

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 255/2009

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

Date of Hearing: 16.2.2012

Date of Order: 6.7.2012

IN THE MATTER OF

Approval of tariff of National Capital Thermal Power Station Dadri, Stage-I (840 MW) for the period from 1.4.2009 to 31.3.2014.

AND

IN THE MATTER OF

NTPC Ltd, New Delhi
Vs

...Petitioner

1. Uttar Pradesh Power Corporation Ltd., Lucknow
2. BSES Rajdhani Power Ltd., New Delhi
3. BSES Yamuna Power Ltd., Delhi
4. North Delhi Power Ltd., Delhi
5. New Delhi Municipal Council, New Delhi

...Respondents

Parties Present:

1. Shri Ajay Dua, NTPC
2. Shri Sameer Agarwal, NTPC
3. Shri Shankar Saran, NTPC
4. Shri Naresh Anand, NTPC
5. Shri V.Ramesh, NTPC
6. Shri S.K.Pathak, NTPC
7. Shri G.K.Dua, NTPC
8. Shri R.B.Sharma, Advocate, BRPL
9. Shri Sanjay Srivastav, BRPL
10. Shri Sunil Barnwal, BRPL
11. Shri Manish Garg, UPPCL
12. Shri Haridas Maity, BYPL

ORDER

This petition has been filed by the petitioner, NTPC for approval of tariff for National Capital Thermal Power Station, Dadri, Stage-I (840 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 “2009 Tariff Regulations”).

2. The generating station with a capacity of 840 MW comprises of four units of 210 MW each. The dates of commercial operation of the said units of the generating station are as under:

Units	Date of Commercial operation (COD)
I	1.1.1993
II	1.2.1994
III	1.4.1995
IV / Generating station	1.12.1995

3. The tariff for the generating station for the period 1.4.2004 to 31.3.2009 was approved by the Commission by its order dated 5.5.2006 in Petition No.162/2004. Subsequently, the Commission by its order dated 24.11.2008 in Petition No.34/2007 revised the tariff for the generating station based on additional capital expenditure for the years 2004-05 and 2005-06 after deducting un-discharged liabilities amounting to ₹2.31 lakh for 2004-05 and ₹111.09 lakh for 2005-06, based on the capital cost of ₹171622.00 lakh as on 1.4.2004. Thereafter, by order dated 21.1.2011 in Petition No.120/2009, the annual fixed charges of the generating station for the period 2006-09 was revised, considering the impact of additional capital expenditure for the years 2006-07, 2007-08 and 2008-09 and the judgment of the Tribunal dated 21.8.2009 in Appeal No.54/2009, subject to the final outcome of the Civil Appeals [C.A.Nos.5434/2007 to 5452/2007, 5622/2007, 4112-4113/2009, 6286 to 6288/2009 etc] pending before the Hon'ble Supreme Court. Again, by order dated 5.9.2011 in Petition No.120/2009, the annual fixed charges for 2004-09 determined by order dated 21.1.2011, was further revised after correction of certain inadvertent errors, with the capital cost of ₹172340.35 lakh as on 31.3.2009. The annual fixed charges approved by order dated 5.9.2011 in respect of the generating station for the period 2004-09 are as under:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on loan	3962.03	3000.79	2059.53	1269.15	674.21
Interest on Working Capital	3591.27	3600.87	3611.83	3635.00	3647.66
Depreciation	5917.54	5922.39	5927.16	5936.52	5944.19
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Return on equity	12011.58	12017.48	12023.29	12034.70	12044.03
O&M Expenses	8736.00	9088.80	9450.00	9828.00	10222.80
Total	34218.43	33630.33	33071.80	32703.37	32532.89

4. While so, the petitioner, in terms of the directions contained in Commission's order dated 29.6.2010 in Petition No. 245/2009, filed amended petition *vide* affidavit dated 10.3.2011, taking into consideration the revised figures as per order of Commission dated 21.1.2011 in Petition No.120/2009. 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	2390	2380	2386	2697	3315
Interest on Loan	203	7	0	137	280
Return on Equity	20185	20176	20181	20403	20796
Interest on Working Capital	7202	7249	7319	7372	7458
O&M Expenses	15288	16162	17086	18068	19102
Cost of secondary fuel oil	2457	2457	2464	2457	2457
Compensation Allowance	210	252	294	294	357
Special Allowance	0	0	0	0	0
Total	47935	48683	49730	51430	53765

5. Reply to the petition has been filed by the respondents 1 to 4, namely, UPPCL, BRPL, BYPL and NDPL and the petitioner has filed its rejoinder to the said replies.

Capital Cost as on 1.4.2009

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

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

7. As stated, the approved capital cost as on 31.3.2009 is ₹172340.35 lakh. However, the annual fixed charges claimed by the petitioner for 2009-14 is based on the admitted capital cost of ₹172340 lakh as on 1.4.2009. The petitioner vide its affidavit dated 22.7.2010 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 information available with the records of the Commission are as under:

<i>(₹ in lakh)</i>			
	As per Form-9A	As per records available with the Commission	Difference
Capital cost as on 1.4.2009, as per books	173103.15	173103.15	0.00
Liabilities included in the above	126.72	126.72	0.00

8. Further, out of total liabilities amounting to ₹126.72 lakh, liabilities amounting to ₹110.12 lakh (₹2.59 lakh pertains to assets/works capitalized prior to 1.4.2004 and ₹107.53 pertaining to assets/works capitalized in 2004-09 period) are included in the gross block of ₹172340.35 lakh.

