CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 295/GT/2014

Coram:

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

Date of Hearing: 19.4.2016
Date of Order : 6.12.2016

In the matter of

Revision of tariff of Sipat Super Thermal Power Station Stage – I (3 X 660 MW) for the period from 1.10.2011 to 31.3.2014-Truing up of order dated 22.8.2013 in Petition No. 28/2011

And in the matter of

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

Vs

1. Madhya Pradesh Power Management Company Ltd.,
   Shakti Bhawan, Vidyut nagar,
   Jabalpur-482008

2. Maharashtra State Electricity Distribution Company Ltd.,
   Prakashgad, Bandra (East),
   Mumbai-400051

3. Gujarat Urja Vikas Nigam Limited,
   Vidyut Bhawan, Race Course
   Vadodora-390007

4. Chhattisgarh State Power Distribution Company Ltd,
   Sundar Nagar,
   Danganiya, Raipur-492013

5. Electricity Department, Govt. of Goa,
   Vidyut Bhawan, Panji
   Goa

6. Electricity Department,
Administration of Daman & Diu,
Daman-396210

7. Electricity Department,
Administration of Dadra and Nagar Haveli,
Silvassa **...Respondents**

Parties present:

For Petitioner: Shri Bhupinder Kumar, NTPC
Shri Rajeev Chaudhary, NTPC
Shri Parimal Piyush, NTPC
Shri Ajay Dua, NTPC
Shri Nishant Gupta, NTPC

For Respondents: None

ORDER

This petition has been filed by the petitioner, NTPC Ltd. for revision of the annual fixed charges in respect of Sipat Super Thermal Power Station Stage-I (3 x 660 MW)('the generating station') for the period from the actual date of commercial operation of Unit-I i.e. 1.10.2011 to 31.3.2014 after truing up in terms of clause (1) of Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 ('the 2009 Tariff Regulations').

2. The Unit-I, Unit-II and Unit-III of the generating station Stage-I have been declared under commercial operation on 1.10.2011, 25.5.2012 and 1.8.2012 respectively.

3. The Commission vide order dated 22.8.2013 in Petition No. 28/2011 had approved the annual fixed charges of the generating station Stage-I for the period from 1.10.2011 to 31.3.2014 considering the opening capital cost of ₹370660.80 lakh, ₹610474.71 lakh and ₹817335.28 lakh on cash basis as on COD of Unit-I, Unit-I& II (combined) and Unit-I, II & III (combined) respectively and actual additional capital expenditure for the period from 1.10.2011 to 31.3.2012, 1.4.2012 to 24.5.2012 and from 25.5.2012 to 31.7.2012.

However, the capital expenditure for the years 2012-13 (1.8.2012 to 31.3.2013) and 2013-14 has been claimed on projected basis.

4. The annual fixed charges approved in order dated 22.8.2013 are as follows:-

Annual Fixed Charges

(₹ in lakh)

	2011-12	2012-13			2013-14
Particulars	**1.10.11 - 31.3.12**	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
Depreciation	19145.18	19710.14	31051.62	42390.36	44176.19
Interest on Loan	19743.55	20015.77	31535.14	42112.17	41476.30
Return on Equity	25829.59	26670.96	42140.88	57429.55	59848.96
Interest on Working Capital	3504.94	3560.04	7257.77	12828.93	13006.25
O&M Expenses	8632.80	9121.20	18242.40	26451.48	27982.68
Cost of secondary fuel oil (for coal-based & lignite fired generating stations only)	1900.68	1895.49	4711.09	7704.43	7704.43
Total	**78756.75**	**80973.60**	**134938.91**	**188916.92**	**194194.82**

5. The petitioner presently seeks revision of the annual fixed charges based on the actual additional capital expenditure incurred on truing-up of the actual additional capital expenditure incurred for the years 2009-14 in accordance with Regulation 6(1) of the 2009 Tariff Regulations.

6. In terms of the above, the petitioner vide its affidavit dated 12.8.2014 has filed this petition for revision of tariff of the generating station for the period 2009-14. Subsequently the revised claim for annual fixed charges are as under:

Annual Fixed Charges

(₹ in lakh)

	2011-12	2012-13			2013-14
	1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
Depreciation	19145.16	19710.28	31051.60	42226.48	43564.45
Interest on Loan	19745.80	20015.00	31635.68	42023.62	40933.38
Return on Equity	25829.59	26670.96	42140.88	57203.95	60374.00
Interest on Working Capital	3504.99	3560.03	7260.10	12817.94	12991.77
O&M Expenses	8632.80	9121.20	18242.40	26451.48	27982.68
Cost of secondary fuel oil (for coal-based & lignite fired generating stations only)	1900.68	1895.49	4711.09	7704.43	7704.43
Total	**78759.02**	**80972.96**	**135041.75**	**188427.90**	**193550.70**

7. 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."

8. In compliance with the direction of the Commission, the petitioner has filed additional information with copy to the respondents. The hearing in this matter was held on 19.4.2016. The respondent No. 1, Madhya Pradesh Power Management Company Limited (MPPMCL) has filed its reply and the petitioner has filed rejoinder, to the same.We now proceed to examine the claims of the petitioner based on the submissions of the parties and the documents available on record, on prudence check, as discussed in the subsequent paragraphs.

Capital Cost

9. The last proviso to Regulation 7(1)(a) of the 2009 Tariff Regulations as amended on 21.6.2011 provides as under:

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

10. As stated, the Commission vide order dated 22.8.2013 in Petition No. 28/2011 had approved the capital cost of ₹370660.80 lakh, ₹610474.71 lakh and ₹817335.28 lakh on cash basis as on COD of Unit-I, Unit-I& II and Unit-I, II & III (combined) respectively including IDC, Financing Charges and ERV adjustments as on COD. The break-up of the capital cost as on COD allowed in the said order is as under:

(₹ in lakh)

	As on 1.10.2011 (COD of Unit-I)	As on 25.5.2012 (COD of Unit-II)	As on 1.8.2012 (COD of Unit-III)
Capital cost (hard cost) allowed	306656.20	490816.89	659085.01
Add: IDC & FC allowed including the interest on normative loan	75795.80	127023.71	172886.28
Add: Loan FERV (Gain) /loss allowed	10352.00	33945.00	44712.00
Add: Short term FERV (Gain)/Loss	(810.48)	(620.54)	(655.01)
Less: Un-discharged liabilities included	21332.72	40690.35	58693
Capital cost allowed on cash basis	**370660.80**	**610474.71**	**817335.28**

(₹ in lakh)

	2011-12	2012-13			2013-14
	1.10.11 - 31.3.12	1.4.12 - 24.5.12	25.5.12 - 31.7.12	1.8.12 - 31.3.13	1.4.13 - 31.3.14
Opening Gross Block	370660.80	379850.22	610474.71	817335.28	851352.28
Net Addition	9189.42	15257.62	3506.73	34017.00	36282.00
Closing Gross Block	379850.22	395107.84	613981.44	851352.28	887634.28
Average Gross Block	375255.51	387479.03	612228.07	834343.78	869493.28

11. The respondent, MPPMCL has requested the Commission to relook into the capital cost and IDC & FC as despite substantial time overrun and increase in the value of contract of Power Machine, Russia, there is no implication on the cost of project. In response the petitioner has submitted that issue of delay in project execution has already been decided by the Commission in order dated 22.8.2013 after hearing all the parties including the answering respondent.

