

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 242/GT/2013
with
Petition No. 218/GT/2014

Coram:
Shri Gireesh B. Pradhan, Chairperson
Shri A.S. Bakshi, Member

Date of Hearing: 28.10.2014
Date of Order: 24.06.2015

In the matter of

Petition No. 242/GT/2013

Revision of tariff of Rajiv Gandhi Combined Cycle Power Project, Kayamkulam, Stage-I (359.58 MW) from 1.4.2009 to 31.3.2014 after truing up exercise, based on actual capital expenditure incurred for the period 2009-12 and projected capital expenditure for 2012-14.

And in the matter of

Petition No. 218/GT/2014

Revision of tariff of Rajiv Gandhi Combined Cycle Power Project, Kayamkulam, Stage-I (359.58 MW) from 1.4.2009 to 31.3.2014 after truing up exercise, based on the actual capital expenditure incurred for the period 2009-14.

And

In the matter of

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

...Petitioner

Vs

Kerala State Electricity Board Limited
Vaidyuthi Bhavanam, Pattom
Thiruvananthapuram – 695004

...Respondent

Parties present:

For Petitioner: Shri Ajay Dua, NTPC
Shri.B.S Rajput, NTPC
Shri Shyam Kumar, NTPC
Shri Navneet Goel, NTPC
Shri Bhupinder Kumar, NTPC

ORDER

Petition No. 242/GT/2013 has been filed by the petitioner for revision of tariff determined by order dated 7.9.2012 in Petition No. 281/2009 in respect of Rajiv Gandhi Combined Cycle Power Project, Kayamkulam, Stage-I (359.58 MW) (the generating station) for the period 2009-14, after truing-up exercise based on the actual additional capital expenditure incurred for the period 2009-12 and the projected additional capital expenditure for 2012-14 in accordance with the proviso to Regulation 6(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 ('the 2009 Tariff Regulations').

2. During the pendency of the above petition, the petitioner filed Petition No. 218/GT/2014 for revision of tariff in respect of the generating station for the period 2009-14 after truing-up in accordance with Regulation 6(1) of the 2009 Tariff Regulations, based on the actual additional capital expenditure incurred for the period 2009-14.

3. The generating station with a capacity of 359.58 MW comprises of two Gas Turbine (GT) units of 116.6 MW each and one Steam Turbine (ST) unit of 126.38 MW. The dates of commercial operation of the different units of the generating station are as under:

	Date of commercial operation (COD)
GT-I	1.1.1999
GT-II	1.5.1999
ST/Generating station	1.3.2000

4. The annual fixed charges of the generating station determined by order dated 7.9.2012 in Petition No. 281/2009 for the period 2009-14, considering the opening capital cost of ₹126575.23 lakh as on 1.4.2009, is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	6266.84	6274.90	6283.22	2028.45	2028.45
Interest on Loan	1109.83	724.22	386.23	161.94	59.68
Return on Equity	8820.58	8832.05	8843.89	8846.55	8846.55
Interest on Working Capital	4821.44	4834.83	4861.50	4780.41	4803.02
O&M Expenses	5321.78	5627.43	5947.45	6289.05	6648.63
Total	26340.46	26293.44	26322.30	22106.41	22386.33

5. The capital cost and the annual fixed charges claimed by the petitioner in this petition are as under:

Capital Cost

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	126575.23	126609.82	126653.54	126681.33	126888.38
Additional capital expenditure	34.59	43.73	27.78	207.05	62.49
Closing Capital Cost	126609.82	126653.54	126681.33	126888.38	126950.87
Average Capital Cost	126592.52	126631.68	126667.44	126784.85	126919.62

Annual Fixed Charges

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	6266.08	6276.75	6291.06	2017.58	2027.57
Interest on Loan	945.76	553.22	325.56	128.70	51.37
Return on Equity	8819.50	8720.43	8622.95	8631.04	8842.54
Interest on Working Capital	4817.98	4828.98	4855.79	4775.00	4802.74
O&M Expenses	5321.78	5627.43	5947.45	6289.05	6648.63
Total	26171.10	26006.81	26042.82	21841.36	22372.86

6. Reply to the petition has been filed by the respondent, KSEB and the petitioner has filed its rejoinder to the said reply. The petitioner has also filed additional information in compliance with the directions of the Commission. We now proceed to examine the claim of the petitioner, on prudence check, based on the submissions of the parties and the documents available on records, as stated in the subsequent paragraphs.

Capital Cost as on 1.4.2009

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

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

8. The annual fixed charges claimed in the petition is based on opening capital cost of ₹126575.23 lakh, as considered in order dated 7.9.2012 in Petition No. 281/2009. The petitioner vide its affidavit dated 11.9.2014 has furnished the year-wise and asset-wise details of additions and deletions during the tariff period 2004-09. The details of liabilities and capital cost have been reconciled with the information available with the records of the Commission as under:

	<i>(₹ in lakh)</i>	
	As per Form-9A	As per records of Commission
Capital cost as on 1.4.2009, as per books	120539.67	120539.67
Liabilities included above	1039.84	1039.84

9. It is evident from the above that there is no variation in the capital cost and liabilities position as on 1.4.2009. Further, out of un-discharged liabilities amounting to ₹1039.84 lakh included in the gross block as on 1.4.2009, the approved capital cost of ₹127103.13 lakh as on 31.3.2009 is inclusive of un-discharged liabilities amounting to ₹176.21 lakh only. The balance differential liabilities pertain to assets disallowed/not claimed for the purpose of tariff.

