

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 332/GT/2014

Coram:

Shri Gireesh B. Pradhan, Chairperson
Shri A.K. Singhal, Member
Dr. M.K.Iyer, Member

Date of Hearing: 3.3.2016

Date of Order: 25.5.2016

IN THE MATTER OF

Revision of tariff of Feroze Gandhi Unchahar Thermal Power Station, Stage-II (420 MW) for the period from 1.4.2009 to 31.3.2014 - Truing-up of tariff determined by order dated 31.3.2015 in Petition No. 222/GT/2013.

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, Ashoka Road,
Lucknow – 226001

2. Jaipur Vidyut Vitran Nigam Ltd.
Vidyut Bhawan, Janpath,
Jaipur – 302005

3. Ajmer Vidyut Vitran Nigam Ltd.
Old Power House, Hathi Bhsata,
Jaipur Road, Ajmer

4. Jodhpur Vidyut Vitran Nigam Ltd.
New Power house, Industrial Area,
Jodhpur

5. Tata Power Delhi Distribution Ltd.
33 kV Sub-station, Hudson Lines,
Kingsway Camp, Delhi – 110009

6. BSES Rajdhani Power Ltd.
2nd Floor, B Block, Nehru Place,
New Delhi 110019

7. BSES Yamuna Power Ltd.
Shakti Kiran Building,
Karkardooma, Delhi – 110092

8. Haryana Power Purchase Centre,
Shakti Bhawan, Sector VI,
Panchkula - 134019

9. Punjab State Power Corporation Ltd.
The Mall, Patiala – 147001

10. Himachal Pradesh State Electricity Board Ltd,
Vidyut Bhawan, Shimla – 171004

11. Power Development Department (J&K),
Government of J&K,
Mini Secretariat, Jammu

12. Electricity Department
Union Territory of Chandigarh
Addl. Office Building
Sector 9D, Chandigarh

13. Uttarakhand Power Corporation Ltd
Urja Bhawan, Kanwali Road,
Dehradun - 248001

...Respondents

Parties present:

For Petitioner:

Shri Ajay Dua, NTPC
Shri Nishant Gupta, NTPC
Shri Ajay Mehta, NTPC
Shri Shakar Saran, NTPC
Shri Neeraj Kumar, NTPC

For Respondents:

Shri R.B Sharma, Advocate, BRPL
Shri Sanjay Srivastav, BRPL
Shri Manish Garg, UPPCL

ORDER

The present petition has been filed by the petitioner for revision of the tariff determined by the Commission vide order dated 31.3.2015 in Petition No. 222/GT/2013 in respect of Feroze Gandhi Unchahar Thermal Power Station, Stage-II (420 MW) (the generating station) for the period 2009-14, in terms of 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 420 MW comprises of two units of 210 MW each. The actual dates of commercial operation (COD) of the different units of the generating station are as under:

Units	Date of commercial operation (COD)
Unit-I	1.1.2001
Unit-II / Generating station	1.3.2000

3. The Commission by order dated 13.7.2012 in Petition No. 323/2009 had approved the annual fixed charges of the generating station for the period 2009-14 considering the opening capital cost of ₹129840.97 lakh, after deduction of un-discharged of ₹62.99 lakh as on 1.4.2009. Thereafter, the annual fixed charges of the generating station for the period 2009-14 was revised by Commission's order dated 31.3.2015 in Petition No. 222/GT/2013 after truing up, considering the capital cost of ₹129840.97 lakh, after deduction of un-discharged of ₹62.99 lakh as on 1.4.2009 and the actual additional capital expenditure incurred for the years 2009-10, 2010-11 & 2011-12 and the projected additional capital expenditure for the years 2012-13 and 2013-14. The annual fixed charges approved by the said order dated 31.03.2015 are as under:

Capital Cost

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	129840.97	130002.72	129983.98	129966.09	131191.09
Add: Additional capital expenditure	161.75	(-) 18.75	(-)17.88	1225.00	(-)109.80
Closing Capital Cost	130002.72	129983.98	129966.09	131191.09	131081.29
Average Capital Cost	129921.85	129993.35	129975.04	130578.59	131136.19

Annual Fixed Charges

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	6975.14	6973.13	6969.17	6992.70	3442.33
Interest on Loan	616.17	355.21	190.89	68.71	10.89
Return on Equity	9152.08	9051.44	8946.44	8987.99	9237.63
Interest on Working Capital	2915.49	2933.15	2959.96	2980.57	2939.64
O&M Expenses	7644.00	8080.80	8542.80	9034.20	9550.80
Cost of Secondary fuel oil	646.44	646.44	648.21	646.44	646.44
Compensation Allowance	0.00	31.50	63.00	63.00	63.00
Special Allowance	0.00	0.00	0.00	0.00	0.00
Total	27949.33	28071.67	28320.47	28773.60	25890.73