12. The respondent, MPPMCL has also submitted that excessive expenditure in the head of IDC, FC, FERV and hedging cost is only on account of the excessive delay in commissioning of the project. The respondent, MPPMCL has submitted that petitioner should have used the Critical Path Method (CPM), Project Evaluation and Review Technique (PERT) method before undertaking such huge investment activity in order to

complete the project on time. The respondent, MPPMCL has further submitted that activity of transportation of major component of Turbine Generators might have been paralleled with the activity of obtaining clearance as per Indian Boiler and therefore requested the Commission to disallow excessive IDC, FC, Hedging Cost. In response, the petitioner has submitted that Commission has already allowed IDC, FC, FERV & Hedging cost after prudence check in order in Petition no. 28/2011 in line with CERC (Terms & Conditions of Tariff) Regulations 2009 after condoning the project delay for the reasons beyond the reasonable control of the Petitioner. The petitioner submitted that the actual project cost for the instant station is less than the approved project cost as per the investment approval. The petitioner submitted that being a CPSU, it follows the well established practices of Project Planning and Implementation for execution of new projects within the time schedule. The petitioner further submitted that it has prepared various project planning techniques like Project Evaluation and Review Technique (PERT), Critical Path Method (CPM), Gantt & Milestone charts and followed for the project execution and the same holds good in reference to the instant station also but, sometimes, the unprecedented events do occur during an activity, which are even beyond the envisaged activities in critical path, causing subsequent delay in the completion of project. The petitioner further submitted that similar kind of delays pertaining to various activities happened during the project execution as the station is the first case in the country going through the process of incubation of supercritical technology, and the entire country was lacking in experience, infrastructure & systems for executing the project based on supercritical technology.

13. The respondent, MPPMCL has further submitted that the Petitioner's Board has accorded the investment approval on 8.12.2003 and however the petitioner has claimed notional IDC for the period prior to investment approval i.e. from 2000-01. The respondent, MPPMCL has submitted that prior to date of investment approval, the petitioner is not authorized to invest capital in the project and therefore the petitioner's

claim towards the notional IDC pertaining to the period prior to the investment approval should be disallowed. In response the petitioner has submitted that the Techno Economic Clearance for installation of the instant station was accorded by CEA vide letter dated 17.1.2000 and based on the same, the equity infusion was started in year 2000-01 in the project and accordingly, the notional IDC has been allowed from 2000-01 onwards. The petitioner further submitted that after the financial appraisal of the project by IDBI in November, 2003, the petitioners Board, empowered by Navaratna status, accorded the investment approval on 8.12.2003. The petitioner submitted that by that time, the investment with respect to the site preparedness was already going on in the said project and therefore the notional IDC has been indicated for the period 2000-01 and the same has already been allowed by the Commission after hearing all the parties including the answering respondent.

14. The respondent, MPPMCL has submitted that the petitioner is claiming IDC and FC even after the commissioning of the project and therefore has requested the Commission that IDC and FC should not be allowed after the commissioning of the project. In response the petitioner has submitted that IDC, FC and Notional IDC have been allowed by the Commission for the instant station after prudence check and matter has been decided considering all facts and figures produced before the Commission. The petitioner further submitted that the IDC and FC for a project under construction is claimable as part of the capital cost as per Regulation 7(1)(a) of CERC (Terms and Conditions of Tariff) Regulations 2009 and therefore the same has been allowed by the Commission.

15. The petitioner has claimed capital cost based on the admitted capital cost as on COD of the generating station and the actual additional capital expenditure (on cash basis) for the period from 1.8.2012 to 31.3.2013 and 2013-14.

Actual Additional Capital Expenditure from COD to 31.3.2014

16. Clause (2) of Regulation 9 of the 2009 Tariff Regulations provides as under:

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

(i) Un-discharged liabilities;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation8;

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

(v) Change in law:Provided that the details of works included in the original scope of work along with estimates of expenditure,un-discharged liabilities and the works deferred for execution shall be submitted along with the application fordetermination of tariff.

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

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

(ii) Change in law;

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

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

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

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

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

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

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

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

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

17. The claim of the petitioner for total additional capital expenditure i.e. actual for the period from 1.10.2011 to 31.7.2012 and projected additional capital expenditure for the period from 1.8.2012 to 31.3.2014 amounting to ₹98252.77 lakh was allowed vide order dated 22.8.2013 in Petition No. 28/2011 in terms of the provisions of Regulation 9(1) of the 2009 Tariff Regulations as under:

(₹ in Crore)

	Regulation	**Actual additional capital expenditure trued up**			**Projected additional capital expenditure approved**	
		2011-12	**2012-13**			**2013-14**
		1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
DM water plant	9(1)(ii)	0.0089	0.0157	-	-	-
765 KV AC Switchyard		0.1720	-	0.3125	-	-
Wagons		(-) 0.9542	-	-	-	-
SG+ESP		-	-	-	41.51	17.45
TG-PM & LMZ		-	-	-	-	18.00
MGR		4.1417	0.2609	0.1053	3.85	7.80
Wagon Tippler		-	-	-	-	15.00
CHP		-	-	-	-	1.55
AHP		-	-	-	1.54	8.25
Ash Dyke		-	-	(-) 0.0010	10.07	12.15
Ash water recirculation System		0.3833	-	0.0214	0.50	-
Cooling Towers		-	-	-	0.06	-

	Regulation	Actual additional capital expenditure trued up			Projected additional capital expenditure approved	
		2011-12	2012-13			2013-14
		1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
CW System		-	-	-	0.21	-
PT Plant & DM Plant		-	-	-	0.04	-
Fire Protection		-	-	-	1.16	0.41
A/C Ventilation		-	-	-	0.61	0.09
Simulator		0.2262	-	-	0.48	0.06
Switch gear Package		-	-	-	0.16	-
Lighting/Cabling		-	-	-	3.09	-
Construction Tools & Plants workshop lab. equipment.		-	-	-	8.58	10.72
Town ship		-	-	-	22.47	27.37
Off-Site civil works, Road & Drainage		-	-	-	9.85	9.18
Main Plant civil work		-	-	-	6.98	0.42
Raw water reservoir			1.0532	0.1998	1.56	0.81
Land & Infrastructure		12.80	-	0.5054	5.94	6.00
MBOA		6.5952	1.0947	2.5365	-	-
Capital Spares	9(1)(iii)	14.020	1.7816	5.8549	12.65	35.00
Additional capital expenditure on cash basis		3739.13	520.61	953.48	13131	17026
Adjustment of Foreign Rate Variation related to Unit-I		21.0235	58.5378	-	-	-
Adjustment of Foreign Rate Variation related to Unit-I & Unit-II		-	-	(-)13.1846	-	-
Discharge of previous period Liabilities	9(1)(i)	33.4794	88.8323	38.7171	208.86	192.56
Total		**91.8942**	**152.5762**	**35.0673**	**340.17**	**362.82**
Total (₹ in lakh)		**9189.42**	**15257.62**	**3506.73**	**34017.00**	**36282.00**

