# CENTRAL ELECTRICITY REGULATORY COMMISSION NEW DELHI

## Petition No. 320/GT/2014

## Coram:

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

 Date of Hearing:
 03.03.2016

 Date of Order:
 25.05.2016

#### In the matter of

Revision of tariff of Feroze Gandhi Unchahar Thermal Power Station Stage-I (420 MW) for the period from 1.4.2009 to 31.3.2014- Truing up of tariff determined by order dated 16.04.2015 in Petition No. 284/GT/2013.

#### And in the matter of

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

Vs

 Uttar Pradesh Power Corporation Ltd. Shakti Bhawan,
 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

Order in Petition No. 320/GT/2014



... Petitioner

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. Uttrakhand 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

This petition has been filed by the petitioner NTPC for revision of tariff of Feroze Gandhi Unchahar Thermal Power Station (2 x 210 MW) (hereinafter referred to as "the generating station") for the period from 1.4.2009 to 31.3.2014 based on truing up exercise in terms of the Proviso to clause (1) of Regulation 6 of the Central Electricity Regulatory Commission (Terms



and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as "the 2009 Tariff Regulations").

The generating station with a capacity of 420 MW comprises of two units of 210 MW each.
 The dates of commercial operation of different units of the generating station are as under:

	Date of commercial operation (COD)
Unit-I	21.11.1988
Unit-II / Generating station	22.03.1989

3. The Commission vide order dated 29.5.2012 in Petition No. 221/2009 had approved the tariff of the generating station for the period 1.4.2009 to 31.3.2014 taking into account the opening capital cost of ₹97412.91 lakh as on 1.4.2009, after adjusting the un-discharged liabilities of ₹59.60 lakh pertaining to the period prior to 1.4.2009, as shown hereunder:

	(₹ in lakh)
Capital cost	97472.51
Less: Un-discharged liabilities	59.60
Admitted capital cost as on 31.3.2009	97412.91

4. Thereafter, Petition No.284/GT/2013 was filed by the petitioner for revision of the annual fixed charges based on the actual additional capital expenditure incurred for the years 2009-10, 2010-11, 2011-12 and 2012-13 and the projected additional capital expenditure for the year 2013-14 and the Commission vide order dated 16.04.2015 revised the tariff of the generating station.

5. The Capital Cost and the Annual Fixed Charges of the generating station approved by the Commission by order dated 16.04.2015 in Petition No. 284/GT/2013 is as under:

# Capital Cost

·					(₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	97412.91	96894.29	96844.14	97479.34	97110.56
Add: ACE	(-)518.63	(-)50.15	635.20	(-)368.77	0.00
Closing Capital Cost	96894.29	96844.14	97479.34	97110.56	97110.56
Average Capital Cost	97153.60	96869.22	97161.74	97294.95	97110.56

Annual Fixed Charges

(₹ in lakh)



Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	414.97	438.01	476.95	528.00	550.40
Interest on Loan	68.56	41.92	52.74	63.30	46.67
Return on Equity	11283.12	11133.10	11025.64	11034.81	11022.12
Interest on Working Capital	2749.34	2770.71	2801.18	2824.64	2853.57
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	273.00	273.00	273.00	273.00	273.00
Total	23079.43	23383.99	23820.52	24404.39	24943.00

6. 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."

7. In accordance with the above, the petitioner has filed this petition vide affidavit dated

08.08.2014 for revision of tariff of the generating station for the period 2009-14 based on the

admitted capital cost as on 31.3.2009 and the actual capital expenditure incurred (on cash basis)

during the period 2009-14. Accordingly, the capital cost and the annual fixed charges claimed by

the petitioner is as under:

### **Capital Cost**

·					(₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	97412.91	97579.95	97595.73	98326.85	98326.85
Additional Capital Expenditure	167.04	15.78	731.12	0.00	738.71
Closing Capital Cost	97579.95	97595.73	98326.85	98326.85	99065.56
Average Capital Cost	97496.43	97587.84	97961.29	98326.85	98696.20

### Annual Fixed Charges

_					(₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	924.67	940.25	1056.87	1323.12	1377.68
Interest on Loan	63.37	29.76	23.36	12.03	3.58
Return on Equity	11307.27	11183.14	11080.68	11105.84	11391.79
Interest on Working Capital	2760.35	2781.97	2813.79	2841.62	2877.61
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	273.00	273.00	273.00	273.00	273.00
Total	23619.11	23935.36	24438.72	25236.25	26120.91

8. Replies to the petition have been filed by Respondent No. 1, Uttar Pradesh Power Corporation Ltd (UPPCL) and Respondent No 6, BSES Rajdhani Power Ltd. The petitioner has also filed additional information called for by the Commission. We now proceed to revise the tariff of the generating station, based, on prudence check, considering the submissions of the parties and the documents available on record as stated in the subsequent paragraphs.