4. Clause (1) of 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."

5. The petitioner has filed the present petition in accordance with Regulation 6(1) of the 2009 Tariff Regulations for revision of tariff of the generating station for the period 2009-14 after truing-up exercise. The petitioner has considered the capital cost based on the capital cost admitted as on 31.3.2009 and the actual capital expenditure incurred (on cash basis) during the years 2009-10 to 2013-14. Accordingly, the capital cost and the annual fixed charges claimed by the petitioner in this petition are as under:

Capital Cost

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	129840.97	130156.49	130220.41	130283.76	131015.90
Add: Additional capital expenditure	315.52	63.91	63.35	732.15	503.99
Closing Capital Cost	130156.49	130220.41	130283.76	131015.90	131519.89
Average Capital Cost	129998.73	130188.45	130252.08	130649.83	131267.90

Annual Fixed Charges

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	6979.27	6983.57	6984.00	6983.69	3443.95
Interest on Loan	616.13	355.27	191.31	72.11	14.23
Return on Equity	9157.50	9065.02	8965.51	8992.89	9246.90
Interest on Working Capital	2915.69	2933.65	2960.67	2980.55	2939.94
O&M Expenses	7644.00	8080.80	8542.80	9034.20	9550.80
Cost Of Secondary Fuel Oil	646.44	646.44	648.21	646.44	646.44
Compensation Allowance	0.00	31.50	63.00	63.00	63.00
Special allowance	0.00	0.00	0.00	0.00	0.00
Total	27959.03	28096.25	28355.51	28772.89	25905.26

6. The petitioner has also filed additional information in compliance with the directions of the Commission and has served copies of the same on the respondents. Reply to the petition has been filed by the respondents- UPPCL & BRPL and the petitioner has filed its rejoinder to the same. Based on the submissions of the parties and the documents available on record, we proceed to examine the claim of the petitioner in the petition above, on prudence check, as stated in the subsequent paragraphs.

Capital Cost as on 1.4.2009

7. 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."

8. The annual fixed charges claimed in the petition is based on opening capital cost of ₹129840.97 lakh, after deduction of undischarged liability of ₹62.99 lakh (as submitted by the petitioner) from the closing capital cost of ₹129903.96 lakh as on 31.3.2009 as admitted by the Commission vide order dated 5.10.2011 in Petition No. 150/2004. The details of liabilities and capital cost have been reconciled with the information available with the records of the Commission as under:

(₹ in lakh)

Particulars	As per Form-9A	As per records of Commission
Opening Gross Block as on 1.4.2009 as per books	126462.50	126462.50
Liabilities included in the above	95.64	95.64

9. It is evident from the above that there is no variation in the capital cost and liabilities position as on 1.4.2009 as per the books and details available with the Commission. Further, out of the total liabilities amounting to ₹95.64 lakh included in gross block as on 1.4.2009, the approved capital cost of ₹129903.96 lakh as on 31.3.2009 is inclusive of un-discharged liabilities amounting to ₹62.99 lakh only (pertaining to the period prior to 01.04.2009). The balance differential liabilities pertain to assets disallowed/not claimed for the purpose of tariff.

10. Accordingly, the capital cost as on 1.4.2009, after removal of un-discharged liabilities amounting to Rs 62.99 lakh, works out to Rs 129840.97 lakh, on cash basis. Further, out of un-discharged liabilities amounting to Rs 62.99 lakh deducted as on 1.4.2009, the petitioner has discharged amounts of Rs 8.46 lakh and Rs 21.49 lakh, during the years 2009-10 and 2010-11 respectively. These discharges along with the discharges corresponding to assets admitted on

cash basis, during the period 2009-14, has been allowed as additional capital expenditure during the respective years.

Additional Capital Expenditure

11. Clause (2) of Regulation 9 of the 2009 Tariff Regulations, as amended on 21.6.2011 and 31.12.2012 provides as under:

"9. (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:*
- (vi) 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.*
- (vii) 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.*
- (viii) 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.*
- (ix) 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.*
- (x) 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.*

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

12. The Commission vide order dated 31.03.2015 in Petition No.222/GT/2013 had revised the additional capital expenditure for the years 2009-10, 2010-11 and 2011-12 based on the actual additional capital expenditure incurred for the said years after reconciliation with the books of accounts. The break-up details of the actual additional capital expenditure for the years 2009-10, 2010-11 and 2011-12 and the projected additional capital expenditure for the year 2012-13 and 2013-14 allowed by order dated 31.03.2015 is as under:

(₹ in lakh)						
Sl. No.	Head of work/Equipment	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (Projected)	2013-14 (Projected)
A	Ash Handling					
i	Upstream slope protection of Ash Dyke	206.57	0.00	0.00	0.00	0.00
ii	Ash Dyke Modification	0.00	0.00	0.00	55.00	0.00
iii	Construction of peripheral drain for Ash dyke-II	0.00	2.36	0.00	0.00	0.00
	Sub-Total (A)	206.57	2.36	0.00	55.00	0.00
B	Change in Law 9(2)(ii)					
i	Room for AAQMS	2.61	0.34	0.00	0.00	0.00
ii	Ambient Air Quality Monitoring System	97.87	5.31	0.00	0.00	0.00
iii	Liquid Waste Treatment Plant	0.00	0.00	0.00	1170.00	0.00
	Sub-Total (B)	100.48	5.65	0.00	1170.00	0.00
C	Other Capital Works					
i	Replacement of Halon system by Inert gas system	0.00	0.00	0.00	0.00	130.00
	De-capitalization	0.00	0.00	0.00	0.00	46.80
	Net amount allowed	0.00	0.00	0.00	0.00	83.20
ii	Retrofitting of Voltas make 6.6 kV CB with vacuum CB of same rating	0.00	0.00	0.00	0.00	0.00
	De-capitalization	0.00	0.00	0.00	0.00	28.00
	Net amount allowed	0.00	0.00	0.00	0.00	(-) 28.00
iii	Up-gradation of Human Machine Interface (HMI)	0.00	0.00	0.00	0.00	0.00
	De-capitalization	0.00	0.00	0.00	0.00	165.00
	Net amount allowed	0.00	0.00	0.00	0.00	(-) 165.00
iv	Energy Monitoring System	0.00	0.00	0.00	0.00	0.00
	De-capitalization	0.00	0.00	0.51	0.00	0.00
	Net amount allowed	0.00	0.00	(-) 0.51	0.00	0.00
v	Pro-control diagnostic station & Tool Kit STG	0.00	0.00	0.00	0.00	0.00
	Total (C)	0.00	0.00	(-) 0.51	0.00	(-)109.80
D	Total (A+B+C)	307.05	8.01	(-) 0.51	1225	(-)109.80
E	Exclusions not allowed	153.78	48.24	17.37	0.00	0.00

F	Net Additional Capitalization allowed (D-E)	153.28	(-) 40.23	(-)17.88	1225.00	(-)109.80
G	Discharge of liabilities	8.46	21.49	0.00	0.00	0.00

13. The details of the actual additional capital expenditure claimed by the petitioner for the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 in this petition are as under:

							(₹ in lakh)
Sl. No.	Head of work/Equipment	2009-10	2010-11	2011-12	2012-13	2013-14	CERC Regulation
I. Capital Addition Scheme (Already Allowed by CERC)							
1	Upstream Slope Protection Ash Dyke II	206.57	2.36	0.00	0.00	0.00	9(2)(iii)
2	Ash Dyke Modification	0.00	0.00	0.00	43.67	0.00	9(2)(iii)
3	Ash Handling Civil Work (A) Peripheral Roads/drains, (B) Ash Corridor Road	0.00	0.00	0.00	52.08	0.00	9(2)(iii)
4	Ambient Air Quality Monitoring	97.87	5.31	0.00	0.00	0.00	9(2)(ii)
5	Rooms for AAQMS	2.62	0.34	0.00	0.00	0.00	9(2)(ii)
6	Liquid Waste Treatment Plant (LWTP)	0.00	0.00	0.00	636.41	0.00	9(2)(ii)
Sub Total		307.06	8.01	0.00	732.15	0.00	
II. Capital Addition Scheme (Claimed in Mid-term True up)							
A Change in law							
7	Energy Monitoring System	0.00	34.41	-0.51	0.00	0.00	9(2)(ii)
8	Replacement of Halon System for CCR & CER by Inert Gas System	0.00	0.00	0.00	0.00	0.00	9(2)(ii)
B Other Capital Works							
9	Retrofitting of Voltas Make 6.6 kv SF6 CB With Vacuum CB of Same Rating	0.00	0.00	0.00	0.00	0.00	9(2), 44
10	Pro-Control Diagnostic Station And Tool Kit	0.00	0.00	63.86	0.00	0.00	9(2), 44
11	Upgradation Of HMI System of Procontrol P13/42 DDCMIS	0.00	0.00	0.00	0.00	503.99	9(2), 44
Sub Total		0.00	34.41	63.35	0.00	503.99	
Total		307.06	42.42	63.35	732.15	503.99	

14. Considering the fact that Commission vide its order dated 15.05.2014 in Petition number

139/GT/2013 had already carried out true up of tariff for the first three years of tariff period i.e. for the years 2009-10, 2010-11, 2011-12, we proceed to consider the additional capital expenditure for the period 2012-13 and 2013-14 for truing-up, based on actuals as discussed in subsequent paragraphs.