18. The break-up of the actual additional capital expenditure claimed in this petition is detailed as under:

(₹ in lakh)

Sl. No.		Regulation	Actual Additional Capital expenditure claimed in petition		
			1.8.12 - 31.3.13	**2013-14**	**Total**
1	DM water plant	9(1)(ii)	-	-	0.00
2	765 KV AC Switchyard		23.67	14.16	37.83
3	Wagons		-	-	0.00
4	SG+ESP		2025.94	2373.99	4399.93
5	TG-PM& LMZ		1325.57	228.14	1553.71
6	MGR		622.09	269.24	891.33
7	Wagon Tippler		-	-	0.00
8	CHP		21.84	985.33	1007.17
9	AHP		108.37	10.95	119.32
10	Ash Dyke		184.54	100.73	285.27
11	Ash water recirculation System		-	7.06	7.06
12	Cooling Towers		13.50	-	13.50
13	CW System		74.66	14.72	89.38
14	PT Plant & DM Plant		-	5.43	5.43
15	Fire Protection		2.03	36.17	38.20
16	A/C Ventilation		10.24	9.19	19.43
17	Simulator		27.81	7.55	35.36
18	Switch gear Package		37.99	86.67	124.66
19	Lighting/Cabling		134.64	142.25	276.89
20	Construction Tools & Plants workshop lab. equipment.		57.99	-	57.99
21	Town ship		351.62	3001.93	3353.55
22	Off-Site civil works, Road & Drainage		2566.87	3102.95	5669.82
23	Main Plant civil work		707.09	386.21	1093.30
24	Raw water reservoir		140.20	155.39	295.59
25	Land & Infrastructure		-	19.15	19.15
26	MBOA		665.68	1078.35	1744.03
27	Chimney		-	2.06	2.06
28	Fuel Handling & storage system		29.41	11.70	41.11
29	Fly Ash Brick Plant		491.00	61.08	552.08
30	Software		4.40	-	4.40
31	Transformer package		20.11	23.59	43.70
32	Package ERV		-	1173.64	1173.64
33	Capital Spares	9(1)(iii)	2697.28	4187.51	6884.79
34	**Additional capital expenditure on cash basis**		**12344.52**	**17495.15**	**29839.67**
35	De-capitalization*		1989.70	1348.62	3338.32

Sl. No.		Regulation	Actual Additional Capital expenditure claimed in petition		
			1.8.12 - 31.3.13	**2013-14**	**Total**
36	**Additional capital expenditure on cash basis (Net of De-capitalization)**		**10354.82**	**16146.53**	**26501.35**
37	Discharge of previous period Liabilities		17107.12	8382.42	25489.54
38	**Total**		**27461.94**	**24528.95**	**51990.89**

(*De-capitalization of admitted works)

19. As regards the works specified in Sr.no. 1 to 32 of the above table, the respondent, MPPMCL has submitted that the petitioner has not submitted the details of the amount under the original scope of work in order to compare the same with the actual additional capital expenditure allowed by Commission order dated 22.8.2013 and therefore any increase in expenditure over and above the additional capital expenditure allowed should not be permitted. In response, the petitioner has submitted that the comparison of Investment approval with expenses on actual as well as projected basis for the tariff period 2009-14 has already been submitted in Form-5B in Petition no. 28/2011.

20. As regards the offsite civil works, road and drainage the respondent, MPPMCL has submitted that the petitioner has claimed additional capital expenditure towards off site civil works, road and drainage which seems to be on higher side after commissioning of the generating station and therefore has prayed that the Commission may carry out prudence check of the same. In response, the petitioner has submitted that the additional capital expenditure pertain to the balance civil works executed during the period 2012-13 and 2013-14 and are within the original scope of work. The petitioner has also submitted that the civil works which had been projected earlier is claimed on actual basis in the instant petition.

21. As regards the Coal Handling Plant (CHP) system, the petitioner was directed to submit the reasons for claiming the actual additional capital expenditure of ₹1007.17 lakh

during the period 2012-14 against the approved amount of ₹155.00 lakh. In response, the petitioner has submitted that the actual expenditure of ₹155.00 lakh was based on the projections wherein it was envisaged that the major balance work of CHP shall be capitalized during the year 2014-15. It has submitted that the actual expenditure envisaged to be incurred and capitalized during the year 2014-15 was postponed to year 2012-13 (1.8.2012 to 31.3.2013) and during 2013-14.

22. The matter has been examined. The COD of the generating station is 1.8.2012 and the cut-off date of the generating station in terms of the 2009 Tariff Regulations is 31.3.2015. The petitioner has claimed additional capital expenditure towards the items like Plant & Machinery, Civil Works, Office equipments, Capital spares etc. Considering the fact that the cut-off date of the generating station is 31.3.2015, the admissibility of the additional capital expenditure claimed has been considered in terms of the provisions of Regulation 9(1) of the 2009 Tariff Regulations.

23. It is observed that the actual additional capital expenditure incurred by the petitioner is in respect of works/assets which are within the original scope of work of the project and the same had been allowed on projected basis by order dated 22.8.2013. Moreover, the total actual additional capital expenditure claimed for the period from 1.8.2012 to 31.3.2014 is based on actual execution of the work and is within the expenditure allowed by the Commission in order dated 22.8.2013. In this background and taking into consideration the submissions of the parties and the documents available on record, the total additional capital expenditure claimed by the petitioner for the period from 1.8.2012 to 31.3.2014 is allowed in terms of Regulation 9(1)(ii) of the 2009 Tariff Regulations.

24. The petitioner has claimed ₹552.08 lakh towards fly ash brick plant during the period 1.8.2012 to 31.3.2014 under Regulation 9(1)(ii) of the 2009 Tariff Regulations. The respondent, MPPMCL has submitted that additional capital expenditure corresponding to

fly ash brick plant is not associated with the generation of electricity in any manner and this kind of expenditure has already been disallowed by the Commission in respect of other generating station and has therefore prayed that the same may be disallowed. The respondent, MPPMCL has requested the Commission to direct the petitioner to furnish the details of earning from sale of fly ash bricks and the same may be deducted from the annual fixed charges being non-tariff income. In response, the petitioner has submitted that the Ash Brick Plant work claimed pertains to original scope of work, which was planned as per the MOE&F notification dated 3.11.2009 for achieving 100% ash utilisation in coal based thermal generating plants with various measures including Ash brick manufacturing and therefore the asset has been claimed under Regulation 9(1)(ii) of 2009, Tariff Regulations. The petitioner further submitted that the sale of fly ash as a measure of ash utilization has been started in the instant station in 2015-16 and it has been sold for the amount of ₹4.97 lakh whereas the other overheads expenses with respect to the sale of fly ash are much higher than this earning and therefore, there is no net earnings from the sale of fly ash.