## Capital cost as on 01.04.2009

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 ₹97412.91 lakh, as on 31.3.2009, as considered by the

Commission in the said order dated 29.05.2012 has been considered as the basis for revision of

the annual fixed charges.

# Actual Additional Capital Expenditure

11. Regulation 9 (2) 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 nonmaterialisation 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 actual additional capital expenditure allowed in order dated 16.04.2015 Petition No.

					(₹ ii	n lakh)
SI.	Head of work/ Equipment	2009-10	2010-11	2011-12	2012-13	2013-14
No.	Head of work/ Equipment	(Actual)	(Actual)	(Actual)	(Actual)	(Projected)
А	Locomotive 1350/1120 HP	0.00	0.00	894.88	0.00	0.00
	New Items / Works Claimed					
В	Ash Related Works					
	R&M of Control System for Stage-I AHP Control System	0.00	0.00	0.00	0.00	0.00
С	Environmental System					

284/GT/2013 for the period 2009-14 are as under:

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	Room for Flue Gas Analyzer	0.00	0.32	0.00	0.00	0.00
D	CHP Related Works					
i	R&M of MCC at CHP Stage-I	0.00	0.00	0.00	0.00	0.00
ii	CHP Stage -I CBMS and suspended Magnet	0.00	0.00	0.00	0.00	0.00
iii	R&M of Wagon Tippler of CHP Stage - I	0.00	0.00	0.00	0.00	0.00
iv	Rack & Pinion Elevator in CHP	0.00	0.00	0.00	0.00	0.00
	Sub Total (D)	0.00	0.00	0.00	0.00	0.00
E	Other Works					
i	Replacement of Generator Protection Panel of unit -1 & 2	0.00	0.00	0.00	0.00	0.00
ii	Hot Air Damper (HAD), Cold Air Damper (CAD), & RCF (Raw Coal Feeder) Pneumatic Control Actuators Stage-I	0.00	0.00	0.00	0.00	0.00
iii	Replacement of HP Heater No. 6 for Stage-I	0.00	0.00	0.00	0.00	0.00
iv	DELTA-PI Transmitter	0.00	0.00	0.00	0.00	0.00
v	Renovation of turbovisory instruments	0.00	0.00	0.00	0.00	0.00
vi	Renovation of ID/FD/PA Blade IGV Actuators	0.00	0.00	0.00	0.00	0.00
vii	Renovation of Generator purity meter	0.00	0.00	0.00	0.00	0.00
viii	Boiler Tube Leakage Detection System	0.00	0.00	0.00	0.00	0.00
ix	Protection Coupler PLCC - 220 KV Switch Yard	0.00	0.00	0.00	0.00	0.00
	Sub Total (E)	0.00	0.00	0.00	0.00	0.00
F	Total Add-Cap (A+B+C+D+E)	0.00	0.32	894.88	0.00	0.00
G	Decapitalization allowed	14.83	0.00	167.84	0.00	0.00
н	Additional Capitalization allowed (F-G)	(-) 14.83	0.32	727.04	0.00	0.00
	Exclusions not allowed	(-) 546.71	(-) 63.06	(-) 95.93	(-) 332.04	0.00
J	Less- Asset held for disposal	0.00	0.00	0.00	36.74	0.00
Κ	Liabilities Discharged	42.92	12.59	4.09	0.00	0.00
	Net Add Cap (H-I-J+K)	(-) 518.63	(-) 50.15	635.20	(-) 368.77	0.00

13. The category wise break-up of the actual additional capital expenditure claimed for the period 2009-14 vide petition no 320/GT/2014 vide affidavit dated 08.08.2014 is as under:

					(₹ i	n lakh)
SI. No.	Head of work/ Equipment	2009-10	2010-11	2011-12	2012-13	2013-14
	Already Approved Claims					
А	Locomotive 1350/1120 HP	0.00	0.00	894.88	0.00	0.86
	•	•	•			



