

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 346/GT/2014

Coram:

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

Date of Order : 15.3.2017

In the matter of:

Revision of tariff of Kawas Gas Power Station (656.20 MW) for the period from 1.4.2009 to 31.03.2014- Truing up of tariff determined by order dated 1.8.2013 in Petition No. 25/GT/2013.

And in the matter of:

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

.....Petitioner

Vs

1. Madhya Pradesh Power Management Company Limited
Shakti Bhawan,
Vidhyut Nagar,
Jabalpur- 482008
2. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, Bandra (East),
Mumbai - 400051
3. Gujarat Urja Vikas Nigam Limited,
Vidyut Bhawan, Race Course,
Vadodara - 390007
4. Chhattisgarh State Power Distribution Company Limited,
P.O. Sundar Nagar,
Danganiya, Raipur – 492013



5. Government of Goa,
Electricity Department, Vidyut Bhawan,
Panaji, Goa
6. Electricity Department,
Administration of Daman and Diu
Daman – 396210
7. Electricity Department,
Administration of Dadra and Nagar Haveli,
Silvasa

.....Respondents

Parties present:-

For Petitioner: Shri Ajay Dua, NTPC
Shri Nishant Gupta, NTPC
Shri Bhupinder Kumar, NTPC
Shri Rajeev Choudhary, NTPC
Ms. Suchitra Maggon, NTPC
Shri Rohit Iada, NTPC
Shri Manish Jain, NTPC

For Respondents: Shri Rishabh Singh, Advocate, MPPMCL

ORDER

This petition has been filed by the petitioner, NTPC Ltd., for revision of tariff of Kawas Gas Power Station (656.20 MW) (hereinafter referred to as “the generating station”) for the period from 1.4.2009 to 31.03.2014, after truing up exercise, in terms of Regulation 6(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”).

2. The generating station with a capacity of 656.20 MW comprises of four Gas Turbine units of 106 MW each and two Steam Turbine units of 116.10 MW. The date of commercial operation of different units of the generating station are as under:



	Capacity (MW)	Date of Commercial Operation (COD)
Unit – I (GT)	106.00	1.6.1992
Unit – II (GT)	106.00	1.8.1992
Unit – III (GT)	106.00	1.9.1992
Unit – IV (GT)	106.00	1.11.1992
Unit – V (ST) / Generating Station	116.10	1.11.1993
Unit – VI (ST)	116.10	1.9.1993

3. Petition No. 285/2009 was filed by the petitioner for determination of tariff in respect of the generating station for the period 2009-14 and the Commission vide order dated 30.12.2011 had determined the annual fixed charges for the generating station based on capital cost as on 1.4.2009 and estimated capital expenditure from 1.4.2009 to 31.3.2014. In the said order, the Commission had considered extension of life by 15 years for recovery of tariff on account of Renovation and Modernization and disallowed unrecovered depreciation. The relevant portion of the order is extracted as under;

Balance Useful life of the generating station

“56. The weighted average of the elapsed life (period of operation) of the generating station, as on 1.4.2009 works out to 16.23 years. The major expenditure on R&M of the GTs are allowed for enhancing the life of the generating station by 1,00,000 Equivalent Operating Hours (EOH) which translates into 15 years, considering the low PLF of the generating station. The major part of R&M works would be completed by 31.3.2012. The weighted average of the period of operation of the generating station as on 1.4.2013 works out to 20.23 years. Considering the life extension of GTs by more than 15 years from 1.4.2013, the weighted average life of the generating station after R&M of GTs works out to 31.87 years in relation to the date of commercial operation of the respective units of the generating station, as stated above. Accordingly, the balance useful life of the generating station works out to 15.64 years as on 1.4.2009 and 11.64 years as on 1.4.2013.”

Unrecovered Depreciation

“60. As per order dated 17.10.2011 in Petition No. 160/2009 the balance useful life of the generating station works out to 3.39 years as on 1.4.2009. Accordingly, the useful life of the generating station would expire during 2012-13. However, in terms of the 2009 regulations, the designated useful life of the combine cycle power generating stations is 25 years. As stated earlier, the elapsed life of the generating station is 16.23 years as on 1.4.2009. However, the balance useful life of the generating station got extended to 8.77 years as per the 2009 regulations, prior to the extension of useful life of the generating station due to R&M expenditure. As such, based on the above direction of the Tribunal, the unrecovered depreciation of



Rs.4322.00 lakh claimed by the petitioner during 2012-13 is not allowed now, since the generating station has not completed its useful life. However, the same would be considered during the next tariff period after expiry of 8.77 years from 1.4.2009.”

4. Against the said order the petitioner had filed Appeal No. 70 of 2012 before the Appellate Tribunal for Electricity (“Tribunal”) on the following issues:

(a) Consideration of life extension of the gas turbine after Renovation and Modernization as 15 years instead of 10 years as provided in the 2009 Tariff Regulation;

Disallowance of un-recovered depreciation after useful life which was not allowed prior to Renovation and Modernization (‘R&M’);

5. During the pendency of the said appeal, the petitioner filed Petition No. 25/GT/2013 and the Commission revised the tariff of the generating station based on the actual additional capital expenditure incurred for the period 2009-12 and the projected additional capital expenditure for the years 2012-13 and 2013-14, in terms of provisions of Regulation 6(1) of the 2009 Tariff Regulations. Accordingly, the capital cost and the annual fixed charges allowed by order dated 1.8.2013 is as under:

Capital Cost

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost	153691.71	153582.73	153365.47	153346.65	153371.65
Additional capital expenditure	(-)108.98	(-)217.26	(-)18.82	25.00	250.00
Closing capital cost	153582.73	153365.47	153346.65	153371.65	153621.65
Average Capital cost	153637.22	153474.10	153356.06	153359.15	153496.65

Annual Fixed Charges

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	37.59	42.04	51.96	62.39	88.31
Interest on loan	1.36	1.36	0.00	0.00	4.15
Return on Equity	18061.03	17841.23	17628.63	17628.84	17638.31
Interest on working capital	7253.99	7287.87	7340.79	7366.88	7412.84
O&M expense	9711.76	10269.53	10853.55	11476.94	12133.14
Total	35065.74	35442.02	35874.93	36535.05	37276.75



6. The Tribunal vide judgment dated 25.10.2013 in Appeal No. 70 of 2012 decided to remand the matter to the Commission with direction to re-determine useful life of the plants after extension of life by 10 years for GTs after completion of Renovation and Modernization, instead of 15 years. As regards un-recovered depreciation, it was decided to consider the un-recovered depreciation in the tariff period subsequent to the period of 2009-2014. The relevant portion of the order is extracted as under:

Life extension of Gas station after R&M

“25. Therefore, we decide to remand this matter back to the Central Commission with direction to re-determine the useful life of the plants after extension of life by 10 years for GTs after completion of Renovation and Modernization, instead of 15 years.”

Adjustment of Unrecovered depreciation

31. Accordingly, the Central Commission has decided to consider the un-recovered depreciation as per the directions of the Tribunal in its Judgment dated 13.6.2007 after the completion of the designated useful life of the generating station which is 25 years as per 2009 Regulations. We do not find any infirmity in the findings of the Central Commission in view of the fact that the designated useful life has been enhanced to 25 years by 2009 Regulations which are applicable for the period in question. As per the Tribunal's judgment in Appeal No. 139 of 2006 & batch, the un-recovered depreciation in respect of the assets commissioned prior to life extension have to be allowed after the power plant has lived its designated useful life. The designated useful life of gas based power station is 25 years as per the 2009 Tariff Regulations which is relevant to the period in question i.e. 2009-14. Therefore, the un-recovered depreciation could be allowed after the gas power station has completed 25 years of operation. As Kawas and Gandhar gas power stations are not completing 25 years of operation during the period 2009-14 for which tariff has been determined in the impugned order, the Central Commission has rightly decided to consider the un-recovered depreciation in the tariff period subsequent to the current tariff period of 2009-14.”

7. Against the order dated 1.8.2013 in Petition No. 25/GT/2013, the petitioner filed Appeal No. 245 of 2013 before the Tribunal on issues namely:

- a) *Disallowance of additional capital expenditure claimed by the petitioner in respect of Gas Turbine.*
- b) *Disallowance of additional capitalization in respect of Online compressor washing system of Gas Turbine for the period 2012-14.*



8. Thereafter, the Tribunal vide Judgment dated 17.4.2014 in Appeal No. 245 of 2013 disallowed the issues raised by the petitioner. It, however, granted liberty to the petitioner to claim GT wise additional capital expenditure at the time of true-up of tariff for the period 2009-14.

9. The petitioner has sought revision of the annual fixed charges based on the actual additional capital expenditure incurred on true-up of the actual additional capital expenditure incurred for the years 2009-14 in accordance with Regulation 6(1) of the 2009 Tariff Regulations. The petitioner, vide affidavit dated 8.8.2014, has sought revision of tariff of the generating station for the period 2009-14 and thereafter by affidavit dated 8.8.2014 has revised the claim for annual fixed charges as under:

	<i>(₹ in lakh)</i>				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	31.87	32.41	45.26	0.00	2,102.23
Interest on loan	0.00	0.00	0.00	0.09	923.20
Return on Equity	18,057.10	17,833.62	17,621.29	17,563.60	19,125.86
Interest on working capital	7,253.76	7,287.48	7,340.50	7,364.22	7,504.97
O&M expense	9,711.76	10,269.53	10,853.55	11,476.94	12,133.14
Total	35,054.50	35,423.04	35,860.60	36,404.85	41,789.40

10. In compliance with the direction of the Commission, the petitioner has filed additional information with a copy to the respondents. Reply has been filed by the Respondent No. 1, MPPMCL. The petitioner has filed its rejoinder to the said replies of the respondents vide affidavit dated 20.4.2016. The hearing in this matter was held on 19.4.2016. Taking into consideration the submissions of the parties and the documents available on record, we proceed to revise the tariff of the generating station, on prudence check, as stated in the subsequent paragraphs.