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

“Provided also that in case of the existing projects, the capital cost admitted by the Commission prior to 1.4.2009 duly trued up by excluding un-discharged liability, if any, as on 1.4.2009 and the additional capital expenditure projected to be incurred for the respective year of the tariff period 2009-14, as may be admitted by the Commission, shall form the basis for determination of tariff”

10. Accordingly, in terms of the above, the capital cost as on 1.4.2009, after removal of un-discharged liabilities amounting to ₹110.12 lakh works out to ₹172230.23 lakh, on cash basis. The liabilities discharged, if any, by the petitioner, would be included in the capital base as part of additional capital expenditure, in the year of discharge.

11. The petitioner vide its affidavit dated 26.9.2011 has furnished the details of liabilities discharged and reversed during 2009-11. Out of the un-discharged liabilities deducted as on

1.4.2009, the petitioner has discharged ₹103.50 lakh during 2009-10 (pertaining to liabilities corresponding to assets capitalized during the period 2004-09) and 'nil' during 2010-11. Accordingly, the liability discharged during 2009-10 has been allowed during the respective year, as part of the additional capital expenditure allowed for the generating station.

Actual/Projected Additional Capital Expenditure during 2010-14

12. Regulation 9 of the 2009 Tariff Regulations, 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:

(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.”

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.

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

	(₹ in lakh)				
	2009-10 (actuals)	2010-11	2011-12	2012-13	2013-14
Additional capital expenditure	(-) 378.00	136.00	0.00	6304.00	4840.00

14. The cut-off date for the generating station had expired. Hence, the petitioner’s claim for additional capital expenditure needs to be considered in terms 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 29.3.2010:

(a) In addition to the capital expenditure covered by Regulation 9 (1) and 9 (2) and 19 (e) of the 2009 Tariff Regulations, there will be capital expenditure of different nature which would be necessary for the efficient operation of the generating station within its life time. No generating station can operate on a sustainable basis to achieve the level of performance parameters specified by the Commission without incurring capital expenditure from time to time. The expenditure on such capital assets to be incurred by generating stations are therefore necessary for proper and effective working and therefore beneficial to the respondents. Over a long period of 25 years of the life of the stations, many a times the Original Equipment Manufacturer (OEM) stop providing spares & service and this necessitates the replacement of obsolete equipment's with new items, to ensure support from OEMs. Additional capital expenditure for this purpose had constantly been allowed by the Commission under the 2001 and 2004 tariff regulations. However, additional capital expenditure for successful and efficient operation of the generating station has not been included in Regulation 9 of 2009 Tariff Regulations. Accordingly, the petitioner has claimed additional capital expenditure on 'works considered necessary for the efficient operation of the generating stations' in addition to those specified under Regulation 9 (1) and (2) and 19 (e) of the 2009 Tariff Regulations.

(b) Regulations 7(1), 8 and 9 of 2009 Tariff Regulations pertain to the capital cost of new generating station commissioned after 1.4.2009 and do not cover the existing projects commissioned prior to 1.4.2009. Moreover, the term 'additional capital expenditure' defined in Regulation 3 (3) refers to the additional capital expenditure incurred or projected to be incurred, after the date of commercial operation of the project and admitted by the Commission after prudence check, subject to Regulation 9. The scope and meaning of additional capitalization is

not confined to Regulation 9 but subject to Regulation 9, which would mean that if additional capitalization is of the nature as referred to in Regulation 9, it would be read subject to the provisions of Regulation 9 and if the additional capitalization is not of the nature as referred to in Regulation 9, the provisions of Regulation 9 could not be applied. Regulation 9 has no application whatsoever to the existing projects and it does not limit the additional capitalisation in the case of existing projects.

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

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

(e) The additional capital expenditure claimed is necessary and expedient for efficient operation of the generating station and is not incurred on account of any failure or default or any other act of omission or commission on the part of the petitioner. This expenditure is such which has to be

necessarily incurred in the ordinary course of running of a generating station and for operating machines for the life span of 25 years.

17. Similar submissions of the petitioner in its petitions for determination of tariff for 2009-14 have been considered and disposed of by the Commission by its orders dated 20.4.2012, 7.5.2012, 23.5.2012, 25.5.2012, 14.6.2012 in Petition Nos. 239/2009, 256/2009, 332/2009, 279/2009 and 222/2009 respectively, pertaining to the determination of tariff of some of the generating stations of the petitioner for 2009-14 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 decision of the Commission in the above said orders, we consider the additional capital expenditure claimed by the petitioner for 2009-14 in this petition, under the provisions of Regulation 9(2) of the 2009 Tariff Regulations.