В	Room for Flue Gas Analyzer	0.00	0.32	0.00	0.00	0.00
	New Items / Works Claimed					
С	CHP Related Works					
i	CHP Stage -I CBMS and suspended Magnet	0.00	0.00	0.00	0.00	34.49
ii	R&M of Wagon Tippler of CHP Stage - I	0.00	0.00	0.00	0.00	574.36
iii	Rack & Pinion Elevator in CHP	3.46	0.00	0.00	0.00	0.00
D	Other Works					
i	Replacement of Generator Protection Panel of unit -1 & 2	0.00	0.00	0.00	0.00	42.04
ii	Upgradation of ST-I Stn. Transformer 1&2 Protection System	0.00	0.00	0.00	0.00	15.95
iii	Replacement of HP Heater No. 6 for Stage-I	0.00	0.00	0.00	0.00	302.40
iv	DELTA-PI Transmitter	9.94	0.00	0.00	0.00	0.00
V	Renovation of turbovisory instruments	69.52	0.00	0.00	0.00	0.00
vi	Renovation of ID/FD/PA Blade IGV Actuators	25.68	0.00	0.00	0.00	0.00
vii	Renovation of Generator purity meter	5.63	0.00	0.00	0.00	0.00
viii	Boiler Tube Leakage Detection System	24.72	0.00	0.00	0.00	0.00
ix	Protection Coupler PLCC - 220 KV Switch Yard	0.00	2.86	0.00	0.00	0.00
E	Total Add-Cap (A+B+C+D)	138.96	3.18	894.88	0.00	970.10
F	Decapitalization	0.00		()407.04	0.00	
i	Decap towards Locomotive	0.00	0.00	(-)167.84	0.00	0.00
ii	Decap towards Procurement of CBMS	0.00	0.00	0.00	0.00	(-) 0.76
iii	Decap towards Supply of Material for Wagon Tippler	0.00	0.00	0.00	0.00	(-) 145.99
iv	Decap towards R&M OF UNIT # 1 & 2 Gen. Prot. Sch and Upgrdation of ST-I Stn. Transformer 1&2 Prot. System	0.00	0.00	0.00	0.00	(-) 4.56
V	Decap towards Erection & Commng of HP Heater #6	0.00	0.00	0.00	0.00	(-) 80.08
	Decapitalisation of items claimed in true-up petition no.283/GT/2013	(-) 14.83	0.00	0.00	0.00	0.00
G	Total De-capitalization	(-) 14.83	0.00	(-) 167.84	0.00	(-) 231.39
Н	Net Add Cap (F-G)	124.13	3.18	727.04	0.00	738.71
	Liabilities Discharged	42.92	12.59	4.09	0.00	0.00
	Total (H + I)	167.04	15.78	731.12	0.00	738.71

14. The total claim of the petitioner for additional capital expenditure in the present petition is

₹1593.06 lakh (excluding liabilities discharged). Total amount of claim against discharge of liabilities made during the tariff period is ₹59.60 lakh. Thus the total claim made in this petition is ₹1652.66 lakh (including liabilities discharged). Commission vide its order dated 16.04.2015 in Petition number 320/GT/2014 had carried out true up of tariff for the first four years of tariff period i.e. for the years 2009-10,2010-11,2011-12 and 2012-13. The petitioner's claim for capitalization of additional expenditure in the instant petition in the year 2013-14 is being discussed in the subsequent paragraphs-

### Loco 1350/1120 HP

15. The petitioner has claimed actual additional capital expenditure Of ₹0.86 lakh during 2013-14 for Loco 1350/1120 HP) under sub-clause (vii) of clause (2) of Regulation 9 of the 2009 Tariff Regulations. The Commission vide the order dated 16.04.2015 had allowed the actual additional capital expenditure of ₹894.88 lakh for replacement of old/obsolete WDS-4D Loco as no support from Railway Workshop to repair such old/obsolete Locos was possible, as spares of old Locos were not available. The petitioner therein had submitted that balance cost against balance supplies would be capitalized in 2013-14. The petitioner has now claimed balance cost of ₹0.86 lakh in 2013-14 after capitalizing on actual basis and the same is allowed.

