

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 188/GT/2013**

**Coram:**

**Shri Gireesh B. Pradhan, Chairperson  
Shri M.Deena Dayalan, Member  
Shri A.K. Singhal, Member**

**Date of Hearing: 19.11.2013**

**Date of Order: 15.5.2014**

**In the matter of**

Revision of tariff of Singrauli Super Thermal Power Station (2000 MW) for the period from 1.4.2009 to 31.3.2014-Truing up of tariff determined by order dated 7.8.2012 in Petition No. 225/2009.

**And**

**In the matter of**

NTPC Ltd  
NTPC Bhawan,  
Core-7, SCOPE Complex,  
7, Institutional Area, Lodhi Road,  
New Delhi-110003

**...Petitioner**

**Vs**

1. Uttar Pradesh Power Corporation Ltd  
Shakti Bhawan,  
14, Ashok Road,  
Lucknow – 226 001
2. Jaipur Vidyut Vitran Nigam Ltd  
Vidyut Bhawan, Janpath,  
Jaipur – 302 205
3. Ajmer Vidyut Vitran Nigam Ltd  
Old Power House,  
Hatthi Bhatta, Jaipur Road,  
Ajmer – 305 001
4. Jodhpur Vidyut Vitran Nigam Ltd  
New Power House, Industrial Area,  
Jodhpur – 342 003
5. Tata Power Delhi Distribution Ltd  
33 kV Sub-station, Kingsway Camp, Delhi –110 009



6. BSES Rajdhani Power Ltd  
BSES Bhawan, Nehru Place,  
New Delhi – 110 019
7. BSES Yamuna Power Ltd  
BSES Bhawan, Nehru Place,  
New Delhi – 110 019
8. Haryana Power Purchase Centre,  
Shakti Bhawan, Sector, 6  
Panchkula – 134109
9. Punjab State Power Corporation Ltd  
The Mall, Secretariat Complex,  
Patiala – 147 001
10. Himachal Pradesh State Electricity Board,  
Vidyut Bhawan, Kumar House,  
Shimla-171004
11. Power Development Department,  
Government of J&K,  
New Secretariat  
Srinagar
12. Power Department,  
Union Territory of Chandigarh,  
1<sup>st</sup> Floor, UT Secretariat, Sector 9D,  
Chandigarh – 160 009
13. Uttarakhand Power Corporation Ltd  
Urja Bhawan, Kanwali Road,  
Dehradun – 248 001

....Respondents

**Parties Present:**

- For Petitioner:** Shri Ajay Dua, NTPC  
Ms. Rakhi Dua, NTPC  
Shri Vivek Kumar, NTPC  
Shri S Saran, NTPC  
Shri Y.R. Dhingra, NTPC
- For Respondent:** Shri R.B. Sharma, Advocate, BRPL  
Shri Sanjay Srivastav, BRPL  
Shri Padamjit Singh, PSPCL  
Shri Manish Garg, UPPCL & BYPL

## ORDER

This petition has been filed by the petitioner, NTPC, for revision of tariff of Singrauli Super Thermal Power Station (2000 MW) (hereinafter referred to as “the generating station”) for the period from 1.4.2009 to 31.3.2014 in terms of proviso to Regulation 6 (1) of 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 2000 MW comprises of five units of 200 MW and two Units of 500 MW each. The dates of commissioning of various units of the generating station are as under:

Unit-I	1.6.1982
Unit-II	1.2.1983
Unit-III	1.7.1983
Unit-IV	1.1.1984
Unit-V	1.6.1984
Unit-VI	1.7.1987
Unit-VII/Generating station	<b>1.5.1988</b>

3. Petition No. 225/2009 was filed by the petitioner for determination of tariff of the generating station for the period from 1.4.2009 to 31.3.2014 and the Commission by its order dated 7.8.2012 determined the annual fixed charges for the generating station. The capital cost considered by the Commission for the purpose of determination of annual fixed charges for 2009-14 by order dated 7.8.2012 is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost	127479.47	127482.76	127535.89	133135.89	136305.89
Additional capital expenditure	3.29	53.14	5600.00	3170.00	0.00
<b>Closing Capital cost</b>	<b>127482.76</b>	<b>127535.89</b>	<b>133135.89</b>	<b>136305.89</b>	<b>136305.89</b>
<b>Average Capital cost</b>	<b>127481.11</b>	<b>127509.32</b>	<b>130335.89</b>	<b>134720.89</b>	<b>136305.89</b>

4. Based on the above, the annual fixed charges for the generating station for 2009-14 determined by order dated 7.8.2012 in Petition No. 225/2009 is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	237.25	254.81	195.91	379.37	463.06
Interest on Loan	482.43	361.90	396.07	453.67	445.64
Return on Equity	14331.39	14333.38	14532.49	14841.38	14953.03
Interest on Working Capital	7052.66	7174.82	7304.49	7421.79	7609.79
O&M Expenses	31200.00	32980.00	34870.00	36870.00	38980.00

Cost of Secondary fuel oil	3175.77	3175.77	3184.47	3175.77	3175.77
Compensation Allowance	780.00	650.00	650.00	650.00	325.00
Special Allowance	4000.00	5286.00	5588.36	5908.01	9368.93
<b>Total</b>	<b>61259.50</b>	<b>64216.67</b>	<b>66721.80</b>	<b>69700.00</b>	<b>75321.22</b>

5. The petitioner presently seeks revision of the annual fixed charges based on the actual additional capital expenditure incurred for the years 2009-10, 2010-11 and 2011-12 and the projected additional capital expenditure for the years 2012-13 and 2013-14 based on the latest estimates and the status of work, in accordance with clause (1) of Regulation 6 of the 2009 Tariff Regulations.