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

(₹ in lakh)

Sl. No.	Scheme	Head of work/ Equipment	Actual/Projected Capital Expenditure				
			2009-10 (Actual)	2010-11	2011-12	2012-13	2013-14
AA	Actual Capital Expenditure						
1		Land freehold-plant/office	(-) 717.00	0.00	0.00	0.00	0.00
2	Hindustan Prefab Ltd.	Construction of Transit camp and & A,B,C Type Quarters.	27.00	0.00	0.00	0.00	0.00
3	Gunnebo India Ltd.	Fire protection system for Administrative building	12.00	0.00	0.00	0.00	0.00

4	Wig Brothers	NDCT Package	300.00	0.00	0.00	0.00	0.00
		Sub-Total	(-) 378.00	0.00	0.00	0.00	0.00
A	Ash Handling System						
5		Ash Storage modification	0.00	136.00	0.00	0.00	0.00
B	Change in Law						
	Included at Scheme No. C-05 of the list of works approved by CEA vide letter dated 6.10.2008.						
C	R & M Works (as approved by CEA vide letter dated 5.10.2008)						
6	A02	Renovation of re-heater spray station block & control valve.	0.00	0.00	0.00	129.00	129.00
7	B02	Installation of improved recirculation valve in BFPs	0.00	0.00	0.00	59.00	59.00
8	C02	Renovation of outdated 400 KV ABCBs	0.00	0.00	0.00	218.00	218.00
9	C03	Renovation of outdated 220 KV Krugg make isolators	0.00	0.00	0.00	32.00	16.00
10	C05	Renovation of ESP fields and rapper controllers	0.00	0.00	0.00	139.00	139.00
11	C06 & C15	Renovation of lightening arrestors of 220/400 KV, 500 MVA ICT	0.00	0.00	0.00	118.00	118.00
12	C07	Renovation of 400 KV power line protection RAFZE relay	0.00	0.00	0.00	27.00	0.00
13	C08	Renovation of generator excitation system	0.00	0.00	0.00	84.00	84.00
14	C13 & C14	Renovation of generator protection relay.	0.00	0.00	0.00	120.00	120.00
		Renovation of ICT protection relay					
15	C17	Renovation of Hydrogen gas dryers	0.00	0.00	0.00	8.00	8.00
16	D01	Raw coal bunker level monitoring system	0.00	0.00	0.00	18.00	18.00
17	D02	Boiler tube leakage detection system	0.00	0.00	0.00	73.00	73.00
18	D03	DDMIS, FSSS, SADC, SBC, ATRS, TG control & AHP PLC furnace flame camera for 4 units on line coal flow measurement in PV coal pipes. Instruments for tube thickness measurement & software for life assessment of tubes/pressure parts & diagnostic tools.	0.00	0.00	0.00	2283.00	1840.00
19	D05	Renovation of SWAS analyzers (Hydrazine Oxygen & Sodium)	0.00	0.00	0.00	41.00	41.00
20	D11	Renovation of CW chlorination system	0.00	0.00	0.00	66.00	0.00
21	D17	Hydrogen purity analyzer	0.00	0.00	0.00	21.00	21.00
22	E02	Installation of Chlorine absorption system for PTP/CW plants.	0.00	0.00	0.00	37.00	0.00
23	E05 & E08	Automatic medium velocity water sprays fire protection for fuel oil pump house (FOPH) and ESP gallery.	0.00	0.00	0.00	273.00	0.00
		Fire detection and alarm system					
24	E10 & F01	Rerouting of underground pipelines to above grounds in main plant area, CHP & AHP	0.00	0.00	0.00	201.00	201.00
25	F04	Installation of video monitoring system for better management of CHP	0.00	0.00	0.00	106.00	0.00
26	H02	Additional two water softening streams	0.00	0.00	0.00	117.00	117.00
	Total (Ex-works)(C)		0.00	0.00	0.00	4166.00	3198.00

	Add: 1) Taxes, 2) Duties, 3) Insurance, 4) Erection, 5) Dismantling etc.	0.00	0.00	0.00	2138.00	1642.00
	Total of R&M works (C)	0.00	0.00	0.00	6304.00	4840.00
	Total "AA+A+B+C"	(-) 378.00	136.00	0.00	6304.00	4840.00

Actual Capital Expenditure

20. The petitioner has de-capitalized an amount of (-) ₹717.00 lakh towards freehold land due to revision of circle rates during 2009-10. In addition, the petitioner has sought the capitalization of expenditure of ₹27.00 lakh due to Arbitration award in respect of the construction of transit camp and Quarters (A,B,C type), ₹300.00 lakh due to Arbitration award in respect of NDCT package, is allowed under Regulation 9(2)(i) of the 2009 Tariff Regulations However, the expenditure of ₹12.00 lakh for payment of final bill towards fire detection system for Administrative building has been allowed in terms of Regulation 9(2)(viii) of the 2009 Tariff Regulations. Based on the above submissions, the net expenditure of (-) ₹378.00 lakh has been considered.

Ash Handling System

21. The petitioner has claimed expenditure of ₹136.00 lakh during 2010-11 towards Ash Storage modification. The petitioner vide its affidavit dated 4.1.2012 has submitted that this Ash related work is proposed for capitalization under Regulation 9(2)(ii) of the 2009 Tariff Regulations, since 100% ash utilization is required to be undertaken as per notification dated 14.9.1999 and its amendment dated 3.11.2009, issued by the Ministry of Environment & Forests, Government of India. It has also submitted that fly ash from ESP is evacuated and transported through pipe line up to Silo and from Silo, ash in dry form is removed and loaded in bulkers / closed trucks for ash utilization. Ash which is not utilized has to be transported to ash mound to make the Silos available for continuous ash handling. In case of change in height of the ash collecting vehicles, ash loading was not possible. To facilitate maximum ash utilization, new design telescopic chutes were provided. The new design has ten step expandable chute and

integrated ventilation system which is used for loading of different height and size of bulkers. The integrated ventilation system results in negligible fugitive dust generation during truck loading thereby preventing huge air pollution. In view of the above justification, the expenditure of ₹136.00 lakh is allowed to be capitalized under Regulation 9(2)(ii) of the 2009 Tariff Regulations.