16. The petitioner in the instant truing up petition has claimed actual additional capital expenditure of ₹34.49 lakh with corresponding de-capitalization of ₹0.76 lakh for Cross Belt Magnetic Separator under the Regulation 9(2)(vii) in the year 2013-14. The petitioner in its justification has submitted that these components are obsolete and not available in the market. With regard to claim of actual additional capital expenditure of ₹574.36 lakh with corresponding de-capitalization of ₹145.99 lakh towards R&M of wagon Tippler in 2013-14, the petitioner in its justification has submitted that the wagon tipplers were commissioned in 1987-88 and have already rendered service of more than 22 years. Due to higher supply of coal through Box-N wagon than BOBR wagons over the years, parts of wagon tippler especially compensating arm and top girders of tippler have worn out thereby creating unsafe conditions. In order to ensure safe operation and continued unloading of wagon, work of retrofit of complete drive train has



been undertaken. We have considered the submission of the petitioner and the Respondent. It is evident from the justification of the petitioner that the expenditure incurred under Cross Belt Magnetic Separator is on account of obsolescence and non-availability of spares and not on account of non-materialization of full coal linkage and therefore, the claim does not qualify for capitalization under the Regulation 9(2)(vii). The Commission vide order dated 16.4.2015 in Petition No. 284/GT/2013 had earlier disallowed projected additional capital expenditure of ₹29.00 lakh on this count. Further, the Commission had allowed Compensation Allowance under the Regulation 19(e) of the Tariff Regulations, 2009 to meet expenses for assets of minor / capital nature. In view this, the actual additional capital expenditure of ₹34.49 lakh for Cross Belt Magnetic Separator may be met from Compensation Allowance allowed by the Commission. Hence expenditure claimed under this head for capitalization is not allowed. However, the corresponding de-capitalization of ₹0.76 lakh is allowed since the capitalization on this count has been allowed up-front in the form of Compensation Allowance. With regard to claim of actual additional capital expenditure of ₹574.36 lakh with corresponding notional de-capitalization of ₹145.99 lakh towards R&M of wagon Tippler in 2013-14, it is to mention here that the generating station has completed 25 years of operation by the end of the year 2013-14. The Commission vide order dated 16.4.2015 in Petition No. 284/GT/2013 has decided as under:

"18. We have very carefully considered the petitioner's claim in the light of the objections raised by the respondents. The generating station has completed its useful life of 25 years by the end of the year 2013-14 and has become entitled to undertake R&M for life extension. Therefore, the petitioner is granted liberty to include R&M of wagon tippler in the R&M scheme that may be undertaken by the petitioner in the year 2014-15 i.e. (during the tariff period 2014-19). On this consideration, capitalization of the projected capital expenditure of Rs. 422.00 lakh is not being allowed. The actual additional capital expenditure of Rs. 3.46 lakh on Rack & Pinion Elevator during 2009-10, and the projected additional capital expenditure of Rs. 174.00 lakh for R&M of MCC in CHP during 2013-14 is not allowed, as the claim is not within the scope of clause (vii) of clause (2) of Regulation 9 of the 2009 Tariff Regulations".

17. As per the above decision of the Commission that the generating station after completion of useful life of 25 years in 2013-14 has become entitled to undertake R&M for life extension during 2014-19, the petitioner may undertake R&M work of wagon tippler during the tariff period 2014-19. Further, the Commission had allowed Compensation Allowance to the tune of ₹1365.00

lakh under the Regulation 19(e) of the Tariff Regulations, 2009 to meet actual expenditure incurred on assets of capital nature or minor in nature. Accordingly, actual additional capital expenditure of ₹574.36 lakh towards R&M of wagon tippler may be met from Compensation Allowance and hence, is not allowed. However, in a cost-plus tariff, the assets which are not rendering any useful service to the generating station needs to be taken out from the capital base. Accordingly, de-capitalization amount of ₹145.99 lakh for R&M of Wagon Tippler in the year 2013-14 is allowed since the capitalization on this count has been allowed up-front in the form of Compensation Allowance.

18. The petitioner in the instant final truing up petition has claimed actual additional capital expenditure ₹360.39 lakh (₹42.04 lakh for replacement of generator protection panel of Unit-1 & 2 & ₹15.95 lakh for Up-gradation of Station transformer 1&2 of Stage-I with corresponding decapitalization of ₹4.56, ₹302.40 lakh with corresponding de-capitalization of ₹80.08 lakh for Replacement of HP Heater No.6) in 2013-14 under the Regulation 44 i.e. "Power to Relax". The Respondent/s has submitted that the petitioner is already availing Compensation Allowance under the Regulation 19(e) of the Tariff regulations, 2009 and exercise of "Power to Relax" would result additional benefit to the petitioner.

