

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 222/2009**

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

**DATE OF HEARING: 9.2.2012**

**DATE OF ORDER: 14.6.2012**

**IN THE MATTER OF**

Approval of tariff of Farakka Super Thermal Power Station (1600 MW) for the period from 1.4.2009 to 31.3.2014.

**AND IN THE MATTER OF**

NTPC Ltd, New Delhi

**...Petitioner**

Vs

1. West Bengal State Electricity Board, Kolkata
2. Bihar State Electricity Board, Patna
3. Jharkhand State Electricity Board, Ranchi
4. Grid Corporation of Orissa Ltd., Bhubaneswar
5. Damodar Valley Corporation, Kolkata
6. Power Department, Government of Sikkim, Gangtok
7. Tamil Nadu Electricity Board, Chennai
8. Union Territory of Pondicherry, Electricity Department, Pondicherry
9. Uttar Pradesh Power Corporation Ltd, Lucknow
10. Power Development Department, Government of J&K, Srinagar
11. Power Department, Union Territory of Chandigarh, Chandigarh
12. Madhya Pradesh Power Trading Ltd., Jabalpur
13. Gujarat Urja Vikas Nigam Limited, Baroda
14. Electricity Department, Administration of Daman & Diu, Daman
15. Electricity Department, Administration of Dadra and Nagar Haveli, Silvassa
16. BSES Rajdhani Power Limited, New Delhi
17. BSES Yamuna Power Limited, Delhi
18. North Delhi Power Ltd, New Delhi
19. Maharashtra State Electricity Distribution Company Ltd., Mumbai

**...Respondents**

**Parties present:**

1. Shri Ajay Dua, NTPC
2. Shri Naresh Anand, NTPC
3. Shri Rohit Chabra, NTPC
4. Shri Shankar Saran, NTPC
5. Shri S.Majumdar, NTPC
6. Shri S.R.Sarangi, NTPC
7. Shri R.B.Sharma, Advocate, BSEB, JSEB, GRIDCO & BRPL
8. Shri Manish Garg, UPPCL

## ORDER

The petitioner, NTPC has filed this petition for approval of tariff of Farakka Super Thermal Power Station (1600 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 with a total capacity of 1600 MW comprises of three units of 200 MW each and two units of 500 MW each. The dates of commercial operation of the generating station are as under:

Unit-I	1.11.1986
Unit-II	1.10.1987
Unit-III	1.9.1988
Unit-IV	1.7.1996
Unit-V	1.4.1995

3. The tariff of the generating station for the period 1.4.2004 to 31.3.2009, was determined by the Commission by its order dated 9.5.2006 in Petition No. 153/2004. Subsequently, the fixed charges were revised by order dated 27.10.2006 in Review Petition No.59/2006 (in Petition No.153/2004). Thereafter, the fixed charges for the period 2004-09 were further revised by order dated 22.7.2008 in Petition No. 32/2007 on account of additional capital expenditure incurred for the period 2004-05 and 2005-06. Thereafter, by orders dated 24.12.2008 and 23.12.2009 respectively in Petition No.32/2007, the annual fixed charges were revised after rectifying the inadvertent errors contained in orders dated 22.7.2008 and 24.12.2008 and after allowing IDC for the year 2005-06. Subsequently, in Petition No.150/2009, the annual fixed charges of the generating station for 2004-09 were revised by Commission's order dated 28.4.2011, after considering the impact of additional capital expenditure for the years 2006-07, 2007-08 and 2008-09 and after taking into consideration the judgment of the Appellate Tribunal for Electricity dated 13.6.2007 in Appeal Nos.139 to 142/2006, 10, 11 and 23 of 2007 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, 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.

4. Thereafter, by order dated 21.3.2012, the annual fixed charges approved *vide* order dated 28.4.2011 in Petition No.150/2009, was revised based on the Commission's order dated 22.2.2012 in Review Petition No.11/2011 in Petition No.150/2009 pertaining to "Disallowance of claim of capitalization of SAP license under SAP implementation for ₹225.54 lakh during the period 2008-09" and ignoring the de-capitalization ₹212.60 lakh for the year 2004-05 for inter-unit transfer from this generating station to Talcher-II generating station of the petitioner. The annual fixed charges for the generating station for 2004-09 approved *vide* order dated 21.3.2012 in Petition No.150/2009 is as under:

	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Interest on Loan	751.38	545.75	393.02	332.05	160.26
Interest on Working Capital	4618.83	4665.10	4717.10	4779.78	4825.53
Depreciation	11432.76	11482.46	11560.84	11629.30	11666.75
Advance against Depreciation	0.00	0.00	0.00	0.00	0.00
Return on Equity	21454.52	21510.52	21598.84	21675.99	21718.19
O&M Expenses	15600.00	16222.00	16870.00	17540.00	18252.00
<b>Total</b>	<b>53857.48</b>	<b>54425.83</b>	<b>55139.80</b>	<b>55957.12</b>	<b>56622.73</b>

5. Subsequently, the petitioner, in terms of the directions contained in the Commission's order dated 29.6.2010 in Petition No. 245/2009, filed amended petition *vide* affidavit dated 15.7.2011 taking into consideration the revised figures as per orders of the Commission *vide* order dated 28.4.2011 in Petition No.150/2009. Thus, 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	7208	7843	8261	8456	11102
Interest on Loan	170	32	42	21	337
Return on Equity	36461	36876	37144	37242	38367
Interest on Working Capital	11200	11301	11422	11512	11709

O&M Expenses	23920	25284	26734	28266	29884
Cost of secondary fuel oil	2301	2301	2307	2301	2301
Compensation Allowance	540	640	640	610	480
Special Allowance	0	0	0	1182	2498
<b>Total</b>	<b>81800</b>	<b>84277</b>	<b>86550</b>	<b>89589</b>	<b>96677</b>

6. Reply to the petition has been filed by the respondents, BSEB (respondent No.2), GRIDCO (respondent No.4), UPPCL (respondent No.9), NDPL (respondent No.14), BRPL (respondent No.16) and MSEDCL (respondent No.19). The petitioner has filed its rejoinder to the said replies.

#### **Capital Cost as on 1.4.2009**

7. The annual fixed charges claimed by the petitioner are based on the opening capital cost of ₹310481 lakh as on 1.4.2009. However, the approved capital cost in terms of order dated 21.3.2012 is ₹313498.30 lakh as on 31.3.2009.

8. The petitioner *vide* its affidavit dated 21.9.2011 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	316379.09	316379.09	0.00
Liabilities included in the above	3010.97	3010.97	0.00

9. Further, out of total liabilities amounting to ₹3010.97 lakh included in the gross block as on 1.4.2009, the approved capital cost of ₹313498.30 lakh is inclusive of un-discharged liabilities amounting to ₹2579.17 lakh corresponding to allowed assets/works (₹2285.90 lakh pertaining to period prior to 1.4.2004 and ₹293.27 lakh pertaining to period 2004-09). The un-discharged liabilities corresponding to assets/works disallowed is ₹431.80 lakh.