CEA approved R&M schemes

22. The petitioner has claimed expenditure of ₹6304.00 lakh during 2012-13 and ₹4840.00 lakh during 2013-14 (including taxes, duties and insurance etc.) under CEA approved R&M schemes. The respondent, UPPCL has submitted that the claims of the petitioner for additional capitalization in respect of CEA approved works may be disallowed since the petitioner has taken the benefit of compensation allowance under Regulation 19(e) of the 2009 Tariff Regulations. The respondent, BRPL has submitted that the expenditure on R&M activities cannot be considered during the period 2009-14 since the petitioner has not complied with the provisions of Regulation 10 of the 2009 Tariff Regulations. It has also submitted that the petitioner should seek the approval of the Commission under Regulation 10 for the expenditure proposed to be incurred on R&M activities and pursuant to the approval, the said expenditure would form the basis for determination of tariff as per provisions of Regulation 10(3) of the 2009 Tariff Regulations. In response, the petitioner has submitted that the projected claim is not for life extension of the plant beyond the useful life of 25 years and hence the same does not fall under Regulation 10 of the 2009 Tariff Regulations. The respondents, NDPL and BYPL have also submitted that the claims of the petitioner for additional capitalization, except for works related to ash handling, are outside the scope of the 2009 Tariff Regulations and since compensation allowance is admissible, the additional capitalization of expenditure may be rejected. In response, the petitioner has reiterated its submissions made vide affidavit dated 29.3.2010, as detailed in para 16 (a,b,c,d,e) of this order. Based on these submissions, we examine the claim of the petitioner for additional capitalization in the succeeding paragraphs.

23. The petitioner had claimed expenditure of ₹139.00 lakh each for the years 2012-13 and 2013-14, respectively under Regulation 9(2)(ii) towards Renovation of ESP fields and Rapper controllers, in terms of the CEA approved scheme [scheme no. C-05] dated 6.10.2008. In response to the Commission's letter dated 25.5.2011, the petitioner has, by its affidavit dated 4.1.2012 submitted that the additional capital expenditure for this ESP related work was inadvertently mentioned under Change-in-law [Regulation 9(2)(ii)]. The petitioner has submitted that the present ESP controllers are 18 to 20 years old (approx) and per MOM dated 26.3.2001 and letter dated 10.7.2001, M/s BHEL (OEM) the electronic controllers are obsolete and no spare & service support are available from them and as alternative, the OEM has suggested for procurement of new range of controllers, to maintain the required SPM level of the units, availability of all ESP fields are required. Therefore, the petitioner has no other option but to replace the existing old controllers with new controllers.

24. In respect of expenditure claimed by the petitioner in respect of other CEA approved R&M schemes (as at Serial Nos. 6 to 26, except 10 of the table under para 19 above), the petitioner has submitted detailed justification in its affidavit dated 10.3.2011 and has prayed that the additional capitalization of the same be allowed for the reasons stated thereunder.

25. The submissions of the parties have been considered. From the justification submitted by the petitioner, it is noticed that these assets/works are essentially required for efficient operation of the generating station. However, there is no provision under Regulation 9(2) of the 2009 Tariff Regulations to consider the capitalization of these capital assets. As decided by the Commission, the 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. Moreover, the generating station has not completed 25 years and hence the question of considering R&M schemes for extension of useful life does not arise. However,

Regulation 19(e) of the 2009 Tariff Regulations provides for a separate compensation allowance to meet the expense on new assets of capital nature including in the nature of minor assets as laid down therein. Since compensation allowance as per the said regulation is admissible to the generating station, we are of the view that the expenses for these capital assets may be met by the petitioner from the said allowance. The petitioner may limit the expenditure within the compensation allowance, by phasing the expenditure suitably. Based on these discussions, the the capitalization of expenditure of ₹6304.00 lakh during 2012-13 and ₹4840.00 lakh during 2013-14 which includes the expenditure for Renovation of ESP fields and Rapper controllers, in terms of the CEA approved schemes, have not been allowed for capitalization.

26. In accordance with the above, the additional capital expenditure allowed for 2009-14 for the purpose of tariff is as under:

(₹ in lakh)

	Actual/Projected Capital Expenditure				
	2009-10 (actual)	2010-11	2011-12	2012-13	2013-14
Land freehold-plant/office	(-) 378.00	0.00	0.00	0.00	0.00
Ash handling system	0.00	136.00	0.00	0.00	0.00
CEA approved R&M works	0.00	0.00	0.00	0.00	0.00
Renovation of ESP fields and Rapper controllers (sl no.10)	0.00	0.00	0.00	0.00	0.00
(i) R&M works (sl nos 6 to 26)	0.00	0.00	0.00	0.00	0.00
(ii) Taxes, duties, insurance, erection, dismantling etc.	0.00	0.00	0.00	0.00	0.00
Total of R&M works	0.00	0.00	0.00	0.00	0.00
Total additional capital expenditure allowed	(-) 378.00	136.00	0.00	0.00	0.00

