785.71	1,428.57	1,071.43	714.29	357.14
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	357.14	357.14	357.14	357.14	357.14
		Net Closing Loan	1,428.57	1,071.43	714.29	357.14	-
		Average Loan	1,607.14	1,250.00	892.86	535.71	178.57
		Rate of Interest	7.3500%	7.3500%	7.3500%	7.3500%	7.3500%
		Interest	118.13	91.88	65.63	39.38	13.13
5	LIC-III(T1,D1)	Net opening loan	1,450.00	1,350.00	1,250.00	1,150.00	1,050.00
		Add: Addition during the period					
		Less: Repayment during the period	100.00	100.00	100.00	100.00	100.00
		Net Closing Loan	1,350.00	1,250.00	1,150.00	1,050.00	950.00
		Average Loan	1,400.00	1,300.00	1,200.00	1,100.00	1,000.00

		Rate of Interest	6.5710%	6.5710%	6.5710%	6.5710%	6.5710%
		Interest	91.99	85.42	78.85	72.28	65.71
6	LIC-III(T3,D1)	Net opening loan	8,500.00	7,500.00	6,500.00	5,500.00	4,500.00
		Add: Addition during. the period	-	-	-	-	-
		Less: Repayment during the period	1,000.00	1,000.00	1,000.00	1,000.00	1,000.00
		Net Closing Loan	7,500.00	6,500.00	5,500.00	4,500.00	3,500.00
		Average Loan	8,000.00	7,000.00	6,000.00	5,000.00	4,000.00
		Rate of Interest	7.7320%	7.7320%	7.7320%	7.7320%	7.7320%
		Interest	618.56	541.24	463.92	386.60	309.28
7	LIC-III(T4,D1)	Net opening loan	4,080.00	3,600.00	3,120.00	2,640.00	2,160.00
		Add: Addition during. the period					
		Less: Repayment during the period	480.00	480.00	480.00	480.00	480.00
		Net Closing Loan	3,600.00	3,120.00	2,640.00	2,160.00	1,680.00
		Average Loan	3,840.00	3,360.00	2,880.00	2,400.00	1,920.00
		Rate of Interest	8.5230%	8.5230%	8.5230%	8.5230%	8.5230%
		Interest	327.28	286.37	245.46	204.55	163.64
8	SBI-III(T1,D4)	Net opening loan	6,428.57	5,000.00	3,571.43	2,142.86	714.29
		Add: Addition during. the period	-	-	-	-	-
		Less: Repayment during the period	1,428.57	1,428.57	1,428.57	1,428.57	714.29
		Net Closing Loan	5,000.00	3,571.43	2,142.86	714.29	-
		Average Loan	5,714.29	4,285.71	2,857.14	1,428.57	357.14
		Rate of Interest	8.8700%	8.7500%	8.7500%	8.7500%	8.7500%
		Interest	506.86	375.00	250.00	125.00	31.25
9	SBI-III(T1,D8)	Net opening loan	1,285.71	1,000.00	714.29	428.57	142.86
		Add: Addition during. the period	-	-	-	-	-
		Less: Repayment during the period	285.71	285.71	285.71	285.71	142.86
		Net Closing Loan	1,000.00	714.29	428.57	142.86	-
		Average Loan	1,142.86	857.14	571.43	285.71	71.43
		Rate of Interest	9.8700%	9.7500%	9.7500%	9.7500%	9.7500%
		Interest	112.80	83.57	55.71	27.86	6.96
10	SBT-II(T1,D1)	Net opening loan	1,428.57	1,142.86	857.14	571.43	285.71
		Add: Addition during the period					
		Less: Repayment during the period	285.71	285.71	285.71	285.71	285.71
		Net Closing Loan	1,142.86	857.14	571.43	285.71	-
		Average Loan	1,285.71	1,000.00	714.29	428.57	142.86
		Rate of Interest	9.2500%	9.2500%	9.2500%	9.2500%	9.2500%
		Interest	118.93	92.50	66.07	39.64	13.21
11	Allahabad Bank(T1,D2)	Net opening loan	2,321.43	1,964.29	1,607.14	1,250.00	892.86
		Add: Addition during. the period					