6. Regulation 6 of the 2009 Tariff Regulations provides as under:

*"6. Truing up of Capital Expenditure and Tariff*

*(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up.*

*Provided that the generating company or the transmission licensee, as the case may be, may in its discretion make an application before the Commission one more time prior to 2013-14 for revision of tariff."*

7. The annual fixed charges claimed by the petitioner in this petition are as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	632.79	1428.12	352.93	58.97	280.21
Interest on Loan	507.68	382.30	338.05	331.66	410.17
Return on Equity	14401.98	14309.31	14167.85	14200.86	14517.55
Interest on Working Capital	7062.90	7199.20	7298.96	7399.21	7596.16
O&M Expenses	31200.00	32980.00	34870.00	36870.00	38980.00
Cost of secondary fuel oil	3175.77	3175.77	3184.47	3175.77	3175.77
Compensation Allowance	780.00	650.00	650.00	650.00	325.00
Special Allowance	4000.00	5286.00	5588.36	5908.01	9368.93
<b>Total</b>	<b>61761.12</b>	<b>65410.70</b>	<b>66450.62</b>	<b>68594.48</b>	<b>74653.78</b>

8. The respondent Nos.1, 6 and 7 namely, UPPCL, BSES-BRPL and BSES-BYPL have filed replies in the matter and the petitioner has filed its rejoinder to the same. We now consider the prayer for revision of annual fixed charges tariff for the generating station taking into consideration the submissions of the parties and documents available on record as stated in the subsequent paragraphs:

## Capital cost

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

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

10. Accordingly, the capital cost of ₹127479.47 lakh as on 1.4.2009 (on cash basis), after removal of un-discharged liabilities amounting to ₹382.35 lakh (₹89.96 lakh pertaining to period prior to 1.4.2004 and ₹292.39 lakh pertaining to period 2004-09) has been considered for the purpose of tariff. Out of the un-discharged liabilities deducted as on 1.4.2009, the petitioner has discharged an amount of ₹1.96 lakh and reversed ₹1.33 lakh during 2009-10 (all pertaining to period 2004-09), ₹53.14 lakh (₹10.29 lakh pertaining to period prior to 1.4.2004 and ₹42.85 lakh pertaining to period 2004-09) during the year 2010-11. Further, an amount of ₹48.21 lakh has been discharged and ₹44.23 lakh has been reversed (all liabilities pertaining to period 2004-09) during the year 2011-12. The discharge of liabilities, made during the years would be included in the capital base as additional capital expenditure, in the year of discharge.

## Actual/ Projected Additional Capital Expenditure during 2009-14

11. Regulation 9 of the 2009 Tariff Regulations, as amended on 21.6.2011 and 31.12.2012, provides as under:

*“9. **Additional Capitalisation.** (1) The capital expenditure incurred or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:*

*(i) Un-discharged liabilities;*

*(ii) Works deferred for execution;*

*(iii) Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 8;*

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

*(v) Change in law:*

*Provided that the details of works included in the original scope of work along with estimates of expenditure, un-discharged liabilities and the works deferred for execution shall be submitted along with the application for determination of tariff.*

*(2) The capital expenditure incurred or projected to be incurred on the following counts after the cut-off date may, in its discretion, be admitted by the Commission, subject to prudence check:*

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

*(ii) Change in law;*

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

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

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

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

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

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

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

*(viii) Any un-discharged liability towards final payment/withheld payment due to contractual exigencies for works executed within the cut-off date, after prudence check of the details of such deferred liability, total estimated cost of package, reason for such withholding of payment and release of such payments etc.*

*(ix) Expenditure on account of creation of infrastructure for supply of reliable power to rural households within a radius of five kilometers of the power station if, the generating company does not intend to meet such expenditure as part of its Corporate Social Responsibility.”*

12. The additional capital expenditure claimed by the petitioner for 2009-14 in Petition No 225/2009 and those allowed by order dated 7.8.2012 excluding un-discharged liability is summarized as under:

(₹ in lakh)

	2009-10 Actual	2010-11 Projected	2011-12 Projected	2012-13 Projected	2013-14 Projected
Additional Capital Expenditure claimed	1780.45	1598.12	14258.29	14033.46	6368.94
Additional Capital Expenditure allowed	0.00	0.00	5600.00	3170.00	0.00

13. The break-up of the additional capital expenditure allowed by the Commission in its order dated 7.8.2012 in 225/2009 is summarized as under:

(₹ in lakh)

Head of work/ Equipment	Actual/Projected capital expenditure				
	2009-10 ( actual)	2010-11	2011-12	2012-13	2013-14
Environmental & Ash Utilization	0.00	0.00	5600.00	3170.00	0.00
Ash Pond and Ash Handling	0.00	0.00	0.00	0.00	0.00
R&M and Life Extension	0.00	0.00	0.00	0.00	0.00
R&M (CEA letter dated 17.4.2007)					
DDC MIS Stage-II	0.00	0.00	0.00	0.00	0.00
Renovation & Retrofitting of ESP	0.00	0.00	0.00	0.00	0.00
Energy Management System	0.00	0.00	0.00	0.00	0.00
AAQMAS Package	0.00	0.00	0.00	0.00	0.00
Opacity Monitoring Equipment	0.00	0.00	0.00	0.00	0.00
<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>5600.00</b>	<b>3170.00</b>	<b>0.00</b>

14. The break-up of additional capital expenditure for 2009-14 claimed by the petitioner in this petition, is as under:

(₹ in lakh)

S No.	Description of the Scheme	Actual			Projected		Total
		2009-10	2010-11	2011-12	2012-13	2013-14	
<b>A</b>	<b>Environment &amp; Ash Utilization</b>						
1	Dry Ash Extraction and Transportation (DAETP) for Stage-II (2X500 MW)	0.00	0.00	0.00	0.00	4572.00	4572.00
2	Ash Water Recirculation System for Stage -I & II	0.00	0.00	0.00	0.00	4140.00	4140.00
	<b>Sub-Total (I)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>8712.00</b>	<b>8712.00</b>
<b>B</b>	<b>New Items</b>						
3	Laying of new CW duct	0.00	0.00	0.00	0.00	0.00	0.00
4	Expenditure on 5 KM electricity supply scheme	0.00	0.00	0.00	409.95	80.00	489.95
5	Replacement of ASEA and Jyoti Make 6.6 KV MOCBs with SF6 Vacuum Breaker for CHP Stage -II	0.22	0.00	0.00	0.00	0.00	0.22
6	Wire rope electric hoist	4.20	0.00	0.00	0.00	0.00	4.20
7	Generator transformer, Stage- II	2079.01	0.00	0.00	0.00	0.00	2079.01
8	De-capitalization of Generator Transformer, Stage- II	(-) 78.02	0.00	0.00	0.00	0.00	(-) 78.02
9	Liquid waste treatment plant	0.00	7.79	0.00	0.00	0.00	7.79
10	GT 21 kV Bus duct	0.00	44.42	46.19	0.00	0.00	90.61
11	Renovation of relay panel of CHP Stage- II	0.00	0.00	330.80	0.00	0.00	330.80