27. Further taking into account the discharges of liabilities during 2009-10 as stated above, the following additional capital expenditure is approved for the purpose of tariff:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Additional capital expenditure allowed	(-)378.00	136.00	0.00	0.00	0.00
Liabilities discharged	103.50	0.00	0.00	0.00	0.00
Additional capital Expenditure allowed for purpose of tariff	(-) 274.50	136.00	0.00	0.00	0.00

28. Accordingly, the capital cost considered for the purpose of tariff is as under:

(₹ in lakh)					
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost	172230.23	171955.72	172091.72	172091.72	172091.72
Additional capital Expenditure allowed	(-) 274.50	136.00	0.00	0.00	0.00
Closing Capital cost	171955.72	172091.72	172091.72	172091.72	172091.72
Average Capital cost	172092.97	172023.72	172091.72	172091.72	172091.72

Debt- Equity Ratio

29. Regulation 12 of the 2009 Tariff Regulations provides as under:

“(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 utilized 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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

30. The gross loan and equity amounting to ₹86321.60 lakh and ₹86018.75 lakh respectively as approved on 31.3.2009 vide order dated 5.9.2011 in Petition No.120/2009 has been considered as gross loan and equity as on 1.4.2009. However, the un-discharged liabilities amounting to ₹110.12 lakh deducted from the capital cost as on 1.4.2004 has been adjusted to debt and equity of 50:50 for assets/works capitalized prior to 2004 and in the debt-equity ratio of 70:30 for the period 2004-09. As such the gross normative loan and equity as on 1.4.2009 is revised to ₹86245.03 lakh and ₹85985.20 lakh respectively. Further the additional expenditure

approved above has been allocated in debt-equity ratio. This is subject to truing up in terms of the provisions contained in Regulation 6 of the 2009 Tariff Regulations.

Return on Equity

31. 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:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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.”

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Notional Equity- Opening	85985.20	85902.84	85943.64	85943.64	85943.64
Addition of Equity due to Additional capital expenditure	(-) 82.35	40.80	0.00	0.00	0.00
Normative Equity-Closing	85902.84	85943.64	85943.64	85943.64	85943.64
Average Normative Equity	85944.02	85923.24	85943.64	85943.64	85943.64
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax Rate for the year 2008-09	33.990%	33.990%	33.990%	33.990%	33.990%

Rate of Return on Equity (Pre Tax)	23.481%	23.481%	23.481%	23.481%	23.481%
Return on Equity(Pre Tax)- (annualized)	20180.52	20175.64	20180.43	20180.43	20180.43

Interest on loan

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

(1) The loans arrived at in the manner indicated in regulation 12 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2009 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2009 from the gross normative loan.

3) The repayment for the year of the tariff period 2009-14 shall be deemed to be equal to the depreciation allowed for that year.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio at the beginning of each year applicable to the project.

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered.

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute.

Provided that the beneficiary or the transmission customers shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

34. Interest on loan has been worked out as mentioned below:

- (a) The gross normative loan amounting to ₹86245.03 lakh has been considered as on 1.4.2009.

- (b) Cumulative repayment as on 31.3.2009 works out to ₹83681.76 lakh as per order dated 5.9.2011 in Petition No.120/2009. The same has been considered as cumulative repayment as on 1.4.2009. However, after taking into account proportionate adjustment (taking into account the liability and debt position as on 1.4.2004 along with additions during the period 2004-09) to the cumulative repayment on account of un-discharged liabilities deducted from the capital cost as on 1.4.2009, the cumulative repayment as on 1.4.2009 is revised to ₹83612.23 lakh.
- (c) Accordingly the net normative opening loan as on 1.4.2009 works out to ₹2632.80 lakh.
- (d) Addition to normative loan on account of additional capital expenditure approved above has been considered.
- (e) Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2009-14. Further proportionate adjustment has been made to the repayments corresponding to discharges of liabilities considered during the respective years on account of cumulative repayment adjusted as on 1.4.2009.
- (f) The petitioner has considered originally contracted GOI loans as actual loan portfolio for the purpose of calculating the weighted average rate of interest. However, these GOI loans were refinanced with Bonds earlier. As such, these Bonds represent the actual loan portfolio as existing on 1.4.2009. Accordingly, in term of Regulation 16 (5) as stated above, the weighted average rate of interest has been calculated considering the actual loan portfolio comprising of Bonds XIII Series A & B existing as on 1.4.2009, and is enclosed as Annexure-I to this order.

35. Interest on loan is calculated as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross opening loan	86245.03	86052.88	86148.08	86148.08	86148.08
Cumulative repayment of loan upto previous year	83612.23	86052.88	86148.08	86148.08	86148.08
Net Loan Opening	2632.80	0.00	0.00	0.00	0.00
Addition due to Additional capitalisation	(-) 192.15	95.20	0.00	0.00	0.00
Repayment of loan during the year	2374.94	95.20	0.00	0.00	0.00
Add: Repayment adjustment on discharges corresponding to un-discharged liabilities deducted as on 1.4.2009	65.71	0.00	0.00	0.00	0.00
Less: Repayment adjustment on account of Decap	0.00	0.00	0.00	0.00	0.00
Net Repayment	2440.65	95.20	0.00	0.00	0.00
Net Loan Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	1316.40	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan	9.5800%	9.5800%	9.5800%	9.5800%	9.5800%
Interest on Loan	126.11	0.00	0.00	0.00	0.00

Depreciation

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

“(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 longterm power purchase agreement at regulated tariff.