Capital cost

11. 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.”

12. The petitioner has claimed opening capital cost as ₹153691.71 lakh on cash basis as on 1.4.2009 as determined in order dated 1.8.2013 in Petition No. 25/GT/2013. Accordingly, the admitted opening capital cost of ₹153691.71 lakh as on 1.4.2009 has been considered for the purpose of determination of annual fixed charges.

13. The petitioner has submitted that out of the un-discharged liabilities deducted as on 1.4.2009, the petitioner has discharged ₹92.30 lakh (₹8.07 lakh pertaining to liabilities corresponding to assets capitalized prior to 1.4.2004 and ₹84.23 lakh pertaining to period 2004-09) and has reversed an amount of ₹9.02 lakh (pertaining to liabilities corresponding to assets capitalized during the period 2004-09) during the year 2009-10. The capital cost as on 1.4.2009 has been worked out as ₹153691.71 lakh after removal of un-discharged liabilities of ₹101.32 lakh (₹8.07 lakh pertaining to period prior to 1.4.2004 and 93.25 lakh pertaining to period 2004-09). The discharge of liabilities amounting to ₹92.30 lakh has been allowed during the year 2009-10 in addition to admitted additional capital expenditure.

Actual Additional Capital Expenditure

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



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

- (i) Un-discharged liabilities;*
- (ii) Works deferred for execution;*

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

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

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

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

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

(ii) Change in law;

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

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

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

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



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

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

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

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

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

15. The actual/projected additional capital expenditure allowed for 2009-14 by order dated 1.8.2013 in Petition No. 25/GT/2013 is as under:

Head of Work/Equipment	(₹ in lakh)				
	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (projected)	2013-14 (Projected)
Gas Turbine Life extension package	0.00	0.00	0.00	0.00	0.00
C&I control system for GT and ST	0.00	0.00	0.00	0.00	0.00
On line Compressor washing machines for GTs	0.00	0.00	0.00	0.00	0.00
RO Plant for DM water	0.00	0.00	0.00	20.00	250.00
Procurement of CCTV	0.00	0.00	45.00	5.00	0.00
Township Metering system	9.00	0.00	0.00	0.00	0.00
Total	9.00	0.00	45.00	25.00	250.00
Discharge of un-discharge liabilities	92.00	0.00	0.00	0.00	0.00
Total (on actual values)	101.00	0.00	45.00	25.00	250.00
Add: Exclusions not allowed	(-)302.28	(-)217.26	(-)63.82	0.00	0.00
Net Additional Capital Expenditure Allowed before discharge of liabilities	(-)201.28	(-)217.26	(-)18.82	25.00	250.00
Add: Discharge of Liabilities	92.30	0.00	0.00	0.00	0.00
Total Additional Capital	(-)108.98	(-)217.26	(-)18.82	25.00	250.00



Head of Work/Equipment	2009-10 (Actual)	2010-11 (Actual)	2011-12 (Actual)	2012-13 (projected)	2013-14 (Projected)
Expenditure allowed					

16. The actual additional capital expenditure claimed by the petitioner for the period 2009-14 is as under:

(₹ in lakh)					
Head of Work/Equipment	2009-10	2010-11	2011-12	2012-13	2013-14
R&M Package for Life Extension					
Gas Turbine Life Extension Package	-	-	-	-	-
R&M of Gas Turbine 1A	0.00	0.00	0.00	0.00	14334.39
R&M of Gas Turbine 1B	0.00	0.00	0.00	0.00	12747.50
R&M of Gas Turbine 2B	0.00	0.00	0.00	0.00	12491.83
C&I Control Systems for Gas Turbines and Steam Turbines					
R&M of C&I Gas Turbine 1A	0.00	0.00	0.00	0.00	663.32
R&M of C&I Gas Turbine 1B	0.00	0.00	0.00	0.00	662.31
R&M of C&I Gas Turbine 2B	0.00	0.00	0.00	0.00	658.05
R&M of C&I Steam Turbine 1C	0.00	0.00	0.00	0.00	1478.53
Total Expenditure on Life Extension of Gas Turbine	0.00	0.00	0.00	0.00	43035.93
Change in Law					
Procurement of CCTV	0.00	0.00	44.95	0.26	0.00
Township Metering System	8.62	0.00	0.00	0.00	0.00
Ozone Analysers at AAQMS stations	0.00	0.00	0.00	0.00	11.67
Continuous Airline Breathing Equipment and Breathing Apparatus set	0.00	0.00	0.00	0.00	0.38
Residential Quarters and Internal Electrification	0.00	0.00	0.00	0.00	1781.77
Hydraulic Stacker 1.5.Ton Capacity	0.00	0.00	0.00	0.00	0.52
Portable ultrasonic Thickness Gauge Meter	0.00	0.00	0.00	0.00	0.44
Digital Compression Testing Machine	0.00	0.00	0.00	0.00	1.44
Multi Zone Door Frame Type Metal Detector	0.00	0.00	0.00	0.00	2.35
Hand Held Metal Detector	0.00	0.00	0.00	0.00	0.23
Total (A)	8.62	0.00	44.95	0.26	1798.79
Discharge of Un-discharge Liabilities	92.30	0.00	0.00	4.52	0.00
Total (B)	100.92	0.00	44.95	4.78	44834.72



Head of Work/Equipment	2009-10	2010-11	2011-12	2012-13	2013-14
De-capitalization					
De-capitalization of C&I Control System	(-)14.96	(-)18.52	(-)59.83	0.00	0.00
De-capitalization of Admitted spares	(-)280.11	(-)70.14	(-)2.31	0.00	0.00
De-capitalization of Admitted MBOAs	(-)26.54	(-)123.54	(-)1.69	0.00	0.00
GT-1A/1B/2B Decap during R&M	0.00	0.00	0.00	(-)1660.68	(-)6093.91
Total (C)	(-)321.61	(-)212.20	(-)63.82	(-)1660.68	(-)6093.91
Works adjustment					
SAP	0.00	0.00	0.00	(-)1.36	0.00
Total (D)	(-)321.61	(-)212.20	(-)63.82	(-)1662.04	(-)6093.91
Grand Total (B+D)	(-)220.69	(-)212.20	(-)18.87	(-)1657.26	38740.81

17. As stated, the Commission in order dated 1.8.2013 in Petition No. 25/GT/2013, had revised the tariff of the generating station for the years 2009-10, 2010-11 and 2011-12 after truing up exercise of the additional capital expenditure based on actual additional expenditure incurred during the said year. The petitioner, has pointed out that the Commission in order dated 1.8.2013 had disallowed the exclusion claim of MBOAs of (-) ₹7.20 lakh in 2009-10 and (-) ₹128.60 lakh in 2010-11 and has submitted that these form part of the admitted capital cost. The petitioner has further submitted that the list of de-capitalized items which form part of capital cost amounts to (-) ₹26.54 lakh for 2009-10 and (-) ₹123.54 lakh for 2010-11 and has revised the claim for the years 2009-10 and 2010-11 to the extent of change in the de-capitalization of items.

18. It is observed that the Commission had considered the exclusion of MBOAs amounting to (-) ₹7.20 lakh and (-) ₹128.60 lakh, instead of (-) ₹26.54 lakh and (-) ₹123.53 lakh during the year 2009-10 and 2010-11 respectively. Accordingly, we have in this order revised the petitioner's claim of de-capitalized MBOAs, totaling to (-) ₹26.54 lakh and (-) ₹123.54 lakh during 2009-10 and 2010-11 respectively which form part of capital cost



19. As regards the petitioner's claim of (-) ₹18.87 lakh as against the approved additional capital expenditure of (-) ₹18.82 lakh in 2011-12 in order dated 1.8.2013, it is observed that the Commission had considered an amount ₹45.00 lakh for procurement of CCTV camera and whereas the actual additional expenditure of ₹44.95 lakh had been incurred in 2011-12. This has been considered. Based on the above, the petitioner's claim for actual capital expenditure incurred for the years 2009-10, 2010-11 and 2011-12 has been considered.