10. 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.”*

11. 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 ₹2579.17 lakh works out to ₹310919.13 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.

12. The petitioner *vide* its affidavit dated 21.9.2011 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 ₹103.08 lakh during 2009-10 (pertaining to assets/works allowed in 2004-09) and ₹330.99 lakh during 2010-11 (₹297.32 lakh pertains to assets/works capitalized prior to 1.4.2004 and ₹33.67 lakh corresponds to assets/works capitalized during 2004-09). Further, the petitioner has reversed liabilities of ₹6.15 lakh (corresponding to assets/works allowed during 2004-09) during 2009-10. The liabilities discharged during 2009-10 and 2010-11 have been allowed during the respective years, as part of the additional capital expenditure allowed for the generating station.

### **Actual/Projected Additional Capital Expenditure**

13. 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 convector, 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.”.*

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

	2009-10	2010-11	2011-12	2012-13	2013-14	(₹ in lakh) Total
Additional Capital Expenditure claimed	6024.00	5761.10	1849.00	934.00	30992.00	<b>45560.04</b>

15. 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 as regards the admissibility of the additional capital expenditure for 2009-14 in the subsequent paragraphs.

#### **Submissions of the petitioner**

16. 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.

17. The petitioner has also submitted the following in support of its claim in the petition and in its affidavit dated 27.3.2010.

(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.

18. Similar submissions of the petitioner 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 in Petition No. 239/2009, 256/2009, 332/2009 and 279/2009 respectively, pertaining to determination of tariff some of the generating stations of the petitioner for 2009-14 as under:

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

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

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

*17. As regards the first issue, it is noticed that the last proviso to Regulation 7(2) of the 2009 Tariff Regulations provides that in case of existing projects, capital cost admitted by the Commission prior to 1.4.2009 duly tried 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:

<b>Years of operation</b>	<b>Compensation Allowance (₹ in lakh/MW/year)</b>
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.”

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.

19. In line with the above decisions, 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.

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

(₹ in lakh)

SI No	Regulation	2009-10 (actual)	2010-11 (actual)	2011-12	2012-13	2013-14
<b>1.</b>	<b>Environment system-Dry Ash extraction system-Regulation-9(2)(ii)</b>					
i	Up gradation of ESP	9(2)(ii)	0.00	0.00	0.00	1125.00
ii	Dry Ash Extraction for Stage-I&II		0.00	0.00	0.00	14000.00
iii	Construction of Road from DAETP to NH-34		0.00	0.00	0.00	500.00
iv	Construction of Rail from DAETP to Tildanga gate		0.00	0.00	0.00	500.00
	<b>Total</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>16125</b>
<b>2.</b>	<b>Ash Handling related works</b>					
	Ash handling/ Ash Dyke works	9(2)(iii)	0.00	966.71	0.00	2983.00
	<b>Total</b>		<b>0.00</b>	<b>966.71</b>	<b>0.00</b>	<b>2983.00</b>
<b>3.</b>	<b>Other Capital works</b>					
i	Wagon Tippler & associated system		5220.29	4437.74	0.00	0.00
ii	Strengthening of MGR track		0.00	0.00	0.00	4556.00
iii	Lift pumps		0.00	0.00	0.00	6810.00
iv	Additional way side station		0.00	0.00	0.00	518.00
v	Procurement of 35 nos. of wagon		0.00	0.00	1260	0.00
vi	Ambient air monitoring system		93.91	0.00	0.00	0.00
vii	Township metering package		10.19	0.00	0.00	0.00
viii	SAP license capitalization		6.11	0.00	0.00	0.00
	<b>Total</b>		<b>5330.50</b>	<b>4437.74</b>	<b>1260.00</b>	<b>11884.00</b>
4.	CEA approved R&M activities		748.46	5.6687	589.00	241.00
5	Discharge of liability as on 31.3.2009 (2004-09 period)		103.00	34.00	0.00	0.00
6.	Discharge of liabilities as on 31.3.2009 (prior to 1.4.2004 period)		0.00	297.00	0.00	0.00

7.	Discharge of liabilities (additional capitalization 2009-10)		0.00	24.00	0.00	0.00	0.00
8.	De-capitalization		(-)158.00	(-) 4.04	0.00	0.00	0.00
	<b>Total Additional capitalization claimed</b>		<b>6023.96</b>	<b>5761.08</b>	<b>1849.00</b>	<b>934.00</b>	<b>30992.00</b>

21. After taking into consideration the submissions of the parties and the documents on record, we consider the additional capitalization claims of the petitioner as under:

**Environment systems- Regulation 9(2) (ii)**

22. The petitioner has claimed total expenditure of ₹16125.00 lakh during 2013-14 (₹1125.00 lakh for up-gradation of ESPs for Stage-I, ₹14000.00 lakh towards Dry Ash Extraction for Stage-I & II package consisting of supply cum erection and commissioning of (i) Pneumatic conveying system (ii) Compressor for Stage-I (iii) Air receiver (iv) Vacuum pump for Stage-II (v) Storage system (vi) Electrical & C&I system including cabling and (vii) Civil & structural work, ₹500.00 lakh each for construction of road from DAETP to NH-34 and construction of rail line from DAETP to Tildanga gate). The petitioner has submitted that up-gradation of ESP is as per scheme approved by CEA to meet stricter environmental norms and the installation of Dry Ash Extraction system, which is a standard fitment for all new power plants, is towards achievement of 100% ash utilization as per notification dated 14.9.1999 (amended on 3.11.2009) of the Ministry of Environment & Forests, Government of India and the installation of the same would help increased utilization of dry fly ash. The respondents, BSEB, GRIDCO in their replies have submitted that the claim under this head is permissible if there is change in law and consequent upon that change, investment is required to be made to fulfill that obligation of change in law. As the petitioner has not mentioned the change in law, the expenditure is not to be allowed. The respondent no.9, UPPCL has submitted that since the additional capital expenditure claimed for 2009-14 is for both stages of the generating station and the use is inseparable, it is prudent to disallow the claim of ₹3680.00 lakh towards special allowance for Units-I & II of the generating station.

The respondent, NDPL has submitted that claims for additional capital expenditure except work related to ash handling does not fall under any of the provisions of the 2009 Tariff Regulations and should not be allowed. We have examined the submissions of the parties. The claim of the petitioner for ₹1125.00 lakh towards the up-gradation of ESP for Stage-I has not been allowed, as Special allowance for the Units of Stage-I during 2013-14 is permissible in terms of Regulation 10(4) of the 2009 Tariff Regulations. Thus, keeping in view the notification of the of the Ministry of Environment & Forests, Government of India and being a statutory requirement, the expenditure of ₹14000.00 lakh towards the Dry Ash Extraction system (package) and expenditure for ₹500.00 lakh each for the construction of Road and Rail line from DAETP is allowed.