(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system.

Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting the cumulative depreciation 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.”

37. The cumulative depreciation as on 31.3.2009 as per order dated 5.9.2011 in Petition No.120/2009 works out to ₹120117.79 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 ₹120041.04 lakh. Further, the value of freehold land as considered in order dated 5.9.2011 is Rs. 6500.96 and the same has been considered for the purpose of calculating depreciable value. Further, there is an adjustment in freehold land amounting to ₹717.00 lakh during 2009-10 which has also been considered. Accordingly, the balance depreciable value (before providing depreciation) for the year 2009-10 works out to ₹29637.07 lakh. Since, as on 1.4.2009, the generating station is more than 12 years old from the effective date of commercial operation of the generating station i.e.

2.7.1994, depreciation has been calculated by spreading over the balance depreciable value. The balance useful life as on 1.4.2009, as per order dated 5.9.2011 in Petition No.120/2009 works out to 12.12 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 under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening capital cost	172230.23	171955.72	172091.72	172091.72	172091.72
Closing capital cost	171955.72	172091.72	172091.72	172091.72	172091.72
Average capital cost	172092.97	172023.72	172091.72	172091.72	172091.72
Depreciable value @ 90%	149678.11	149615.79	149676.99	149676.99	149676.99
Remaining useful life at the beginning of the year	12.12	11.12	10.12	9.12	8.12
Balance depreciable value	29637.07	27057.31	24685.30	22246.04	19806.78
Depreciation (annualized)	2445.30	2433.21	2439.26	2439.26	2439.26
Cumulative depreciation at the end	122486.34	124991.69	127430.95	129870.21	132309.47
Add: Cumulative depreciation adjustment on account of discharges out of un-discharged liabilities deducted as on 1.4.2009	72.13	0.00	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	122558.48	124991.69	127430.95	129870.21	132309.47

Operation & Maintenance Expenses

38. Clause (a) of Regulation 19 of Regulation of the 2009 Tariff Regulations provide the following O&M expense norms for Coal based and lignite fired generating stations as under:

	(₹ in lakh/MW)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses for 210 MW units	18.20	19.24	20.34	21.51	22.74

39. The petitioner has claimed the following O&M expenses for the generating station as under:

	(₹ in lakh)				
	2000-10	2010-11	2011-12	2012-13	2013-14
O&M expenses	15288.00	16162.00	17086.00	18068.00	19102.00

40. Based on above norms, the operation & maintenance expense for the generating station is in allowed as under:

<i>(₹ in lakh)</i>					
	2000-10	2010-11	2011-12	2012-13	2013-14
O&M expenses	15288.00	16161.60	17085.60	18068.40	19101.60

Normative Annual Plant Availability Factor (NAPAF)

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

Interest on Working Capital

42. Regulation 18(1)(a) of the 2009 Tariff Regulations provides that the working capital for coal based generating stations shall cover:

(i) Cost of coal for 1.5 months for pit-head generating stations and two months for non-pithead 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 liquid 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 charge and energy charge for sale of electricity calculated on normative plant availability factor; and

(v) O&M expenses for one month.

43. 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.

44. Working capital has been calculated considering the following elements as under:

Fuel Components in working capital

45. The petitioner has claimed the following cost for fuel component in working capital, based on price and GCV of coal for the preceding three months of January, 2009 to March 2009 and for the month of September, 2008 for HFO (secondary fuel oil):

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of coal for 2 months	23000	23000	23063	23000	23000
Cost of secondary fuel oil for 2 months	410	410	411	410	410

46. Accordingly, the fuel component in the working capital based on the norms considered for the purpose of tariff is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of coal for 2 months	23000.13	23000.13	23063.14	23000.13	23000.13
Cost of secondary fuel oil for 2 months	409.53	409.53	410.65	409.53	409.53

Maintenance Spares in working capital

47. The petitioner has claimed the following maintenance spare in the working capital, as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of maintenance spares	3100	3283	3476	3672	3892

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of maintenance spares	3057.60	3232.32	3417.12	3613.68	3820.32

Receivables

49. Receivables have been worked out on the basis of two months of fixed and energy charges (based on primary fuel only) on normative plant availability factors as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Variable Charges -2 months	23000.13	23000.13	23063.14	23000.13	23000.13
Fixed Charges - 2 months	7983.48	8120.08	8295.53	8464.75	8657.36
Total	30983.61	31120.21	31358.67	31464.88	31657.49

O&M Expenses

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O & M for 1 month	1274.00	1346.80	1423.80	1505.70	1591.80