25. We have examined the matter. It is observed that the Commission vide order dated 13.7.2012 in Petition No. 323/2009 has already taken a view with regard to similar expenditure of the ash brick plant and has disallowed the claim of the petitioner. The relevant extract of the order is as under:

> *"22......We have examined the submissions of the parties and the provisions of the Notification dated 3.11.2009 of the Ministry of Environment & Forests, Government of India, applicable in the instant case. While the MOE&F notification dated 3.11.2009 encourages the need for increased use of fly ash for manufacture of bricks, the proviso to clause 8(i) and (ii) provides that the thermal power stations shall facilitate the availability of required quantity and quality of fly ash for this purpose. On scrutiny, it is noticed that the notification dated 3.11.2009, does not mandate the coal or lignite based thermal power stations to manufacture bricks. It is also observed that the said notification provides that all coal/lignite based thermal stations would be free to sell the fly ash to user agencies subject to certain conditions as mentioned therein. Moreover, the amount collected from sale of fly ash or fly ash based products by coal and/or lignite based thermal power stations or their subsidiary or sister concern unit, as applicable should be kept in a separate account head and shall be utilized only for development of infrastructure or facilities, promotion and facilitation activities for use of fly ash until 100% fly ash utilization level is achieved. Since the said notification provides that the money collected from the sale of fly ash or fly ash*

based products should be utilized for development of infrastructure for use of fly ash, the petitioner is not prevented from utilizing the money for procurement/installation of brick making machines. Moreover, the income generated from sale of fly ash or fly ash based products like bricks are not passed on to the beneficiaries. Hence, we are of the view that it would not be prudent to load the said expenditure on brick making machine as additional capital expenditure, when such expenditure is neither covered under change in law nor the income from fly ash utilization is shared with the beneficiaries. Based on the above, the expenditure of ₹30.00 lakh towards brick making machine has not been allowed."

26. In view of the above background the claim of petitioner for actual additional capital expenditure of ₹552.08 lakh towards fly ash brick plant is disallowed. However we are of the considered view that the expenditure incurred on fly ash brick plant should be met from the revenue earned by the petitioner in terms of the notification of Ministry of Environments & Forests, GOI MOEF, GOI.

27. As regards to Make-up water pump house, it is observed that the Commission vide order dated 17.9.2014 in Petition No. 132/GT/2013 (Revision of tariff of Sipat Super Thermal Power Station, stage-II for the period from 1.4.2009 to 31.3.2014 has disallowed the expenditure towards said asset for Sipat STPS, Stage-II and has decided to consider the same in the capital cost of this generating station. The relevant extract of the order dated 17.9.2014 in Petition No. 132/GT/2013 is as under:

"Make-up Water Pump House

35. The petitioner in Form-9 of this petition has claimed actual additional capital expenditure of `8865.10 lakh during 2011-12 towards Make-Up Water (MUW) pump house. In justification of its claim, the petitioner has submitted that this is part of original scope of work of MUW Pump House and major work pertaining to this generating station was completed and capitalized along with COD. It has also submitted that the expenditure claimed relates to payment for works of the balance systems which have been made ready after COD of the generating station and have been capitalized in 2011-12. The petitioner in its affidavits dated 20.3.2013 and 10.9.2013 has submitted that the MUW system is a common facility for both stages (Stage- I and Stage-II) of the project. It has also submitted that work of both the stages were started simultaneously with a plan to develop common facilities like MGR, Township, Make up water system etc. with a view to optimize the cost of the project. It has further submitted that with the declaration of commercial operation (COD) of the first unit of 500 MW of this generating station prior to the COD of the units of Stage-I, the part of the expenditure incurred towards MUW system for supply of raw water to Sipat project, like other common facilities, was capitalized with first unit of this generating station and was allowed by the Commission. The petitioner has also submitted that the present capitalization pertains to balance works which has been completed in the year 2011-12 and has been capitalized in the books of account. Accordingly, the petitioner has claimed the expenditure of `8865.10 lakh for 2011-12 as the work form part of the original scope of work for the generating station. The petitioner has also clarified that no expenditure towards MUW system has been considered in the capital cost of Sipat, Stage-

I against the Board approved expenditure of ₹14411.00 lakh (Form 5B, Sl no. 2.3.1) in Petition No. 28/2011(tariff of Sipat STPS, Stage-I). The submissions of the petitioner have been examined. It is observed that in Petition No. 63/2009 & 140/2009 filed by the petitioner pertaining to determination of tariff of this generating station from COD of Unit-IV (20.6.2008) to 31.3.2009, the petitioner had not indicated any balance work relating to MUW system in the list of balance works and the amount capitalized for MUW system in the capital cost of the units of this generating station as on the date of COD. For the purpose of tariff, the cost of any common facility between the two stages of the project should have been apportioned in order to maintain equilibrium in the tariff of both the stages. Since the petitioner was allowed to capitalize an expenditure of `8665.00 lakh towards MUW system in the capital cost of this generating station by order dated 10.12.2009 and the tariff was approved accordingly, we do not intend to carry out any pro rata adjustment of the expenditure of `8665.00 lakh for the two stages of this generating station specially considering the fact that the same would involve retrospective adjustment of the approved tariff. ***In this background, there is no justification to allow the balance amount of `8865.10 lakh pertaining to balance work of MUW system to this generating station. However, the same would be considered in the capital cost of Stage-I units.*** *Accordingly, expenditure of ₹8865.10 lakh has not been allowed to be capitalized for this generating station."*

28. In view of the above background, we have considered the additional capital expenditure of ₹8865.10 lakh towards Make-up water pump house for this generating station for the period 1.8.2012 to 31.3.2013. In addition to this, it is noticed that the petitioner has claimed the balance amount of ₹42.18 lakh during the year 2012-13 on account of final payment made as a part of contract closing for Sipat STPS Stage-II in Petition No. 344/GT/2014. In view of the above background we have not considered the petitioners claim towards capitalization of Make-up water pump house for Sipat STPS Stage-II and has considered the same in the capital cost of this generating station during the year 1.8.2012 to 31.3.2013.

Capitalization of Initial Spares

29. As regards capitalization of initial spares, the Commission in order dated 22.8.2013 had allowed the capitalization of ₹1265.00 lakh and ₹3500.00 lakh for the period 1.8.2012 to 31.3.2013 and for 2013-14 respectively towards initial spares, as claimed by the petitioner. In the present petition, the petitioner has claimed initial spares of ₹2697.28 lakh and ₹4187.51 lakh for the period from 1.8.2012 to 31.3.2013 and for 2013-14 respectively. The petitioner was directed to submit the details of capital spares along with the details of consumption of capital spares for the tariff period 2009-14 along with the list of spares

consumed as in Form-17. In response, the petitioner has submitted that list of year-wise Capital Spares consumed for the period from COD of the station i.e. 1.8.2012 to 31.3.2014. The petitioner further submitted that the quantity of capital spares consumed during these years pertain to the period within cut-off date for this generating station. The petitioner submitted that as these spares have been replaced from the pool of initial spares allowable within cut-off date, the replenishment for the same may be allowed within the limit of 2.5% of capital cost as on cut-off date as per Regulation 8 of CERC Tariff Regulations 2009. It is noticed that the total project cost till 31.3.2015 is not available as the cut-off date for the generating station is 31.3.2015. It is further observed that the total expenditure on initial spares of the generating station upto 31.3.2014 is within the ceiling limit of 2.5% of the capital cost as on 31.3.2014. Hence, the claimed initial spares is allowed to be capitalized.