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

23. The petitioner has claimed actual expenditure of ₹966.71 lakh during 2010-11 for 1<sup>st</sup> raising of Malancha Ash Dyke lagoon and 3<sup>rd</sup> raising of Nishindra Ash dyke for Stage-II, ₹693.00 lakh during 2012-13 for 4<sup>th</sup> raising of Nishindra Ash dyke lagoon I & II which are yet to be awarded and ₹2983.00 lakh during 2013-14 for Starter Ash dyke lagoon-III and drainage channel and 1<sup>st</sup> raising of Malancha ash dyke lagoon-II. It is observed that the 1<sup>st</sup> raising of lagoon-II of Malancha ash dyke at a cost of ₹791.00 lakh may not be required by March, 2014. The petitioner has submitted that these works are under approved scheme in the original scope of work. The respondent, GRIDCO has submitted that the claim under Regulation 9(2)(iii) for the said work stated to have been incorporated in the original scope of work should be produced by the petitioner. Moreover, the expenses which are of continuous nature and process shall be met from the huge O&M expense provided for the generating station. Regulation 9(2)(iii) of the 2009 Tariff Regulations is limited for deferred works related to ash pond or ash handling system in the original scope and the left over works for the generating station cannot be allowed to be pending for such a long time and in case works

continue to remain pending, it should be presumed that the works are not necessary. In reply, the petitioner has clarified that ash dyke works are not a one time job, rather continuous works required in the ash dyke from time to time, i.e construction of ash pond, raising of ash pond, laying of ash disposal pipes and other ash dyke related works. It has also submitted that capital works on ash dyke and other ash handling system planned during 2009-14 were not part of the O&M expenses and hence the submissions of the petitioner be rejected. Taking into consideration that the said work covered under the original scope of work is a normal activity, undertaken in phases depending upon the requirement with the passage of time during the useful life of the generating station, the expenditure claimed is allowed to be capitalized. Based on this, the expenditure claimed for 2010-11 and 2012-13 is allowed to be capitalized. However, as the expenditure of ₹791.00 lakh is not required by March, 2014, in view of NHAI lifting 25 LT of ash, as submitted by the petitioner, the said expenditure has been deducted from the claim of ₹2983.00 lakh. Accordingly, the net expenditure of ₹2192.00 lakh (2983-791) for 2013-14 is allowed to be capitalized under this head.

#### **Other capital works**

##### **(a) Wagon Tippler (2 nos.), Associated conveying system and procurement of 3 nos. locos, lift pumps etc.**

24. The petitioner has claimed total expenditure of ₹9658.03 lakh (₹5220.29 lakh during 2009-10 and ₹4437.74 lakh during 2010-11) for Wagon tipplers in terms of the last proviso to Regulation 7 of the 2009 Tariff Regulations, against the CEA approved cost of ₹9604.00 lakh vide letter dated 12.8.2005. The petitioner has submitted that the coal linkage to the generating station from Lalmatia block of Rajmahal coal field at ECL through Merry Go Round (MGR) system was based on the prevailing operating norms of 5500 hrs, corresponding to 62.8% PLF for recovery of full fixed charges. In view of the revised enhanced target availability norm for recovery of full fixed cost, coal requirement can only be met by transporting coal through Indian railway system in available Box-N wagons and for unloading

these Box-N wagons, wagon tippler is required to be installed. The respondent, BSEB and GRIDCO in their replies have objected to the capitalization of this asset. The respondent, NDPL by its reply dated 31.10.2011 has pointed out to the claim of the petitioner for relaxation of NAPAF for this generating station on account of shortage of coal, in Petition No.189/2010 and has prayed that the claim for additional capitalization should not be allowed. The petitioner in its rejoinder dated 25.11.2011 to the reply of the respondent, NDPL, has clarified that the wagon tippler has already been commissioned in 2010-11 and is in use. In view of this, the petitioner has submitted by affidavit dated 11.11.2011 that the expenditure claimed be considered in terms of Regulation 9(2)(vii) of the 2009 Tariff Regulations, as amended on 21.6.2011.

25. The submissions of the parties have been examined. We have also perused the submissions made by the petitioner in Petition No.189/2010 (*pertaining to the revision of Normative Annual Plant Availability Factor in respect of NTPC's Power Stations in Eastern Region, namely Farakka STPS (1600MW), Kahalgaon STPS, Stage-I (840MW) and Kahalgaon STPS, Stage-II (1500MW) on account of acute shortage of coal at all these stations and non-availability of cooling water at Farakka STPS*). In its affidavit dated 22.11.2010 (in Petition No. 189/2010), the petitioner had submitted that the coal consumption for the generating stations namely, Farakka STPS (the instant generating station) and Kahalgaon, STPS Stages-I&II generating stations, increased due to deterioration of coal quality from GCV of 3050 kcal/kg to 2800 kcal/kg. The petitioner had also submitted the projected coal shortage position in respect of the generating station during the period from 2005-06 to 2010-11 due to increased target availability and deterioration in coal quality, which was met by sourcing coal through railways. The coal shortage for the generating station, as furnished by the petitioner in Petition No. 189/2010 was as under:



Year	Linkage (MMT)	Receipt through MGR (MMT)	Receipt through Railway	Total receipt	Availability (%age)
2005-06	9.239	5.302	4.934	10.236	84.340
2006-07	9.464	6.721	2.804	9.528	84.920
2007-08	9.242	5.588	3.814	9.402	83.990
2008-09	8.970	4.674	4.128	8.802	76.810
2009-10	9.471	3.589	4.555	8.144	73.360
2010-11	7.875	1.910	5.528	7.438	71.210

26. It is observed that substantial quantity of coal was being received through Railway in Box-N Wagons. From the above table, it is evident that this generating station was in operation with target availability of 84-85% (approx) during 2005-08 even without a wagon tippler. However, considering the fact that installation of Wagon tippers would bring about reduction in unloading time of coal rakes (MMT) and is more environmental friendly (avoid undue exposure to hazardous fugitive emissions) the claim of the petitioner is justified. Further, the receipt of coal through railways has significantly increased from 2009-10 because of less receipt through MGR. In order to take care of the concerns of the beneficiaries, it needs to be ensured that the petitioner is able to arrange coal for generation up to NAPAF of 85% and recover the full fixed charges including the impact of cost of wagon tippler. Moreover, the utilities are also resorting to blending of imported coal taking into account the overall shortage of coal in the country. Considering the above factors in totality, we allow the expenditure claimed by the petitioner for Wagon Tippler and its associated works, under Regulation 9 (2) (vii) of the 2009 Tariff Regulations.