51. SBI PLR of 12.25% has been considered on all the above components of working capital for the purpose of calculating interest on working capital. Necessary computations in support of calculation of interest on working capital are as under as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of coal –2 months	23000.13	23000.13	23063.14	23000.13	23000.13
Cost of secondary fuel oil – 2 months	409.53	409.53	410.65	409.53	409.53
O&M expenses – 1 month	1274.00	1346.80	1423.80	1505.70	1591.80
Maintenance Spares	3057.60	3232.32	3417.12	3613.68	3820.32
Receivables – 2 months	30983.61	31120.21	31358.67	31464.88	31657.49
Total working capital	58724.87	59108.98	59673.38	59993.92	60479.27
Rate of interest	12.2500%	12.2500%	12.2500%	12.2500%	12.2500%
Interest on working capital	7193.80	7240.85	7309.99	7349.25	7408.71

Expenses on Secondary Fuel Oil

52. 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:

$$\text{SFC} - \text{Normative Specific Fuel Oil consumption in ml/kWh} \\ = \text{SFC} \times \text{LPSFi} \times \text{NAPAF} \times 24 \times \text{NDY} \times \text{IC} \times 10$$

Where,

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

NAPAF – Normative Annual Plant Availability Factor in percentage

NDY – Number of days in a year

IC - Installed Capacity in MW.

53. Accordingly, the cost of secondary fuel considered for the purpose of tariff as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of secondary fuel oil	2457.17	2457.17	2463.90	2457.17	2457.17

Compensation Allowance

54. The petitioner has claimed compensation allowance during the period 2009-14 as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Compensation Allowance	210.00	252.00	294.00	294.00	357.00

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

"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

56. Based on the above, the compensation allowance allowed for the units of the generating station is as under:

(₹ in lakh)					
Description	Unit-I	Unit-II	Unit-III	Unit-IV	
COD	1.1.1993	1.1.1994	1.4.1995	1.12.1995	
Useful life as on 1.4.2009	16.25	15.17	14.00	13.33	
Actual useful life after					
a) 10 years	1.1.2003	1.2.2004	1.4.2005	1.12.2005	
b) 15 years	1.1.2008	1.2.2009	1.4.2010	1.12.2010	
c) 20 years	1.1.2013	1.2.2014	1.4.2015	1.12.2015	
d) 25 years	1.1.2018	1.2.2019	1.4.2020	1.12.2020	
Compensation Allowance (unit-wise)					Total
2009-10	73.50	73.50	31.50	31.50	210.00
2010-11	73.50	73.50	73.50	31.50	252.00
2011-12	73.50	73.50	73.50	73.50	294.00

2012-13	73.50	73.50	73.50	73.50	294.00
2013-14	136.50	73.50	73.50	73.50	357.00
Total	430.50	367.50	325.50	283.50	1407.00

Annual Fixed charges for 2009-14

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	2445.30	2433.21	2439.26	2439.26	2439.26
Interest on Loan	126.11	0.00	0.00	0.00	0.00
Return on Equity	20180.52	20175.64	20180.43	20180.43	20180.43
Interest on Working Capital	7193.80	7240.85	7309.99	7349.25	7408.71
O&M Expenses	15288.00	16161.60	17085.60	18068.40	19101.60
Cost of Secondary fuel oil	2457.17	2457.17	2463.90	2457.17	2457.17
Compensation Allowance	210.00	252.00	294.00	294.00	357.00
Total	47900.89	48720.46	49773.17	50788.51	51944.16

Note: (i) All figures are on annualized basis (ii) All the figures under each head have been rounded. (ii) 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.

58. The recovery of the annual fixed charges is subject to truing up, in terms of Regulation 6 of the 2009 Tariff Regulations.

Energy Charge Rate (ECR)

59. Sub-clause (b) of clause (6) of Regulation 21 of the 2009 Tariff Regulations provides as under:

“Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:

$$ECR = GHR \times LPPF \times 100 / \{CVPF \times (100 - AUX)\}$$

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.

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

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

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

60. The petitioner has claimed Energy Charge Rate (ECR) of 241.13 paisa/kWh, based on the weighted average price, GCV of fuel procured and burnt for the preceding three months of January, 2009 to March, 2009 and the operational norms specified under the 2009 Tariff Regulations. The relevant calculations are as under:

Description	Unit	2009-14
Capacity	MW	4x210=840
Gross Station Heat Rate	Kcal/kWh	2500
Auxiliary Energy Consumption	%	8.50
Weighted average price of oil	Rs/Kl	39285.48
Weighted average price of coal	Rs/MT	3516.94
Rate of energy charge ex-bus	Paise/kWh	241.134

61. Based on the above, the ECR of 241.134 paise/kWh has been allowed for the purpose of tariff. The petitioner shall be entitled to compute and recover the annual fixed charges and energy charges in accordance with Regulation 21(6)(a) of the 2009 Tariff Regulations.

