

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 326/GT/2014**

**Coram:**

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

**Date of Order : 30.3.2017**

**In the matter of:**

Revision of tariff of Jhanor Gandhar Gas Power Station (657.39 MW) for the period from 1.4.2009 to 31.03.2014- Truing up of tariff determined by order dated 11.9.2011 in Petition No. 23/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. Chattisgarh 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  
Shri Parimal Piyush, NTPC

**For Respondents:** Shri Rishabh Singh, Advocate, MPPMCL

**ORDER**

This petition has been filed by the petitioner, NTPC Ltd., for revision of tariff of Jhanor Gandhar Gas Power Station (657.39 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 657.39 MW comprises of three Gas Turbine units of 144.30 MW each and one Steam Turbine unit of 224.49 MW. The dates of commercial operation of different units of the generating station are as under:

	Capacity (MW)	Date of Commercial Operation (COD)
Unit – I (GT)	144.30	1.3.1995
Unit – II (GT)	144.30	1.7.1995
Unit – III (GT)	144.30	1.3.1995
Unit – IV (ST) / Generating Station	224.49	1.11.1995

Petition No. 226/2009 was filed by the petitioner for determination of tariff of the generating station for the period 2009-14 and the Commission by order dated 30.12.2011 had determined the annual fixed charges for the generating station.

3. Aggrieved by the said order dated 30.12.2011, the petitioner had filed Appeal No. 71 of 2012 before the Appellate Tribunal for Electricity (“the Tribunal”) on the following issues as under:

- (a) Life extension of the Gas Turbine for a period of 15 years instead of 10 years as proposed;
- (b) Disallowance of capital expenditure of ₹795.00 lakh on Air Inlet Cooling System for Gas Turbine;
- (c) Recovery of un-recovered depreciation of the asset values prior to R&M activities.
- (d) Consideration of total de-capitalization amount as ₹25029.00 lakh instead of ₹19278.00 lakh as submitted on affidavit by NTPC.



4. During the pendency of the Appeal, the petitioner filed Petition No. 23/GT/2013, for revision of tariff of the generating station based on the actual additional capital expenditure incurred for the years 2009-10, 2010-11 and 2011-12 and the projected additional capital expenditure for the year 2012-13 and 2013-14, after truing-up exercise in terms of provisions of Regulation 6(1) of the 2009 Tariff Regulations and the Commission by order dated 11.9.2013 had revised the capital cost and annual fixed charges of the generating station as under;

### Capital Cost

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening Capital cost	239679.86	238408.51	238435.15	248656.02	248675.02
Additional capital expenditure	(-)1271.35	26.64	10220.86	19.00	24.00
Closing capital cost	238408.51	238435.15	248656.02	248675.02	248699.02
Average Capital cost	239044.18	238421.83	243545.58	248665.52	248687.02

### Annual Fixed Charges

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1266.68	1351.55	1345.04	1281.59	1284.27
Interest on loan	466.57	352.92	557.63	765.20	643.73
Return on Equity	28094.84	27727.25	27762.16	28114.57	28116.05
Interest on working capital	5170.01	5200.18	5255.91	5298.58	5341.35
O&M expenses	9729.37	10228.15	10873.23	11497.75	12155.14
<b>Total</b>	<b>44727.47</b>	<b>44920.05</b>	<b>45793.97</b>	<b>46957.69</b>	<b>47540.54</b>

5. Thereafter by judgment dated 26.10.2013 in Appeal No. 71/2012, the Tribunal disposed of the said appeals. While the issue raised in para 4 (c) and 4 (d) above was rejected, the issues raised in para 4(a) and (b) above was remanded to the Commission with the following directions:



### **Life Extension of GT:**

*“24. It is clear from the table given in the impugned order in paragraph 61 that, the useful life of Gas Turbine I, II & III at Gandhar after extension of life by 15 years has been considered as 32.08, 31.75 and 32.08 years respectively while the life of steam turbine has been taken as 25 years. Accordingly, the weighted average useful life of the gas based power station after extension of useful life of Gas Turbine has been computed as 29.59 years in the impugned order. Similarly in case of Kawas the useful life of the gas turbines IA, IB, 2A and 2B on life extension after R&M has been considered as 35.83, 35.67, 35.58 and 35.42 year respectively and for steam turbine as 25 years. Accordingly, for Kawas the weighted average life of the gas station has been computed as 29.59 years in the impugned order. This is against the intent of the Regulations for enhancing the useful life of the gas turbine to 25 years on Renovation after completing 15 years of useful life. No reason has been given by the Central Commission for enhancing the useful life of the gas turbines by 15 years after R&M over the elapsed life as on 1.4.2012 instead of 10 years as intended in its Tariff Regulations, 2009. We feel that the useful life of the Gas Turbines should have been extended by 10 years after completion of the Renovation of the Gas Turbines as per the Regulations. Accordingly, decided.*

*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.*

### **Air Inlet Cooling System:**

*37. The Central Commission should have decided this issue strictly on the basis of its Regulations. The norms for heat rate are decided by the Central Commission in its Regulations and the same could not be decided by NTPC. Therefore, we direct the Central Commission to decide the issue according to its Regulations after considering whether the expenditure on Air Inlet Cooling System is required for renovation of gas turbine or necessary due to obsolescence or non-availability of spares for successful and efficient operation of the gas station, after hearing the concerned parties.”*

6. While so, against the order dated 11.9.2013, the petitioner had filed Appeal No. 319 of 2013 before the Tribunal on various issues such as:

- a. *Disallowance of the claim of petitioner for capitalization of various assets on the ground that the complete benefits of Renovation and Modernization would be passed on to the beneficiaries only after the completion of R&M of all the three Gas Turbine.*
- b. *Disallowance of ₹17315.2 lakh claimed as additional capitalization in respect of one Gas turbine life extension on account of R&M for the tariff period 2013-14 and*



capitalization of Vane Row 5 blades of the value ₹1598 lakh and rotor refurbishment of ₹3639 lakh commissioned and put to use.