10. Accordingly, the capital cost as on 1.4.2009, after removal of un-discharged liabilities amounting to ₹176.21 lakh, works out to ₹126926.92 lakh, on cash basis. However, one important aspect which was noticed during the scrutiny of the details of additions and deletions during the period 2004-09, is that there has been de-capitalization (inclusive of reversals amounting to ₹1413.53 lakh) of assets amounting to ₹3181.52 lakh during the tariff period 2004-09 out of which an amount of ₹2010.67 lakh (including reversals amounting to ₹1413.53 lakh) form part of the capital cost allowed for

the purpose of tariff as on 1.4.2004 and 31.3.2009. Keeping in view the consistent methodology adopted by the Commission for not allowing tariff on un-serviceable assets and in order to reduce the burden on the consumers, this de-capitalization amount of ₹2010.67 lakh has been deducted from the capital cost admitted as on 31.3.2009 for the purpose of tariff. Accordingly, the capital cost considered for the purpose of tariff as on 1.4.2009 in this order works out as ₹124916.25 lakh. Further, out of un-discharged liabilities amounting to ₹176.21 lakh deducted as on 1.4.2009, the petitioner has discharged amounts of ₹25.27 lakh, ₹5.70 lakh and ₹16.75 lakh during the years 2009-10, 2010-11 and 2011-12, respectively. These discharges along with discharges corresponding to assets admitted on cash basis, during the tariff period 2009-14 is allowed as additional capital expenditure during the respective years.

Actual/ Projected Additional Capital Expenditure

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

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

(i) Un-discharged liabilities;

(ii) Works deferred for execution;

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

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

(v) Change in law:

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

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

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

(ii) Change in law;

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

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

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

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

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

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

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

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

(ix) Expenditure on account of creation of infrastructure for supply of reliable power to rural households within a radius of five 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/ projected additional capital expenditure claimed by the petitioner in Petition No. 281/2009 (excluding liabilities) and allowed by the Commission in order dated 7.9.2012 (excluding liabilities) is as under:

	2009-10 Actual	2010-11 Projected	2011-12 Projected	2012-13 Projected	2013-14 Projected	Total
Additional Capital	40.00	241.00	100.00	0.00	0.00	381.00

(₹ in lakh)

Expenditure claimed						
Additional Capital Expenditure allowed (excluding discharges)	40.00	241.00	75.46	0.00	0.00	356.46

13. The actual additional capital expenditure (excluding discharge of liabilities) claimed by the petitioner for the period 2009-14 vide affidavit dated 4.8.2014 in Petition No.218/GT/2014 is as under:

(₹ in lakh)					
2009-10	2010-11	2011-12	2012-13	2013-14	Total
9.32	37.37	5.18	205.26	57.15	314.28

14. The break-up of the above actual additional capital expenditure (excluding discharge of liabilities) claimed for the period 2009-14 is as under:

(₹ in lakh)							
Sl. No	Package Name	2009-10	2010-11	2011-12	2012-13	2013-14	Total
1	Replacement of Freon based HVAC system with Vapor absorption system	0.00	0.00	0.00	0.00	0.00	0.00
2	Construction of boundary wall around Naptha storage facilities as per IB recommendation	0.00	0.00	0.00	153.56	0.00	153.56
3	Installation of CCTV facilities as per IB recommendation	0.00	33.50	4.64	1.06	48.83	88.03
	Sub-total	0.00	33.50	4.64	154.62	48.83	241.59
	New Claims						
4	Ambient Air Quality Monitoring System	1.42	0.00	0.00	0.00	0.00	1.42
5	Energy Monitoring System	6.58	0.00	0.00	0.00	0.00	6.58
6	Land	1.31	3.87	0.55	3.76	8.32	17.81
7	Reservoir Bypass	0.00	0.00	0.00	46.88	0.00	46.88
	Sub-total	9.32	3.87	0.55	50.64	8.32	72.69
	Total actual Additional Capital Expenditure	9.32	37.37	5.18	205.26	57.15	314.28

15. It is observed from the above that the actual additional capital expenditure claimed for the period 2009-14 is ₹241.59 lakh as against the additional capital expenditure of ₹356.46 lakh allowed vide order dated 7.9.2012 in Petition No. 281/2009. The petitioner has further claimed expenditure for ₹72.69 lakh towards 'New claims' as mentioned

above. Accordingly, the total claim of the petitioner towards additional capitalization for 2009-14 is ₹314.28 lakh.