De-capitalization of Spares and MBOA items

30. The petitioner has claimed the de-capitalization towards spares, MBOA items, other items and land & infrastructure for the period from 1.8.2012 to 31.3.2013 and 2013-14. The same is in order and is allowed.

(₹ in lakh)

	1.8.2012 to 31.3.2013	2013-14
De-capitalization of spares	1901.08	-
De-capitalization of MBOA items	-	3.28
De-capitalization of other items	38.08	1345.34
De-capitalization of land and infrastructure	50.54	-
Total	**1989.70**	**1348.62**

Exclusions

31. The summary of exclusions claimed for the period from 1.8.2012 to 31.3.2014 under different heads for the purpose of tariff has been discussed in subsequent paragraphs:

Reversal of liability

32. The petitioner has sought exclusion for an amount of (-) ₹33.86 lakh and (-) ₹2929.62 lakh for the period from 1.8.2012 to 31.3.2013 and 2013-14 respectively towards reversal of liabilities. The net additional capitalization during the period from 1.8.2012 to 31.3.2014 is "nil" against the reversal of liability. Since tariff is allowed on cash basis, the reversal of liabilities for an amount of (-) ₹33.86 lakh and (-) ₹2929.62 lakh for the period from 1.8.2012 to 31.3.2013 and 2013-14 respectively is allowed.

Inter-Unit transfers

33. The petitioner has excluded amounts of ₹1086.23 lakh and (-) ₹106.75 lakh for the period from 1.8.2012 to 31.3.2013 and for 2013-14 respectively on account of inter-unit transfer of certain assets. These inter-unit transfers are temporary in nature. The Commission while dealing with applications for additional capitalization in respect of other generating stations of the petitioner, has decided that both positive and negative entries arising out of inter unit-transfers of temporary nature shall be ignored for the purpose of tariff. In consideration of the same, the exclusion of ₹1086.23 lakh and (-) ₹106.75 lakh for the period from 1.8.2012 to 31.3.2013 and 2013-14 respectively on account of inter-unit transfer of equipment on temporary basis is in order and is allowed.

FERV

34. The petitioner has excluded an amount of (-) ₹3463.82 lakh and ₹21074.10 lakh for the period from 1.8.2012 to 31.3.2013 and 2013-14 respectively on account of FERV. The exclusions claimed by the petitioner towards FERV has been considered as the impact of FERV is directly billed to beneficiaries as per prevailing Regulation.

35. Accordingly, the exclusions allowed is summarized as under:

(₹ in lakh)

	1.8.2012 to 31.3.2012	2013-14
Reversal of liabilities	(-) 33.86	(-) 2929.62
FERV	(-) 3463.82	21074.10
Interunit Transfer	1086.23	(-) 106.75
Total	**(-) 2411.45**	**18037.74**

Liabilities

36. The petitioner has excluded liabilities in additional capital expenditure amounting to ₹2828.00 lakh during the period from 1.10.2011 to 31.3.2013, and ₹3845.61 lakh in 2013-14, and the same is allowed.

Discharge of un-discharged liabilities

37. The discharge of liabilities amounting to ₹17107.12 lakh and ₹8382.42 lakh during the years 2012-13 (1.8.2012 to 31.3.2013) and 2013-14 respectively, out of the un-discharged liabilities pertaining to capital cost of the allowed capital assets/items after 1.4.2009 has been considered as additional capital expenditure during the respective years. In addition to above, the discharge of liabilities amounting to ₹45.79 lakh during 2012-13 pertaining to Make-up water system claimed by the petitioner for Sipat Stage-II generating station in Petition No. 344/GT/2014 has also been considered for this generating station in view of the above discussion with regard to Make-up water system.

38. Based on the above discussions, the actual additional capital expenditure allowed for the period from 1.8.2012 to 31.3.2014 is summarized as under:

(₹ in lakh)

Sl.No		Actual Additional Capital expenditure allowed		Total
		1.8.2012 - 31.3.2013	**2013-14**	
1	DM water plant	-	-	0.00
2	765 KV AC Switchyard	23.67	14.16	37.83
3	Wagons	-	-	0.00
4	SG+ESP	2025.94	2373.99	4399.93
5	TG-PM& LMZ	1325.57	228.14	1553.71
6	MGR	622.09	269.24	891.33
7	Wagon Tippler	-	-	0.00
8	CHP	21.84	985.33	1007.17
9	AHP	108.37	10.95	119.32
10	Ash Dyke	184.54	100.73	285.27
11	Ash water recirculation System	-	7.06	7.06
12	Cooling Towers	13.50	-	13.50
13	CW System	74.66	14.72	89.38

Sl.No		Actual Additional Capital expenditure allowed		Total
		1.8.2012 - 31.3.2013	**2013-14**	
14	PT Plant & DM Plant	-	5.43	5.43
15	Fire Protection	2.03	36.17	38.20
16	A/C Ventilation	10.24	9.19	19.43
17	Simulator	27.81	7.55	35.36
18	Switch gear Package	37.99	86.67	124.66
19	Lighting/Cabling	134.64	142.25	276.89
20	Construction Tools & Plants workshop lab. equipment.	57.99	-	57.99
21	Town ship	351.62	3001.93	3353.55
22	Off-Site civil works, Road & Drainage	2566.87	3102.95	5669.82
23	Main Plant civil work	707.09	386.21	1093.30
24	Raw water reservoir	140.20	155.39	295.59
25	Land & Infrastructure	-	19.15	19.15
26	MBOA	665.68	1078.35	1744.03
27	Chimney	-	2.06	2.06
28	Fuel Handling & storage system	29.41	11.70	41.11
29	Software	4.40	-	4.40
30	Transformer package	20.11	23.59	43.70
31	Package ERV	-	1173.64	1173.64
32	Make-up Water Pump House	8907.28	0.00	8907.28
33	Capital Spares	2697.28	4187.51	6884.79
A	**Total additional capital expenditure in original scope of work**	**20760.80**	**17434.07**	**38194.88**
B	De-capitalization of assets	1989.70	1348.62	3338.32
C	**Total additional capital expenditure (net of de-capitalization)**	**18771.09**	**16085.45**	**34856.56**
D	Discharge of Un-discharged Liability	17152.91	8382.42	25535.33
E	**Total Additional capital expenditure allowed**	**35924.00**	**24467.87**	**60391.87**

39. Accordingly, the capital cost allowed for the purpose of tariff is as under:

(₹ in lakh)

	2011-12	**2012-13**			**2013-14**
	1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
Opening Gross Block	370660.80	379850.22	610474.71	817335.28	853259.28
Net Additional capital expenditure	9189.42	15257.62	3506.73	35924.00	24467.87
Closing Gross Block	379850.22	395107.84	613981.44	853259.28	877727.16
Average Gross Block	375255.51	387479.03	612228.08	835297.28	865493.22

40. The interest on normative loan allowed as on COD of the generating station is to be treated as income in the Financial Statements i.e. Profit and Loss A/c and Balance Sheet of the petitioner as the same forms part of capital cost for the purpose of tariff determination.