	(including ACSF panel)						
12	Chlorine leak absorption system	0.00	0.00	13.39	0.00	0.00	13.39
13	Retrofitting of microprocessor based conversion kit control in stock make gravimetric feeders in 3x 200 MW units	0.00	0.00	77.65	0.00	0.00	77.65
14	Ash Dyke Package Lagoon Stage-I	0.00	0.00	32.94	0.00	0.00	32.94
	<b>Sub-Total (II)</b>	<b>2005.41</b>	<b>52.21</b>	<b>500.97</b>	<b>409.95</b>	<b>80.00</b>	<b>3048.54</b>
	<b>Total (I +II)</b>	<b>2005.41</b>	<b>52.21</b>	<b>500.97</b>	<b>409.95</b>	<b>8792.00</b>	<b>11760.54</b>

15. It could be observed from the above that the total additional capital expenditure claimed by the petitioner during 2009-14 in this petition is ₹11760.54 lakh as against the additional capital expenditure of ₹8770.00 lakh allowed in order dated 7.8.2012 in Petition No. 225/2009. Thus, there is an increase of ₹2990.54 lakh in the claim of the petitioner in this petition. It is noticed that the increase in the claim for additional capital expenditure of ₹2990.54 lakh is on account of new claims to the tune of ₹3048.54 lakh, comprising of ₹2079.01 lakh for 'Generator Transformer, Stage-II' with de-capitalization of ₹78.02 lakh, ₹90.61 lakh for 'GT 21 kV bus-duct', ₹330.80 lakh for 'Renovation of relay panel of CHP Stage-II', ₹77.65 lakh for 'Retrofitting of microprocessor based conversion kit in stock make gravimetric feeders in 3x200 MW units', ₹13.39 lakh for 'chlorine leak detection system', and balance payment of ₹32.94 lakh for 'Ash Dyke Package Lagoon Stage-I' and ₹7.79 lakh on account of LD, etc for 'Liquid waste treatment plant' the dispute for which is pending before the Hon'ble High Court of Delhi. However, there is reduction in the claim of ₹58.00 lakh by the petitioner under the head "Environment and Ash Utilization" in this petition.

16. We now examine the claim of the petitioner for actual capital expenditure during 2009-12 as under:

#### **Liquid waste treatment plant- Regulation 9(2)(i)**

17. The petitioner has claimed actual additional capital expenditure of ₹7.79 lakh for Liquid waste treatment plant during 2010-11. In justification of its claim, the petitioner has submitted that there was dispute with contractor in regard to Liquidated Damages (LD), statutory obligation and the responsibilities of the parties. It has also submitted that the dispute went through the process of adjudication and arbitration and arbitration award was given on 23.3.2011. Accordingly, the petitioner has capitalized the expenditure incurred on account of this award though an appeal has been filed against this award, in the High Court of

Delhi. In view of the submissions made by the petitioner and since the expenditure of ₹7.79 lakh has actually been incurred, we allow the claim under this head. The petitioner is however directed to inform the Commission as and when a final decision is taken in the matter by the High Court in the said appeal.

#### **Environment and Ash Utilization -Change-in-Law [Regulation 9(2)(ii)]**

18. The petitioner in this petition has claimed projected additional capital expenditure of ₹4572.00 lakh during 2013-14 towards Dry Ash Extraction & Transportation (DAETP) as against the projected additional capital expenditure of ₹4570.00 lakh (₹3200 lakh during 2011-12 and ₹1370.00 lakh during 2012-13) allowed in order dated 7.8.2012 in Petition No. 225/2009 on the ground that the expenditure is for achieving 100% ash utilization targets notified by the Ministry of Environment & Forests, Government of India. There is an increase of ₹2.00 lakh in the expenditure claimed under this head, which in our view, is nominal. Considering the fact that the expenditure has been allowed by order dated 7.8.2012, we allow the claim of ₹4572.00 lakh during 2013-14 in this petition under Regulation 9(2)(ii) of the 2009 Tariff Regulations.

19. The petitioner has claimed projected additional capital expenditure of ₹4140.00 lakh during 2013-14 for Ash Water Recirculation for Stage-I & II as against the projected additional capital expenditure of ₹4200.00 lakh (₹2400.00 lakh during 2011-12 and ₹1800.00 lakh during 2012-13) allowed in order dated 7.8.2012 in Petition No. 225/2009. Thus, there is overall reduction of ₹60.00 lakh in the claim of the petitioner. Since the expenditure for the said asset is for complete re-circulation of new ash pond overflow in order to achieve zero discharge of effluents, in compliance with the requirement of the directions of the Uttar Pradesh Pollution Control Board and has been allowed vide order dated 7.8.2012, the projected additional capital expenditure of ₹4140.00 lakh is allowed under Regulation 9(2)(ii).

#### **New items / Works claimed under Regulation 9(2)(ii)-Change in Law**

20. The petitioner has claimed capitalization of ₹2079.01 lakh during 2009-10 along with de-capitalization of (-)₹ 78.02 lakh during 2009-10 for Generator Transformer Stage-II, ₹90.61 lakh (₹44.42 lakh during 2009-10 and ₹46.19 lakh during 2011-12) for GT 21 kV bus-duct under 'Change-in-law'. In justification of its claim

for GTs, the petitioner has submitted that the DGA results for all these GTs have shown high concentration of dissolved gasses and that the Original Equipment Manufacturer (OEM) had opined that the possible cause for this would be the OFWF type cooling arrangement and had recommended its replacement with OFAF design cooling arrangement. It has further submitted that the last two GTs were replaced in August, 2011 and May 2011 for ₹2079.01 lakh. The petitioner has also submitted that for 21 kV bus-ducts, the orientation of LV bushing of new GT was different from the old one and in order to accommodate the new GT, bus-duct was procured. The respondent BSES Rajdhani Power Limited in its reply has objected to the capitalization of this expenditure and has submitted that the expenditure on additional capitalization of this nature are not covered under Regulation 9(2) (ii) of the 2009 Tariff Regulations, and are to be met by the petitioner from the Compensation Allowance specially allowed to the generating station under Regulation 19(e) of the 2009 Tariff Regulations.