19. We have considered the respective submissions. Admittedly, the capitalization of the expenditure is not covered under clause 9(2) of the 2009 Tariff Regulations. As already held in the order dated 29.5.2012 in Petition No. 221/2009 and in the order dated 16.4.2015 in Petition No. 284/GT/2013, capitalization of the expenditure of ₹360.39 lakh on these counts after the cut-off-date is not permitted. Further, the Commission had allowed Compensation Allowance to the tune of ₹1365.00 lakh under the Regulation 19(e) of the Tariff Regulations, 2009 to meet actual expenditure incurred on assets of capital nature or minor in nature. Accordingly, actual additional capital expenditure of ₹360.39 lakh for other works such as replacement of generator protection panel, up-gradation of station transformer and Replacement of HP Heater No.6 is not allowed. However, as already stated above, in a cost-plus tariff, the assets which are not rendering any useful service to the generating station have to be taken out from the capital base. In view of



this, de-capitalization amount of (-)₹4.56 lakh for replacement of generator protection panel & upgradation of station transformer and (-)₹80.08 for Replacement of HP Heater No.6 is allowed since the capitalization on these counts have been allowed up-front in the form of Compensation Allowance.

20. The actual additional capitalization for the period 2009-10 to 2012-13 have been trued-up by the Commission vide order dated 16.4.2015 in Petition No. 284/GT/2013. Accordingly, the reconciliation of actual additional capitalization with the gross block for the year 2013-14 is as follows:-

		(₹ in lakh)
SI. No.	Description	2013-14
1	Opening Gross Block as on 1.4.2013	103360.40
2	Closing Gross Block	104662.92
3	Addition	1302.52
4	Exclusion	559.19
5	addition including liabilities	743.33
6	Less un-discharged liabilities	4.63
7	Net Add-Cap	738.70

21. It can be seen from the table above that actual additional capital expenditure claimed by the petitioner is at variance with the additional capital expenditure as per books of accounts in 2013-14 due to exclusions of certain expenditure and un-discharged liabilities.

# **Exclusions**

22. The summary of exclusions from the books of accounts claimed for the year 2013-14 under different heads and allowed / not allowed for the purpose of tariff is as per the table given below with details discussed in subsequent paragraphs:

			(₹ in lakh)
SI. No.	Year / Description	2013-14	Remarks
1	FERV	274.07	Allowed
2	Capital Spares - capitalised	553.01	Allowed
3	De-cap of spares part of capital cost	(-)16.54	Not allowed
4	De-cap of spares not part of capital cost	(-)237.29	Allowed
5	De-capitalisation of MBOA items part of capital cost	(-)13.86	Not allowed
6	Liability reversal	(-)0.20	Allowed
7	Total Exclusion claimed	559.19	

# FERV



23. The petitioner has excluded an amount of (-)₹274.07 lakh in the year 2013-14 on account of impact of FERV. As the petitioner has billed the said amount directly to the beneficiaries in accordance with the Regulations, the claim under exclusion on account of FERV of (-)₹274.07 lakh during 2013-14 is in order and is allowed.

## **Capitalization of Capital Spares**

24. The Petitioner capitalized capital spares in books of accounts amounting to ₹553.01 lakh in 2013-14. Since the capitalization of capital spares over & above initial spares procured after cutoff-date are not allowed for the purpose of tariff as they form part of O&M expenses when consumed, the exclusions of ₹553.01 lakh during 2013-14 are in order and is allowed.

## **De-Capitalization of Capital Spares Part of Capital Cost**

25. The petitioner has de-capitalized capital spares amounting to. (-) ₹16.54 lakh during 2013-14 in books of account on these spares becoming unserviceable. It is observed from the submission of the petitioner that these spares were part of capital cost allowed in tariff and these spares on becoming un-serviceable were taken out of capital cost. Since, these expenses were part of capital cost, the exclusion sought for de-capitalization of these spares for (-) ₹16.54 lakh during 2013-14 is not allowed.

# De-capitalization of spares not part of capital cost

26. The petitioner has de-capitalized capital spares amounting to (-) ₹237.29 lakh during 2013-14 in books of account on these spares becoming unserviceable. It is observed from the submission of the petitioner that these spares were not allowed in tariff and do not form part of capital cost. Since, these expenses were not part of capital cost, the exclusion sought for decapitalization of these spares amounting to (-) ₹237.29 lakh during 2013-14 is allowed.

# **De-capitalization of MBOA items Part of Capital Cost**

27. The petitioner has de-capitalized in books of account MBOA items amounting to (-) ₹13.86 lakh as part of capital cost during 2013-14 on becoming un-serviceable. It is observed from the submission of the petitioner that these MBOA items were part of capital cost allowed in tariff and these MBOA items on becoming un-serviceable were taken out of capital cost. Since, these

expenses were part of capital cost, the exclusion sought for de-capitalization of these spares for

(-) ₹13.86 lakh during 2013-14 is not allowed.