Replacement of Freon based HVAC system with vapor absorption system

16. The projected expenditure of ₹75.46 lakh for replacement of Freon based HVAC system with vapor absorption system during 2011-12 under Regulation 9(2)(ii) of the 2009 Tariff Regulations was allowed in Commission's order dated 7.9.2012 in Petition No.281/2009. The petitioner has shifted the work for the next tariff period and has submitted that though the procurement process had started in 2011-12, but due to some clarification from the vendors the work was extended three times and finally the bid was opened in May, 2012. The petitioner has also submitted that the freezing of technical specifications and technical terms took a longer time to negotiate and the price bid was opened in April, 2013 and work was awarded in August, 2013. Accordingly, the petitioner has submitted that the work would be capitalized in the next tariff period (2014-19) and no expenditure has been claimed towards the replacement of Freon based HVAC system with vapor absorption system during 2009-14. The respondent, KSEB has submitted that the petitioner has not executed the work even after 12 years from the Govt. of India notification dated 17.7.2000. Accordingly, the respondent has submitted that the capital expenditure projected for the work may be disallowed from capital cost and the petitioner may be directed to account such expenditure, if any, in future, in O&M cost. The petitioner has reiterated that the works are proposed to be capitalized during the tariff period 2014-19. The petitioner has contended that the tariff revised after true-up is required to be billed with interest liability if any, payable/receivable from either party in terms of the 2009 Tariff Regulations. The matter has been considered. Considering the fact that the petitioner has not claimed the capitalization of expenditure for the work of replacement of HVAC system with vapor absorption system, no additional capital expenditure has been allowed during the tariff 2009-14. However, the claim of the

petitioner for capitalization of the said work, if any, during the tariff period 2014-19 will be governed by the provisions of the 2014 Tariff Regulations.

Construction of boundary wall around Naptha storage facilities as per IB Recommendation

17. The projected expenditure of ₹191.00 lakh during 2010-11 for construction of boundary wall around Naptha storage facilities as per IB recommendation was allowed under Regulation 9(2)(ii) of the 2009 Tariff Regulations in order dated 7.9.2012 in Petition No.281/2009. Though the petitioner has claimed the actual additional capital expenditure of ₹145.00 lakh in 2012-13 for this work (in Petition No.242/GT/2013), the said amount has been revised and the actual expenditure of ₹153.56 lakh during 2012-13 has been claimed. The petitioner has clarified that the variation of ₹8.56 lakh (153.56-145.00) is on account of the variation in the executed quantities due to site requirements and on account of service tax which was not considered during projections. The respondent, KSEB has pointed out that though the construction of boundary wall for the year 2010-11 was allowed by Commission's order dated 7.9.2012 for ₹191.00 lakh, the petitioner has not executed the work so far and has projected the same in 2012-13. Accordingly, the respondent has prayed that the same may be de-capitalized from the capital cost and the fixed charges may be reduced correspondingly. The petitioner in its rejoinder has clarified that the work has already been executed in 2012-13 and as per the actual expenditure incurred, the amount has been claimed in the petition. It has also submitted that based on actual expenditure incurred, the tariff will be revised and the amount payable / receivable is to be adjusted along with interest as per the 2009 Tariff Regulations. It has also pointed out that the actual amount incurred is less than the expenditure allowed by the Commission in order dated 7.9.2012 for the said work. The matter has been examined. It is noticed that though the projected expenditure for ₹191.00 lakh had been allowed for the said work by Commission's order dated 7.9.2012, the actual expenditure

incurred is ₹153.56 lakh. This is less than the projected additional capital expenditure allowed by the Commission. For the reasons stated by the petitioner and considering the fact that the work is necessary for the safety and security of the plant, based on the recommendations of IB, the capitalization of ₹153.56 lakh during 2012-13 is allowed.

Installation of CCTV facilities as per IB Recommendation

18. Expenditure of ₹40.00 lakh in 2009-10 and ₹50.00 lakh in 2010-11 for installation of CCTV facilities as per IB recommendation was allowed in order dated 7.9.2012 in Petition No.281/2009. The petitioner has now claimed actual expenditure of ₹33.50 lakh in 2010-11, ₹9.75 lakh in 2011-12, ₹1.06 lakh in 2012-13 and ₹48.83 lakh in 2013-14. The additional capital expenditure of ₹9.75 lakh in 2011-12 includes discharge of liabilities for ₹5.11 lakh. The petitioner has submitted that the expenditure was planned in the years 2009-10 and 2010-11 and the reasons for drift in time are mainly due to extension in bid opening due to techno commercial clarification from vendors. It is noticed that the total additional expenditure of ₹93.14 lakh (88.03+5.11) including discharge of liabilities of ₹5.11 lakh towards CCTV as claimed by the petitioner is marginally higher than the total expenditure of ₹90.00 lakh approved by order dated 7.9.2012. However, considering the fact that the work is necessary for the safety and security of the plant and is based on the recommendations of IB, we allow the said expenditure of ₹88.03 lakh, after adjustment of the liability of ₹5.11 lakh claimed by the petitioner.

Other Capital Works (New Claims)

Ambient Air Quality Monitoring System

19. The petitioner has claimed actual expenditure of ₹1.42 lakh in 2009-10 and ₹0.75 lakh in 2011-12 towards installation of Ambient Air Quality Monitoring System (AAQMS) in compliance with the statutory requirement of monitoring the stack emission to control pollution as per the 'Consent to Operate' certificate issued by the Kerala State Pollution

Control Board (KSPCB). The petitioner has also submitted that the amount of ₹0.75 lakh for 2011-12 pertains to discharge of liabilities. Considering the fact that the expenditure incurred is in compliance with the Statutory requirement for the monitoring the stack emission to control pollution as per guidelines of KSPCB, the actual additional capital expenditure incurred on this count is allowed under Regulation 9(2) (ii) i.e. Change in law.