21. We have examined the submissions of the parties. The capitalization of Generator Transformer Stage-II and 21 kV bus-ducts cannot be considered under 'Change-in-law' as such items are in the nature of 'replacement' which fall under the head 'Renovation and Modernization' (R&M). Further, it is noticed from the operating parameters of the generating station as submitted by the petitioner in the table below, that during last 5 years, the average availability is above the normative availability of 85%, except for the years 2008-09 and 2011-12:

	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>Average</b>
Availability Factor	83.865%	85.742%	90.279%	83.054%	87.234%	86.035%
Plant Load Factor	90.716%	92.833%	96.536%	88.953%	92.431%	92.294%

22. We notice that the GTs were capitalized during 2009-10 and were put in operation in August, 2010 and May, 2011 respectively. The Commission in its order dated 7.8.2012 had allowed Special Allowance of ₹30151.30 lakh to the petitioner under Regulation 10(4) of the 2009 Tariff Regulations in order to meet the expenses on Renovation & Modernization for Stage-I and Stage-II units during the period 2009-14 since all the units would be completing 25 years of useful life from their respective dates of commercial operation.

Further, the petitioner has also been allowed Compensation Allowance of ₹ 3055.00 lakh under Regulation 19(e) of the 2009 Tariff Regulations in order to meet the expenses on new assets of capital nature including assets of minor nature. Since, Special Allowance allowed to the petitioner is towards the replacement of old, obsolete and under-performing components of the generating station which may arise after expiry of useful life, the additional capital expenditure for replacement of GTs and 21 kV bus-ducts, etc. shall be incurred by the petitioner from the said Special Allowance allowed. In view of this, the expenditure of ₹2079.01 lakh for GTs and ₹90.61 lakh for 21 kV bus-ducts is not allowed under this head. The corresponding de-capitalization of (-) ₹78.02 lakh during 2009-10 has accordingly been ignored.

#### **New items / works -Regulation 5, 6 & 7**

23. The petitioner has claimed actual additional capital expenditure of ₹330.80 lakh for Renovation of relay panel of CHP of Stage-II and ₹ 77.65 lakh for retrofitting microprocessor based conversion make gravimetric feeders in 3 x 200 MW units during 2011-12. As stated, the Commission in its order dated 7.8.2012 had allowed the petitioner ₹30151.30 lakh as Special Allowance under the Regulation 10(4) to meet the expenses on Renovation & Modernization for the Stage-I & Stage-II units during the period 2009-14 since all the units would be completing 25 years of useful life from their respective dates of commercial operation. Further, a Compensation Allowance of ₹3055.00 lakh under Regulation 19(e) of the 2009 Tariff Regulations has been allowed to the petitioner in order to meet the expenses on new assets of capital nature including assets of minor nature. Since, Special Allowance allowed to the petitioner is towards the replacement of old, obsolete and under-performing components of power station which may arise after expiry of useful life, the additional capital expenditure for these assets may be met from the Special Allowance allowed to the generating station in order dated 7.8.2012. Hence, the claim of the petitioner for expenditure under Regulation 5, 6 & 7 has not been allowed

24. The petitioner has claimed actual additional capital expenditure of ₹4.20 lakh for Wire rope electric hoist during 2009-10 and ₹13.39 lakh for Chlorine leak absorption system during 2011-12. Since the

petitioner has been allowed Compensation Allowance in order to meet expenses on new assets of capital nature including assets of minor nature, the expenditure on these assets has not been allowed as the petitioner can meet such expenses from the Compensation Allowance allowed to the generating station vide order dated 7.8.2012 in Petition No. 225/2009. Accordingly, the petitioner's claim for additional capital expenditure of ₹4.20 lakh for Wire rope electric hoist during 2009-10 and ₹13.39 lakh for Chlorine leak absorption system during 2011-12 under the Regulation 5, 6 & 7 has not been allowed under this head.

### **Expenditure claimed for Successful & Efficient operation of generating station**

25. Though the petitioner has not claimed any additional capital expenditure during the period 2009-14 under this head, it has submitted that the problem of leakage of CW duct of Stage-I has been a long standing issue and all efforts made to stop the said problem were not successful. It has also been submitted that the failure of ducts may lead to forced shutdown of Stage-I units (5x200 MW) and that the replacement of the ducts is estimated to take about 24 months. The petitioner has pointed out that the work is estimated to be completed by 2013-14 and has submitted that the capitalization of the expenditure may be done during 2014-15. Considering the fact that Stage-I units have completed 25 years as on 1.4.2009 itself and the petitioner has opted for Special allowance in lieu of R&M, we are of the view that the petitioner should meet such R&M nature of expenditure through the Special allowance allowed to the petitioner. Hence, the claim under this head has not been considered.

### **Balance Payments-Regulation 9(2)(viii)**

26. The petitioner has claimed expenditure of ₹32.94 lakh during 2011-12 towards balance payment for Ash Dyke Package Lagoon Stage-I and ₹ 0.22 lakh for replacement of 6.6 kV MOCBs breaker with SF6 breaker in respect of the CEA approved schemes allowed vide Commission's order dated 21.1.2011 in Petition No.189 of 2009 (relating to additional capital expenditure during the period 2006-09). In view of the submissions, the expenditure claimed as above has been allowed under this head.

### Expenditure on 5 km electricity supply scheme-Regulation 9(2)(ix)

27. The petitioner has claimed expenditure of ₹409.95 lakh during 2012-13 and ₹80.00 lakh during 2013-14 towards implementation of the scheme for electrification for villages in 5 KM radius around Central Power Plants under this head. The scheme for supply of electricity within 5 KM radius around Central Power Plants was withdrawn vide Ministry of Power, Government of India notification dated 25.3.2013. It is noticed that the Ministry of Power, GOI by letter dated 8.3.2014 had granted exemption in respect of 8 ongoing projects around the generating stations of the petitioner, including this generating station, under the erstwhile scheme and has conveyed the approval for capitalization of expenditure for this generating station also as per provisions of the said scheme, subject to orders of this Commission. In terms of this, the petitioner vide its affidavit dated 11.3.2014 has filed the documents in support of capitalization of the said expenditure under this head. The submissions have been taken on record. However, the claim for capitalization of the said expenditure will be considered at the time of truing up of tariff of the generating station for 2009-14 in terms of Regulation 6 of the 2009 Tariff Regulations.