20. The actual additional capital expenditure claimed for the period 2012-13 and 2013-14 as against the projected additional capital expenditure allowed vide order dated 1.8.2013 is summarised as under:

Head of Work/Equipment	(₹ in lakh)			
	As approved in Order dated 1.8.2013		As claimed in this Petition	
	2012-13	2013-14	2012-13	2013-14
Gas Turbine Life extension package	0.00	0.00	0.00	39573.72
C&I control system for GT and ST	0.00	0.00	0.00	3462.21
Total expenditure on R&M	0.00	0.00	0.00	43035.93
On line Compressor washing machines for GTs	0.00	0.00	0.00	0.00
RO Plant for DM water	20.00	250.00	0.00	0.00
Procurement of CCTV	5.00	0.00	0.26	0.00
Township Metering system	0.00	0.00	0.00	0.00
Ozone Analysers at AAQMS stations	0.00	0.00	0.00	11.67
Continuous Airline Breathing Equipment and Breathing Apparatus set	0.00	0.00	0.00	0.38
Residential Quarters and Internal Electrification	0.00	0.00	0.00	1781.77
Hydraulic Stacker 1.5.Ton Capacity	0.00	0.00	0.00	0.52
Portable ultrasonic Thickness Gauge Meter	0.00	0.00	0.00	0.44
Digital Compression Testing Machine	0.00	0.00	0.00	1.44
Multi Zone Door Frame Type Metal Detector	0.00	0.00	0.00	2.35
Hand Held Metal Detector	0.00	0.00	0.00	0.23
Total (on actual values)	25.00	250.00	0.26	1798.79



Head of Work/Equipment	As approved in Order dated 1.8.2013		As claimed in this Petition	
	2012-13	2013-14	2012-13	2013-14
Total De-capitalization	0.00	0.00	(-)1660.68	(-)6093.91
Discharge of Un-discharge Liability	0.00	0.00	4.52	0.00
Work adjustments (SAP)	0.00	0.00	(-)1.36	0.00
Net Additional Capital Expenditure Allowed	25.00	250.00	(-)1657.26	38740.80

21. The petitioner has claimed an additional capital expenditure of ₹0.26 lakh in 2012-13 towards procurement of CCTV and ₹1798.79 lakh in 2013-14 towards Gas Turbine life extension package, C&I control systems,, Township Metering System, ozone analyzer at AAQMS system, Continuous airline breathing equipment and breathing apparatus set, Residential quarters and internal electrification, Hydraulic stacker 1.5 ton capacity, Portable ultrasonic thickness gauge meter, Digital compression testing machine, Multizone door frame type metal detector and Hand held metal detector etc. The petitioner has claimed additional capital expenditure of ₹43035.93 lakh (including IDC and FC etc) in 2013-14 towards R&M Package, which includes R&M of GT's, R&M of Control and Instrumentation (C&I) of Steam Turbine.

R&M Package

22. The petitioner has claimed additional capital expenditure of ₹43035.93 lakh (including IDC and FC etc) in 2013-14 towards the R&M Package under Regulation 9(2)(vi) of the 2009 Tariff Regulations. The petitioner has submitted that the Commission vide order dated 30.12.2011 in Petition No. 285/2009, had allowed the projected additional capitalization of ₹44976.30 lakh towards R&M of Gas Turbine and R&M of Control and Instrumentation (C&I) of Gas Turbine and Steam Turbine for the period 2009-14. The petitioner has also submitted that since the R&M work got delayed and the same shifted from the period 2011-14 to 2012-15, accordingly the projected additional



capital expenditure was revised on the basis of the revised work schedule of completion of three Gas Turbine in 2012-13, and the last gas turbine in 2014-15. The petitioner has further submitted that Commission vide order dated 1.8.2013 had disallowed the additional capital expenditure towards Renovation and Modernization of Gas Turbine and R&M of C&I of Gas Turbine and Steam Turbine and on the ground that the complete benefit of the R&M in the form of life extension and improvement in operational performance would be passed on to the beneficiaries during 2014-19 and hence the same shall be considered during the period 2014-19. The relevant para of the order is as extracted below:

“19. We have examined the matter. It is observed that the petitioner has not incurred any expenditure towards R&M during the years 2009-10, 2010-11 and 2011-12 respectively. The proposed expenditure on R&M is to be incurred from the year 2012-13 onwards and would be completed during 2014-15 only. Since the complete benefits of R&M in the form of life extension and improvement in operational performance would be passed on to the respondents/ beneficiaries only after the completion of R&M of all the three GTs in 2014-15, we are of the considered view that the projected additional capital expenditure claimed for R&M of GTs could be considered only during the next tariff period (2014-19). Accordingly, the expenditure claimed by the petitioner on this count during the period 2012-13 and 2013-14 has not been allowed”.

23. The petitioner has further submitted that in terms of the Judgment of the Tribunal dated 17.4.2014 in Appeal no. 245 of 2013 it has claimed additional capital expenditure towards R&M of three Gas Turbines and R&M of C&I of one Steam Turbine in 2013-14 along with other schemes as approved by the Commission vide order dated 30.12.2011. The petitioner has further submitted that the remaining R&M of one Gas Turbine and R&M of C&I of one Steam Turbine shall be completed during 2014-19.

24. The petitioner has submitted the projected additional capital expenditure of ₹50779 lakh (excluding IDC and contingency of loan/works FERV) on R&M of Gas



turbine and R&M of C&I of gas turbine and steam turbine claimed in Petition No. 285/2009 were made on the basis of estimates approved by the CEA vide its letter dated 1.6.2007. The Petitioner submitted that the Commission had allowed the same projected capital expenditure vide its order dated 30.12.2011 in Petition No. 285/2009. The petitioner also submitted that the estimates as approved by the CEA were based on the budgetary offer available at that time considering the exchange rate as 1 USD = ₹48 claimed. Subsequent, to above approval accorded by the CEA, the petitioner had contacted around 15 nos. of leading Gas Turbine Manufacturers/ Gas Turbine Components Manufacturers (including OEM) for R&M work at Kawas gas station. However, none of the parties except OEM was ready to carry out the R&M work as stipulated by the petitioner. As no manufacturer other than OEM gave response in affirmative manner, it was ultimately decided to approach OEM (M/s General Electric) for carrying out the R&M work through single tender and negotiation basis. The petitioner further submitted that the contract was awarded to BHEL GE Gas Turbine Services (BGGTS) at a total contract price of US \$76.57 Million+ ₹7598 lakh (₹46253 lakh equivalent in INR) on 23.3.2012. The exchange rate at the time of award was 1 USD = ₹50.48. The petitioner further submitted that during the execution of the contract, there is exchange rate variation, the average rate of USD for execution of the contract is around ₹56.55 = 1USD. As imported component constitute approx. 85% of the package value, this Exchange rate variation, levy of customs duty (which is at actual as per LOA) and interest amount allocated to the work, have contributed towards increase in the cost of R&M work with respect to the cost approved by the Commissions vide order dated 30.12.2011.

25. The respondent, MPPMCL, has submitted that the petitioner referring to the Tribunal judgment dated 17.4.2014 passed in Appeal No. 245/2013, has claimed



Gas/steam turbine-wise additional capitalization in respect of Gas Turbine Life Extension Package and C&I Control System of Steam Turbines said to be completed during 2013-14. The respondent, MPPMCL, has further submitted that the petitioner has nowhere specified the dates of completion of R&M of individual Gas Turbine and has also not specified the dates from which the Turbines are put in to use and the benefit has been passed to the beneficiaries. The respondent, MPPMCL, further stated that, the petitioner may be directed to submit on affidavit, the unit-wise dates from which the turbines were put into use and benefits has been passed to the beneficiaries.

26. The respondent, MPPMCL, further submitted that from the perusal of the details submitted under Form 9(2) attached with the petition, it could be seen that the petitioner has claimed additional capital expenditure on many items under Regulation 9(2)(vi) which are in fact not covered under Regulation 9(2)(vi) of the 2009 Tariff Regulations.

27. The respondent, MPPMCL, further submitted that from the perusal of Regulation 9(2)(vi) of Tariff Regulations 2009, only the capital expenditure incurred on renovation of Gas turbines and expenditure necessary due to obsolesce or non-availability of spares for successful and efficient operation of the stations only is covered under Regulation 9(2)(vi) of the 2009 Tariff Regulations. MPPMCL further stated that the Regulation do not allow any additional capital expenditure incurred on items such as R&M of steam turbines and its C&I systems, Continuous Airline Breathing Equipment & Breathing Apparatus set, Residential Quarters and Internal electrification, Hydraulic Stacker 1.5 Ton Capacity, Portable Ultrasonic Thickness Gauge Meter, Digital Compression Testing Machine, Multi Zone Door Frame Type Metal Detector, Hand Held Metal Detector (HHMD) etc. The respondent, MPPMCL, further submitted that the additional capital



expenditures claimed by the petitioner under aforesaid items amounting to ₹3265.66 lakh should not be allowed.

28. The petitioner, vide its reply dated 22.4.2016, has submitted that the expenditure on Renovation and Modernization of gas turbine has been carried out for extending the operating life of gas turbine by 10,000 EOH i.e. 10 years. The petitioner further submitted that with regards to the operation of gas turbines, it is worthwhile to mention that Gas turbines, especially the hot gas path components, are subjected to severe operating conditions like high temperature of the order of 1100-1200 degree celsius coupled with high rotational moments resulting in hot corrosion/oxidation, creep, dynamic stresses etc leading to metallurgical degradation of these components. The petitioner further submitted that if the operation of gas turbines reaches beyond the stipulated expected design life as recommended by the manufacturer, it is detrimental to the safety of men and machinery, accordingly based on the recommendation of CEA, the petitioner has carried out the life extension work on all four gas turbines of the instant station, thereby further extending the useful life by 10 years. The petitioner further submitted that the life of the station has been enhanced further by a period of 10 years and the beneficiaries shall continue to get power from the instant station for the extended period. The petitioner further submitted that the contention of the respondent that benefit has not been passed on to the beneficiaries is devoid of reasons and is liable to be rejected.