Ash related works

15. The Commission in order dated 31.3.2015 in Petition No. 222/GT/2013 had allowed the projected expenditure of ₹263.93 lakh (which includes ₹55 Lakh on projected basis for FY 2012-13) pertaining to works related to Ash dyke and Ash corridor system under Regulation 9(2)(iii) of the 2009 Tariff Regulations. The petitioner has now claimed total expenditure of ₹304.68 lakh during 2009-14 which includes the actual expenditure of ₹43.67 lakh for Ash Dyke modification works in 2012-13 and ₹52.08 lakh towards Ash handling plant Civil work consisting of Peripheral Drains for Ash dykes and Ash Corridor Road in 2012-13. The petitioner by affidavit dated 06.01.2016 has submitted the following reasons for the variation in the above claim:

(a) Deviation of Rs (-) 11.93 lakh (43.67-55) for Ash Dyke Modification in 2012-13 is on account of undischarged liabilities/ balance work which will be claimed in next tariff period.

(b) In Ash handling plant Civil work consisting of (a) peripheral drains for Ash dykes (b) Ash Corridor Road in 2012-13 initially an amount of Rs. 109 lakh was allowed in order dtd. 13.7.2012 and same was revised to Rs 2.36 lakh based on the actual expenditure incurred by petitioner as the work get delayed in implementation on account of submergence of land & non availability of ash bricks. Petitioner has now submitted that due to improvement in situation part work amounting to Rs 52.08 lakh has been completed and capitalized. Balance work on account of above will be claimed in next tariff period.

16. Based on clarification given by petitioner, ₹43.67 lakh for Ash Dyke modification works and ₹52.08 lakh towards Ash handling plant Civil work consisting of Peripheral Drains for Ash dykes and Ash Corridor Road are allowed to be capitalized for the year 2012-13 under Regulation

9(2)(iii) of the tariff regulation 2009.

17. The petitioner by affidavit dated 06.01.2016 has submitted that initially ₹203.98 lakh was approved by Hon'ble Commission in petition no.323/2009 vide order dated 13.07.2012 under the head 'Upstream Slope Protection Ash Dyke II'. In midterm true up petition, expenditure under this head was trued up and Hon'ble Commission allowed an expenditure of ₹206.57 lakh. In addition to this, an expenditure of ₹2.36 lakh was allowed for 'Construction of peripheral drain for Ash dyke-II' (claimed by petitioner under the head Ash Handling Plant Civil Works). Since both these works are in the same area, in the true up petition, both approved works (₹206.57 lakh & ₹2.36 lakh) have been clubbed and claimed under the head ' Upstream Slope Protection Ash Dyke II'. There is no variation with reference to the expenditure allowed by Hon'ble Commission vide midterm true up petition order dated 31.03.2015 (Petition No. 222/GT/2013). Based on clarification given by petitioner the amount of ₹2.36 lakh allowed in midterm petition is being clubbed under the head ' Upstream Slope Protection Ash Dyke II'.

Liquid Waste Treatment Plant

18. As against the projected additional capital expenditure of ₹1170.00 lakh allowed vide order dated 31.3.2015 in Petition No. 222/GT/2013 in 2012-13 for this work, the petitioner has claimed actual additional capital expenditure of ₹636.41 lakh in 2012-13 for this work. In justification of the lower claim made, the petitioner vide affidavit dated 6.1.2016 has submitted that part of work has been completed and capitalized and balance work would be claimed in next tariff period. The respondent, BRPL has submitted that the expenditure under this head may not be allowed as the conditions concerning Change in law has not been satisfied and there is also no proximity with the time period of notification contemplating change in law. We have examined the matter. It is noticed that the expenditure for this work had been allowed in order dated 13.7.2012 and 31.3.2015, on prudence check, based on the terms and conditions of the Environmental Clearance/NOC issued by the Uttar Pradesh Pradushan Nigam Board vide letter dated 15.7.1996 and in consideration of the fact that the effluents from the plant are required to be properly treated to conform to Pollution Board's standards, prior to discharge from the plant. In this background, we are inclined to allow the additional capital expenditure of ₹636.41 lakh in

2012-13 under Regulation 9(2)(ii) of the 2009 Tariff Regulations.

Replacement of Halon System by Inert Gas system

19. The petitioner has indicated the scheme in its claim with no expenditure in 2009-14 towards the replacement of Halon system for Central Control Room (CCR) & Control Equipment Room (CER) by Inert Gas system under Regulation 9(2)(ii) of the 2009 Tariff Regulations. In justification of the said claim, the petitioner vide affidavit dated 5.12.2012 has submitted as under:

“Halon fire protection system is provided for Central Control Romm (CCR) & Central Equipment Room (CER). Halon system of permanent fire fighting system uses substances which are ozone depleting in nature. As per the Environment protection Act, 1986, the Central Government laid down rules for Ozone depleting substances (Regulation & Control Rules) Rules, 2000. As per this, no person or enterprise shall engage in any activity that uses ozone depleting substances after a period of 10 years from 2010 unless he is registered with the authority. As per the Montreal Protocol on substances that deplete the ozone layer, plants using Ozone depleting substances must phase out these systems and adopt systems which use substances that do not deplete the Ozone layer. Hence, it is proposed to replace Halon fire protection system with alternate inert gas. The same has been allowed in case of Auraiya Gas Power station in Petition No.270/2009 in order dated 23.5.2012 Work has been completed in both units of Unchahar Stage-II, system will be put to use and subsequently will be capitalized in 14-15.”