28. The reconciliation of the actual capital expenditure with that of the books of accounts for the years 2009-10, 2010-11 and 2011-12 as submitted by the petitioner is as under:

	(₹ in lakh)		
	2009-10	2010-11	2011-12
Opening Gross Block as per audited Balance Sheet (A)	139952.94	148233.26	151926.98
Closing Gross Block as per audited Balance Sheet (B)	148233.26	151926.98	155173.76
Addition during the year (as per books) C=(B-A)	8280.32	3693.72	3246.78
Exclusions (D)	6262.14	3558.38	2697.55
Liabilities (E)	12.77	83.13	48.25
<b>Additional Capitalization claimed on cash basis (C-D-E)</b>	<b>2005.41</b>	<b>52.21</b>	<b>500.98</b>

29. The actual additional capital expenditure claimed by the petitioner has been reconciled with the gross block of the balance sheet. It is evident from the above table that the actual additional capital expenditure claimed by the petitioner is at variance with the additional capital expenditure as per books of accounts due to exclusions of certain expenditure and un-discharged liabilities for the purpose of tariff.

## Exclusions

30. In the first instance, we consider the exclusions for the year 2009-10, 2010-11 and 2011-12 under different heads. The summary of exclusions claimed as per books of accounts is as under:

	(₹ in lakh)		
	2009-10	2010-11	2011-12
FERV	(-) 110.63	85.37	537.76
Inter-unit transfers	(-) 323.34	0.20	(-) 4.60
Capitalization of Capital Spares	5632.07	2839.21	1854.06
De-capitalization of Spares part of Capital Cost	(-) 178.58	(-)196.34	(-) 464.75
De-capitalization of Spares not part of capital cost	(-) 634.34	(-) 411.8	(-) 384.29
Capitalization of MBOA	93.08	348.36	219.77
De-capitalization of MBOA	0.00	(-) 16.93	(-) 132.03
Capitalization of items not allowed by Commission	1812.71	975.51	1103.63
De-capitalization of Items not allowed by Commission	(-) 31.35	(-)104.71	0.00
Items not claimed	1.56	2.19	0.24
Hospital items not claimed	2.28	37.32	2.91
Condemned assets	0.00	0.00	13.08
De-capitalization of Condemned assets	0.00	0.00	(-) 3.99
Liability Reversal	(-) 1.32	0.00	(-) 44.23

31. We consider the exclusions for the years 2009-10, 2010-11 and 2011-12 as under:

### FERV

32. The petitioner has excluded an amount of (-) ₹110.63 lakh during 2009-10, ₹85.37 lakh during 2010-11 and ₹537.76 lakh 2011-12 on account of impact of FERV. As the petitioner bills FERV directly on the beneficiaries, the exclusion of FERV is in order and has been allowed.

### Inter-unit transfers

33. An amount of (-)₹323.34 lakh during 2009-10, ₹0.20 lakh during 2010-11 and ₹(-) 4.60 lakh during 2011-12 has been excluded under this head on account of transfer of certain assets like office furniture, Generator stator, IP rotor of 500 MW turbine etc. These are temporary inter-unit transfers. The Commission while dealing with petitions for additional capitalization in respect of other generating stations of the petitioner, had decided that both positive and negative entries arising out of inter unit-transfers of temporary nature shall be ignored for the purpose of tariff. In consideration of the same, the exclusion of (-) ₹323.34 lakh during 2009-10, ₹0.20 lakh during 2010-11 and (-)₹4.60 lakh during 2011-12 on account of inter-unit transfer of assets on temporary basis is in order and has been allowed.

### **Capitalization of spares**

34. The petitioner has capitalized capital spares in books of accounts amounting to ₹5632.07 lakh during 2009-10, ₹2839.21 lakh during 2010-11 and ₹1854.06 lakh during 2011-12. As capitalization of spares over and above the initial spares procured after cut-off date are not allowed for the purpose of tariff as they form part of O&M expenses as and when consumed, the petitioner has excluded the said amounts. Accordingly, the exclusion of the said amounts under this head is in order and accordingly allowed.

### **De-capitalization of spares part of capital cost**

35. The petitioner has de-capitalized capital spares amounting to (-) ₹178.58 lakh during 2009-10, (-) ₹196.34 lakh during 2010-11 and (-) ₹464.75 lakh during 2011-12 in books of accounts on these spares becoming unserviceable. It is observed from the submissions of the petitioner that these spares were part of the capital cost allowed in tariff and these spares on becoming unserviceable were taken out from the capital cost. Since, these expenses were part of capital cost, the exclusion sought for de-capitalization of these spares for (-) ₹178.58 lakh during 2009-10, (-) ₹196.34 lakh during 2010-11 and (-) ₹464.75 lakh during 2011-12 has not been allowed

### **De-capitalization of spares not part of capital cost**

36. The petitioner has de-capitalized spares which do not form part of the capital cost in books of account amounting to (-) ₹634.34 lakh during 2009-10, (-) ₹411.80 lakh during 2010-11 and (-) ₹384.29 lakh during 2011-12 on these spares becoming unserviceable. It is observed from the de-capitalization of spares that these capital spares were not allowed in tariff as part of the capital cost. Hence, the de-capitalization of spares for (-) ₹ 634.34 lakh during 2009-10, (-) ₹ 411.80 lakh during 2010-11 and (-) ₹384.29 lakh during 2011-12 in books of accounts which do not form part of the capital cost has been allowed under exclusion.

### **Capitalization of Miscellaneous Bought Out Assets (MBOA)**

37. The petitioner has capitalized MBOA items in books of accounts amounting to ₹ 93.08 lakh during 2009-10, ₹ 348.36 lakh during 2010-11 and ₹ 219.77 lakh during 2011-12. Since capitalization of minor assets after cut-off date is not allowed, the exclusion of these amounts is in order and is allowed.

### **De-Capitalization of Miscellaneous Bought Out Assets (MBOA)**

38. The petitioner has excluded the de-capitalization of Miscellaneous Bought out Assets amounting to (-) ₹16.93 lakh during 2010-11 and (-) ₹132.03 lakh during 2011-12. Since these were part of the capital cost of the generating station for the purpose of tariff, the exclusion on account of de-capitalization of these spares is not justifiable and has not been allowed for the purpose of tariff.