Debt-Equity Ratio

41. The petitioner has claimed the same debt-equity ratio of 70:30 for capital cost as on COD and the additional capital expenditure for the period from 1.10.2011 to 31.3.2012, 1.4.2012 to 24.5.2012 and from 25.5.2012 to 31.7.2012 as allowed by the Commission vide order dated 22.8.2013 for the purpose of tariff. Further, the debt-equity ratio of 70:30 for additional capital expenditure for the period from 1.8.2012 to 31.3.2013 and 2013-14 has been considered by the petitioner. As such, the debt-equity ratio of 70:30 has been considered for the purpose of tariff, in terms of Regulation 12 of the 2009 Tariff Regulations.

Return on Equity

42. The petitioner has claimed Return on Equity of 22.944% [(15.50/ (1-32.445%)] for period from 1.10.2011 to 31.3.2013 and 23.481% [(15.50/ (1-33.990%)] for 2013-14 on the normative equity after considering the base rate of 15.50%, in line with the first proviso to clause (2) of Regulation 15.

43. The respondent, MPPMCL has submitted that as per Regulation 15(5) of the 2009 Tariff Regulations the generating company shall recover shortfall or refund of excess annual fixed charges on account of return on equity due to change in applicable income tax rate as per the income tax act 1961 of the respective financial year directly without making any application before the commission. In this regard the respondent, MPPMCL has submitted that the petitioner may be directed to furnish the information regarding applicable income tax rate as per the income tax act 1961 of the respective financial year & refund of excess Annual Fixed Charges recovered from the beneficiaries. In response

the petitioner has submitted that the it has revised the annual fixed charges (AFC) as per last order of the Commission for this generating station based on the rate of income tax applicable on year to year basis and accordingly the billing has been done and the difference in AFC has also been settled in line with the 2009 Tariff Regulations. The petitioner further submitted that the impact of change in income tax rate has also been incorporated in the computation of ROE for the period 2011-14 in the instant petition.

44. The matter has been examined and return on equity has been worked out considering the base rate of 15.50% and the tax rate applicable to petitioner for respective years in terms of Regulation 15 of the 2009 Tariff Regulation. Accordingly, return on equity has been worked out after accounting for actual additional capital expenditure as under:

(₹ in lakh)

	2011-12	**2012-13**			**2013-14**
	1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
Notional Equity- Opening	111198.24	113955.07	183142.41	245200.58	255977.78
Addition of Equity due to ACE	2756.83	4577.29	1052.02	10777.20	7340.36
Normative Equity-Closing	113955.07	118532.35	184194.43	255977.78	263318.14
Average Normative Equity	112576.65	116243.71	183668.42	250589.18	259647.96
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax Rate for respective years	32.445%	32.445%	32.445%	32.445%	33.990%
Rate of Return on Equity (Pre Tax)	22.944%	22.944%	22.944%	22.944%	23.481%
Return on Equity (Pre Tax)	**25829.59**	**26670.96**	**42140.88**	**57495.18**	**60967.94**

Interest on loan

45. In terms of Regulation 16 of the 2009 Tariff Regulations, Interest on loan has been worked out as under:

a. The gross normative loan corresponding to 70% of admissible capital cost is ₹817335.28 lakh as on 1.8.2012.

b. Cumulative repayment approved as on 31.7.2012 in order dated 22.8.2013 in Petition No. 28/2011 has been considered for the period from 1.8.2012 to 31.3.2013.

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

d. Depreciation allowed for the period under consideration has been considered as repayment. Further, repayments has been adjusted for de-capitalization considered during the period.

e. Average net loan is calculated as average of opening and closing.

f. Weighted average rate of interest has been calculated considering the details of actual loan portfolio till 31.3.2014. The calculations for weighted average rate is enclosed as Annexure-I to this order

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

(₹ in lakh)

	2011-12	**2012-13**			**2013-14**
	1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
Gross opening loan	259462.56	265895.15	427332.30	572134.70	597302.03
Cumulative repayment of loan upto previous year	0.00	9572.59	12488.61	18273.57	46429.39
Net Loan Opening	259462.56	256322.56	414843.68	553861.13	550872.64
Addition due to additional capital expenditure	6432.59	10680.33	2454.71	25167.33	17127.51
Repayment of loan during the year	9572.59	2916.02	5784.96	28254.26	43992.29
Net Loan Closing	256322.56	264086.88	411513.43	550774.20	524007.87
Average Loan	257892.56	260204.72	413178.56	552317.66	537440.25
Weighted Average Rate of Interest of loan	7.6557%	7.6923%	7.6323%	7.6488%	7.6975%
Interest on Loan	**19743.55**	**20015.77**	**31535.14**	**42245.55**	**41369.51**

Depreciation

47. The petitioner has claimed depreciation considering the weighted average rate of depreciation of 5.0807% and 5.0827% for the period from 1.8.2012 to 31.3.2013 and 2013-14 respectively. The respondent, MPPMCL has submitted that the petitioner has claimed depreciation on land- right of use which is in contravention to regulation and

should be disallowed. In response the petitioner has submitted that the land for right to use is the lease hold land and accordingly the rate of depreciation has been applied for the lease hold land as per Appendix-II of CERC Tariff Regulations 2009. The rate of depreciation is in order and has been considered for the purpose of tariff calculation. Accordingly, depreciation has been worked out as under:

(₹ in lakh)

	2011-12	2012-13			2013-14
	1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
Opening Capital Cost	370660.80	379850.22	610474.71	817335.28	853259.28
Add: Additional Capital Expenditure	9189.42	15257.62	3506.73	35924.00	24467.87
Closing Capital Cost	379850.22	395107.84	613981.44	853259.28	877727.16
Average Capital Cost	375255.51	387479.03	612228.08	835297.28	865493.22
Depreciation rate	5.1019%	5.0868%	5.0719%	5.0807%	5.0827%
Depreciable value @ 90%	335805.76	345621.62	547895.76	748613.04	777366.64
Balance depreciable value	335805.76	336049.03	535407.15	730437.91	730952.16
Depreciation for the period	**9572.59**	**2916.02**	**5784.96**	**28253.77**	**43990.79**
Depreciation (Annualized)	**19145.18**	**19710.14**	**31051.62**	**42438.78**	**43990.79**
Cumulative depreciation at the end	9572.59	12488.61	18273.57	46428.89	90405.28

O & M Expenses

48. The petitioner has claimed O&M expense in accordance with Regulation 19(a) of the 2009 Tariff Regulation. The respondent, MPPMCL has submitted that O&M expenses should be allowed as per proviso to Regulation 19 (a) wherein the O&M norms shall be multiplied by the factor for additional units in respective unit sizes for the units whose CoD occurs on or after 1.4.2009 in the same stage. The proviso to Regulation 19(a) of the 2009 Tariff Regulation is reproduced as below:

*"19. **Operation and Maintenance Expenses***

.....