		Less: Repayment during. the period	357.14	357.14	357.14	357.14	357.14
		Net Closing Loan	1,964.29	1,607.14	1,250.00	892.86	535.71
		Average Loan	2,142.86	1,785.71	1,428.57	1,071.43	714.29
		Rate of Interest	7.0000%	7.0000%	7.0000%	7.0000%	7.0000%
		Interest	150.00	125.00	100.00	75.00	50.00
12	LIC-III(T4,D5)	Net opening loan	5,100.00	4,500.00	3,900.00	3,300.00	2,700.00
		Add: Addition during the period					
		Less: Repayment during the period	600.00	600.00	600.00	600.00	600.00
		Net Closing Loan	4,500.00	3,900.00	3,300.00	2,700.00	2,100.00
		Average Loan	4,800.00	4,200.00	3,600.00	3,000.00	2,400.00
		Rate of Interest	8.7576%	8.7576%	8.7576%	8.7576%	8.7576%
		Interest	420.36	367.82	315.27	262.73	210.18
13	SBI-IV(T1,D2)	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	9.6200%	9.5000%	9.5000%	9.5000%	9.5000%
		Interest	151.86	126.89	103.82	80.75	57.68
14	Bond XXI series	Net opening loan	4,500.00	4,500.00	4,050.00	3,600.00	3,150.00
		Add: Addition during the period					
		Less: Repayment during the period		450.00	450.00	450.00	450.00
		Net Closing Loan	4,500.00	4,050.00	3,600.00	3,150.00	2,700.00
		Average Loan	4,500.00	4,275.00	3,825.00	3,375.00	2,925.00
		Rate of Interest	7.7425%	7.7425%	7.7425%	7.7425%	7.7425%
		Interest	348.41	330.99	296.15	261.31	226.47
15	BOND XXII series	Net opening loan	1,000.00	1,000.00	1,000.00	900.00	800.00
		Add: Addition during the period					
		Less: Repayment during the period			100.00	100.00	100.00
		Net Closing Loan	1,000.00	1,000.00	900.00	800.00	700.00
		Average Loan	1,000.00	1,000.00	950.00	850.00	750.00
		Rate of Interest	8.2071%	8.2071%	8.2071%	8.2071%	8.2071%
		Interest	82.07	82.07	77.97	69.76	61.55
16	Bond XXIII series	Net opening loan	200.00	200.00	200.00	180.00	160.00
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	-	-	20.00	20.00	20.00
		Net Closing Loan	200.00	200.00	180.00	160.00	140.00
		Average Loan	200.00	200.00	190.00	170.00	150.00

		Rate of Interest	8.4096%	8.4096%	8.4096%	8.4096%	8.4096%
		Interest	16.82	16.82	15.98	14.30	12.61
17	Bond XXVII series	Net opening loan	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
		Add: Addition during the period					
		Less: Repayment during the period					
		Net Closing Loan	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
		Average Loan	1,500.00	1,500.00	1,500.00	1,500.00	1,500.00
		Rate of Interest	11.2800%	11.2800%	11.2800%	11.2800%	11.2800%
		Interest	169.20	169.20	169.20	169.20	169.20
18	PFC V (T3, D4)	Net opening loan	-	-	2,000.00	2,000.00	2,000.00
		Add: Addition during the period	-	2,000.00	-	-	-
		Less: Repayment during the period	-	-	-	-	25.00
		Net Closing Loan	-	2,000.00	2,000.00	2,000.00	1,875.00
		Average Loan	-	1,000.00	2,000.00	2,000.00	1,937.50
		Rate of Interest	8.8900%	8.8900%	8.8900%	8.8900%	8.8900%
		Interest	-	88.90	177.80	177.80	172.24
19	**Gross Total**	Net opening loan	53,691.34	47,539.91	42,938.48	36,217.05	29,795.62
		Add: Addition during. the period	-	2,000.00	-	-	-
		Less: Repayment during. the period	6,151.43	6,601.43	6,721.43	6,421.43	5,689.29
		Net Closing Loan	47,539.91	42,938.48	36,217.05	29,795.62	24,106.34
		Average Loan	50,615.62	45,239.19	39,577.77	33,006.34	26,950.98
		Rate of Interest	8.1165%	8.1019%	8.1107%	8.0953%	8.0795%
		Interest	**4,108.20**	**3,665.25**	**3,210.05**	**2,671.97**	**2,177.52**