### **Items disallowed**

39. The petitioner has excluded an amount of ₹1812.71 lakh with corresponding de-capitalization of (-) ₹31.35 lakh which were disallowed during 2009-10, ₹974.80 lakh with corresponding de-capitalization of (-) ₹104.71 lakh during 2010-11 and ₹1103.63 lakh during 2011-12 on assets disallowed by the Commission (on cash basis) under different heads of tariff in books of accounts. Since these assets were not allowed in tariff and do not form part of capital cost, these amounts are allowed under exclusion. The corresponding de-capitalization of (-) ₹31.35 during 2009-10 and (-) ₹104.71 lakh during 2010-11 has also been allowed as exclusion.

### **Items not claimed**

40. The petitioner has excluded amounts of ₹1.56 lakh during 2009-10, ₹2.19 lakh during 2010-11 and ₹0.24 lakh during 2011-12 which are in the nature of MBOA. Since these items are not claimed for the purpose of tariff and do not form part of the capital cost, the exclusion of these amounts are allowed.

### Hospital items not claimed

41. The petitioner has excluded amounts of ₹ 2.28 lakh during 2009-10, ₹37.32 lakh during 2010-11 and ₹2.91 lakh during 2011-12 pertaining to MBOA for hospital items. As these items are in the nature of MBOA and since MBOA items do not form part of the capital cost for the purpose of tariff, the amounts for these items has been allowed as exclusion.

### Capitalization of Condemned assets held for disposal

42. The petitioner has excluded an amount of ₹13.08 lakh during 2011-12 for condemned assets held for disposal. The assets have been de-capitalized in the gross block and again restored to 10% of the book value. Hence, exclusion of ₹13.08 lakh for condemned assets held for disposal has been allowed.

### De-capitalization of Condemned assets held for disposal

43. The petitioner has excluded the de-capitalization of (-) ₹3.99 lakh during 2011-12 for condemned assets held for disposal. As these assets do not form part of the capital cost, the de-capitalization of the amount has been allowed as exclusion.

### Liability Reversal

44. The petitioner has excluded reversal of liability amounting to (-) ₹1.32 lakh during 2009-10 and (-) ₹44.23 lakh during 2011-12. The reversal of liabilities is out of the un-discharged liabilities deducted from capital cost as on 1.4.2009. Hence, the exclusion of these reversals of liabilities is in order and has been allowed.

45. Based on the above, the summary of exclusions allowed and not admissible for the purpose of tariff is as under:

	(₹ in lakh)		
	2009-10	2010-11	2011-12
Exclusion claimed	6262.14	3558.38	2697.56
Exclusion Allowed	6440.72	3771.65	3294.34
Exclusion not allowed	(-) 178.58	(-) 213.27	(-) 596.78

46. Based on the above deliberations, the additional capital expenditure allowed for the period 2009-14 is as under:

Description	(₹ in lakh)					Total
	Actual 2009-10	Actual 2010-11	Actual 2011-12	Projected 2012-13 2013-14		
<b>Environmental &amp; Ash Utilization</b>						
Dry Ash Extraction and Transportation for Stage II (2X500 MW)	0.00	0.00	0.00	0.00	4572.00	4572.00
Ash Water Recirculation System for Stage - I & II	0.00	0.00	0.00	0.00	4140.00	4140.00
<b>Sub Total (I)</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>8712.00</b>	<b>8712.00</b>
<b>New Items</b>						
Laying of new CW duct	0.00	0.00	0.00	0.00	0.00	0.00
Expenditure on 5 KM electricity supply scheme	0.00	0.00	0.00	0.00	0.00	0.00
Replacement of ASEA and Jyoti Make 6.6 KV MOCBs with SF6 Vacuum Breaker for CHP Stage -II	0.22	0.00	0.00	0.00	0.00	0.22
Wire rope electric hoist	0.00	0.00	0.00	0.00	0.00	0.00
Generator transformer,, Stage II	0.00	0.00	0.00	0.00	0.00	0.00
De-capitalization of Generator Transformer, Stage- II	(-) 78.02	0.00	0.00	0.00	0.00	0.00
Liquid waste treatment plant	0.00	7.79	0.00	0.00	0.00	7.79
GT 21 KV Bus duct	0.00	0.00	0.00	0.00	0.00	0.00
Renovation of relay panel of CHP Stage-II (including ACSF panel)	0.00	0.00	0.00	0.00	0.00	0.00
Chlorine leak absorption system	0.00	0.00	0.00	0.00	0.00	0.00
Retrofitting of microprocessor based conversion kit control in stock make gravimetric feeders in 3x 200MW units	0.00	0.00	0.00	0.00	0.00	0.00
Ash Dyke Package Lagoon St-I	0.00	0.00	32.94	0.00	0.00	32.94
<b>Sub Total (II)</b>	<b>0.22</b>	<b>7.79</b>	<b>32.94</b>	<b>0.00</b>	<b>0.00</b>	<b>40.95</b>
<b>Total (I+II)</b>	<b>0.22</b>	<b>7.79</b>	<b>32.94</b>	<b>0.00</b>	<b>8712.00</b>	<b>8752.95</b>
Exclusions not allowed	(-) 178.58	(-) 213.27	(-) 596.78	0.00	0.00	(-) 988.63
<b>Total additional capital expenditure allowed</b>	<b>(-) 178.36</b>	<b>(-) 205.48</b>	<b>(-) 563.84</b>	<b>0.00</b>	<b>8712.00</b>	<b>7764.32</b>

47. The additional capital expenditure after considering the discharge of liabilities is allowed as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Admitted additional capital expenditure allowed	(-) 178.36	(-) 205.48	(-) 563.84	0.00	8712.00
Add: Discharges of liabilities	1.96	53.14	48.21	0.00	103.30
<b>Total additional capital expenditure allowed</b>	<b>(-) 176.40</b>	<b>(-) 152.34</b>	<b>(-) 515.63</b>	<b>0.00</b>	<b>7867.62</b>

48. Accordingly, the capital cost considered for the purpose of tariff for the period 2009-14 is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost	127479.47	127303.07	127150.73	126635.09	126635.09
Additional capital expenditure allowed	(-) 176.40	(-) 152.34	(-) 515.63	0.00	7867.62
<b>Closing Capital cost</b>	<b>127303.07</b>	<b>127150.73</b>	<b>126635.09</b>	<b>126635.09</b>	<b>135347.09</b>
<b>Average Capital cost</b>	<b>127391.27</b>	<b>127226.90</b>	<b>126892.91</b>	<b>126635.09</b>	<b>130991.09</b>

## Debt-Equity Ratio

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

(a) 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.