Provided that the above norms shall be multiplied by the following factors for additional units in respective unit sizes for the units whose COD occurs on or after1.4.2009 in the same station:

500 MW and above — Additional 3rd & 4th units — 0.9
Additional 5th & above units — 0.85"

49. The respondent has further submitted that Sipat Stage-II (2 x 500 MW) has been commissioned on 1.1.2009 and 3rd , 4th & 5th unit of this generating station (Sipat STPS Stage-I) have been commissioned during the year 2011-12 and 2012-13. Accordingly, the respondent, MPPMCL has submitted that O&M norms for 3rd and 4th unit of the generating station should be multiplied by a factor 0.9 and for 5th unit O&M norms has to be multiplied by a factor 0.85 and has prayed the Commission to allow the following O&M expense.

(₹ in lakh)

	2011-12	**2012-13**			**2013-14**
	1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
O&M norm	13.08	13.82	13.82	13.82	14.62
O&M expense	7769.52	8209.08	16418.16	24171.18	25570.38

50. In response, the petitioner has submitted that the applicability of multiplying factor is based on the logic of utilisation of common spare pools for units of similar technology, reduction in overheads etc. However, the 500 MW units of Sipat Stage-II are based on subcritical technology, whereas 660 MW units of Sipat Satge-I are based on supercritical technology. The petitioner has also submitted that based on the same, unit design, plant lay out, common facilities, Unit Control Rooms, spares etc. are entirely different for both the stages of Sipat generating station. The petitioner has further submitted that as per the applicability of the multiplying factor, it has already claimed reduced O&M from 3rd unit onward for Sipat Stage-I, which has been recognised and allowed by the Commission. The petitioner has referred to the Statement of Reasons of the 2009 Tariff Regulations and has stated that if 2 or more units of certain unit size have been already existing in a generating station, the successive unit(s) of different unit size shall be liable to get full O&M expenses as per the norms provided corresponding to that unit size in Regulation 19(a) of the 2009 Tariff Regulations.

51. We have considered the matter. We have computed the O & M expenses in accordance with Regulation 19(a) of the 2009 Tariff Regulations and have multiplied the O&M norm with 0.9 for 3rd unit of this generating station. Accordingly the allowed O & M expenses are as under:

(₹ in lakh)

2011-12	2012-13			2013-14
1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
8632.80	9121.20	18242.40	26451.48	27982.68

Station Heat rate

52. The respondent, MPPMCL has submitted that Gross Station Heat Rate of 2350.48 kCal/kwh considered by the petitioner is against the norms laid down under Regulation 26 of the 2009, Tariff Regulations. The respondent, MPPMCL has submitted that considering the heat rate of 1900 kCal/kwh and boiler efficiency of 86.27%, the Gross Station Heat Rate comes out to 2345.54 kCal/kwh. The respondent, has further submitted that as per petitioners submission out of four number of BFP two are turbine driven BFP and two are motor driven BFP.The respondent, has also submitted that as per note appended under fifth proviso to Regulation 26 B(a) in respect of the units where the boiler feed pumps are electrically operated, the maximum design unit heat rate shall be 40 kCal/kwh lower than the maximum design unit heat rate specified above with turbine driven BFP. The respondent, has further submitted that in this generating station, 50% of the BFP is motor driven and therefore, the allowable gross station heat rate shall be 2324.24 kCal/kwh. The computation of the same is as below:-

1900/.8627	=	2202.39
2202.39-20	=	2182.39
2182 x 1.065	=	2324.24 kCal/kWh

53. In response, the petitioner has submitted that the maximum limit of Design Heat Rate as per the pressure and Temperature ratings of the units of the instant station, as

specified in the Regulation 26(ii)(B) is 2235 Kcal/Kwh. The petitioner has submitted that the Gross Station Heat Rate of 2350.48 Kcal/kwh has already been allowed by the Commission for this generating station and has been derived on the basis of design heat rate of 2207.02 kCal/Kwh, taking into consideration the Design Turbine Cycle Heat Rate and Guaranteed Boiler Efficiency of the unit. The petitioner also submitted that for this generating station, design Unit Heat Rate is not guaranteed by the supplier and it has been derived based on turbine cycle heat rate and boiler efficiency, as per the proviso of the Regulation 26(ii)(B) quoted above. The petitioner has further submitted that in this generating station, motor driven BFPs are provided only for the purpose of start-up activities and thereafter, turbine driven BFPs are taken in service and the same are continued for normal operation of unit. The petitioner has submitted that the two motor driven BFPs are not kept in service for taking 50% load parallel to turbine driven BFPs, designed for 100% loading an therefore the provision for reduction in heat rate is applicable for the units designed to run only on motorised BFPs without any provision of turbine driven BFPs.

54. We have examined the matter. It is observed from the submissions of the petitioner that two motor driven BFPs of this generating station is only for the purpose of start-up activities and does not contribute in reduction of derived SHR by 20 kCal/kwh. In view of this fact, the submission of the respondent is not tenable. Accordingly, the station heat rate of 2350.48 kCal/kwh as approved vide order dated 22.8.2013 in Petition No. 28/2011, has been considered.

Interest on Working Capital

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

> *"(i) Cost of coal for 1.5 months for pit-head generating stations and two months for non-pithead generating stations, for generation corresponding to the normative annual plant availability factor;*

(ii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel oil, cost of fuel oil stock for the main secondary fuel oil;

(iii) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 19.

(iv) Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor; and

(v) O&M expenses for one month."

56. Clause (3) of Regulation 18 of the 2009 Tariff Regulations as amended on 21.6.2011 provides as under:

"Rate of interest on working capital shall be on normative basis and shall be considered as follows:

(i) SBI short-term Prime Lending Rate as on 01.04.2009 or on 1st April of the year in which the generating station or unit thereof or the transmission system, as the case may be, is declared under commercial operation, whichever is later, for the unit or station whose date of commercial operation falls on or before 30.06.2010.

(ii) SBI Base Rate plus 350 basis points as on 01.07.2010 or as on 1st April of the year in which the generating station or a unit thereof or the transmission system, as the case may be, is declared under commercial operation, whichever is later, for the units or station whose date of commercial operation lies between the period 01.07.2010 to 31.03.2014.

Provided that in cases where tariff has already been determined on the date of issue of this notification, the above provisions shall be given effect to at the time of truing up."

57. The respondent, MPPMCL has submitted that receivable is also a part of working capital and this comprise of annual fixed charges and energy charges equal to two months charges. The respondent, has submitted that the AFC also comprises of return on equity and return on equity is inclusive of grossing up of income tax thus petitioner is earning interest on amount of income tax also towards interest on working capital, which was not the case in earlier two tariff period and even prevailing Regulations do not intends to pass on such an extra interest on amount of income tax. Therefore, the respondent, has also prayed that the amount of grossing up of income tax may be excluded while calculating the receivable in annual fixed charges. In response, the petitioner has submitted that the receivables are being computed as per the 2009 Tariff Regulations. As

regards grossing up of ROE, the petitioner has submitted that during previous tariff regulations, the income tax was pass through to the beneficiaries, whereas as per 2009 Tariff Regulations the pre-tax ROE is allowed for tariff and no income tax is pass through and accordingly, the AFC as per Regulation 14 comprise of different elements including the ROE as derived under Regulation 15 of CERC Tariff Regulations 2009.