Energy Monitoring System

20. The petitioner has claimed actual additional capital expenditure of ₹6.58 lakh in 2009-10 and ₹0.65 lakh (pertaining to discharge of liabilities) in 2010-11 for installation of Energy Monitoring System (EMS) for compliance of the statutory requirement as per CEA notification dated 17.3.2006. The petitioner has submitted that as per CEA notification dated 17.3.2006 all LT & HT equipments need to have separate meters to measure and monitor the energy consumption of various equipments and the delay is on account of shut down required for installation. The submissions have been examined. The Commission in some of its tariff orders relating to other generating stations of the petitioner for the period 2009-14 has consistently taken the view that the expenditure towards Energy Monitoring System should be borne by the petitioner as the benefit of reduction in the Auxiliary Power Consumption due to EMS is not passed on to the beneficiaries during the tariff period 2009-14 and had accordingly disallowed the expenditure claimed. This decision of the Commission in respect of Talcher STPS-II had been challenged by the petitioner before the Appellate Tribunal for Electricity (Tribunal) and the Tribunal by its judgment dated 8.5.2014 in Appeal No.173/2013 had upheld the decision of the Commission not to allow the capitalization of this expenditure. In this background, the claim of the petitioner in the present case for capitalization of the expenditure under this head has not been allowed.

Land Compensation

21. The petitioner has claimed the actual expenditure of ₹1.31 lakh in 2009-10, ₹3.87 lakh in 2010-11, ₹0.55 lakh in 2011-12, ₹3.76 lakh in 2012-13 and ₹8.32 lakh in 2013-14 towards Land compensation under Regulation 9(2)(i) of the 2009 Tariff Regulations. In support of its contention, the petitioner has enclosed copies of the Court orders as documentary evidence. The petitioner has also submitted that the Land compensation was disbursed based on the outcome of the court cases and accordingly the disbursement on account of land compensation could not be claimed as projected capital expenditure. The petitioner has contended that only after the actual expenditure is incurred, the amount has been claimed in this petition. It has further submitted based on documentary evidence that the land compensation along with interest up to the COD of the project has been capitalized in the books of accounts. Considering the fact that the expenditure on account of payment of compensation for land has been incurred by the petitioner based on orders of the Court, the capitalization of the expenditure is allowed under Regulation 9(2) (i) of the 2009 Tariff Regulations.

Reservoir Bypass

22. The petitioner has claimed actual expenditure of ₹46.88 lakh in 2012-13 towards Reservoir Bypass under Regulation 9(2)(vi) of the 2009 Tariff Regulations. In justification of the said claim, the petitioner has submitted that water requirement of combined cycle plant is met from Achankovil River and from river end, water is pumped through make-up water pumps and stored in a reservoir at plant end (having 15 days storage capacity). It has also submitted that in normal operation, water is supplied to plant from reservoir by Raw water pumps and as there was no standby reservoir, the de-silting of reservoir was not possible and its storage capacity was decreasing. Therefore, a bypass line has been erected connecting make-up water discharge line to Raw water discharge line, facilitating de-silting of reservoir and thus helping maintain storage capacity of the same for

successful running of plant. The respondent KSEB has submitted that the new additional expenditure and liabilities claimed which were not admitted by the Commission in order dated 7.9.2012 may be accounted for by the petitioner under O&M cost and thus may be disallowed from the additional capital expenditure. The submissions have been considered. It is observed that the expenditure on Reservoir bypass has been necessitated for the maintenance of the reservoir and to improve the water quality as submitted by the petitioner. Considering the fact the expenditure is required for successful and efficient operation of the plant, we, in exercise of the Power to relax under Regulation 44 of the 2009 Tariff Regulations, allow the capitalization of this asset under Regulation 9(2)(vi) of the 2009 Tariff Regulations.

23. The petitioner has reconciled the actual additional capital expenditure for the period 2009-10 to 2013-14 with the books of accounts as under:

<i>(₹ in lakh)</i>						
Sl. No.		2009-10	2010-11	2011-12	2012-13	2013-14
1	Opening Gross Block of the year	120539.67	120050.35	122449.11	*126069.39	127888.06
2	Closing Gross Block of the year	120050.35	122449.11	126069.53	127888.06	128260.19
3	Additional Capitalization as per the books (2 -1)	(-) 489.32	2398.76	3620.41	1818.66	372.13
4	Exclusions for Additional Capitalization as per the books of Accounts.	(-) 561.95	2355.04	3614.76	1608.80	310.06
5	Additional Capitalization claimed including liability (3-4)	72.63	43.72	5.65	209.86	62.07
6	Un-discharged liability (at sl. no. 5 above)	63.31	6.35	0.47	4.60	4.93
7	Additional Capital Expenditure Claim excluding liability (6-7)	9.32	37.37	5.18	205.26	57.14
8	Discharges out of Un-discharged liabilities as on 1.4.2009	25.27	6.35	22.60	1.79	5.34
10	Total Additional Capital Expenditure claimed (8+9+10)	34.59	43.73	27.79	207.05	62.49

* An amount of ₹13402 have been removed from the fixed assets since they are unserviceable.