29. Further the petitioner vide its affidavit dated 22.4.2016 submitted that the R&M work of three Gas Turbines (GT IA/1B/2B) along with R&M of C&I system of three GT and one Steam Turbine (ST IC) have been completed during 2013-14 and the works of remaining Gas Turbine (GT 2A) along with C&I system & R&M of remaining Steam Turbine (ST 2C) shall be completed during 2014-15. The petitioner with regards to the



date from which the gas turbines have been put to use after the R&M work , submitted the dates as mentioned below:

Unit	Date of Turbine put to use
GT 1A	6.4.2013
GT 1B	30.8.2013
GT 2B	21.3.2014
GT 2A	14.9.2014

30. The petitioner further submitted that the respondent MPPMCL in the instant petition raised the contention that the petitioner's claim of additional capital expenditure in the instant petition pertaining to the works of R&M of C&I system of steam turbines, Continuous Airline Breathing equipment & Breathing Apparatus set, Residential quarters & Internal electrification, Hydraulic stacker 1.5 ton capacity, Portable ultrasonic thickness gauge meter, Digital compression testing machine, Multi zone door frame type metal detector, Hand held metal device are not in conformance with Regulation 9(2)(vi) of CERC Tariff Regulations 2009 and are liable to be rejected. The petitioner in this regard submitted that the Commission by amendment notification dated 21.6.2011, amended Regulation 9 of the Tariff Regulations, 2009 as under:

"5. Amendment of Regulation 9 of the Principal Regulations- Three sub-clauses namely, (vi), (vii) and (viii) shall be added after sub- clause (v) of clause (2) of Regulation 9 of the Principal Regulations as under:

"(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"

31. The petitioner further, submitted that the provisions of this regulation are applicable for the expenditures made for R&M for open as well as combined cycle thermal generating stations as well as works which are required on account of



obsolescence or non-availability of spares and for successful and efficient operation of the stations and have been accordingly allowed by the Commission for gas stations by the above amendment.

32. We have examined the matter. It is observed from the revised phasing of expenditure as projected by the petitioner, the expenditure towards R&M of GTs are to be considered from 2013-14 onwards only, since the R&M of three GTs (GT 1A, 1B and 2B) has already been completed along with one STs (ST 1C) in 2013-14 and in view of the Tribunal's judgment to allow GT wise R&M expenditure in Appeal No. 245 of 2013, we are of the view that the expenditure on R&M package towards three GTs (GT1A, GT 1B and GT 2B) and 1 ST (ST 1C) could be considered during the 2013-14.

33. We have gone through the submissions of the petitioner. The Commission observed that the petitioner in Petition No. 25/GT/2013 has claimed projected additional capital expenditure of ₹44994 lakh on R&M for the period 2012-15. Out of total additional capital expenditure claimed due to R&M, the Commission by order dated 1.8.2013 had disallowed the claim of the petitioner on the ground that the complete benefit of the R&M in the form of life extension and improvement in operational performance would be passed on to the beneficiaries during 2014-19 and hence the same shall be considered during the period 2014-19. Against the said order, the petitioner filed Appeal No. 245 of 2013 before the Tribunal. The Tribunal vide Judgment dated 17.4.2014 in Appeal No. 245 of 2013 disallowed the issues raised by the petitioner. It, however, granted liberty to the petitioner to claim GT wise additional capital expenditure at the time of true-up of tariff for the period 2009-14.



34. The Commission further observed that out of total CEA approved R&M cost including R&M of GTs and C&I of GTs of ₹44913.00 lakh in Petition No. 285/2009, 85% are imported components which corresponds to ₹38176.05 lakh. However, the petitioner in this petition has stated an amount of ₹61235.37 lakh for complete R&M of 4GTs and 2 STs out of which ₹52050.06 lakh corresponds to imported components. Further, as per the submission of the petitioner the CEA approved price is calculated considering 1 USD = ₹48 and during the execution of the project there is exchange rate variation of around ₹60.15 = 1USD during 2013-14. The Commission observed that there is a difference of ₹13874.01 lakh between the CEA approved R&M cost and the claim of the petitioner for complete R&M. Further, the Commission observed that out of total cost variation, ₹9663.31 lakh is due to exchange rate variation during the execution of the project. Also there is some variation on account of levy of customs duty (which is at actual as per LOA) and interest amount allocated to the work. Accordingly, the Commission has considered the claim of the petitioner as feasible and has allowed the same.

35. Accordingly, we have approved the R&M expenses of ₹43035.93 lakh as claimed by the petitioner in 2013-14.

Capital Spares

36. The petitioner in this petition has submitted that the Commission vide its order dated 30.12.2011 in Petition No. 285/2009 has deducted an amount of ₹5866 lakh from the additional capital expenditure allowed for Renovation and Modernization of the station on account of capital spares included in O&M corresponding to major overhaul. The petitioner further, submitted that, the petitioner has considered an amount of ₹4399.50 lakh ($₹5866 \times 3/4$) on pro-rata basis corresponding to three Gas Turbines which



have been completed during 2013-14 for working out the net additional capital expenditure for 2013-14 in the instant petition.

37. With regard to capital spares, we have considered the submission of the petitioner and have deducted an amount of ₹4399.50 from the Renovation and Modernization package on account of capital spares in line with decision of the Commission in order dated 30.12.2011 as claimed by the petitioner in the instant petition.

De-capitalization due to R&M

38. The Commission in order dated 30.12.2011 in Petition No. 285/2009 has allowed de-capitalization of ₹22760.00 lakh on complete R&M package. The petitioner has submitted the total de-capitalization of ₹24407.53 lakh on complete R&M package during the period 2012-15. The petitioner, has submitted that it has carried out part de-capitalization of ₹1660.68 lakh towards GT-1A in 2012-13 and complete de-capitalization of assets replaced with regard to GT1A, GT 1B and GT 2B and ST 1C amounting to ₹6093.99 lakh in 2013-14. The Commission in line with its order dated 30.12.2011 in Petition No. 285/2009 has considered the part de-capitalization of ₹1660.68 lakh towards GT1A in 2012-13 and complete de-capitalization of assets replaced with regards to GT1A, GT1B and GT2B and ST1C amounting to ₹17060.14 lakh $(24407.53*(3/4))$ total amount of de-capitalization claimed by the petitioner during the R&M of the plant with regard to GT and ST) has been considered.

39. The Commission is of the view that since the major R&M work has been carried out by the petitioner during the year 2013-14, major de-capitalization of assets should also be considered during the same period. Therefore out of total de-capitalization



during the R&M of the plant, the Commission has considered substantial de-capitalization during the 2013-14 period wherein substantial part of R&M work has been carried out.

Other assets

40. The additional capital expenditure in respect of other assets claimed by the petitioner during the period 2012-14 has been examined as under:

Change in Law- Regulation 9(2)(ii)

- a) **Procurement of CCTV Camera:** The petitioner has claimed expenditure of ₹0.265 lakh during 2012-13 towards installation of CCTV Cameras at sensitive points in the plants and on the plant premises boundary. We have allowed the capital expenditure vide order dated 1.8.2013 as the petitioner had submitted documentary evidence in support of the claim. Accordingly, the capital expenditure is allowed under Regulation 9(2)(ii) of the 2009 Tariff Regulation.
41. **Ozone analyzer at Ambient Air Quality Measurement System (AAQMS):** The petitioner has claimed additional capital expenditure of ₹11.67 lakh during 2013-14 towards AAQMS for monitoring and maintaining air quality parameters in terms of the direction of State Pollution Control Board. It is noted that the expenditure claimed in 2013-14 pertains to installation of Ozone analyzers in AAQMS which are required to monitor ambient air by Central Pollution Control Board as per the GOI notification dated 18.11.2009. It is noticed that similar claim of the petitioner for installation of AAQMS was considered by the Commission and the Commission in case of Singrauli STPS vide order dated 7.8.2012 in Petition No. 225/2009 has disallowed the same. On an appeal filed by the petitioner an Appeal No. 232 of 2012, the Tribunal by judgment dated 12.05.2015



had affirmed the order of the Commission. The relevant portion of the order is extracted as under:

“Without repeating the submissions of the respondents/beneficiaries provided in para no. 17.01 to 17.10 of this judgment, we find that the learned Central Commission has rightly disallowed the said claim of additional capital expenses by giving sufficient and cogent reasons. We make it clear that no Regulation of the Tariff Regulations can be read in isolation but the cumulative effect of the whole Regulations, scheme and purpose of the Regulations have to be considered, hence the Central Commission has rightly disallowed the said claims of the NTPC after analyzing the cumulative effect of various Regulations of Tariff Regulations, 2009 without leaving any ambiguity. We do not find any merit in any of the contentions of the appellant-NTPC. However, we agree to the findings recorded by the Central Commission on Issue No. ‘A’. Consequently, this Issue No. ‘A’ is decided against the appellant.”

Accordingly, in line with the judgment of Tribunal, the claim of the petitioner for additional capital expenditure for installation of AAQMS has not been allowed.

Regulation 9(2)(vi)

- b) **Continuous Airline breathing equipment and Breathing apparatus set:** The petitioner has claimed additional capital expenditure of ₹0.38 lakh in 2013-14 towards Continuous Airline Breathing equipment and breathing apparatus. The petitioner in justification of the same has submitted that Chlorine dosing is done at the generating station for pre-treatment of water in clarifloculator and CW chlorination for oxidation of algae and organic material present in water. The petitioner has also submitted that chlorine being hazardous chemical special safety equipments are required for handling and maintaining the chlorination system. It has further submitted that one such safety system is Continuous Airline Breathing System which acts as a safety device for insulating the working personnel from coming in direct contact with the chlorine. The petitioner has



submitted that as the existing airline breathing system equipment have become obsolete and spare parts for maintaining the system is not available for replacement of the existing system based on latest technology was undertaken thereby ensuring the safety of working personnel during the chlorine leakage thereby ensuring safe, successful and efficient operation of the generating station.