50. Accordingly, gross loan and equity amounting to ₹66445.98 lakh and ₹61033.49 lakh, respectively as on 1.4.2009 as allowed in order dated 7.8.2012 in Petition No.225/2009 has been considered as gross loan and equity as on 1.4.2009. Further, the admitted actual/ projected additional expenditure as above has been allocated in debt-equity ratio of 70:30. This is subject to truing-up in terms of Regulation 6 of the 2009 Tariff Regulations.

## Return on Equity

51. Regulation 15 of the 2009 Tariff Regulations, as amended on 21.6.2011, provides that:

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

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

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

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

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

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

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

Where  $t$  is the applicable tax rate in accordance with clause (3) of this regulation.

(5) The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed charges on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

Provided further that Annual Fixed Charge with respect to tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.”

52. Accordingly, return on equity has been worked out based on the grossing up of the base rate with respect to actual tax rate applicable to the petitioner as a generating company for the years 2009-10, 2010-11 and 2011-12 and for the rest of the years, the rate of grossing up has been considered the same as applicable for the year 2011-12 per annum on the normative equity, after accounting for the admitted actual/projected additional capital expenditure. Return on equity after accounting for projected additional capital expenditure is worked out as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Notional Equity- Opening	61033.49	60980.57	60934.86	60780.18	60780.18
Addition of Equity due to additional capital expenditure	(-) 52.92	(-) 45.70	(-) 154.69	0.00	2613.60
Normative Equity-Closing	60980.57	60934.86	60780.18	60780.18	63393.78
Average Normative Equity	61007.03	60957.72	60857.52	60780.18	62086.98
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax Rate for the year 2008-09	33.990%	33.218%	32.445%	32.445%	32.445%
Rate of Return on Equity (Pre Tax)	23.481%	23.210%	22.944%	22.944%	22.944%
<b>Return on Equity (Pre Tax)- (annualised)</b>	<b>14325.06</b>	<b>14148.29</b>	<b>13963.15</b>	<b>13945.40</b>	<b>14245.24</b>

## Interest on loan

53. Regulation 16 of the 2009 Tariff Regulations provides that:

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

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

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

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

*(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the 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.*

54. The interest on loan has been worked out as under:

(a) The gross normative loan of ₹66445.98 lakh has been considered as on 1.4.2009.

(b) Cumulative repayment as on 1.4.2009 amounting to ₹56150.64 lakh as considered in order dated 7.8.2012 in Petition No. 225/2009 has been considered.

(c) Accordingly, the net normative opening loan as on 1.4.2009 works out to ₹10295.34 lakh.

- (d) Addition to normative loan to the tune of 70% of the approved additional capital expenditure as above has been considered.
- (e) In line with the provisions of the Regulation 16(5) above, the weighted average rate of interest has been calculated considering the actual loan portfolio existing as on 1.4.2009 for the generating station. In case of loans carrying floating rate of interest, the rate of interest as provided by the petitioner has been considered for the purpose of tariff.
- (f) The cumulative repayment has been adjusted @70% corresponding to de-capitalization of assets/works considered for the purpose of tariff.

55. The necessary calculation for interest on loan is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross opening loan	66445.98	66322.50	66215.86	65854.92	65854.92
Cumulative repayment of loan upto previous year	56150.64	56237.20	56323.08	55939.00	55941.16
Net Loan Opening	10295.34	10085.30	9892.78	9915.92	9913.76
Addition due to Additional capitalisation	(-) 123.48	(-) 106.64	(-) 360.94	0.00	6098.40
Repayment of loan during the year	210.42	215.52	1.29	2.16	232.16
<b>Less:</b> Repayment adjustment on account of de-capitalization	125.01	149.29	417.75	-	-
<b>Add:</b> Repayment adjustment on account of discharges / reversals corresponding to un-discharged liabilities deducted as on 1.4.2009	1.15	19.65	32.37	-	-
Net Repayment	86.56	85.88	(-) 384.08	2.16	232.16
Net Loan Closing	10085.30	9892.78	9915.92	9913.76	15780.00
Average Loan	10190.32	9989.04	9904.35	9914.84	12846.88
Weighted Average Rate of Interest on Loan	4.7374%	3.6607%	3.4647%	3.3596%	3.1725%
<b>Interest on Loan</b>	<b>482.76</b>	<b>365.66</b>	<b>343.16</b>	<b>333.10</b>	<b>407.56</b>

## Depreciation

56. 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."*

57. The cumulative depreciation as on 1.4.2009 works out to ₹113199.40 lakh after accounting for adjustment of un-discharged liabilities. Further, the value of freehold land as considered in the order dated 7.8.2012 in Petition No. 225/2009 as on 1.4.2009 is ₹1102.97 lakh. However, during reconciliation of the value of freehold land with the balance sheet, it is noticed that the value of freehold land is ₹1081.00 lakh on 1.4.2009, and the same has been considered for calculation of depreciation for the period. As regards treatment of depreciation in respect of old assets, the Commission in para no. 51 of the order dated 7.8.2012 has held as under:

*"We have given a serious thought on this issue. Since these assets are being capitalized during the terminal year of the generating station, we are of the view that allowing 90% of the depreciation would not be in the interest of the beneficiaries and therefore these assets should be depreciated at the rates specified in Appendix-III of the 2009 Tariff Regulations. The petitioner has not indicated the period for which the life of the generating station would be extended beyond its useful life. In the absence of the said information, the Commission cannot decide as to how the expenditure incurred on DAETP and Ash water recirculation system during the terminal year of the life of the generating station would be serviced in tariff. Therefore, the Commission considers it appropriate to allow the depreciation of the assets capitalized during the terminal year as per the rate specified in Appendix-III of the 2009 Tariff Regulations. The petitioner would be required to run the generating station for sufficiently longer period to recover the full depreciation of the said assets. This will be in the interest of the beneficiaries as they will not be overburdened with payment of admissible depreciation during the terminal year of the generating station"*