Exclusions

24. The details of exclusions claimed as per books of accounts are as under:

							(₹ in lakh)
Sl. No.		2009-10	2010-11	2011-12	2012-13	2013-14	Total
1	Capitalization of Spares	843.60	2663.24	3815.75	1205.33	684.78	9212.70
2	Capitalization of Civil works	0.00	0.00	0.00	48.37	66.49	114.86
3	De-capitalization of spares	0.00	(-)702.63	(-)1270.56	0.00	0.00	(-) 1973.60
4	Capitalization MBOA items	835.59	182.30	129.05	104.40	121.28	1372.62
5	De-capitalization of MBOA items	(-) 4.97	0.00	(-) 55.98	(-)171.89	(-) 21.10	(-) 253.94
6	FERV	(-)1658.54	239.02	1046.96	0.00	0.00	(-) 372.56
7	Loan-FERV	0.00	0.00	0.00	423.49	194.34	617.83
8	Inter unit transfer	(-) 502.15	2.57	1.53	(-)0.89	(-)1.92	(-) 499.08
9	Plant & Machinery	0.00	0.00	0.00	12.06	21.88	33.94
10	Reversal of Liability	(-) 75.48	(-) 29.46	(-) 51.99	(-)12.08	(-)755.69	(-) 924.70
	Total Exclusions	(-) 561.95	2355.04	3614.76	1608.79	310.06	7326.70

25. We consider the exclusions for the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 under different heads in the claim for the purpose of tariff as discussed in subsequent paragraphs.

Capitalization of spares

26. The petitioner has procured capital spares in books of accounts amounting to ₹843.60 lakh in 2009-10, ₹2663.24 lakh in 2010-11, ₹3815.75 lakh in 2011-12, ₹1205.33 lakh in 2012-13 and ₹684.78 lakh in 2013-14 for maintaining stock of necessary spares. Since capitalization of spares over and above initial spares procured after cut-off date are not allowed for the purpose of tariff, as they form part of O&M expenses as and when consumed, the petitioner has accordingly excluded the said amounts from tariff. The exclusion of the said amounts under this head is in order and has been allowed.

Capitalization of Civil Works

27. The petitioner has excluded amounts of ₹48.37 lakh in 2012-13 and ₹66.49 lakh in 2013-14 towards capitalization of Miscellaneous Civil work. Since capitalization of miscellaneous civil work is not allowed after the cut-off date for the purpose of tariff, the

petitioner has excluded the said amounts from tariff. The exclusion of the said amounts under this head is in order and has been allowed.

De-capitalization Capital Spares

28. The petitioner has de-capitalized capital spares in books of accounts amounting to (-)₹702.63 lakh during 2010-11 and (-)₹1270.56 lakh during 2011-12 in books of accounts on these spares becoming unserviceable. After examining the exclusions on account of de-capitalization of spares it is found that an amount of (-)₹22.73 lakh in 2011-12 pertains to spares which were part of the capital cost of the generating station for the purpose of tariff. Hence, exclusion on account of de-capitalization of these spares is not justified and has not been allowed for the purpose of tariff. The remaining amount of de-capitalized spares of (-) ₹702.63 lakh in 2010-11 and (-) ₹1247.83 lakh in 2011-12 do not form part of tariff. Hence, de-capitalization of these spares for (-) ₹702.63 lakh in 2010-11 and (-) ₹1247.83 lakh in 2011-12 have not been considered for the purpose of tariff. Hence, exclusion of de-capitalization of these spares is in order and has been allowed.

Capitalization of Miscellaneous Bought Out Assets (MBOA)

29. The petitioner has capitalized MBOA items in books of accounts which includes expenditure towards Land, Spare GT, Temporary sheds, Civil expenses & reversal etc. amounting to ₹835.59 lakh in 2009-10, ₹182.30 lakh in 2010-11, ₹129.05 lakh in 2011-12, ₹104.40 lakh in 2012-13 and ₹121.28 lakh during the year 2013-14. Since capitalization of minor assets is not allowed after cut-off date, the exclusion of the said amounts during the respective years is in order and has been allowed.

De-capitalization of Miscellaneous Bought Out Assets

30. The petitioner has excluded de-capitalized MBOA in books of accounts amounting to (-) ₹4.97 lakh during 2009-10, (-) ₹55.98 lakh during 2011-12 (-) ₹171.89 lakh during 2012-13 (-) ₹21.10 lakh during 2013-14 on these MBOA becoming unserviceable. After

examining the exclusions sought on de-capitalization of MBOA, it is found that an amount of (-) ₹2.60 lakh in 2009-10 and (-) ₹46.03 lakh in 2011-12, (-) ₹163.82 lakh in 2012-13, and (-) ₹7.92 lakh in 2013-14 pertains to MBOA which were part of the capital cost of the generating station for the purpose of tariff. Hence, exclusion on account of de-capitalization of these assets is not justified and has accordingly not been allowed for the purpose of tariff. The remaining de-capitalized MBOA amounting to (-) ₹2.37 lakh in 2009-10 and (-) ₹9.95 lakh in 2011-12, (-) ₹8.07 lakh in 2012-13, and (-) ₹13.18 lakh in 2013-14 do not form part of the capital cost and had earlier been disallowed by the Commission for capitalization. In view of this, the exclusion of de-capitalization of these assets is in order and has been allowed.

FERV

31. The petitioner has excluded amounts of (-) ₹1658.54 lakh in 2009-10, ₹239.02 lakh in 2010-11, ₹1046.96 lakh in 2011-12, ₹423.49 lakh in 2012-13 and ₹194.34 lakh in 2013-14 on account of impact of FERV. As the petitioner bills the FERV amount directly to the beneficiaries in accordance with the 2009 Tariff Regulations, the exclusion of FERV is in order and has been allowed.