20. Commission in its order dated 31.03.2015, allowed the work after considering corresponding decapitalization. Since, it has now been indicated by the petitioner that the work is now likely to be capitalized in next tariff period, the same will be decided at the time of actual expenditure incurred & capitalized with reference to tariff regulations in force.

Up-gradation of Human Machine Inter-face (HMI)

21. The petitioner has claimed actual additional capital expenditure of ₹503.99 lakh during 2013-14 for Up-gradation of Human Machine Interface (HMI) system of Protocol P13/42 DDCMIS. In justification of the same the petitioner has submitted that the HMI module has become obsolete and in order to make the system effective and to reduce breakdown, the system is being replaced.

22. The respondent, UPPCL vide reply affidavit dated 31.10.2014 has submitted that the expenditure should be met from Compensation Allowance. The respondent, BRPL has pointed out that the petitioner demand of allowing this expenditure under Regulation 44 “Power to Relax”

is unreasonable and would lead to undue profit to the Petitioner. The matter has already been examined and item was disallowed in order dated 31.3.2015. We intend to continue with the decision.

Reconciliation of actual additional capital expenditure for the period 2012-13 and 2013-14

23. The reconciliation of the actual additional capital expenditure for the period 2012-13 & 2013-14 with the books of accounts as submitted by the petitioner is as under:

(₹ in lakh)

Particulars	2012-13	2013-14
Opening gross block as on 1 st April of year (A)	131401.31	132226.50
Closing gross block as on 31 st March of year (B)	132226.50	133366.15
Additions during the year (as per books) C=(B-A)	825.19	1139.65
Exclusions (D)	87.97	634.22
Additional Capital Expenditure including liabilities	737.22	505.43
Less: Un-discharged Liabilities (E)	5.07	1.44
Net Additional Capital Expenditure claimed on cash basis (C-D-E)	732.15	503.99

24. The actual additional capital expenditure claimed by the petitioner is at variance with the additional capital expenditure as per books of accounts due to exclusion of certain expenditure and the un-discharged liabilities considered for the purpose of tariff.

Exclusions

25. The summary of exclusions claimed from books of accounts for the period 2012-13 & 2013-14 under different heads for the purpose of tariff are examined in the subsequent paragraphs. The details of the exclusions are as under:

(₹ in lakh)

Sl. No.	Particulars	2012-13	2013-14
1	Items disallowed		
a	Sewerage System Township	8.51	5.23
b	Ash Brick Plant	1.69	0.00
2	FERV	(-) 86.82	368.16
3	Inter Unit Transfer	(-)0.50	0.00
4	Capitalization of Spares	232.17	368.50
5	Decapitalization of Spares(part of Capital Cost)	(-)32.82	(-)72.16
6	Decapitalization of MBOA (part of Capital Cost)	(-)1.61	(-)0.63
7	Decapitalization of Spares(Not part of Capital Cost)	(-)32.23	(-)33.59
8	Decapitalization of MBOA (Not part of Capital Cost)	(-)0.40	(-)1.30
	Exclusion Claimed	87.97	634.22

Items disallowed

26. The petitioner has excluded an amount of ₹10.20 lakh under (₹8.51 lakh for sewage system township & ₹1.69 lakh ash brick plant) during 2012-13 and ₹5.23 lakh (including liability of ₹0.68 lakh) for sewage system township during 2013-14 respectively for the purpose of tariff. Since these items were not allowed in tariff and thus not forming part of capital cost, so, the exclusion sought by the petitioner on these counts is in order and allowed.

FERV (Loan)

27. The petitioner has excluded expenditure of (-) ₹86.82 lakh in 2012-13 and ₹368.16 lakh in 2013-14 towards Loan FERV. As the Petitioner is entitled to directly recover the Loan FERV from the beneficiaries, the exclusion of FERV is in order and has been allowed.

Inter-Unit Transfers

28. The petitioner has excluded amount of (-) ₹0.50 lakh in 2012-13 on account of inter-unit transfer of MBOA items. The Commission while dealing with tariff applications for additional capitalization in respect of other generating stations of the petitioner had by various orders decided that both positive and negative entries arising out of inter-unit transfers of are temporary nature and therefore shall be ignored for the purposes of tariff. In consideration of the said decision, the exclusion of (-) ₹0.50 lakh in 2012-13 on account of inter-unit transfer is allowed.

Capitalization of Spares

29. The petitioner has capitalized capital spares in books of accounts amounting to ₹232.17 lakh in 2012-13 and ₹368.50 lakh in 2013-14. Since the capitalization of capital spares over and above the initial spares procured after the cut-off date are not allowed for the purpose of tariff, the exclusion of the said amounts under this head is in order and has been allowed.