We have examined the matter. In our view the expenditure claimed by the petitioner is minor in nature and the petitioner can meet the same from O&M expenses allowed to the petitioner. We have therefore not allowed capitalization of the same

- c) **Residential Quarters and Internal Electrification:** The petitioner has claimed additional capital expenditure of ₹1781.77 lakh in 2013-14 towards residential quarters and internal electrification. In justification of the same, the petitioner has submitted that due to natural calamities i.e. earth quake and severe floods in the area, condition of 50 nos. of quarters has deteriorated. It has also submitted that after thorough examination, it was felt that despite comprehensive maintenance undertaken by the petitioner, these quarters continue to have severe problem like roof leakages, floor settlement, wide structural cracks etc and are inhabitable, and hence were required to be demolished. The petitioner has stated that the old inhabitable quarters were demolished during the year 2010-11 for Construction of new quarters and accordingly the petitioner has de-capitalized an amount of ₹50.41 lakh in respect of the demolished quarters during the year 2010-11. The petitioner has stated that submitted that an amount of (-)₹128.61 lakh under de-capitalization of MBOA items which includes the amount of (-)₹50.41 lakh towards Quarters. It has submitted that the Commission in order



dated 1.8.2013 had disallowed the said exclusion and had reduced the capital cost. The petitioner has also submitted that as the demolished quarters were inhabitable for living thereby jeopardizing the safety of employees and their families, the construction of new quarters was essential for safe accommodation for employees and for discharging their duties in an efficient manner. We have examined the matter. It is noticed that in order dated 1.8.2013, though the petitioner had claimed de-capitalisation in the year 2010-11 towards demolition of 50 quarters it has not projected any additional capital expenditure. De-capitalisation was allowed as it formed part of capital cost. We have examined the matter. In our view the expenditure claimed by the petitioner is on account of construction of Residential Quarters and Internal Electrification. It is noticed that similar claim of the petitioner for expenditure incurred on various items relating to township and colony forming part of the generating station were disallowed by the Commission vide order dated 17.10.2012 in Petition No. 229/2009 in case of Tanda TPS. Aggrieved by the said order the petitioner had an appeal before the Tribunal and the Tribunal vide its judgment dated 1.5.2015 in Appeal No. 97 of 2013 has stated as under:

“According to Section 2(3) of the Electricity Act, the definition of generating station includes any building used for housing operating staff of a generating station. Therefore, if the Central Commission has allowed expenditure incurred towards renovation and modernization of main plant equipment and auxiliaries of the generating station, the expenditure on the renovation and modernization of the housing colony should also have been considered as it is an essential part of the power plant. Accordingly we direct the Central Commission to reconsider allowance of expenditure to the extent incurred on renovation and modernization of the township. The matter is remanded to the Central Commission for reconsideration of this issue.”



Accordingly, in line with the judgment of the Tribunal, the Commission is inclined to allow the claim of the petitioner for construction of Residential building and internal electrification as it is an essential part of the generating station.

- d) **Hydraulic Stacker 1.5 ton capacity:** The petitioner has claimed additional capital expenditure of ₹0.52 lakh in 2013-14 towards Hydraulic Stacker 1.5 ton capacity. The petitioner has submitted that at present the lifting and unloading of chemical drums including the hazardous chemicals in the generating station is done manually. It has further submitted that for avoiding any accident and for providing the conducive and fast unloading of chemical drums, a hydraulic stacker has been installed for lifting/ unloading chemical drums at DM Plant, CW Treatment Plant. Accordingly, it has submitted that mechanization of system will ensure safety of workers while handling of hazardous chemicals and shall contribute to the efficient and successful operation of the generating station.

We have examined the matter. In our view the expenditure claimed by the petitioner is minor in nature and the petitioner can meet the same from O&M expenses allowed to the petitioner. We have therefore not allowed capitalization of the same

- e) **Portable Ultra-sonic thickness gauge meter:** The petitioner has claimed additional capital expenditure of ₹0.44 lakh in 2013-14 towards portable ultra-sonic thickness gauge meter. In justification of the same the petitioner has submitted that as the previous thickness gauge machine is non repairable, replacement of this machine has been procured which will be used for checking WHRB tube thickness, liquid fuel line thickness and pressure vessel measurement at DM plant. The petitioner has also submitted that this device is essential for detection and reduction of thickness vis-à-vis the original value of



liquid line or pressure vessel and helps in avoiding leakages The petitioner has submitted that the above monitoring shall provide inputs to the site engineers for planning the preventive maintenance thereby avoiding the shutdown of machine due to line leakages thereby ensuring the full availability of machines. It has further submitted that during the overhaul of WHRB, this device is used for demetering of tubes for identification of the tubes which require replacement and the said device is useful for condition monitoring of piping system and for identification of worn out tubes of WHRB, thereby ensuring the safe & successful operation of generating station.

We have examined the matter. In our view the expenditure claimed by the petitioner is minor in nature and the petitioner can meet the same from O&M expenses allowed to the petitioner. We have therefore not allowed capitalization of the same

- f) **Digital Compression testing machine:** The petitioner has claimed additional capital expenditure of ₹1.44 lakh in 2013-14 towards Digital compression testing machine. The petitioner has submitted that the digital compression machine is required for testing of cubes, bricks for ensuring the quality of construction of new quarters which in turn will benefit the generating station.

We have examined the matter. In our view the expenditure claimed by the petitioner is minor in nature and the petitioner can meet the same from O&M expenses allowed to the petitioner. We have therefore not allowed capitalization of the same

- g) **Multi-zone door frame type Metal detector and Hand held metal detector:** The petitioner has claimed additional capital expenditure of ₹2.35 lakh and ₹0.23 lakh in 2013-14 towards Multi-zone door frame type metal detector and Hand



held metal detector respectively. The petitioner in justification of the same has submitted that with the increase in terrorist activities in India, the threat perception to industrial installations have increased. The petitioner has further submitted that for enhancing the security for this generating station, safety gadgets were procured and installed based on the requirement of CISF for enhancing safety and security.

We have examined the matter. In our view the expenditure claimed by the petitioner is minor in nature and the petitioner can meet the same from O&M expenses allowed to the petitioner. We have therefore not allowed capitalization of the same

Reconciliation of actual additional capital expenditure for the period 2012-13 to 2013-14 vis-a vis Books of Accounts.

42. The additional capital expenditure as per books of accounts vis-à-vis additional capital expenditure for which tariff claimed for the years 2012-13 and 2013-14 are as under:

<i>(₹ in lakh)</i>		
Sl. No.	2012-13	
1	Closing gross block as per Audited balance sheet as on 31.3.2012 (A)	168793.10
2	Opening gross block as per audited balance sheet as on 1.4.2012 (B)	168786.55
3	Difference in opening gross block as on 1.4.2012 (C)*	6.55
4	Closing gross block as per audited balance sheet as on 31.3.2013 (D)	170781.42
5	Addition during the year 2012-13 E=(D-B) (as per books)	1994.87
6	Exclusions (F)	3656.65
7	Additional capital expenditure claimed G=(E-F) (for tariff purpose)	(-)1661.78
8	Un-discharged liability included (H)	0.00
9	Net additional capitalization excluding liabilities I=(G-H)	(-)1661.78
10	Discharge of liabilities (J)	4.52



11	Net additional capitalization claimed on cash basis (I+J)	(-)1657.26
2013-14		
1	Opening gross block as per audited balance sheet as on 1.4.2013 (A)	170781.42
2	Closing gross block as per audited balance sheet as on 31.3.2014 (B)	214702.17
3	Addition during the year 2013-14 C=(B-A) (as per books)	43920.75
4	Exclusions (D)	3870.54
5	Additional capital expenditure claimed E=(C-D) (for tariff purpose)	40050.21
6	Liability included (F)	1309.42
7	Net additional capitalization excluding liabilities G=(E-F)	38740.80
8	Discharge of liabilities (H)	0.00
9	Net additional capitalization claimed on cash basis (G+H)	38740.80

*The difference in opening gross block is due to unserviceable assets regrouped from fixed assets to current assets as submitted by the petitioner.