Reversal of Liability

32. The petitioner has excluded an amount of (-) ₹75.48 lakh in 2009-10, (-) ₹29.46 lakh in 2010-11, (-) ₹51.99 lakh in 2011-12, (-) ₹12.08 lakh in 2012-13 and (-) ₹755.69 lakh during 2013-14 on account of reversal of liability against installation of CCTV and against land acquisition compensation. Since, the capitalization of the above assets have been considered in the capital cost, on cash basis, the exclusion of corresponding reversal of liability has been allowed.

Inter-unit transfer

33. An amount of (-) ₹502.15 lakh in 2009-10, ₹2.57 lakh in 2010-11, ₹1.53 lakh in 2011-12, (-) ₹0.89 lakh in 2012-13 and (-) ₹1.92 lakh during 2013-14 has been excluded

under this head on account of transfer of certain assets. These inter-unit transfers are indicated to be temporary. The Commission while dealing with applications for additional capitalization in respect of other generating stations of the petitioner had decided that both positive and negative entries arising out of inter-unit transfers of temporary nature shall be ignored for the purpose of tariff. In consideration of the same, the exclusion of the said amounts on account of inter-unit transfer of equipment on temporary basis is in order and has been allowed.

Plant & Machinery

34. The petitioner has excluded an amount of ₹12.06 lakh in 2012-13 and ₹21.88 lakh in 2013-14 on account of plant and machinery which is not part of the capital cost and had been disallowed for capitalization. Hence, exclusion sought for these assets is in order and has been allowed.

35. The summary of exclusions allowed and disallowed is as under:

Head	2009-10	2010-11	2011-12	2012-13	2013-14	Total
(₹ in lakh)						
(A) Exclusions allowed under different heads						
Capitalization of spares	843.60	2663.24	3815.75	1205.33	684.78	9212.70
Capitalization of Civil works	0.00	0.00	0.00	48.37	66.49	114.86
De-capitalization of spares	0.00	(-) 702.63	(-) 1247.83	0.00	0.00	(-)1950.46
Capitalization MBOA items	835.59	182.30	129.05	104.40	121.28	1372.62
De-capitalization of MBOA items	(-) 2.37	0.00	(-) 9.95	(-) 8.06	(-)13.18	(-) 33.56
FERV	(-)1658.54	239.02	1046.96	0.00	0.00	(-) 372.56
Loan-FERV	0.00	0.00	0.00	423.49	194.34	617.83
Inter unit transfer	(-) 502.15	2.57	1.53	(-) 0.89	(-)1.92	(-) 500.86
Plant & Machinery	0.00	0.00	0.00	12.06	21.88	33.94
Reversal of Liability	(-) 75.48	(-) 29.46	(-) 51.99	(-)12.08	(-) 755.69	(-) 924.7
Exclusion allowed (A)	(-) 559.35	2355.04	3683.53	1772.62	317.98	7569.81
(B) Exclusions not allowed under different heads						
De-capitalization of spares	0.00	0.00	(-) 22.73	0.00	0.00	(-) 22.73
De-capitalization MBOA items	(-)2.60	0.00	(-) 46.03	(-)163.82	(-)7.92	(-) 220.37
Exclusion not allowed (B)	(-) 2.60	0.00	(-) 68.77	(-)163.82	(-) 7.92	(-) 243.10
Total Exclusions	(-) 561.95	2355.04	3614.76	1608.80	310.06	7326.70

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

(₹ in lakh)

Sl. No	Head of Work/Equipment	2009-10 Actual	2010-11 Actual	2011-12 Actual	2012-13 Actual	2013-14 Actual
A	Replacement of Freon based HVAC system with Vapor absorption system	0.00	0.00	0.00	0.00	0.00
1	Construction of boundary wall around Naptha storage facilities as per IB recommendations	0.00	0.00	0.00	153.56	0.00
2	Installation of CCTV facilities as per IB recommendations	0.00	33.50	4.64	1.06	48.83
3	Sub-Total (Additional capitalization)	0.00	33.50	4.64	154.62	48.83
4	Ambient Air Quality Monitoring System	1.42	0.00	0.00	0.00	0.00
5	Energy Monitoring System	0.00	0.00	0.00	0.00	0.00
6	Land	1.31	3.87	0.55	3.76	8.32
7	Reservoir Bypass	0.00	0.00	0.00	46.88	0.00
8	Sub-Total	2.73	3.87	0.55	50.04	8.32
9	Total	2.73	37.37	5.18	205.26	57.15
10	Add : Exclusions not allowed	(-) 2.60	0.00	(-) 68.77	(-) 163.82	(-) 7.92
Total Additional Capital Expenditure allowed (9+10)		0.13	37.37	(-) 63.59	41.44	49.23

37. The actual/projected additional capital expenditure allowed after considering the discharges of liabilities is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Additional Capital Expenditure allowed	0.13	37.37	(-) 63.59	41.44	49.23
Add: Discharges of liabilities (against allowed assets / works)	25.27	5.70	22.60	1.79	5.34
Net Additional Capital Expenditure	25.40	43.08	(-) 40.99	43.23	54.57

38. Based on the above, the capital cost considered for the purpose of tariff for 2009-14 is as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	124916.25	124941.65	124984.73	124943.74	124986.97
Add: Additional Capital Expenditure	25.40	43.08	(-) 40.99	43.23	54.57
Closing Capital Cost	124941.65	124984.73	124943.74	124986.97	125041.54
Average Capital Cost	124928.95	124963.19	124964.23	124965.36	125014.25