# Liability Reversal

28. The petitioner has excluded liability reversal of (-) ₹0.20 lakh during 2013-14 created in

2009-10 towards installation of Guillotine gates before mills, the same is allowed.

29. The details of exclusions claimed vis-à-vis allowed on cash basis is as per table given below:

	(₹in lakh)
Year / Description	2013-14
Exclusions Allowed (A)	589.59
Exclusions Claimed (B)	559.19
Exclusions not Allowed (B-A)	30.40

30. Based on the above discussion, Actual additional capital expenditure for the year 2013-14

as allowed is as per the table given below:

		(₹ in lakh)
SI. No.	Year/Description	2013-14 (Actual)
	Head of work/ Equipment	
А	LOCOMOTIVE 1350/1120 HP	0.86
	Total A	0.86
	New Items / Works Claimed	
В	CHP Related Works	
i	CHP Stage-I CBMS and suspended Magnet	0.00
ii	De-cap towards above CBMS	(-) 0.76
iii	R&M of Wagon Tippler	0.00
iv	De-cap towards R&M of Wagon Tippler	(-) 145.99
	Total B	(-) 146.75
С	Other Works	
i	Replacement of Generator Protection Panel of unit -1 & 2	0.00
ii	Upgradation of Station transformer	0.00
iii	De-cap of above Station transformer	(-) 4.56
iv	Replacement of HP Heater No. 6 for Stage-I	0.00
V	De-cap towards HP Heater No. 6 for Stage-I	(-) 80.08
	Total C	(-) 84.64
D	Add Cap Allowed (A+B+C)	(-) 230.55
E	Exclusions Not Allowed	30.40

# F Net Add-Cap Allowed (D-E)

31. Commission in its order dated 16.04.2015 in petition number 284/GT/2013 had directed the petitioner to submit clarification regarding discrepancy noted towards de-capitalization of ₹2.72 lakh and ₹3.19 lakh claimed by the petitioner in FY 2010-11 and 2011-12. Since, the petitioner has failed to provide any clarification in this regard we consider the same amounts to be forming part of allowed capital cost and de-capitalize the same along with necessary adjustments in depreciation and interest on loan. The Additional Capital Expenditure allowed earlier vide order dated 16.04.2015 are retained as it is except for change on this two years to the extent of de-capitalization.

32. Based on the additional capital expenditure allowed including liabilities discharged, the capital cost considered for the purpose of revised tariff for 2009-14 is as under:

					(₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	97,412.91	96,894.28	96,841.42	97,473.42	97,104.65
Add: ACE	(518.63)	(52.87)	632.01	(368.77)	(260.95)
Closing Capital Cost	96,894.28	96,841.42	97,473.42	97,104.65	96,843.70
Average Capital Cost	97,153.60	96,867.85	97,157.42	97,289.04	96,974.18

# **Debt-Equity Ratio**

33. 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.

34. Accordingly, gross loan and equity of ₹49282.98 lakh and ₹48129.94 lakh respectively as

allowed in order dated 16.04.2015 have been considered as on 1.4.2009. Further, the admitted

actual additional expenditure has been allocated between debt and equity in the ratio of 70:30.

## Return on Equity

35. 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."

36. The base rate of 15.5% of return on equity is trued up based on actual tax rate applicable

for the year. Return on equity has been worked out by grossing up the base rate with respect to



actual tax rate applicable to the petitioner as a generating company for the period 2009-14. Accordingly, return on equity worked out is as under:

					(₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Notional Equity- Opening	48,129.94	47,974.35	47,958.49	48,148.09	48,037.46
Addition of Equity due to ACE	(155.59)	(15.86)	189.60	(110.63)	(78.28)
Normative Equity - Closing	47,974.35	47,958.49	48,148.09	48,037.46	47,959.18
Average Normative Equity	48,052.14	47,966.42	48,053.29	48,092.78	47,998.32
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	11,283.12	11,133.01	11,025.35	11,034.41	11,270.48

### Interest on loan

37. 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.