De-capitalization of Spares part of capital cost

30. The petitioner has de-capitalized capital spares amounting to (-) ₹32.82 lakh in 2012-13 and (-) ₹72.16 lakh in 2013-14 in the books of accounts, as these spares becomes unserviceable. It is observed from submission of the petitioner that these spares were part of the capital cost allowed in tariff and these spares on becoming unserviceable have been taken out of

capital cost. Since, these assets form part of the capital cost, the exclusion for de-capitalization of these spares for the said amount is disallowed.

De-capitalization of Spares not part of capital cost

31. The petitioner has de-capitalized capital spares amounting to (-) ₹32.23 lakh in 2012-13 and (-) ₹33.59 lakh in 2013-14 in the books of accounts, as these spares becomes unserviceable. It is observed from submission of the petitioner that these spares were not allowed in tariff and hence do not form part of capital cost. Since, these assets do not form part of the capital cost, the exclusion for de-capitalization of these spares for the said amounts has been allowed.

De-capitalization of Miscellaneous Bought out Assets (MBOA) items part of capital cost

32. The petitioner has de-capitalized in the books of accounts MBOA items, which were part of capital cost allowed in tariff, amounting to (-) ₹1.61 lakh in 2012-13 and (-) ₹0.63 lakh in 2013-14 as these assets becomes un-serviceable. It is observed from the submissions of the petitioner that these MBOA items were part of the capital cost allowed in tariff and these MBOA items on becoming unserviceable have been taken out of the capital cost. Since, these assets form part of the capital cost, the exclusion for de-capitalization of these MBOA items for the said amounts are not allowed.

De-capitalization of Miscellaneous Bought out Assets (MBOA) items not part of capital cost

33. The petitioner has de-capitalized MBOA items for (-) ₹0.40 lakh in 2012-13 and (-) ₹1.30 lakh in 2013-14 in books of accounts as these assets becomes unserviceable. It is observed from the submissions of the petitioner that these MBOA items have not been allowed in tariff and do not form part of the capital cost. Since, these assets do not form part of the capital cost, the exclusion for de-capitalization of these MBOA items for the said amounts are allowed.

34. Based on the above discussions, the summary of exclusions claimed and allowed is as under:

(₹ in lakh)

Particulars	2012-13	2013-14
Exclusions Claimed (A)	87.98	634.22
Exclusions allowed (B)	122.41	707.00
Exclusions not allowed (A-B)	(-)34.43	(-)72.79

35. Based on the above discussions, the additional capital expenditure allowed is summarized as under:

Sl. No.	Head of work/Equipment	2012-13	2013-14
A	Ash Handling		
i	Upstream slope protection of Ash Dyke	0.00	0.00
ii	Ash Dyke Modification	43.67	0.00
iii	Construction of peripheral drain for Ash dyke-II	52.08	0.00
	Sub-Total (A)	95.75	0.00
B	Change in Law 9(2)(ii)		
i	Room for AAQMS	0.00	0.00
ii	Ambient Air Quality Monitoring System	0.00	0.00
iii	Liquid Waste Treatment Plant	636.41	0.00
	Sub-Total (B)	636.41	0.00
C	Others		
i	Replacement of Halon system by Inert gas System	0.00	0.00
ii	Up-gradation of Human Machine Interface (HMI)	0.00	(-)165.00
	Sub-Total (C)	0.00	0.00
D	Additional Capital Expenditure Allowed (A+B+C)	732.15	(-)165.00
E	Exclusion not allowed	(-)34.43	(-)72.79
F	Net Additional Capital Expenditure Allowed	697.72	(-)237.79

36. The net additional capital expenditure allowed for the tariff period 2009-14 after considering the discharges of liabilities is as under:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Additional capital expenditure (excluding discharges)	153.29	(-) 40.24	(-) 17.88	697.72	(-) 237.79
Add: Discharges of liabilities (against allowed assets/ works)	8.46	21.49	0.00	0.00	0.00
Net additional capital expenditure	161.75	(-) 18.75	(-) 17.88	697.72	(-) 237.79

37. Based on the above, the capital cost allowed for 2009-14 is as under:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	129840.97	130002.72	129983.98	129966.09	130663.82
Add: Additional capital expenditure	161.75	(-)18.75	(-)17.88	697.72	(-)237.79
Closing Capital Cost	130002.72	129983.98	129966.09	130663.82	130426.02
Average Capital Cost	129921.85	129993.35	129975.04	130314.96	130544.92

Debt-Equity Ratio

38. 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.

39. The gross loan and equity amounting to ₹90888.68 lakh and ₹38952.29 lakh, respectively as on 31.3.2009 as considered in order dated 31.3.2015 in Petition No.222/GT/2013 has been considered as gross loan and equity as on 1.4.2009.. Further, the additional capital expenditure approved above has been allocated in debt-equity ratio of 70:30.

Return on Equity

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

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

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

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

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

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

(4) Rate of return on equity shall be rounded off to three decimal points and be computed as per the formula given below: Rate of pre-tax return on equity = Base rate / (1-t) Where t is the applicable tax rate in accordance with clause (3) of this regulation.