62. The learned counsel for the respondent, BRPL has submitted that the petitioner has claimed huge amounts as Energy Charge from the beneficiaries owing to coal import causing huge loss to beneficiaries. He also submitted that import of coal being a normal feature, the Commission may consider framing guidelines on this count to protect the interest of the beneficiaries. The learned counsel also prayed that the petitioner may be directed to share information with the beneficiaries as regards the import of coal, price, GCV of coal etc. In response, the petitioner has submitted that the claims for tariff including energy/variable charges are claimed from beneficiaries based on the 2009 Tariff Regulations and the tariff orders issued by the Commission. The details for computation of energy charges are given along with the bills as required under Regulation 21 of the 2009 Tariff Regulations. The petitioner has also submitted that the issue of coal shortage and the steps to enhance power generation has been discussed at length and in this regard the Government of India has directed the power utilities to import coal to augment coal shortage. The petitioner has further submitted that the issue of import of coal was discussed in various forums which included the respondents and the petitioner has been

providing the details of coal with break-up of domestic coal, e-auction and imported coal to the beneficiaries in the format agreed to in the ERC forum. The submissions have been examined. In terms of Regulation 21(5) of the 2009 Tariff Regulations, the Energy charges covering the primary fuel cost and limestone consumption cost (where applicable) shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiaries during the calendar month on ex-power plant basis, at the energy charge of the month (with fuel and limestone price adjustment). It is noticed that the petitioner, in support of its claim for monthly FPA has been submitting documents to the respondents certifying that the FPA figures are as per quarterly audited accounts. As regards the submission of the details of coal, including imported coal, the petitioner has submitted that the said details are being submitted to the respondents, in terms of the format agreed to in the ERPC forum. Taking note of the requirement to provide requisite details regarding use of fuel, the Commission by public notice dated 13.6.2012 has proposed amendments to Regulation 21 of the 2009 Tariff Regulations wherein, the generators have been enjoined to provide details of parameters of GCV and price of fuel (i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG or liquid fuel) and blending ratio of imported and domestic coal, proportion of e-auction coal etc. with details of the variation in energy charges billed to the beneficiaries along with each bill/ supplementary bills. This, according to us, would adequately address the grievances of the respondents / beneficiaries. 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 has also submitted that all costs for generation of electricity including costs associated with housing colony of the operating staff are recovered through tariff determined by the Commission and no benefit is derived by the petitioner as alleged by the respondents. It is 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 or township housing the operating staff of the generating station will be deemed to be an integral part of its 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 being an integral part of generation of electricity, shall form part of the auxiliary consumption of the generating station. Since auxiliary consumption of electricity is allowed on normative basis as per the 2009 Tariff Regulations, the consumption of electricity by the housing colony within the said norms cannot be termed as undue benefits derived by the generating company.

Application fee and the publication expenses

63. The petitioner has sought approval for the reimbursement of fee of ₹1680000/- each for the years 2009-10, 2010-11 and 2011-12 towards filing the petition and towards expenses incurred for publication of notices in connection with the petition. The petitioner by its affidavit dated 22.3.2010 has submitted an expenditure of ₹163122/- has been incurred by it for publication of notice in the newspapers.

64. In terms of Regulation 42 of the 2009 Tariff Regulations and based on the decision of the Commission 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 the expenses incurred on publication of notices, 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.

Recovery of RLDC Fees and Charges

65. The claim of the petitioner towards recovery of RLDC fees & charges incurred by the petitioner is disposed of in terms of our order dated 6.2.2012 in Petition No.140/MP/2011 (NTPC-v-POSOCO Ltd & ors).

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

66. The petitioner has submitted that in terms of the notification dated 27.4.2010 of the Government of India of a scheme for provision of supply of electricity in 5 km area around Central Power plants, the petitioner is required to create infrastructure for supply of reliable power to the rural households of the villages within a radius of 5 km of existing and new power stations and as per the scheme, the 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.

Recovery of additional cost due to increase in water charges over and above the O&M expenses

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

68. 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.

69. The petitioner is already billing the respondent 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.

70. This order disposes of Petition No. 255/2009.

Sd/-
[M. Deena Dayalan]
Member

Sd/-
[S. Jayaraman]
Member

Sd/-
[Dr. Pramod Deo]
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	Bonds XIII A series (Rs.3228 +644 lakh)	Net opening loan	3,484.80	3,097.60	2,710.40	2,323.20	1,936.00
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	387.20	387.20	387.20	387.20	387.20
		Net Closing Loan	3,097.60	2,710.40	2,323.20	1,936.00	1,548.80
		Average Loan	3,291.20	2,904.00	2,516.80	2,129.60	1,742.40
		Rate of Interest	9.5800%	9.5800%	9.5800%	9.5800%	9.5800%
		Interest	315.30	278.20	241.11	204.02	166.92
2	Bonds XIII B series	Net opening loan	19,325.70	17,178.40	15,031.10	12,883.80	10,736.50
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	2,147.30	2,147.30	2,147.30	2,147.30	2,147.30
		Net Closing Loan	17,178.40	15,031.10	12,883.80	10,736.50	8,589.20
		Average Loan	18,252.05	16,104.75	13,957.45	11,810.15	9,662.85
		Rate of Interest	9.58%	9.58%	9.58%	9.58%	9.58%
		Interest	1,748.55	1,542.84	1,337.12	1,131.41	925.70
3	Gross Total	Net opening loan	22,810.50	20,276.00	17,741.50	15,207.00	12,672.50
		Add: Addition during the period	-	-	-	-	-
		Less: Repayment during the period	2,534.50	2,534.50	2,534.50	2,534.50	2,534.50
		Net Closing Loan	20,276.00	17,741.50	15,207.00	12,672.50	10,138.00
		Average Loan	21,543.25	19,008.75	16,474.25	13,939.75	11,405.25
		Rate of Interest	9.5800%	9.5800%	9.5800%	9.5800%	9.5800%
		Interest	2,063.84	1,821.04	1,578.23	1,335.43	1,092.62