**(b) Strengthening of MGR track**

27. The petitioner has claimed ₹4556.00 lakh during 2013-14 for strengthening of MGR track against the CEA approved cost of ₹4548.50 lakh. The petitioner by its affidavit dated 11.11.2011 has submitted that the strengthening of MGR track including replacement of CST-9/ obsolete cast iron sleepers (1,10,000 nos), 950 nos. of existing bridge timbers (wooden sleepers), points and crossings on wooden layout etc., is required for track stabilisation, life extension and safe reliable operation. The estimated de-capitalization for the said asset is

₹570.00 lakh as submitted by the petitioner. Since, the expenditure during the year 2013-14 is in the nature of R&M expenses, we are of the view that the petitioner should meet the said expenditure from the Special allowance admissible to Units I&II of the generating station in terms of Regulation 10(4) of the 2009 Tariff Regulations and/or the Compensation allowance admissible under Regulation 19 (e) of the 2009 Tariff Regulations in order to meet the expenses on new assets of capital nature including in the nature of minor assets. In view of this, the expenditure of ₹4556.00 lakh during 2013-14 is not allowed and the corresponding estimated de-capitalization of ₹570.00 lakh has also been ignored.

**(c) Lift pumps**

28. The petitioner has claimed expenditure of ₹6810.00 lakh during 2013-14 towards lift pumps against the CEA approved cost of ₹12840.60 lakh. The petitioner has submitted that the installation of lift pump is required to augment water supply to the existing cooling water system which is unable to cater the cooling water requirement of the generating station due to drop in water level of source feeder canal on account of the revised Indo-Bangla Ganga water sharing agreement and the scheme agreed to by the Ministry of Power Government of India in its review meeting on 16.7.2004. As per the Indo-Bangladesh water sharing treaty, 1996 Bangladesh is given minimum 35000 cusecs of water during the lean season (from 1<sup>st</sup> January to 31<sup>st</sup> May) and due to this cooling water supply gets affected during this period and consequently regular generation loss is being faced. The respondents GRIDCO, NDPL and UPPCL have objected to the capitalisation of this asset. The respondent, BSEB and BRPL have also submitted that the capitalisation under Regulation 9(2) is permissible only after the expenditure is incurred by the petitioner. The petitioner in its rejoinder dated 2.2.2012 to the reply of the respondent, GRIDCO has submitted that the scheme and investment on the said asset was in line with the provisions of the 2004 Tariff Regulations and approved during the period 2004-09, the work was being carried out during the tariff period 2009-14. It has also submitted that since the requirement of this work is on account of the treaty of the

Government of India, the expenditure falls under Regulations 9(2)(ii) of the 2009 Tariff Regulations and the same is admissible.

29. We have in this order decided that the additional capital expenditure projected to be incurred after the cut-off date, can be considered under Regulation 9(2) of the 2009 Tariff Regulations. Thus, taking into consideration that the requirement of this work is on account of diversion of water as per revised Indo-Bangla river water agreement, the expenditure claimed is allowed under Regulation 9(2)(ii) of the 2009 Tariff Regulations.

**Additional way side station**

30. The petitioner has claimed expenditure of ₹518.00 lakh during 2013-14 against the CEA approved cost of ₹541.00 lakh vide letter dated 20.4.2004. The petitioner has submitted that the MGR track length of the generating station is about 85 Km and the additional way side station in MGR system between Pathra and Lalmatia point is required to be implemented. It has also submitted that additional way side station between Pathra and Lalmatia way side station will be required for MGR rake crossing purpose to reduce the rake cycle time. It is observed that the petitioner has not indicated the relevant provision under Regulation 9(2) of the 2009 Tariff Regulations, against which capitalisation has been sought for by it. However, from the submissions, it is observed that the petitioner has been managing the MGR system of 85 Km since the commissioning of the generating station without any difficulty. Moreover, in order to enhance the coal receipt system on account of the increased quantum of coal being received through Indian railways, Wagon Tippler has been allowed to this generating station. Accordingly, in our view, there is no requirement for this work and the petitioner's claim for the expenditure on this count is not allowed.

**Procurement of Wagons (35 nos)**

31. The petitioner has claimed expenditure of ₹1260.00 lakh during 2011-12 for procurement of 35 nos. new wagons as replacement of wagons declared unserviceable

during 2004-09. The petitioner has submitted that 35 nos of wagons were de-capitalised during the period 2004-09 (claimed as exclusion for 2006-09 in Petition No. 150/2009) and the station has been managing with reduced number of wagons. It has also submitted by affidavit dated 22.1.2010 that the purchase orders for 24 wagons were placed in March, 2009 and the procurement action for the remaining 11 wagons is in process. We notice that the provisions of the Regulation 9(2) under which capitalisation is sought for by the petitioner has not been indicated. In our view, the expenditure towards replacement of old wagons by new wagons cannot be considered under the provisions of Regulation 9 (2) of the 2009 Tariff regulations. Keeping in view that the generating station is entitled to meet such expenditure from the Compensation allowance admissible under Regulation 19(e) of the 2009 Tariff Regulations, the claim of the petitioner is not allowed.

#### **Ambient Air Quality Monitoring System**

32. The petitioner has claimed expenditure of ₹93.91 lakh during 2009-10 towards supply of Ambient Air Quality Monitoring System (AAQMS) for continuous monitoring of air quality at the generating station. Since the asset is required in compliance with the statutory guidelines of the Central Pollution Control Board, which mandates the continuous monitoring of various environmental parameters at the generating station, we allow the claim of the petitioner under Regulation 9 (2) (ii) of the 2009 Tariff Regulations.

#### **Township Metering package and SAP license capitalization**

33. The petitioner's claim for capitalization of ₹10.19 lakh towards Township Metering package and ₹6.11 lakh for SAP license during 2009-10 is in the nature of minor assets and the said expenditure has not been allowed in terms of the last proviso to Regulation 9(2) of the 2009 Tariff Regulations. The petitioner is however entitled to meet such expenditures from the Compensation allowance admissible to the generating station under Regulation 19(e) of the 2009 Tariff Regulations.