In the light of above decision, depreciation has been calculated considering the balance depreciation of the existing old assets to be spread over the remaining useful life of 2.28 years. However, in respect of new assets, the rate of depreciation as specified in Appendix-III of the 2009 Tariff Regulations has been considered. Further, proportionate adjustment has been made to the cumulative depreciation on account of de-capitalization of assets as also on account of discharges/reversal of liabilities out of un-discharged liabilities deducted from capital cost as on 1.4.2009. Further, proportionate adjustment has been made to the cumulative depreciation corresponding to discharges of liabilities considered during the respective years on account of cumulative depreciation adjusted as on 1.4.2009. The necessary calculations in support of depreciation are as shown below:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening capital cost	127479.47	127303.07	127150.73	126635.09	126635.09
Closing capital cost	127303.07	127150.73	126635.09	126635.09	135347.09
Average capital cost	127391.27	127226.90	126892.91	126635.09	130991.09
Value of freehold land	1081.00	1081.00	1081.00	1081.00	1081.00
Depreciable value @ 90% (existing)	113679.14	113527.60	113208.68	112961.83	112961.83
Depreciable value of additions @90%	0.10	3.70	22.03	36.86	3957.26
Remaining useful life at the beginning of the year (existing)	2.28	1.28	0.28	-	-
Balance depreciable value (existing assets)	479.74	275.59	-	-	-
Remaining Depreciable value of additions	0.10	3.70	21.81	35.34	3953.58
Depreciation for the period (existing assets)	210.41	215.30	-	-	-
Depreciation for the period (new assets @ 5.28%)	0.01	0.22	1.29	2.16	232.16
<b>Depreciation (annualized) (existing + additions)</b>	<b>210.42</b>	<b>215.52</b>	<b>1.29</b>	<b>2.16</b>	<b>232.16</b>
Cumulative depreciation at the end (existing assets)	113409.81	113628.03	113675.22	113757.30	113757.30
Cumulative depreciation at the end (additions)	0.01	0.22	1.52	3.68	235.84
Cumulative depreciation at the end (Total)	113409.82	113628.26	113676.73	113760.98	113993.14
Add: Cumulative depreciation reduction on account of discharges out of un-discharged liabilities deducted as on 1.4.2009	2.92	47.18	82.08	-	-
Add: Depreciation reduction due to de-capitalization	160.72	191.94	537.10	-	-
Cumulative depreciation (at the end of the period)	113252.02	113483.50	113221.71	113760.98	113993.14

## O&M Expenses

58. O&M expenses as considered in order dated 7.8.2012 in Petition No. 225/2009 as stated below has been considered.

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
<b>O&amp;M expenses</b>	31200.00	32980.00	34870.00	36870.00	38980.00

## Cost of Secondary Fuel

59. The cost of secondary Fuel as allowed in order dated 7.8.2012 in Petition No. 225/2009 as stated below has been considered.

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of secondary fuel oil	3175.77	3175.77	3184.47	3175.77	3175.77

## Interest on Working Capital

60. Cost of coal for 1.5 months and cost of secondary fuel for two months as considered in order dated 7.8.2012 in Petition No. 225/2009 as stated below, has been considered.

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of coal – 1.5 months	16282.95	16282.95	16327.56	16282.95	16282.95
Cost of secondary fuel oil – 2 months	529.30	529.30	530.75	529.30	529.30

61. Maintenance spares as considered in order dated 7.8.2012 in Petition No. 225/2009 as stated below, has been considered.

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	6240.00	6596.00	6974.00	7374.00	7796.00

62. Receivables have been worked out on the basis of two months of fixed and energy charges as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Variable Charges -2 months	21710.60	21710.60	21770.09	21710.60	21710.60
Fixed Charges - 2 months	10204.33	10665.24	10981.32	11379.53	12387.35
<b>Total</b>	<b>31914.94</b>	<b>32375.85</b>	<b>32751.40</b>	<b>33090.14</b>	<b>34097.95</b>

63. O&M expenses for 1 month for the purpose of working capital as allowed in order dated 7.8.2012 in Petition No. 225/2009 has been considered.

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O & M for 1 month	2600.00	2748.33	2905.83	3072.50	3248.33

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of coal – 1.5 months	16282.95	16282.95	16327.56	16282.95	16282.95
Cost of secondary fuel oil – 2 month	529.30	529.30	530.75	529.30	529.30
O&M expenses – 1 month	2600.00	2748.33	2905.83	3072.50	3248.33
Maintenance Spares	6240.00	6596.00	6974.00	7374.00	7796.00
Receivables – 2 months	31914.94	32375.85	32751.40	33090.14	34097.95
<b>Total working capital</b>	<b>57567.19</b>	<b>58532.43</b>	<b>59489.55</b>	<b>60348.89</b>	<b>61954.54</b>
Rate of interest	12.2500%	12.2500%	12.2500%	12.2500%	12.2500%
<b>Interest on working capital</b>	<b>7051.98</b>	<b>7170.22</b>	<b>7287.47</b>	<b>7392.74</b>	<b>7589.43</b>

65. Compensation Allowance and Special Allowance as allowed in order dated 7.8.2012 in Petition No. 225/2009 has been considered.

#### Annual Fixed Charges for 2009-14

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	210.42	215.52	1.29	2.16	232.16
Interest on Loan	482.76	365.66	343.16	333.10	407.56
Return on Equity	14325.06	14148.29	13963.15	13945.40	14245.24
Interest on Working Capital	7051.98	7170.22	7287.47	7392.74	7589.43
O&M Expenses	31200.00	32980.00	34870.00	36870.00	38980.00
Cost of Secondary fuel oil	3175.77	3175.77	3184.47	3175.77	3175.77
Compensation Allowance	780.00	650.00	650.00	650.00	325.00
Special Allowance	4000.00	5286.00	5588.36	5908.01	9368.93
<b>Total</b>	<b>61225.99</b>	<b>63991.47</b>	<b>65887.91</b>	<b>68277.19</b>	<b>74324.09</b>

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

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

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

69. The difference in the annual fixed charges determined by order dated 7.8.2012 and those determined by this order shall be adjusted in accordance with Regulation 6 (6) of the 2009 Tariff Regulations.

70. Petition No. 188/GT/2013 is disposed of in terms of the above.

sd/-

**[A.K.Singhal]**  
**Member**

sd/-

**[M. Deena Dayalan]**  
**Member**

sd/-

**[Gireesh B.Pradhan]**  
**Chairperson**