38. The interest on loan has been worked out in accordance with the methodology given

below:

i) Gross normative loan amounting to ₹49282.98 lakh has been considered as on

01.04.2009.

ii) Cumulative repayment as on 01.04.2009 considered is ₹46409.32 lakh.

iii) Accordingly, the net normative opening loan as on 01.04.2009 works out to ₹2873.66
 lakh.

iv) 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 01.04.2009.

v) In line with the provisions of the regulation stated above weighted average rate of interest has been calculated applying the actual loan portfolio existing as on 01.04.2009 along with subsequent additions during the period 2009-14, if any, for the instant 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. However, in case of LIC-III (T3, D1), (T4, D1&4) it is observed that petitioner has claimed additional interest of 0.0221% towards upfront fee. These loans has been allocated at various other stations of NTPC



also (like Barh, Koldam, Kahalgaon-II, Singrauli, Sipat-I&II, Vindhyachal-I&III, Farakka-I&II, Ramagundam-I,II&III, Talcher TPS, Anta, Badarpur, Korba-I&II & Tanda). And in most of cases it has been observed that petitioner has not claimed any upfront fee towards aforementioned LIC-III loans in the respective final true-up petitions (like Sipat-II, Vindhyachal-I&III, Kahalgaon-II, Ramagundam-III, Anta, Korba-I&II). Thus it may be observed that petitioner is itself not consistent in claiming such upfront fees in other stations where the same loan has been allocated. Keeping in view this inconsistency in petitioners claim and stand other petitions by CERC such upfront fee has not been considered for the purpose of computation of weighted average rate of interest.

	r		1		(< in lakn)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Gross opening loan	49,282.98	48,919.94	48,882.94	49,325.34	49,067.20
Cumulative repayment of loan upto previous year / period	46,409.32	46,429.76	46,826.48	47,116.25	47,385.93
Net Loan Opening	2,873.66	2,490.18	2,056.45	2,209.09	1,681.26
Addition due to ACE	(363.04)	(37.01)	442.40	(258.14)	(182.66)
Repayment of loan during the year	414.99	438.46	476.99	527.83	535.99
Less: Repayment adjustment on account of de-caps	393.08	46.05	186.87	258.14	183.26
Add: Repayment adjustment on discharges corresponding to un- discharged liabilities deducted as on 01.04.2009	-1.47	4.31	-0.36	0.00	0.00
Net Repayment	20.44	396.72	289.76	269.69	352.73
Net Loan Closing	2,490.18	2,056.45	2,209.09	1,681.26	1,145.87
Average Loan	2,681.92	2,273.32	2,132.77	1,945.18	1,413.57
Weighted Average Rate of Interest on Loan	2.5563%	1.8440%	2.5075%	3.3535%	4.4197%
Interest on Loan	68.56	41.92	53.48	65.23	62.47

39. The necessary calculations for interest on loan are given as under:

# Depreciation

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

Order in Petition No. 320/GT/2014



(₹ in lakh)

"(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."

41. The cumulative depreciation as on 31.3.2009 as per order dated 16.04.2015 in Petition No.

284/GT/2013 considered prior to adjustment on account of removal of liabilities was ₹83047.42 lakh. Proportionate adjustment was made to the cumulative depreciation on account of undischarged liabilities deducted as on 1.4.2009. However, while making the adjustment land value was not accounted for resulting into consideration of cumulative depreciation on 1.4.2009, on cash basis, as ₹82996.24 lakh. The value of freehold land considered as on 01.04.2009 is ₹357.08 lakh. After accounting for the value of land adjustment made to the cumulative depreciation on account of un-discharged liabilities results into consideration of cumulative depreciation of cumulative depreciation on 1.4.2009, on cash basis, as ₹82996.06 lakh. Further, the generating station is more than 12 years old; as such depreciation has been calculated by spreading the balance depreciable value over the remaining useful life. The balance useful life as on 1.4.2009 as per Commission's earlier order/s is 9.93 years and the same has been considered for calculation of depreciation. 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. Similarly, cumulative depreciation adjustment on account of decapitalization as considered in order dated 16.04.2015 has been rectified to the extent of rates earlier considered wrongly along with adjustment made for 2013-14.

42. The necessary calculations in support of depreciation are as shown below:

					(₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	97,412.91	96,894.28	96,841.42	97,473.42	97,104.65
Add: ACE	(518.63)	(52.87)	632.01	(368.77)	(260.95)
Closing Capital Cost	96,894.28	96,841.42	97,473.42	97,104.65	96,843.70
Average Capital Cost	97,153.60	96,867.85	97,157.42	97,289.04	96,974.18
Depreciable value (ex. land)@ 90%	87,116.86	86,859.69	87,120.30	87,238.76	86,955.38
Balance Useful life of the asset	9.93	8.93	7.93	6.93	5.93
Balance depreciable value	4,120.81	3,915.47	3,782.51	3,657.84	3,178.43
Depreciation	414.99	438.46	476.99	527.83	535.99
(annualized)					
Cumulative depreciation at the end	83,411.04	83,382.69	83,814.78	84,108.74	84,312.94
Less: Cumulative Depreciation adjustment on a/c of un-discharge liabilities deducted as on 01.04.09	-36.70	-10.77	-3.50	0.00	0.00
Less: Cumulative Depreciation reduction due to decapitalization	503.52	55.66	237.36	331.79	235.62
Cumulative depreciation (at the end of the period)	82,944.22	83,337.79	83,580.91	83,776.95	84,077.32

# Normative Annual Plant Availability Factor

43. The Normative Annual Plant Availability Factor of 85% as considered in order dated 16.04.2015 has been considered for the purpose of truing up of tariff.