### **CEA approved R&M activities**

34. The petitioner has claimed total expenditure of ₹1584.13 lakh during 2009-13 (₹748.46 lakh during 2009-10, ₹5.67 lakh during 2010-11, ₹589.00 lakh during 2011-12 and ₹241.00 lakh during 2012-13) for CEA approved R&M activities vide letters dated 19.7.2002, 9.9.2002 and 24.3.2003, which are already under implementation. These activities include the up-gradation of DAS, Accoustic boiler tube leakage detection system, installation of furnace flame camera, installation of Remote Bottom Ash Hopper Gate, Renovation of Stator water/signaling panel as replacement and the installation of new on-line condenser tube cleaning system (excluding debris filter) etc. The petitioner has submitted that the R&M schemes approved by CEA are for sustaining current performance and efficiency levels in view of enhanced norms notified by the Commission from time to time and for meeting other statutory requirements. The respondent, GRIDCO in its reply dated 23.1.2012 has submitted that the expenditure proposed for R&M schemes are required to be approved by the Commission under Regulation 10 of the 2009 Tariff Regulations, in case of any capitalization. It has also submitted that there is huge increase in O&M expenses of the generating station and besides this, the generating station is provided with separate compensation allowance to meet expenses on new assets of capital nature under Regulation 19(e) of the 2009 Tariff Regulations. In response to this, the petitioner while reiterating its earlier submissions has contended that since the generating station is yet to complete its useful life, Regulation 10 was not applicable. The petitioner has stated that the O&M expenses do not cover the capital expenditure required for the station. It has also submitted that the compensation allowance allowed in tariff under Regulation 19(e) is in the context of minor assets and like and does not deal with additional capitalization of substantial nature. Moreover, it would not be sufficient to take care of the capital works already planned /taken up for efficient operation and sustaining the performance level in line with the provisions of the 2009 Tariff Regulations. Accordingly, the petitioner has prayed that the submission of the respondent be rejected.

35. The submission of the parties has been considered. The claim of the petitioner for capitalization of an expenditure of ₹1584.13 lakh for 2009-13 for successful and efficient operation of the generating station is not admissible, since the generating station is entitled to a normative compensation allowance under Regulation 19 (e) of the 2009 Tariff Regulations in order to meet the expenses on new assets of capital nature including in the nature of minor assets. It is noticed that the petitioner has also opted for Special allowance under Regulation 10(4) which is admissible (unit-wise) to the generating station. Keeping all these factors in consideration, the expenditure towards CEA approved R&M activities as claimed by the petitioner, has not been allowed.

36. The petitioner has de-capitalized an amount of ₹158.00 lakh during 2009-10 towards MGR wagons and a total amount of ₹4.04 lakh during 2010-11 for boiler steam leak detection system, furnace flame camera, stator water and seal oil signaling panel etc. Since, these assets have become unserviceable and not rendering any useful life to the station, the de-capitalization of ₹158.00 lakh in the year 2009-10 and ₹4.04 lakh in the year 2010-11 is allowed.

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

*(₹ in lakh)*

Sl. No		Regulation	2009-10 (actual)	2010-11 (actual)	2011-12	2012-13	2013-14
<b>1.</b>	Environment system-dry Ash extraction system	9(2)(ii)					
i	Up gradation of ESP		0.00	0.00	0.00	0.00	0.00
ii	Dry ash extraction for Stage-I&II		0.00	0.00	0.00	0.00	14000.00
iii	Construction of Road from DAETP to NH-34		0.00	0.00	0.00	0.00	500.00
iv	Construction of Rail from DAAETP to Tildanga gate		0.00	0.00	0.00	0.00	500.00
	<b>Total</b>		<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>15000.00</b>
<b>2.</b>	<b>Ash Handling related works</b>						
	Ash handling/ Ash Dyke works	9(2)(iii)	0.00	966.71	0.00	693.00	2192.00

	<b>Total</b>		<b>0.00</b>	<b>966.71</b>	<b>0.00</b>	<b>693.00</b>	<b>2192.00</b>
<b>3.</b>	<b>Other capital works</b>						
i	Wagon tippler & associated system		5220.29	4437.74	0.00	0.00	0.00
ii	Strengthening of MGR track		0.00	0.00	0.00	0.00	0.00
iii	Lift pumps		0.00	0.00	0.00	0.00	6810.00
iv	Additional way side station		0.00	0.00	0.00	0.00	0.00
v	Procurement of 35 nos. of wagon		0.00	0.00	0.00	0.00	0.00
vi	Ambient air monitoring system		93.91	0.00	0.00	0.00	0.00
vii	Township metering package		0.00	0.00	0.00	0.00	0.00
viii	SAP license		0.00	0.00	0.00	0.00	0.00
	<b>Total</b>		<b>5314.20</b>	<b>4437.74</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>4.</b>	CEA approved R&M activities		0.00	0.00	0.00	0.00	0.00
<b>8.</b>	De-capitalization		(-)158.00	(-) 4.04	0.00	0.00	0.00
	<b>Total Additional capitalization allowed (excluding un-discharged liabilities)</b>		<b>5156.20</b>	<b>5400.41</b>	<b>0.00</b>	<b>693.00</b>	<b>24002.00</b>

### Reconciliation of actual additional capitalization for 2009-10 and 2010-11 with balance sheet

38. Reconciliation of additional capitalization for 2009-10 and 2010-11 with balance sheet shall be carried out at the time of truing up of capital cost for the subsequent years.

39. Accordingly, the additional capital expenditure allowed for the period 2009-14, is as under:

	(₹ in lakh)					
	2009-10	2010-11	2011-12	2012-13	2013-14	Total
Additional capital expenditure allowed	5156.20	5400.41	0.00	693.00	24002.00	35251.61

40. 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	Total
Additional capital expenditure allowed	5156.20	5400.41	0.00	693.00	24002.00	35251.61
Liabilities discharged	103.08	330.99	0.00	0.00	0.00	434.06
Additional capital expenditure allowed	<b>5259.28</b>	<b>5731.40</b>	<b>0.00</b>	<b>693.00</b>	<b>24002.00</b>	<b>35685.67</b>

## Capital cost for 2009-14

41. Based on the above, 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	310919.13	316178.40	321909.80	321909.80	322602.80
Additional capital expenditure	5259.28	5731.40	0.00	693.00	24002.00
<b>Closing Capital cost</b>	<b>316178.40</b>	<b>321909.80</b>	<b>321909.80</b>	<b>322602.80</b>	<b>346604.80</b>
Average Capital cost	<b>313548.76</b>	<b>319044.10</b>	<b>321909.80</b>	<b>322256.30</b>	<b>334603.80</b>

## Debt-Equity Ratio

42. 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.*

43. The gross loan and equity amounting to ₹158217.89 lakh and ₹155280.41 lakh respectively, as on 31.3.2009, approved vide order dated 21.3.2012 in Petition No.150/2009, has been considered as gross loan and equity as on 1.4.2009. However, un-discharged liabilities of ₹2579.17 lakh deducted from the capital cost as on 1.4.2004 has been adjusted to debt and equity ratio of 50:50 for liabilities pertaining to period prior to 1.4.2004 and 70:30 for liabilities pertaining to period 2004-09. As such, the gross normative loan and equity as on



1.4.2009 is revised to ₹156869.65 lakh and ₹154049.48 lakh, respectively. Further, the 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

44. 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.”*

45. 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	154049.48	155627.26	157346.68	157346.68	157554.58
Addition of Equity due to Additional capital expenditure	1577.78	1719.42	0.00	207.90	7200.60
Normative Equity-Closing	155627.26	157346.68	157346.68	157554.58	164755.18

Average Normative Equity	154838.37	156486.97	157346.68	157450.63	161154.88
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)	<b>36357.60</b>	<b>36744.71</b>	<b>36946.57</b>	<b>36970.98</b>	<b>37840.78</b>

### Interest on loan

46. 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.*

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

(a) The gross normative loan of ₹156869.65 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 ₹154124.31 lakh as per order dated 21.3.2012 in Petition No.150/2009. The same has been considered as cumulative repayment as on 1.4.2009. However, after taking into account 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 ₹152834.29 lakh.