43. The summary of exclusions claimed as per books of accounts is as under:

2012-13:

(₹ in lakh)				
S. No.		capitalization/ De-cap	Liabilities in add cap	Net Claim on cash basis
1	Inter-unit transfer	(-)2.65	0.00	-2.65
2	capitalization of spares	3749.92	38.81	3711.12
3	capitalization of MBOA	110.74	3.46	107.28
4	De-capitalization of spares (Admitted)	(-)29.34	0.0000	(-)29.34
5	De-capitalization of MBOA's (Admitted)	(-)1.07	0.00	(-)1.07
6	Total De-cap part of Capital cost	(-)30.41	0.00	(-)30.41
7	De-capitalization of spares (Not part of Capital Cost)	(-)168.83	0.00	(-)168.83
8	De-capitalization of MBOA's (Not Allowed)	(-)0.37	0.00	(-)0.37
9	Total De-cap Not part of Capital cost	(-)169.20	0.00	(-)169.20
10	Liability Reversal	(-)1.76	0.00	(-)1.76
11	Total Exclusions	3656.65	42.27	3614.38



2013-14:

(₹ in lakh)

S. No.		capitalization/ De-cap	Liabilities in add cap	Net Claim on cash basis
1	Inter-unit transfer	(-)1.61	0.00	(-)1.61
2	capitalization of spares	2007.20	218.86	1788.34
3	Reversal of Liability	(-)0.96	0	(-)0.96
4	Loan FERV	1938.31	0	1938.31
5	capitalization of MBOA	107.72	20.19	87.53
6	Adjustment of MBOA capitalized in 2012-13	(-)0.05	0.00	(-)0.05
7	De-capitalization of spares (Admitted)	(-)35.93	0.00	(-)35.93
8	Total De-cap Part of Capital cost	(-)35.93	0.00	(-)35.93
9	De-capitalization of spares (Not allowed by Commission)	(-)127.17	0.00	(-)127.17
10	De-capitalization of MBOA's (Not part of capital cost)	(-)16.98	0.00	(-)16.98
11	Total De-cap Not part of Capital cost	(-)144.15	0.00	(-)144.15
12	Total Exclusions	3870.54	239.05	3631.48

44. The exclusions of capitalization and de-capitalization claimed for the purpose of tariff are examined as under:

a) **Inter-unit Transfer:** The petitioner has submitted that capitalization of expenditure for (-)₹2.65 lakh towards inter unit transfer in books of accounts in 2012-13 and (-) ₹1.61 lakh in 2013-14 has been excluded on account of inter-unit transfer of certain assets. These inter-unit transfers are indicated to be of temporary nature. The Commission while dealing with the application for additional capitalization in respect of other generating station of the petitioner, had decided in its various orders 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 (-) ₹2.65 lakh in 2012-13 and (-)₹1.61 in 2013-14 on account of inter-unit transfer of equipment on temporary basis is in order and has been allowed.



- b) **Capitalization of spares:** The petitioner has procured capital spares amounting to ₹3749.92 lakh including liability of ₹38.81 lakh in 2012-13 and ₹2007.20 lakh including liability of ₹218.86 lakh in 2013-14 for maintaining stock of necessary spares. Since capitalization of spares over and above the initial spares procured after the cut-off-date are not allowed for the purpose of tariff, and they form part of the O&M expenses when consumed, In view of this, the exclusion of the said amount under this head is in order and has been allowed.
- c) **Capitalization of MBOA's:** The petitioner has capitalized ₹110.74 lakh including liability of ₹3.46 lakh in 2012-13 and ₹107.72 including liability of ₹20.19 lakh in 2013-14 towards MBOA items in books of accounts. Since capitalization of minor assets after cut-off date is not allowed, the exclusion of the said amount is in order and has been allowed.
- d) **De-capitalization of Spares – Not part of Capital cost:** The petitioner has de-capitalized capital spares amounting to (-) ₹168.83 lakh in 2012-13 and (-) ₹127.17 lakh in 2013-14 in the books of accounts on the ground that these spares have become unserviceable. After examining the exclusions sought on de-capitalization of capital spares, it is noticed that these spares do not form 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 justified and has been allowed for the purpose of tariff.
- e) **De-capitalization of MBOA's – Part of Capital cost:** The petitioner has excluded de-capitalized MBOAs in books of accounts amounting to (-) ₹1.07 lakhs for other office expenditures during 2012-13 on the same being rendered unserviceable. The



petitioner in justification of the same has submitted that since these MBOAs are not allowed to be capitalized in tariff, the de-capitalization of these MBOAs were kept under exclusion. It is observed from the details of de-capitalization furnished at Annexure V that these MBOAs items were part of original project cost. Since these MBOAs items were part of the original project cost of the generating station, the exclusions sought on account of de-capitalization of these items is not justifiable and has not been allowed.

f) **De-capitalization of spares - Part of Capital cost:** The petitioner has de-capitalized spares amounting to (-) ₹29.34 lakh in 2012-13 and (-) ₹35.93 lakh in 2013-14 in books of accounts on these spares becomes unserviceable. The petitioner in justification of the same has submitted since these spares are not allowed to be capitalized in tariff by the Commission, the de-capitalization of these spares were kept under exclusions. However, it is observed from the details of de-capitalization furnished at Annexure V that these spares were part of original project cost. Since these spares were part of the original project cost of the generating station, the exclusions sought on account of de-capitalization is not justifiable and accordingly, has not been allowed.

g) **De-capitalization of MBOA's – Not part of Capital cost:** The petitioner has excluded de-capitalized (-) ₹0.37 lakh in 2012-13 towards MBOA items in books of accounts on it being rendered unserviceable. The petitioner in justification of the same has submitted that these MBOAs were not claimed as additional capital expenditure and do not form part of the capital cost for the purpose of tariff. Hence, exclusions on account of de-capitalization of these spares are justifiable and have been allowed.



- h) **Reversal of Liability:** The petitioner had excluded an amount of (-) ₹1.76 lakh in 2012-13 and (-) ₹0.96 lakh in 2013-14 on account of reversal of liability. This pertains to reversal of liability which was created during the year 2012-13 for the procurement of MBOA. The petitioner has stated that the claim for additional capital expenditure for the period 2009-14 does not contain capitalization of MBOA as the cut-off date had already expired, the reversal of liability created during 2012-13 has been considered under exclusion. We have considered the matter. In terms of the provisions of the 2009 Tariff regulations, the same has been excluded and as such the exclusion of reversal of liabilities is in order and is allowed.
- i) **Loan FERV:** The petitioner has claimed amount of ₹1938.31 lakh in 2013-14 toward Loan ERV. Since the impact of FERV is directly billed to the beneficiaries as per prevailing regulation, the same is considered under exclusion.
- j) **Adjustment of MBOA capitalized in 2012-13:** The petitioner had claimed amount of (-) ₹0.05 towards adjustment of MBOA capitalized in 2013-14. The petitioner has submitted that the de-capitalization pertains to adjustment made on account of freight value adjustment for the MBOA procured in 2012-13 and allowed under exclusion by the Commission in order dated 1.8.2013. Accordingly, the same has been considered under exclusions.

45. Based on the above, the summary of exclusions allowed and disallowed is as under:

		<i>(₹ in lakh)</i>		
		2012-13	2013-14	Total
(A) Exclusions allowed under different heads				
1	Inter-unit transfer	(-)2.65	(-)1.61	(-)4.26
2	capitalization of spares	3749.92	2007.20	5757.12
3	capitalization of MBOA	110.74	107.72	218.46



		2012-13	2013-14	Total
4	De-capitalization of spares (Not allowed by Commission)	(-)168.83	(-)127.17	(-)296.00
5	De-capitalization of MBOA's (Not Allowed)	(-)0.37	(-)16.98	(-)17.35
6	Loan ERV	0.00	1938.31	1938.31
7	Adjustment of MBOA capitalized in 2012-13	0.00	(-)0.05	(-)0.05
8	Reversal of Liability	(-)1.76	(-)0.96	(-)2.72
9	Total Exclusions allowed	3687.05	3906.46	7593.51

(₹ in lakh)

		2012-13	2013-14	Total
(B) Exclusions not allowed under different heads				
1	De-Capitalization of spares (admitted)	(-)29.34	(-)35.93	(-)65.72
2	De-capitalization of MBOA items	(-)1.07	(-)0.00	(-)1.07
3	Total exclusions not allowed	(-)30.41	(-)35.93	(-)66.34
4	Grand Total exclusion (A+B)	3656.64	3870.53	7527.17

Work Adjustment – SAP

46. The petitioner had claimed amount of (-)₹1.36 towards work adjustment (SAP) capitalized in 2012-13. The petitioner has submitted that the negative capitalization pertains to final bill adjustment for the assets which have been created and allowed by the Commission during 2004-09 period.

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

Head of Work/Equipment	2009-10	2010-11	2011-12	2012-13	2013-14
R&M Package for Life Extension					
Gas Turbine Life Extension Package					
R&M of Gas Turbine 1A	0.00	0.00	0.00	0.00	14334.39
R&M of Gas Turbine 1B	0.00	0.00	0.00	0.00	12747.50
R&M of Gas Turbine 2B	0.00	0.00	0.00	0.00	12491.83



Head of Work/Equipment	2009-10	2010-11	2011-12	2012-13	2013-14
C&I Control Systems for Gas Turbines and Steam Turbines					
R&M of C&I Gas Turbine 1A	0.00	0.00	0.00	0.00	663.32
R&M of C&I Gas Turbine 1B	0.00	0.00	0.00	0.00	662.31
R&M of C&I Gas Turbine 2B	0.00	0.00	0.00	0.00	658.05
R&M of C&I Steam Turbine 1C	0.00	0.00	0.00	0.00	1478.53
Total (A)	0.00	0.00	0.00	0.00	43035.93
Less: on account of capital spares included in O&M					4399.50
Total Additional Expenditure Claimed - B					38636.43
Change in Law					
Procurement of CCTV	0.00	0.00	44.95	0.26	0.00
Township Metering System	8.62	0.00	0.00	0.00	0.00
Ozone Analysers at AAQMS stations	0.00	0.00	0.00	0.00	0.00
Continuous Airline Breathing Equipment and Breathing Apparatus set	0.00	0.00	0.00	0.00	0.00
Residential Quarters and Internal Electrification	0.00	0.00	0.00	0.00	1781.77
Hydraulic Stacker 1.5.Ton Capacity	0.00	0.00	0.00	0.00	0.00
Portable ultrasonic Thickness Gauge Meter	0.00	0.00	0.00	0.00	0.00
Digital Compression Testing Machine	0.00	0.00	0.00	0.00	0.00
Multi Zone Door Frame Type Metal Detector	0.00	0.00	0.00	0.00	0.00
Hand Held Metal Detector	0.00	0.00	0.00	0.00	0.00
Total (C)	8.62	0.00	44.95	0.26	1781.77
Discharge of Un-discharge Liabilities	92.30	0.00	0.00	4.52	0.00
Total (D)	100.92	0.00	44.95	4.78	1781.77
De-capitalization					
De-capitalization of C&I Control System	(-)14.96	(-)18.52	(-)59.83	0.00	0.00
De-capitalization of Admitted spares	(-)280.11	(-)70.14	(-)2.31	0.00	0.00
De-capitalization of Admitted MBOAs	(-)26.54	(-)123.53	(-)1.66	0.00	0.00