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

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

41. In terms of Regulation 15 of the 2009 Tariff Regulations, Return on equity has been worked out and allowed as under:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Notional Equity- Opening	38952.29	39000.81	38995.19	38989.83	39199.15
Addition of Equity due to ACE	48.53	(-)5.62	(-)5.37	209.32	(-)71.34
Normative Equity - Closing	39000.82	38995.19	38989.83	39199.15	39127.81
Average Normative Equity	38976.55	38998.01	38992.51	39094.49	39163.47
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax Rate for respective years	33.990%	33.218%	32.445%	32.445%	33.990%
Rate of Return on Equity (Pre Tax)	23.481%	23.210%	22.944%	22.944%	23.481%
Return on Equity (Pre Tax)- Annualised	9152.08	9051.44	8946.44	8969.84	9195.98

Interest on loan

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

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

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

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

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

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

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

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

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

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

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

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

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

43. The interest on loan has been worked out in accordance with the methodology given below:

i) The gross normative loan amounting to ₹90888.68 lakh (after adjustment of un discharged liabilities as on 01.04.2009) has been considered as on 1.4.2009.

ii) Cumulative repayment amounting to ₹62624.33 lakh (after adjustment of un discharged liabilities as on 01.04.2009) as on 1.4.2009 as considered in order dated 31.3.2015 in Petition No.222/GT/2013 has been considered as cumulative repayment as on 1.4.2009.

iii) Accordingly, the net normative opening loan as on 1.4.2009 works out to ₹28264.35 lakh.

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

v) Depreciation allowed has been considered as repayment of normative loan during the respective year of the tariff period 2009-14. Further, proportionate adjustment has been made to the repayments corresponding to discharges and reversals of liabilities considered during the respective years on account of cumulative repayment adjusted as

on 1.4.2009.

vi) In line with the provisions of the Regulation 16 (5) of the 2009 Tariff Regulations, the weighted average rate of interest has been calculated by applying the actual loan portfolio existing as on 1.4.2009 along with subsequent additions during the period 2009-14, if any, 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.

vii) The cumulative repayment has been adjusted @70% due to decapitalisation of assets/works considered for the purpose of tariff.

44. Necessary calculation for interest on loan is as under:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Gross opening loan	90888.68	91001.91	90988.78	90976.27	91464.67
Cumulative repayment of loan upto previous year / period	62624.33	69495.91	76461.32	83417.97	90359.69
Net Loan Opening	28264.35	21505.99	14527.46	7558.29	1104.98
Addition due to ACE	113.23	(-)13.12	(-)12.52	488.40	(-)166.45
Repayment of loan during the year	6975.14	6973.13	6969.17	6965.82	1104.98
Less: Repayment adjustment on account of de-caps	107.64	33.77	12.52	24.11	166.45
Add: Repayment adjustment on discharges corresponding to un-discharged liabilities deducted as on 01.04.2009	4.08	26.05	0.00	0.00	0.00
Net Repayment	6871.59	6965.41	6956.65	6941.72	938.53
Net Loan Closing	21505.99	14527.46	7558.29	1104.98	0.00
Average Loan	24885.17	18016.73	11042.88	4331.64	552.49
Weighted Average Rate of Interest on Loan	2.4761%	1.9716%	1.7286%	1.6533%	2.5268%
Interest on Loan	616.17	355.21	190.89	71.61	13.96

Depreciation

45. Regulation 17 of the 2009 Tariff Regulations contains the following provisions relating to computation of depreciation:

“(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 up to 31.3.2009 from the gross depreciable value of the assets.

(6) Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.”

46. The cumulative depreciation as on 1.4.2009 as per order dated 31.3.2015 in Petition No.222/GT/2013 works out to ₹47331.00 lakh after adjustment of undischarged liabilities as on 31.3.2009. Since, the used life of the generating station (i.e. 8.67 years) is less than 12 years, as on 1.4.2009, from the effective date of commercial operation of the generating station (i.e. 1.8.2000), depreciation has been calculated by applying the weighted average rate of depreciation of 5.3687% for the year 2009-10, 5.3642% for the year 2010-11, 5.3619% for the year 2011-12 and 5.3454% for the year 2012-13. However, as the useful life of the generating station as on 1.4.2013 (i.e.12.67 years) is more than 12 years from the effective date of commercial operation of the generating station (1.8.2000), for the year 2013-14 depreciation has been calculated by spreading over of the balance depreciable value. The balance useful life as on 1.4.2013 works out to 12.33 years. Further, proportionate adjustment has been made to the cumulative depreciation corresponding to discharges and/or reversal of liabilities considered during the respective years on account of cumulative depreciation adjusted as on 1.4.2009. Also, the cumulative depreciation has been adjusted for de-capitalisation considered during tariff period 2009-14. The necessary calculations in support of depreciation are as under:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	129840.97	130002.72	129983.98	129966.09	130663.82
Add: ACE	161.75	(-)18.75	(-)17.88	697.73	(-)237.79
Closing Capital Cost	130002.72	129983.98	129966.09	130663.82	130426.02