58. We have examined the matter. The Working capital has been calculated in accordance with Regulation 18(1)(a) of the 2009 Tariff Regulations considering the following elements:

Fuel Components in Working Capital

59. The fuel components in the working capital for the preceding three months from COD of the generating station is worked out and allowed based on the operational norms considered in order dated 22.8.2013 as under:

(₹ in lakh)

	2011-12	2012-13			2013-14
	1.10.11 - 31.3.12	1.4.12 - 24.5.12	25.5.12 - 31.7.12	1.8.12 - 31.3.13	1.4.13 - 31.3.14
Cost of coal for 1.5 months	5974.48	5958.15	10850.38	23470.41	23470.41
Cost of Secondary fuel oil for 2 months	316.78	315.91	785.18	1284.07	1284.07

Maintenance Spares

60. The Maintenance spares in the working capital as considered in order dated 22.8.2013 is allowed as under:

(₹ in lakh)

2011-12	2012-13			2013-14
1.10.11 - 31.3.12	1.4.12 - 24.5.12	25.5.12 - 31.7.12	1.8.12 - 31.3.13	1.4.13 - 31.3.14
1726.56	1824.24	3648.48	5290.30	5596.54

Receivables

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

(₹ in lakh)

	2011-12	2012-13			2013-14
	1.10.11 - 31.3.12	1.4.12 - 24.5.12	25.5.12 - 31.7.12	1.8.12 - 31.3.13	1.4.13 - 31.3.14
Variable Charges - 2 months	7965.97	7944.21	14467.18	31293.89	31293.89
Fixed Charges - 2 months	13126.12	13495.60	22489.82	31528.21	32506.52
Total	**21092.09**	**21439.80**	**36957.00**	**62822.10**	**63800.41**

62. Based on O & M expense norms, the year-wise O & M expenses for the generating station is allowed as under:

(₹ in lakh)

2011-12	2012-13			2013-14
1.10.11 - 31.3.12	1.4.12 - 24.5.12	25.5.12 - 31.7.12	1.8.12 - 31.3.13	1.4.13 - 31.3.14
719.40	760.10	1520.20	2204.29	2331.89

63. Accordingly, interest on working capital has been calculated based on rate of interest of 11.75% (SBI Base Rate of 8.25% plus 350 basis points, as on 1.4.2011) for the period from 1.10.2011 to 24.5.2012 and subsequently at the rate of interest of 13.50% (SBI Base Rate of 10% plus 350 basis points, as on 1.4.2012). The necessary details in support of calculation of interest on working capital are as under:

(₹ in lakh)

	2011-12	2012-13			2013-14
	1.10.11 - 31.3.12	1.4.12 - 24.5.12	25.5.12 - 31.7.12	1.8.12 - 31.3.13	1.4.13 - 31.3.14
Cost of coal for 1.5 months	5974.48	5958.15	10850.38	23470.41	23470.41
Cost of Secondary fuel oil for 2 months	316.78	315.91	785.18	1284.07	1284.07
O & M expenses for 1 month	719.40	760.10	1520.20	2204.29	2331.89
Maintenance Spares	1726.56	1824.24	3648.48	5290.30	5596.54
Receivables for 2 months	21092.09	21439.80	36957.00	62822.10	63800.41
Total Working Capital	29829.31	30298.21	53761.24	95071.17	96483.32
Rate of interest	11.75%	11.75%	13.50%	13.50%	13.50%
Interest on working capital	**3504.94**	**3560.04**	**7257.77**	**12834.61**	**13025.25**

Normative Annual Plant Availability Factor

64. The Normative Annual Plant Availability factor of 85% has been considered for the purpose of tariff in accordance with 26 of the 2009 Tariff Regulations.

Secondary Fuel Oil

65. The respondent, MPPMCL has submitted that as per Regulation 25 (3) of the 2009 Tariff Regulations the saving on account of secondary fuel oil consumption in relation to norms shall be shared with beneficiaries in the ratio of 50:50, in accordance with the formula given therein at the end of the year. In this regard the respondent, MPPMCL has prayed that the petitioner may be directed to file on affidavit the details regarding sharing of saving in secondary fuel oil consumption and fuel price adjustment in respect of cost of secondary fuel oil with a copy to respondent. In response, the petitioner has submitted that the sharing of saving in secondary fuel oil has been done by it in the ratio of 50:50 as per Regulation 25(3) of the 2009 Tariff Regulations and the bills raised in this regard have also been served to the respondent.

66. We have examined the matter. It is observed from the petitioners submission that the it has already done the sharing of saving in secondary fuel oil in the ratio of 50:50, therefore the submissions of the respondent is not acceptable. The Secondary Fuel Oil has been considered same as allowed in order dated 22.8.2013 in Petition No. 28/2011 as under:-

(₹ in lakh)

2011-12	2012-13			2013-14
1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
1900.68	1895.49	4711.09	7704.43	7704.43

Annual Fixed Charges

67. Accordingly, the annual fixed charges allowed for period from 1.8.2012 to 31.3.2014 is summarized as under:

(₹ in lakh)

	2011-12	2012-13			2013-14
	1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
Depreciation	19145.18	19710.14	31051.62	42438.78	43990.79
Interest on Loan	19743.55	20015.77	31535.14	42244.78	41368.02
Return on Equity	25829.59	26670.96	42140.88	57495.18	60967.94

	2011-12	2012-13			2013-14
	1.10.11 - 31.3.12	1.4.12 - 24.5.12	25.5.12 - 31.7.12	1.8.12 - 31.3.13	1.4.13 - 31.3.14
Interest on Working Capital	3504.94	3560.04	7257.77	12834.61	13025.25
O&M Expenses	8632.80	9121.20	18242.40	26451.48	27982.68
Cost of secondary fuel oil	1900.68	1895.49	4711.09	7704.43	7704.43
Total	**78756.74**	**80973.59**	**134938.90**	**189169.27**	**195039.11**

68. The difference in the annual fixed charges determined by order dated 22.8.2013 and those determined by this order shall be adjusted in accordance with Regulation 6(6) of the 2009 Tariff Regulations.

69. Petition No. 295/GT/2014 is disposed of in terms of the above.

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

Annexure-I

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2009-14)

(₹ in lakh)

	2011-12	2012-13			2013-14
	1.10.11 - 31.3.12	**1.4.12 - 24.5.12**	**25.5.12 - 31.7.12**	**1.8.12 - 31.3.13**	**1.4.13 - 31.3.14**
Net Loan Opening	517319.34	554792.46	589221.73	583986.28	563102.60
Additions during the year	44500.00	16700.00	5500.00	11829.10	0.00
Repayment during the year	23126.18	178.57	7861.91	32712.78	58937.95
Net Loan Closing	554792.46	589221.73	583986.28	563102.60	504164.65
Average Loan	536055.90	572007.10	586604.01	573544.44	533633.63
Rate of Interest	7.6557%	7.6923%	7.6323%	7.6488%	7.6975%
Interest	41038.98	44000.60	44771.54	43869.14	41076.49