Head of Work/Equipment	2009-10	2010-11	2011-12	2012-13	2013-14
GT-1A/1B/2B De-capitalization during R&M	0.00	0.00	0.00	(-)1660.68	(-)17060.14
Total (E)	(-)321.61	(-)212.20	(-)63.82	(-)1660.68	(-)17060.14
Works adjustment					
SAP	0.00	0.00	0.00	(-)1.36	0.00
Total – F (B+D-E)	(-)220.69	(-)212.20	(-)18.87	(-)1657.26	23358.06
Total exclusions not allowed – G	0.00	0.00	0.00	(-)30.41	(-)35.93
Grand total with exclusions (F+G)	(-)220.69	(-)212.20	(-)18.87	(-)1687.67	23322.13

Adjustment of Liabilities

48. The additional capital expenditure allowed after adjustment of liabilities discharged is as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Additional capitalization allowed before discharges of liabilities	(-)312.99	(-)212.20	(-)18.87	(-)1683.15	23322.13
Add: Discharge of Liabilities	92.30	0.00	0.00	4.52	0.00
Total Additional Capital Expenditure allowed	(-)220.69	(-)212.20	(-)18.87	(-)1687.67	23322.13

Capital Cost

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost (net of un-discharge liability)	153,691.71	153,471.02	153,258.82	153,239.95	151,552.28
Additional capital expenditure	(220.69)	(212.20)	(18.87)	(1,687.67)	23,322.13
Closing capital cost	153471.02	153258.82	153239.95	151552.28	174874.41
Average Capital cost	153581.37	153364.92	153249.39	152396.12	163213.35

Debt: Equity

50. Regulation 12 of the 2009 Tariff Regulations provides that:-



“(a) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan.

Provided that where equity actually deployed is less than 30% of the capital cost, the actual equity shall be considered for determination of tariff.

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment.

Explanation.- The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, provided such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2009, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2009 shall be considered.

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

51. The gross loan and equity amounting to ₹76757.52 lakh and ₹76933.99 lakh respectively as on 1.4.2009, as considered in order dated 1.8.2013 in Petition No. 25/GT/2013 has been considered as gross loan and equity as on 1.4.2009. However, the un-discharged liabilities amounting to ₹96.82 lakh pertains to assets/works allowed for the purpose of tariff till 31.3.2014. Further, the additional expenditure approved as above has been allocated in debt-equity ratio 70:30.

(₹ in lakh)

	As on 1.4.2009		Net Additional capitalization during 2009-14		As on 31.3.2014	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	76757.52	49.94	14,827.89	70.00	91,585.61	52.37
Equity	76933.99	50.06	6,354.81	30.00	83,288.80	47.63
Total	153691.51	100.00	21,182.70	100.00	174,874.41	100.00



Return on Equity

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

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

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

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

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

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

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

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

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

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

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

53. The grossing up of the base rate has been done with respect to the actual tax rate applicable to the petitioner for the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14. Accordingly, return on equity has been worked out on the normative net equity



as on 1.4.2009 after accounting for the admitted actual additional capital expenditure for the period 2009-14 as above. Return on Equity has been computed as under:-

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening notional equity	76933.99	76867.78	76804.12	76798.46	76292.16
Addition due to Additional Capitalisation	(-)66.21	(-)63.66	(-)5.66	(-)506.30	6996.64
Closing Equity	76867.78	76804.12	76798.46	76292.16	83288.80
Average Equity	76900.89	76835.95	76801.29	76545.31	79790.48
Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
Tax rate (%)	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)	18057.10	17833.62	17621.29	17562.56	18735.60

Interest on Loan

54. Regulation 16 of the 2009 Tariff Regulations provides that:-

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

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

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

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

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

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

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



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

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

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

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

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

55. Interest on loan has been worked out as under:-

- a. The gross normative loan of ₹76757.72 lakh has been considered as on 1.4.2009.
- b. Cumulative repayment as on 31.3.2009 amounting to ₹76757.72 lakh as considered in order dated 30.12.2011 in Petition No. 285/2009 has been considered as cumulative repayment as on 1.4.2009.
- c. Accordingly, the net normative opening loan as on 1.4.2009 works out as nil.
- d. Addition to normative loan on account of additional capital expenditure approved above has been considered on year to year basis.
- e. Depreciation allowed has been considered as repayment of normative loan during the respective year of the period 2009-14. Further proportionate adjustment has been made to the repayments corresponding to discharges of liabilities considered during the respective years on account of cumulative repayment adjusted as on 1.4.2009. Also, proportionate adjustment has been



made to the repayments on account of de-capitalizations considered in the additional capital expenditure approved above.

- f. The weighted average rate of interest of has been considered based on actual loan portfolio for respective years. The calculations for weighted average rate of interest on loan are enclosed in **Annexure-I** of this order.

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

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Gross opening loan	76757.72	76603.24	76454.70	76441.49	75260.12
Cumulative repayment of loan up to previous year	76757.72	76603.24	76454.70	76441.49	75276.64
Net opening loan	0.00	0.00	0.00	0.00	0.00
Addition due to Additional Capitalisation	(-)154.48	(-)148.54	(-)13.21	(-)1181.37	16325.49
Repayment of Loan during the period	1.33	0.00	31.47	0.00	2277.26
Less: Repayment adjustment on a/c of de-capitalization	225.13	148.54	44.67	1168.01	11942.10
Add: Repayment adjustment on a/c of discharges / reversals corresponding to un-discharged liabilities deducted as on 01.04.2009	69.31	0.00	0.00	3.16	0.00
Net Closing Loan	0.00	0.00	0.00	0.00	25990.08
Average Loan	0.00	0.00	0.00	0.00	12995.04
Weighted Average Rate of Interest on Loan (%)	9.5800	9.5800	9.5800	7.2707	7.0454
Interest on Loan	-	-	-	-	915.55

Depreciation

57. Regulation 17 of the 2009 Tariff Regulations provides that:

“(1) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission.



(2) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset.

Provided that in case of hydro generating stations, the salvage value shall be as provided in the agreement signed by the developers with the State Government for creation of the site.

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciable value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff.

(3) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system. Provided that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.

(5) In case of the existing projects, the balance depreciable value as on 1.4.2009 shall be worked out by deducting 3[the cumulative depreciation including Advance against Depreciation] as admitted by the Commission upto 31.3.2009 from the gross depreciable value of the assets.

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

Balance useful life of the generating station

58. The Commission in Paragraph 34 of the order dated 1.8.2013 in Petition No. 25/GT/2013 had decided as under:

“.....

34. we have in para 19 above of this order observed that the proposed expenditure on R&M for the generating station is to be occurred from the year 2012-13 onwards and would be completed during 2014-15 only. Based on this, it has been concluded that the projected additional capital expenditure claimed for R&M of GTs could be considered only during the next tariff period (2014-19), since the complete benefits of R&M in the form of life extension and improvement in operational performance would be passed on to the respondents/beneficiaries only after completion of R&M of all the three GTs in 2014-15. In this background and since major part of R&M on GTs would be undertaken and completed during the next tariff period by revising the phasing of expenditure, the issue of calculation of balance useful life of the generating station for the purpose of depreciation no longer survives. Considering the weighted average of elapsed life of 16.23 years as on 31.3.2009



and the life of the generating station as 25 years as per the 2009 Tariff Regulations, the residual life of the generating station as on 31.3.2009 is worked out as 8.77 years (25-16.23 years). Accordingly, the balance life of the generating station at the beginning of each year of the tariff period 2009-14 is worked out as under:

2009-10	2010-11	2011-12	2012-13	2013-14
8.77 years	7.77 years	6.77 years	5.77 years	4.77 years

.....”

59. The petitioner has considered the Life extension of the generating station as under:

Description	Capacity MW	COD	Elapsed Life as on 01.04.2009	Elapsed Life as on 01.04.2013	Useful Life after extension of life by 10 years for GT's as on 01.04.2013	Balance Life as on 01.04.2013
GT-I A	106	01-06-1992	16.84	20.84	30.84	
GT-I B	106	01-08-1992	16.68	20.68	30.68	
GT-2A	106	01-09-1992	16.59	20.59	25.00	
GT-2B	106	01-11-1992	16.42	20.42	30.42	
ST-1C	116.1	01-11-1993	15.42	19.42	25.00	
ST-2C	116.1	01-09-1993	15.59	19.59	25.00	
Total	656.20	WT Average life	16.24	20.24	27.74	

60. The petitioner submitted that R&M work of GT-1A, GT-1B and GT-2B along with ST-1C has been completed during the period 2012-14, and hence life extension has been considered for GT-1A, GT-1B and GT-2B. The petitioner has further submitted that the life extension on the basis of completion of R&M of GT-1A, GT-1B and GT-2B shall be considered with effect from 1.4.2013.