Debt–Equity Ratio

39. The gross loan and equity of ₹89389.82 lakh and ₹37713.32 lakh respectively, as on 31.3.2009, approved vide order dated 12.10.2011 in Petition No. 139/208 has been

considered as gross loan and equity as on 1.4.2009. However, un-discharged liabilities amounting to ₹176.21 lakh and de-capitalization (inclusive of reversals) amounting to ₹2010.67 lakh deducted from the capital cost, as on 1.4.2009, has been adjusted to debt and equity in the ratio of 70:30. As such, the gross normative loan and equity as on 1.4.2009 is revised to ₹87859.00 lakh and ₹37057.25 lakh respectively. Further, the additional expenditure has been allocated in the debt-equity ratio of 70:30.

Return on Equity

40. Regulation 15 of the 2009 Tariff Regulations provides as under:

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

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

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

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

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

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

Rate of pre-tax return on equity = Base rate / (1-t)

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

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

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

41. Accordingly, return on equity worked out is as given under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Notional Equity- Opening	37057.25	37064.87	37077.80	37065.50	37078.47
Addition of equity due to additional capital expenditure	7.62	12.92	(-)12.30	12.97	16.37
Normative Equity - Closing	37064.87	37077.80	37065.50	37078.47	37094.84
Average Normative Equity	37061.06	37071.33	37071.65	37071.98	37086.65
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)- Annualized	8702.31	8604.26	8505.72	8505.80	8708.32

Interest on loan

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

- (a) The gross normative loan of ₹87859.00 lakh as on 1.4.2009 has been considered.
- (b) Cumulative repayment of ₹66971.70 lakh as on 31.3.2009 as considered in order dated 12.10.2011 has been considered as on 1.4.2009. However, after taking into account proportionate adjustment (taking into account the liability and debt position as on 1.4.2004 along with additions during the period 2004-09, if any) to the cumulative repayment on account of un-discharged liabilities deducted from the capital cost as on 1.4.2009, the cumulative repayment as on 1.4.2009 is revised to ₹66878.07 lakh. However, after providing for repayment adjustment on account of de-capitalization (net of reversals) of assets considered as on 1.4.2009, the cumulative repayment as on 1.4.2009 is revised to ₹66461.17 lakh and the same has been considered for the purpose of tariff.
- (c) Accordingly, the net normative opening loan as on 1.4.2009 works out to ₹21397.83 lakh.
- (d) Addition to normative loan on account of additional capital expenditure approved above has been considered.
- (e) Depreciation allowed has been considered as repayment of normative loan during the respective year of the tariff period 2009-14. Further proportionate adjustment has been made to the repayments corresponding to discharges and reversals of liabilities considered during the respective years on account of cumulative repayment adjusted as on 1.4.2009. As also repayments has been adjusted for de-capitalisation considered during the year.
- (f) Weighted average rate of interest has been calculated applying the actual loan portfolio existing as on 1.4.2009 along with subsequent additions during the period

2009-14, if any, for the instant station. Further, changes in the rate of interest due to resets, if any, has been considered for the purpose of tariff.

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross opening loan	87859.00	87876.78	87906.93	87878.24	87908.50
Cumulative repayment of loan upto previous year / period	66461.17	72686.52	78887.32	85053.98	86856.99
Net Loan Opening	21397.83	15190.25	9019.61	2824.26	1051.51
Addition due to Additional capitalisation	17.78	30.15	(-)28.69	30.26	38.20
Repayment of loan during the year	6177.02	6193.52	6205.91	1917.68	1094.95
Less: Repayment adjustment on account of de-capitalization	1.94	0.00	48.14	114.68	5.54
Add: Repayment adjustment on discharges corresponding to un-discharged liabilities deducted as on 1.4.2009	50.27	7.28	8.90	0.00	0.30
Net Repayment	6225.36	6200.79	6166.67	1803.01	1089.71
Net Loan Closing	15190.25	9019.61	2824.26	1051.51	0.00
Average Loan	18294.04	12104.93	5921.94	1937.88	525.75
Weighted Average Rate of Interest on Loan	4.9150%	4.2655%	4.8572%	4.9008%	6.0812%
Interest on Loan	899.15	516.33	287.64	94.97	31.97

Depreciation

44. In terms of Regulation 17 of the 2009 Tariff Regulations, the cumulative depreciation as on 31.3.2009 as considered in order dated 12.10.2011 in Petition No.138/2009 is ₹66860.25 lakh. Further, proportionate adjustment has been made to this cumulative depreciation on account of un-discharged liabilities deducted as on 1.4.2009 together with adjustments for de-capitalization (net of exclusions) considered as on 1.4.2009. Accordingly, the revised cumulative depreciation works out to ₹66617.62 lakh as on 1.4.2009. Further the value of freehold land as on 1.4.2009 along with additions during the tariff period 2009-14 has been considered for the purpose of calculating depreciable value. Accordingly, the balance depreciable value (before providing depreciation) for the year 2009-10 works out to ₹42068.87 lakh. Since, the useful life of