(c) Accordingly, the net normative opening loan as on 1.4.2009 works out to ₹4035.36 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.

(f) The petitioner has considered originally contracted GOI loans as actual loan portfolio for the purpose of calculating weighted average rate of interest. However, these GOI loans were refinanced with Bonds earlier. Accordingly, in line with the provisions of Regulation 16 (5) stated above, weighted average rate of interest has been calculated considering the actual loan portfolio existing as on 1.4.2009 considering bonds in place of GOI loans, as enclosed in Annexure-I to this order.

(g) The cumulative repayment has been adjusted @70% due to de-capitalization of assets/works.

48. Interest on loan has been computed as under:

	<i>(₹ in lakh)</i>				
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross opening loan	156869.65	160551.14	164563.12	164563.12	165048.22
Cumulative repayment of loan upto previous year	152834.29	159923.36	164563.12	164563.12	165048.22
Net Loan Opening	4035.36	627.78	0.00	0.00	0.00
Addition due to Additional capitalisation	3681.49	4011.98	0.00	485.10	16801.40
Repayment of loan during the year	7135.85	4477.41	0.00	485.10	10138.95
Less: Repayment adjustment on	110.57	2.83	0.00	0.00	0.00

account of de-capitalisation					
Add: Repayment adjustment on discharges/reversals corresponding to un-discharged liabilities deducted as on 1.4.2009	63.79	165.17	0.00	0.00	0.00
Net Repayment	7089.07	4639.76	0.00	485.10	10138.95
Net Loan Closing	627.78	0.00	0.00	0.00	6662.45
Average Loan	2331.57	313.89	0.00	0.00	3331.23
Weighted Average Rate of Interest on Loan	7.1292%	7.0372%	7.0152%	7.0340%	7.1048%
<b>Interest on Loan</b>	<b>166.22</b>	<b>22.09</b>	<b>0.00</b>	<b>0.00</b>	<b>236.68</b>

## Depreciation

49. 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.*

50. The cumulative depreciation as on 31.3.2009 as per order dated 21.3.2012 in Petition No.150/2009 is ₹215957.40 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 ₹214180.70 lakh. Further, the value of freehold land as considered as on 31.3.2009 is ₹802.34 lakh and

the same 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 ₹67291.08 lakh. Since, as on 1.4.2009 the generating station is more than 12 years old from the effective date of commercial operation i.e 29.10.1992, depreciation has been calculated by spreading over the balance depreciable value. The balance useful life as on 1.4.2009, as per order dated 21.3.2012 in Petition No.150/2009 is 9.43 years. Further, proportionate adjustment has been made to the cumulative depreciation corresponding to discharges/reversals of liabilities considered during the respective years on account of cumulative depreciation adjusted as on 1.4.2009. Further, proportionate de-capitalisation adjustment has been done taking into account the de-capitalized assets/works during the period. Accordingly, depreciation is calculated as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening capital cost	310919.13	316178.40	321909.80	321909.80	322602.80
Closing capital cost	316178.40	321909.80	321909.80	322602.80	346604.80
Average capital cost	313548.76	319044.10	321909.80	322256.30	334603.80
Depreciable value @ 90%	281471.78	286417.59	288996.71	289308.56	300421.31
Remaining useful life at the beginning of the year	9.43	8.43	7.43	6.43	5.43
Balance depreciable value	67291.08	65140.15	59766.18	52034.13	55054.48
<b>Depreciation (annualized)</b>	<b>7135.85</b>	<b>7727.18</b>	<b>8043.90</b>	<b>8092.40</b>	<b>10138.95</b>
Cumulative depreciation at the end	221316.55	229004.62	237274.43	245366.83	255505.78
<b>Add:</b> Cumulative depreciation reduction on account of discharges & reversals of un-discharged liabilities deducted as on 1.4.2009	75.24	228.01	0.00	0.00	0.00
<b>Less:</b> Cumulative depreciation reduction due to de-capitalization	114.35	2.09	0.00	0.00	0.00
Cumulative depreciation (at the end of the period)	221277.44	229230.53	237274.43	245366.83	255505.78

### O&M Expenses

51. The 2009 Tariff Regulations lay down the following O&M expense norms for 200 MW and 500 MW for coal based thermal generating units:

	(₹ in lakh/ MW)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O & M expenses for 200 MW	18.20	19.24	20.34	21.51	22.74
O & M expenses for 500 MW	13.00	13.74	14.53	15.36	16.24
Weighted average	14.95	15.80	16.71	17.67	18.68
<b>Total for 1600 MW</b>	<b>23920</b>	<b>25284</b>	<b>26734</b>	<b>28266</b>	<b>29884</b>

52. O & M expenses claimed by the petitioner are as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O & M expenses	23920	25284	26734	28266	29884

53. 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)**

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

### **Interest on Working Capital**

55. 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.

56. 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 1<sup>st</sup> 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 1<sup>st</sup> 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.

57. 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	2012-13	2013-14
Cost of coal for 1.5 months	30206	30206	30289	30206	30206
Cost of secondary fuel oil 2 months	383	383	384	383	383

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	2012-13	2013-14
Cost of coal for 1.5 months	30205.93	30205.93	30288.69	30205.93	30205.93
Cost of secondary fuel oil 2 months	383.45	383.45	384.50	383.45	383.45

**(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	4892	5185	5475	5775	6073

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	4784.00	5056.80	5346.80	5653.20	5976.80

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Variable Charges -2 months	40274.57	40274.57	40384.92	40274.57	40274.57
Fixed Charges - 2 months	13599.56	13998.65	14343.51	14816.43	15839.65
<b>Total</b>	<b>53874.13</b>	<b>54273.22</b>	<b>54728.42</b>	<b>55091.00</b>	<b>56114.22</b>

**(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	2013-14
O & M expenses (1month)	2038	2160	2281	2406	2530

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	1993.33	2107.00	2227.83	2355.50	2490.33