61. The respondent, MPPMCL, has submitted that as per the Tribunal's judgment dated 25.10.2013, the balance life of the Gas Turbines shall be ten years from the date of completion of R&M work of the Turbines. It has also stated that the R&M work of three GT's is completed in the year 2013-14 and hence their balance life has to be calculated



10 years from 1.4.2014. The respondent, has stated that the R&M work of one Gas Turbine is yet to be completed, the useful life of the said Gas Turbine may be calculated from the date of completion of R&M of the said Gas Turbine.

62. We have examined the matter. It is observed that the actual additional capital expenditure claimed for R&M of GTs and R&M of C&I of STs has been considered in respect of those GTs whose R&M work has been completed during the period 2009-14.

63. Since the major part of R&M (R&M of 3 GTs) including R&M of C&I has been completed during the year 2013-14, the useful life of GT 1A, GT 1B and GT 2B has been extended by 10 years from 1.4.2014 by this order. Accordingly, the weighted average balance life of the generating station as on 1.4.2014 has been computed as under:

Description	Capacity MW	COD	Elapsed Life as on 01.04.2009	Elapsed life as on 31.3.2014	Balance life as on 1.4.2014	Life after extension of 10 years of GT1A, GT1B and GT2B as on 1.4.2014
GT-I A	106.00	1.6.1992	16.84	21.84	3.16	13.16
GT-I B	106.00	1.8.1992	16.68	21.68	3.32	13.32
GT-2 A	106.00	1.9.1992	16.59	21.59	3.41	3.41
GT-2B	106.00	1.11.1992	16.42	21.42	3.58	13.58
ST-I C	116.10	1.11.1993	15.42	20.42	4.58	4.58
ST-2 C	116.10	1.9.1993	15.59	20.59	4.41	4.41
Total	656.20	Weighted Average life	16.24	21.24	3.76	8.61

64. The balance life of the generating station as on 1.4.2014 is 8.61 years. The same will be reset after the completion of the R&M of GT 2A during the period 2014-19. However, for the purpose of depreciation for the period 2009-14, the balance useful life of the generating station at the beginning of each year would remain the same as indicated in order dated 1.8.2013 as shown under:



2009-10	2010-11	2011-12	2012-13	2013-14
8.77 years	7.77 years	6.77 years	5.77 years	4.77 years

65. In terms of Regulation 17 of the 2009 Tariff Regulations, cumulative depreciation as on 1.4.2009 as per order dated 30.12.2011 in Petition No. 285/2009 works out to be ₹137282.52 lakh. Further, the value of freehold land considered in the said order as on 31.3.2009 is ₹734.63 lakh and the same has been considered for the purpose of calculating depreciable value. After considering the admitted capital expenditure for the year 2009-10 above, the balance depreciable value before providing depreciation for the year 2009-10 works out to be ₹279.54 lakh as against ₹329.81 lakh.

66. The weighted average life of the generating station as on 1.4.2009 is considered as 8.77 years from the effective date of commercial operation of the generating station and the balance depreciable value for each year has been spread over the useful life (8.77 years) of the generating station for the purpose of calculating depreciation for the respective years.. Further, proportionate adjustment has been made to the cumulative depreciation on account of de-capitalization of assets considered for the purpose of tariff as well as discharges/ reversal of liabilities out of un-discharged liabilities deducted from the capital cost as on 1.4.2009. The necessary calculations in support of depreciation are as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Average capital cost	153581.37	153364.92	153249.39	152396.12	163213.35
Cost of Land	734.63	734.63	734.63	734.63	734.63
Capital cost excluding Land	152846.74	152630.29	152514.76	151661.49	162478.72
Depreciable value @ 90%	137562.06	137367.26	137263.28	136495.34	146230.85
Balance depreciable value	279.54	432.62	442.33	0.00	10863.73
Depreciation (Annualized)	31.87	55.68	65.34	0.00	2277.51
Total life of the generating station	25.00	25.00	25.00	25.00	25.00
Elapsed life of the generating	16.23	17.23	18.23	19.23	18.23



	2009-10	2010-11	2011-12	2012-13	2013-14
station					
Balanced life of the generating station	8.77	7.77	6.77	5.77	4.77
Cumulative depreciation at the end of the period (before adjustment)	137314.39	136990.32	136886.28	136886.28	139163.80
Add: Cumulative depreciation adjustment on account of discharges out of un-discharged liabilities deducted as on 1.4.2009	(-)90.50	0.00	0.00	4.04	0.00
Less: Cumulative depreciation adjustment on account of de-capitalization	289.26	169.37	57.44	1523.20	5516.86
Cumulative depreciation after adjustment (at the end of the period)	136934.64	136820.95	136828.84	135367.12	133646.94

Operation & Maintenance Expenses

67. The petitioner has claimed O&M expenses as approved by the Commission in its order dated 1.8.2013. The Operation & Maintenance expenses allowed in order dated 1.8.2013 in Petition No. 25/GT/2013 has been considered for the purpose of tariff and is summarized as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
O&M Expenses allowed	9711.76	10269.53	10853.55	11476.94	12133.14

Interest on working capital

68. Regulation 18 (1) (a) of the 2009 Tariff Regulations provides that the working capital for Open-cycle Gas Turbine / Combined cycle thermal generating stations shall cover:



“(i) Fuel cost for one month corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;

(ii) Liquid fuel stock for ½ month corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel, cost of main Liquid fuel.

(iii) Maintenance spares @ 30% of operation and maintenance expenses specified in regulation 19.

(iv) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel, and

(v) Operation and maintenance expenses for one month.”

69. 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

70. Working capital has been calculated considering the following elements:

Fuel components in working capital

71. The petitioner has claimed the following cost of fuel component in working capital in the petition based on price and GCV of APM, RLNG gas and Naphtha liquid for



preceding three months from January, 2009 to March, 2009. The percentage of scheduled generation achieved by the generating station through the mode of operation by APM, RLNG gas and Naphtha liquid during 2008-09 was 27.72%, 41.83% and 30.45% respectively. The same has been used to arrive at the Fuel component (for one month), liquid fuel cost for ½ month and the Energy Charges (for two months) for the purpose of working capital as under:-

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Fuel expense for one month	15419.58	15419.58	15461.83	15419.58	15419.58
Liquid fuel cost for ½ month	3390.40	3390.40	3399.69	3390.40	3390.40
Energy charges for 2 months	30839.16	30839.16	30923.65	30839.16	30839.16

72. O&M expenses for 1 month for the purpose of working capital are allowed as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
	809.31	855.79	904.46	956.41	1011.09

Maintenance Spares

73. Maintenance spares have been considered for the purpose of tariff as under.

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
	2913.53	3080.86	3256.06	3443.08	3639.94

Receivables

74. Receivables have been worked out on the basis of two months of fixed and energy charges as shown below:-



	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Variable charges for two months	30839.16	30839.16	30923.65	30839.16	30839.16
Fixed charges for two months	5842.42	5907.80	5980.18	6067.28	6927.02
Total	36681.58	36746.96	36903.83	36906.44	37766.18

75. SBI PLR of 12.25% as on 1.4.2009 has been considered in the computation of the interest on working capital. Necessary computations in support of calculation of interest on working capital are given as under:-

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Fuel cost (APM and RLNG) - 1 month	15419.58	15419.58	15461.83	15419.58	15419.58
Liquid fuel stock - 1/2 month	3390.40	3390.40	3399.69	3390.40	3390.40
Maintenance spares	2913.53	3080.86	3256.06	3443.08	3639.94
O&M expense 1 month	809.31	855.79	904.46	956.41	1011.09
Receivables 2 months	36681.58	36746.96	36903.83	36906.44	37766.18
Total working capital	59214.40	59493.60	59925.88	60115.92	61227.20
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
IWC Calculated	7253.76	7287.97	7340.92	7364.20	7500.33

Annual Fixed charges for 2009-14

76. The annual fixed charges allowed 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	31.87	55.68	65.34	0.00	2277.51
Interest on Loan	0.00	0.00	0.00	0.00	915.55
Return on Equity	18057.10	17833.62	17621.29	17562.56	18735.60
Interest on Working Capital	7253.76	7287.97	7340.92	7364.20	7500.33
O&M Expense	9711.76	10269.53	10853.55	11476.94	12133.14
Total	35054.50	35446.80	35881.09	36403.69	41562.14



77. The difference in the annual fixed charges determined by order dated 1.8.2013 and those determined by this order shall be adjusted in accordance with Regulation 5(3) of the 2009 Tariff Regulations.

78. Petition No. 346/GT/2014 is disposed of in terms of the above.

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

Sd/-
(A.K. Singhal)
Member

Sd/-
(Gireesh B. Pradhan)
Chairperson



Annexure-I**CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN
FOR TARIFF PERIOD 2009-14**

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Net opening loan	13.50	12.00	10.50	9.00	20578.24
Add: Addition during the period	0.00	0.00	0.00	20570.74	14516.63
Less: Repayment during the period	1.50	1.50	1.50	1.50	1.50
Net Closing Loan	12.00	10.50	9.00	20578.24	35,093.37
Average Loan	12.75	11.25	9.75	10293.62	27835.81
Rate of Interest (%)	9.5800	9.5800	9.5800	7.2707	7.0454
Interest	1.22	1.08	0.93	748.42	1961.13