the generating station (i.e. 9.73 years) is less than 12 years as on 1.4.2009, from the effective date of commercial operation of the generating station (i.e 8.7.1999), depreciation has been calculated by applying the weighted average rate of depreciation of 4.9444% for the year 2009-10, 4.9563% for the year 2010-11 and 4.9661% for the year 2011-12. However, as the used life of the generating station as on 1.4.2012 (i.e.12.73 years) is more than 12 years from the effective date of commercial operation of the generating station (8.7.1999), for the years 2012-13 and 2013-14, depreciation has been calculated by spreading over of the balance depreciable value. The balance useful life as on 1.4.2012 works out to 12.27 years. Further, proportionate adjustment has been made to the cumulative depreciation corresponding to discharges and/or reversal of liabilities considered during the respective years on account of cumulative depreciation adjusted as on 1.4.2009. As also cumulative depreciation has been adjusted for de-capitalisation considered during tariff period 2009-14. The necessary calculations in support of depreciation are as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital Cost	124916.25	124941.65	124984.73	124943.74	124986.97
Add: Additional Capital Expenditure	25.40	43.08	(-) 40.99	43.23	54.57
Closing Capital Cost	124941.65	124984.73	124943.74	124986.97	125041.54
Average Capital Cost	124928.95	124963.19	124964.23	124965.36	125014.25
Depreciable value @ 90%	108686.49	108702.06	108698.52	108696.79	108732.15
Remaining useful life at the beginning of the year	15.27	14.27	13.27	12.27	11.27
Balance depreciable value	42068.87	35908.28	29711.13	23526.40	21708.94
Depreciation (annualized)	6177.02	6193.52	6205.91	1917.68	1926.58
Cumulative depreciation at the end	72794.64	78987.30	85193.30	87088.07	88949.79
Less: Cumulative depreciation adjustment on account of de-caps	2.01	0.00	32.03	64.86	2.95
Add: Cumulative depreciation adjusted on account of discharges out of un-discharged liabilities deducted as on 1.4.2009	1.15	0.09	9.11	0.00	0.00
Cumulative depreciation (at the end of the period)	72793.79	78987.39	85170.39	87023.21	88946.84

Normative Annual Plant Availability Factor

45. The Normative Annual Plant Availability Factor of 85% as considered in order dated 7.9.2012 has been considered for the purpose of tariff.

O&M Expenses

46. O&M expenses as considered in order dated 7.9.2012 in Petition No.281/2009 as stated below has been considered.

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M expenses	5321.78	5627.43	5947.45	6289.05	6648.63

Interest on Working Capital

Fuel Component

47. The fuel component in the working capital as considered in order dated 7.9.2012 is considered as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Fuel Cost for one month	9408.17	9408.17	9433.94	9408.17	9408.17
Liquid fuel stock (Naphtha) for 1/2 month	4704.08	4704.08	4716.97	4704.08	4704.08

Maintenance Spares

48. The maintenance spares as considered in order dated 7.9.2012 is allowed as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Cost of maintenance spares	1596.54	1688.23	1784.24	1886.72	1994.59

Receivables

49. The receivables have been worked out on the basis of two months of fixed and energy charges (based on primary fuel only) in order dated 7.9.2012 and allowed as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Variable Charges-2 months	18816.34	18816.34	18867.89	18816.34	18816.34
Fixed Charges- 2 months	4318.83	4294.26	4299.58	3596.19	3685.49
Total	23135.17	23110.60	23167.47	22412.52	22501.83

O&M Expenses (1 month)

50. O & M expenses for 1 month as considered in order dated 7.9.2012 is considered as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O & M for 1 month	443.48	468.95	495.62	524.09	554.05

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Fuel Cost (APM & RLNG) – One month	9408.17	9408.17	9433.94	9408.17	9408.17
Liquid Fuel Stock – 1/2 month	4704.08	4704.08	4716.97	4704.08	4704.08
Maintenance Spares	1596.54	1688.23	1784.24	1886.72	1994.59
Receivables – Two months	23135.17	23110.60	23167.47	22412.52	22501.83
O&M expenses – One month	443.48	468.95	495.62	524.09	554.05
Total Working Capital	39287.44	39380.03	39598.25	38935.58	39162.72
Rate of Interest	12.2500%	12.2500%	12.2500%	12.2500%	12.2500%
Interest on Working Capital	4812.71	4824.05	4850.79	4769.61	4797.43

Annual Fixed Charges for 2009-14

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	6177.02	6193.52	6205.91	1917.68	1926.58
Interest on Loan	899.15	516.33	287.64	94.97	31.97
Return on Equity	8702.31	8604.26	8505.72	8505.80	8708.32
Interest on Working Capital	4812.71	4824.05	4850.79	4769.61	4797.43
O&M Expenses	5321.78	5627.43	5947.45	6289.05	6648.63
Total	25912.98	25765.59	25797.51	21577.12	22112.94

Note: (1) All figures are on annualised 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.

53. The Energy Charge Rate of 434.71 paisa/kWh as determined by order dated 7.9.2012 shall remain unchanged.

54. The difference in the annual fixed charges determined by order dated 7.9.2012 and those determined by this order shall be adjusted in accordance with Regulation 6 (6) of the 2009 Tariff Regulations.

55. Petition Nos. 242/GT/2013 and 218/GT/2014 are disposed of in terms of the above.

**-Sd/-
(A.S.Bakshi)
Member**

**-Sd/-
(Gireesh B. Pradhan)
Chairperson**