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of Coal – 1.1/2 months	30205.93	30205.93	30288.69	30205.93	30205.93
Cost of Secondary Fuel Oil-2 months	383.45	383.45	384.50	383.45	383.45
O & M expenses – 1 month	1993.33	2107.00	2227.83	2355.50	2490.33
Maintenance Spares	4784.00	5056.80	5346.80	5653.20	5976.80
Receivables – 2 months	53874.13	54273.22	54728.42	55091.00	56114.22
<b>Total Working Capital</b>	<b>91240.85</b>	<b>92026.40</b>	<b>92976.24</b>	<b>93689.08</b>	<b>95170.73</b>
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
Interest on Working capital	<b>11177.00</b>	<b>11273.23</b>	<b>11389.59</b>	<b>11476.91</b>	<b>11658.41</b>

### Cost of secondary fuel oil

59. 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 ₹/ml considered initially.*

*NAPAF – Normative Annual Plant Availability Factor in percentage*

*NDY – Number of days in a year*

*IC - Installed Capacity in MW.*



60. 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	2301	2301	2307	2301	2301

61. 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	2300.68	2300.68	2306.98	2300.68	2300.68

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

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

Where,

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

### Compensation Allowance

63. The petitioner has claimed compensation allowance for the period 2009-14 as under:

	(₹ in lakh)				
	Unit-1	Unit-II	Unit-III	Unit-IV	Unit-V
Capacity (MW)	200	200	200	500	500
Compensation allowance	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
	540.00	640.00	640.00	610.00	480.00

64. Regulation 19(e) of the 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, 20 years of useful life.”*

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

65. Accordingly, the compensation allowance allowed to the petitioner is as under:

(₹ in lakh)

Sl.No.		Unit-I	Unit-II	Unit-III	Unit-IV	Unit-V	
1	COD	1-Nov-86	1-Oct-87	1-Sep-88	1-Jul-96	1-Apr-95	
2	Useful life as on 1.4.2009	22.42	21.50	20.58	12.75	14.00	
3	Actual useful life						
	10 years	1.11.1996	1.10.1997	1.9.1998	1.7.2006	1.4.2005	
	15 years	1.11.2001	1.10.2002	1.9.2003	1.7.2011	1.4.2010	
	20 years	1.11.2006	1.10.2007	1.9.2008	1.7.2016	1.4.2015	
	25 years	1.11.2011	1.10.2012	1.9.2013	1.7.2021	1.4.2020	
							<b>Total</b>
	<b>2009-10</b>	130.00	130.00	130.00	75.00	75.00	<b>540.00</b>
	<b>2010-11</b>	130.00	130.00	130.00	75.00	175.00	<b>640.00</b>
	<b>2011-12</b>	130.00	130.00	130.00	75.00	175.00	<b>640.00</b>
	<b>2012-13</b>	0.00	130.00	130.00	175.00	175.00	<b>610.00</b>
	<b>2013-14</b>	0.00	0.00	130.00	175.00	175.00	<b>480.00</b>
	<b>Total</b>	<b>390.00</b>	<b>520.00</b>	<b>650.00</b>	<b>575.00</b>	<b>775.00</b>	<b>2910.00</b>

### Special Allowance

66. The petitioner has claimed Special Allowance under Regulation 10 (4) to meet the expenses including R & M beyond the useful life of generating station or unit thereof, as follows.

Rate of special allowance: 5 lakh/MW/Year

Rate of escalation: 5.72% per year

(₹ in lakh)

Unit No	Capacity (MW)	Special allowance as per Clause 10(4)				
		2009-10	2010-11	2011-12	2012-13	2013-14
I	200	0	0	0	1182	1249
II	200	0	0	0	0	1249
III	200	0	0	0	0	0
IV	500	0	0	0	0	0
V	500	0	0	0	0	0
		0	0	0	<b>1182</b>	<b>2498</b>

67. The special allowance admissible to the generating station is as under:

(₹ in lakh)

Unit No	Capacity (MW)	COD	Year of completion of Useful life	Special allowance as per Clause 10(4)				
				2009-10	2010-11	2011-12	2012-13	2013-14
I	200	1.11.1986	2011-12	0.00	0.00	0.00	1181.60	1249.19
II	200	1.10.1987	2012-13	0.00	0.00	0.00	0.00	1249.19
III	200	1.9.1988	2013-14	0.00	0.00	0.00	0.00	0.00
IV	500	1.7.1996	2021-22	0.00	0.00	0.00	0.00	0.00
V	500	1.4.1995	2020-21	0.00	0.00	0.00	0.00	0.00
			<b>Total</b>	0.00	0.00	0.00	<b>1181.60</b>	<b>2498.38</b>

68. Based on the above, the total special allowance allowed is ₹3679.98 lakh for 2012-14.

## Annual fixed charges

69. 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	7135.85	7727.18	8043.90	8092.40	10138.95
Interest on Loan	166.22	22.09	0.00	0.00	236.68
Return on Equity	36357.60	36744.71	36946.57	36970.98	37840.78
Interest on Working Capital	11177.00	11273.23	11389.59	11476.91	11658.41
O&M Expenses	23920.00	25284.00	26734.00	28266.00	29884.00
Cost of Secondary fuel oil	2300.68	2300.68	2306.98	2300.68	2300.68
Compensation allowance	540.00	640.00	640.00	610.00	480.00
Special allowance	0.00	0.00	0.00	1181.60	2498.38
<b>Total</b>	<b>81597.36</b>	<b>83991.89</b>	<b>86061.05</b>	<b>88898.58</b>	<b>95037.88</b>

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.

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

## Energy /Variable Charge

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

### (a) For coal based and lignite fired stations

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

Where,

AUX = Normative auxiliary energy consumption in percentage.

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

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

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

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

LC = Normative limestone consumption in kg per kWh.

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

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

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

72. The petitioner has claimed an Energy Charge Rate (ECR) of 217.95 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 as latest procurement price. Accordingly, ECR has been worked out for the purpose of tariff based on the following:

	Unit	2009-14
Capacity	MW	840 MW (4x210)
Gross Station Heat Rate	Kcal/kWh	2453.125
Auxiliary Energy Consumption	%	6.9375
Weighted average GCV of coal	Kcal/kg	19311.39
Weighted average price of coal	Rs/MT	2557.00
Rate of energy charge-(Ex-bus)	paise/kWh	<b>217.954</b>

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

74. The Energy charge on month to month basis shall be billed by the petitioner as per Regulation 21(6)(a) of the 2009 Tariff Regulations.

75. During the hearing, the learned counsel for the respondent, GRIDCO, BRPL has submitted that the petitioner has claimed huge amounts towards Fuel Price Adjustment the beneficiaries are burdened with huge energy charges, due to the infirmities in the purchase of imported coal. 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 petitioner was required to import coal to maximize generation at its generating stations and the same was at times recommended by the beneficiaries including the said respondents. The petitioner has also submitted that the issue of import of coal was discussed in various forums which included the respondents as party 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. 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**

76. The petitioner has sought approval for the reimbursement of fees of ₹32,00,000/- 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 22.4.2010 has submitted that an expenditure of ₹11,13,393/- has been incurred by it for publication of notice in the newspapers.