Average Capital Cost	129921.85	129993.35	129975.04	130314.96	130544.92
Depreciable value (ex. land)@ 90%	116536.80	116601.16	116584.67	116890.60	117097.57
Balance Useful life of the asset	16.33	15.33	14.33	13.33	12.33
Balance depreciable value	69205.81	62355.29	55367.25	48711.76	41970.24
Depreciation (annualized)	6975.14	6973.13	6969.17	6965.82	3402.99
Cumulative depreciation at the end	54306.14	61219.00	68186.59	75144.66	78530.32
Less: Cumulative Depreciation adjustment on a/c of un-discharge liabilities deducted as on 01.04.09	(-) 3.10	(-) 19.75	0.00	0.00	0.00
Less: Cumulative Depreciation reduction due to decapitalization	63.36	21.33	7.76	17.33	150.60
Cumulative depreciation (at the end of the period)	54245.87	61217.43	68178.84	75127.33	78379.72

Normative Annual Plant Availability Factor (NAPAF)

47. The NAPAF of 85% as considered in order dated 31.3.2015 in Petition No222/GT/2013 has been considered for the purpose of tariff.

O&M Expenses

48. O&M expenses as considered in order dated 31.3.2015 in Petition No. 222/GT/2015 as stated below has been considered.

(₹ in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
7644.00	8080.80	8542.80	9034.20	9550.80

Interest on Working Capital Fuel Component

49. The fuel component in the working capital as considered in order dated 31.3.2015 is considered as under:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of coal for 2 months	8434.07	8434.07	8457.18	8434.07	8434.07
Cost of secondary fuel oil 2 months	107.74	107.74	108.04	107.74	107.74

Maintenance Spares

50. The maintenance spares as considered in order dated 31.3.2015 is allowed as under:

(₹ in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
1528.80	1616.16	1708.56	1806.84	1910.16

Receivables

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

(Rs in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Variable Charges - for two months	8434.07	8434.07	8457.18	8434.07	8434.07
Fixed Charges – for two months	4658.22	4678.61	4720.08	4788.44	4301.86
Total	13092.29	13112.68	13177.26	13222.51	12735.94

O&M Expenses (1 month)

52. The O&M expenses for one month as considered in order dated 31.3.2015 has been considered.

(₹ in lakh)

2009-10	2010-11	2011-12	2012-13	2013-14
637.00	673.40	711.90	752.85	795.90

53. Accordingly, SBI PLR of 12.25% has been considered for the purpose of calculating interest on working capital. The necessary computations in support of calculation of interest on working capital are as under:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Coal Stock- 2 months	8434.07	8434.07	8457.18	8434.07	8434.07
Oil stock-2 months	107.74	107.74	108.04	107.74	107.74
O & M expenses- 1 months	637.00	673.40	711.90	752.85	795.90
Mtc.Spares	1528.80	1616.16	1708.56	1806.84	1910.16
Receivables- 2 months	13092.29	13112.68	13177.26	13222.51	12735.94
Total Working Capital	23799.91	23944.06	24162.93	24324.02	23,983.81
Rate of Interest	12.2500%	12.2500%	12.2500%	12.2500%	12.2500%
Total Interest on Working capital	2915.49	2933.15	2959.96	2979.69	2938.02

Annual Fixed Charges

54. The Annual Fixed Charges based on above deliberations work out as under:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	6975.14	6973.13	6969.17	6965.82	3402.99
Interest on Loan	616.17	355.21	190.89	71.61	13.96
Return on Equity	9152.08	9051.44	8946.44	8969.84	9195.98
Interest on Working Capital	2915.49	2933.15	2959.96	2979.69	2938.02
O&M Expenses	7644.00	8080.80	8542.80	9034.20	9550.80
Cost of Secondary Fuel Oil	646.44	646.44	648.21	646.44	646.44
Compensation Allowance	0.00	31.50	63.00	63.00	63.00
Special Allowance	0.00	0.00	0.00	0.00	0.00
Total	27949.33	28071.67	28320.47	28730.61	25811.18

Note: (1) All figures are on annualized basis. (2) All figures under each head have been rounded. The figure in total column in each year is also rounded. As such, the sum of individual items may not be equal to the arithmetic total of the column.

55. The difference in the annual fixed charges determined by order dated 31.3.2015 and those determined by this order shall be adjusted in accordance with Regulation 6 (6) of the 2009 Tariff Regulations.

56. The petition no. 332/GT/2014 stands disposed of in terms of the above.

Sd/-
(Dr .M.K.Iyer)
Member

Sd/-
(A. K. Singhal)
Member

Sd/-
(Gireesh B. Pradhan)
Chairperson