# O&M Expenses

44. O&M expenses as considered in the order dated 16.04.2015 in Petition No.284/GT/2013 have been considered:



# **Interest on Working Capital**

45. The components of working capital as given hereunder have been considered:

(a) **Fuel cost**: Fuel cost and liquid fuel stock for 2 months has been considered as under:

					(₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of Main Fuel – two months	8161.71	8161.71	8184.07	8161.71	8161.71
Cost of Liquid Fuel – two months	107.74	107.74	108.04	107.74	107.74

(b) **Maintenance spares**: Maintenance spares have been considered @ 20% of operation and maintenance expenses as considered in the said order dated 16.04.2015 in Petition No.284/GT/2013 as stated below, have been considered.

					(₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Maintenance Spares	1528.80	1616.16	1708.56	1806.84	1910.16

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

				(	₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Variable charges for 2 months	8,161.71	8,161.71	8,184.07	8,161.71	8,161.71
Fixed Charges – for 2 months	3,846.57	3,897.39	3,970.17	4,067.63	4,199.66
Total	12,008.28	12,059.10	12,154.24	12,229.34	12,361.37

(d) **O&M Expenses**: O&M expenses for 1 month as allowed in order dated 16.04.2015 in

Petition No.284/GT/2013 has been considered.

					(₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
O & M Expenses for 1 month	637.00	673.40	711.90	752.85	795.90

(e) Rate of Interest: SBI PLR of 12.25% as on 1.4.2009 has been considered for

computation of the interest on working capital.



					(₹ in lakh)
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Coal Stock- 2 months	8,161.71	8,161.71	8,184.07	8,161.71	8,161.71
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
Spares	1,528.80	1,616.16	1,708.56	1,806.84	1,910.16
Receivables- 2 Months	12,008.28	12,059.10	12,154.24	12,229.34	12,361.37
Total Working Capital	22,443.53	22,618.11	22,866.80	23,058.48	23,336.88
Rate of Interest	12.2500%	12.2500%	12.2500%	12.2500%	12.2500%
Total Interest on Working capital	2,749.33	2,770.72	2,801.18	2,824.66	2,858.77

46. Necessary computations in support of interest on working capital are given as under:

# **Compensation Allowance**

47. Compensation Allowance allowed vide order dated 16.04.2015 in Petition No.284/GT/2013

has been considered as shown below.

					(₹ in lakh)	
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	
Compensation Allowance	273.00	273.00	273.00	273.00	273.00	

# Annual Fixed Charges

48. The revised annual fixed charges for the period 2009-14 are summarized as under:

				(₹ in lakh)		
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	
Depreciation	414.99	438.46	476.99	527.83	535.99	
Interest on Loan	68.56	41.92	53.48	65.23	62.47	
Return on Equity	11,283.12	11,133.01	11,025.35	11,034.41	11,270.48	
Interest on Working Capital	2,749.33	2,770.72	2,801.18	2,824.66	2,858.77	
O&M Expenses	7,644.00	8,080.80	8,542.80	9,034.20	9,550.80	
Cost of secondary fuel oil	646.44	646.44	648.21	646.44	646.44	
Compensation Allowance	273.00	273.00	273.00	273.00	273.00	
Total	23,079.44	23,384.35	23,821.01	24,405.77	25,197.96	

**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.

49. The petitioner has recovered annual fixed charges on the basis of Commission's order dated 16.04.2015 in Petition No. 284/GT/2013. Accordingly, difference in recovered annual fixed

charges by the petitioner and those as decided by this order shall be adjusted in accordance with clause (6) of Regulation 6 of the 2009 Tariff Regulations.

50. The petition no 320/GT/2014 stands disposed of on above terms.

-Sd/-(Dr. M.K.Iyer) Member -Sd/-(A.K. Singhal) Member -Sd/-(Gireesh B. Pradhan) Chairperson