77. 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.

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

**79. 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.

80. As regards claim for recovery of RLDC Fees and Charges, the same is disposed of in terms of our dated 6.2.2012 in Petition No 140/2011 (NTPC-V-POSOCO Ltd & ors).

81. 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.

82. 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.

83. This disposes of Petition No.222/2009.

*Sd/-*  
(M. DEENA DAYALAN)  
MEMBER

*Sd/-*  
(V.S.VERMA)  
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		2009-10	2010-11	2011-12	2012-13	2013-14
1	GOI-15% (Refinanced with Bond series XIII B)	Net opening loan	238.50	212.00	185.50	159.00	132.50
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	26.50	26.50	26.50	26.50	26.50
		Net Closing Loan	212.00	185.50	159.00	132.50	106.00
		Average Loan	225.25	198.75	172.25	145.75	119.25
		Rate of Interest	9.5800%	9.5800%	9.5800%	9.5800%	9.5800%
		Interest	21.58	19.04	16.50	13.96	11.42
2	KFW- D2	Net opening loan	268.39	268.39	230.05	191.71	153.37
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	0.00	38.34	38.34	38.34	38.34
		Net Closing Loan	268.39	230.05	191.71	153.37	115.03
		Average Loan	268.39	249.22	210.88	172.54	134.20
		Rate of Interest	2.5600%	2.5600%	2.5600%	2.5600%	2.5600%
		Interest	6.87	6.38	5.40	4.42	3.44
3	KFW - D4	Net opening loan	244.92	244.92	209.93	174.94	139.95
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	0.00	34.99	34.99	34.99	34.99
		Net Closing Loan	244.92	209.93	174.94	139.95	104.96
		Average Loan	244.92	227.42	192.44	157.45	122.46
		Rate of Interest	2.5600%	2.5600%	2.5600%	2.5600%	2.5600%
		Interest	6.27	5.82	4.93	4.03	3.13
4	KFW - D5	Net opening loan	122.40	122.40	104.92	87.43	69.95
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	0.00	17.49	17.49	17.49	17.49
		Net Closing Loan	122.40	104.92	87.43	69.95	52.46
		Average Loan	122.40	113.66	96.18	78.69	61.20
		Rate of Interest	2.5600%	2.5600%	2.5600%	2.5600%	2.5600%
		Interest	3.13	2.91	2.46	2.01	1.57
5	SBI-I	Net opening loan	64.29	42.86	21.43	0.00	0.00
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	21.43	21.43	21.43	0.00	0.00
		Net Closing Loan	42.86	21.43	0.00	0.00	0.00
		Average Loan	53.57	32.14	10.71	0.00	0.00
		Rate of Interest	11.6000%	11.6000%	11.6000%	11.6000%	11.6000%
		Interest	6.21	3.73	1.24	0.00	0.00
6	IBRD-Main	Net opening loan	110.05	90.66	69.80	47.37	23.24
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	19.39	20.86	22.43	24.13	23.24
		Net Closing Loan	90.66	69.80	47.37	23.24	-
		Average Loan	100.36	80.23	58.59	35.31	11.62
		Rate of Interest	4.2900%	4.2900%	4.2900%	4.2900%	4.2900%
		Interest	4.31	3.44	2.51	1.51	0.50
7	LIC - III (T4 D1)	Net opening loan	765.00	675.00	585.00	495.00	405.00
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00

		Less: Repayment during the period	90.00	90.00	90.00	90.00	90.00
		Net Closing Loan	675.00	585.00	495.00	405.00	315.00
		Average Loan	720.00	630.00	540.00	450.00	360.00
		Rate of Interest	8.5530%	8.5530%	8.5530%	8.5530%	8.5530%
		Interest	61.58	53.88	46.19	38.49	30.79
8	LIC - III (T4 D4)	Net opening loan	850.00	750.00	650.00	550.00	450.00
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	100.00	100.00	100.00	100.00	100.00
		Net Closing Loan	750.00	650.00	550.00	450.00	350.00
		Average Loan	800.00	700.00	600.00	500.00	400.00
		Rate of Interest	8.7481%	8.7481%	8.7481%	8.7481%	8.7481%
		Interest	69.98	61.24	52.49	43.74	34.99
9	UBI (T1,D10)	Net opening loan	472.73	236.36	0.00	0.00	0.00
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	236.36	236.36	0.00	0.00	0.00
		Net Closing Loan	236.36	0.00	0.00	0.00	0.00
		Average Loan	354.55	118.18	0.00	0.00	0.00
		Rate of Interest	7.2500%	7.2500%	7.2500%	7.2500%	7.2500%
		Interest	25.70	8.57	0.00	0.00	0.00
10	UCO Bank	Net opening loan	142.86	114.29	85.71	57.14	28.57
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	28.57	28.57	28.57	28.57	28.57
		Net Closing Loan	114.29	85.71	57.14	28.57	0.00
		Average Loan	128.57	100.00	71.43	42.86	14.29
		Rate of Interest	7.3500%	7.3500%	7.3500%	7.3500%	7.3500%
		Interest	9.45	7.35	5.25	3.15	1.05
11	UBI	Net opening loan	34.29	17.14	0.00	0.00	0.00
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	17.14	17.14	0.00	0.00	0.00
		Net Closing Loan	17.14	0.00	0.00	0.00	0.00
		Average Loan	25.71	8.57	0.00	0.00	0.00
		Rate of Interest	7.3060%	7.3060%	7.3060%	7.3060%	7.3060%
		Interest	1.88	0.63	0.00	0.00	0.00
12	GOI-10.75%	Net opening loan	1.14	0.00	0.00	0.00	0.00
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	1.14	0.00	0.00	0.00	0.00
		Net Closing Loan	0.00	0.00	0.00	0.00	0.00
		Average Loan	0.57	0.00	0.00	0.00	0.00
		Rate of Interest	10.7500%	10.7500%	10.7500%	10.7500%	10.7500%
		Interest	0.06	0.00	0.00	0.00	0.00
13	Gross Total	Net opening loan	3,314.56	2,774.02	2,142.34	1,762.60	1,402.58
		Add: Addition during the period	0.00	0.00	0.00	0.00	0.00
		Less: Repayment during the period	540.53	631.68	379.75	360.02	359.13
		Net Closing Loan	2,774.02	2,142.34	1,762.60	1,402.58	1,043.45
		Average Loan	3,044.29	2,458.18	1,952.47	1,582.59	1,223.01
		<b>Rate of Interest</b>	<b>7.1292%</b>	<b>7.0372%</b>	<b>7.0152%</b>	<b>7.0340%</b>	<b>7.1048%</b>
		Interest	217.03	172.99	136.97	111.32	86.89