- c. Each gas turbine is an independent functional unit and the consequent benefits in the form of life extension and improvement in operational performance begins to accrue to the respondent beneficiaries immediately after the servicing of an individual Gas Turbine.
- d. Disallowance of ₹44.75 lakh claimed as additional capitalization in respect of the Energy Management System for 2009-14.

7. Meanwhile, in compliance with the direction of the Tribunal in Appeal No. 71/2012, the Commission heard the parties and disposed of the issues raised in para 4(a) and (b) by order dated 11.9.2013 in Petition No. 23/GT/2013 as under:

**Life Extension of GT:**

*“62. The weighted average of the elapsed life (period of operation) of the generating station, as on 1.4.2009 works out to 13.78 years. 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 1.4.2012 works out to 16.78 years. After the completion of R&M, the life of the Gas Turbine shall be extended by 15 years (approx) from the date of completion of major R&M i.e from 1.4.2012. However, the useful life of the Steam Turbine shall remain as 25 years from the date of commercial operation of the Steam Turbine unit.”*

**Air Inlet Cooling System:**

*“38. Expenditure for ₹795.00 lakh during 2010-11 towards Air inlet cooling system for Gas Turbines has been claimed by the petitioner. Apart from increase in output, inlet air cooling would also improve the Station Heat Rate (SHR). However, the benefit of improvement of SHR would be retained by the generator. Hence, there is no reason to allow such expenditure in the absence of any commitment on the part of the petitioner to pass on the benefit of improvement in efficiency to the respondent/beneficiaries.”*

8. Thereafter, the petitioner has filed this petition, seeking revision of the annual fixed charges based 2009-14 in accordance with Regulation 6(1) of the 2009 Tariff Regulations. The petitioner vide affidavit on the truing-up exercise of the actual additional capital expenditure incurred for the years dated 12.8.2014 had claimed tariff for the generating station for 2009-14 period as under:



	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	1,266.69	1,351.55	1,345.04	1,499.93	2,690.74
Interest on loan	466.57	352.92	557.27	912.23	1,422.27
Return on Equity	28,094.84	27,727.25	27,762.16	28,221.65	29,568.59
Interest on working capital	5,169.99	5,200.16	5,255.88	5,308.41	5,417.15
O&M expenses	9,729.37	10,288.15	10,873.23	11,497.75	12,155.14
<b>Total</b>	<b>44727.45</b>	<b>44920.03</b>	<b>45793.58</b>	<b>47439.96</b>	<b>51253.89</b>

9. Meanwhile, the Tribunal by judgment dated 5.10.2015 in Appeal No. 319/2013 while confirming the order of the Commission dated 11.9.2013 as regards considering the expenditure after completion of R&M, had rejected the other prayers of the petitioner.

10. The Tribunal in its judgment dated 5.10.2015 in Appeal No. 319 of 2013 has stated as follows:

*“The Central Commission, based on the submissions of the Appellant decided this issue holding that the expenditure claimed on this account would be considered during the next tariff period i.e. Tariff Period 2014-19 for the reasons stated in the Impugned Order.*

*We find that the issue covered by the judgment passed by this Tribunal in Appeal No. 250 of 2013 is identical to this Appeal i.e. Appeal No. 319 of 2013. Further, this Tribunal in the judgment in Appeal No. 250 of 2013 observed that the claim of Appellant was not disallowed by the Central Commission but, only deferred the consideration of the claim to the next tariff period when R&M works are expected to be over. Thus, the claim of the Appellant/ Petitioner will be considered by the Central Commission in the next tariff period i.e. 2014-19”*

11. It is observed from the above that the Tribunal has upheld the ruling of the Commission for consideration of R&M in the tariff period 2014-19 as the R&M works were not completed during 2009-14 tariff period.

12. However, the petitioner aggrieved by the judgment of the Tribunal in appeal no 319 of 2013, filed a Review Petition no. 24 of 2015 in Appeal No. 319 of 2013 before the Tribunal on the ground that it was not provided the liberty to raise GT-wise additional



capitalization during the true up of control period 2009-14 for the instant station. The Tribunal in its judgment dated 25.02.2016 in Review Petition no. 24 of 2015 has stated as follows:

*“After going through the submissions, we felt it justifiable to consider the prayer of the petitioner in the Review Petition being No. 24 of 2015, and give liberty to the Appellant/Petitioner to present its case G.T. wise additional capital expenditure incurred on R&M during the period 2012-13 to 2013-14 of one unit of Gandhar Gas Turbine Station during the true up additional capital expenditure exercise to be carried out by the Central Commission for the control period 2009-14 after 31.03.2014 as per Regulations 6 (1) to enable it to claim additional capitalization of Rs.173.15 crores on the assets which are put to use during the control period 2009-14.”*

13. In compliance with the directions of the Commission, the petitioner has filed additional information with copy to the respondents. Reply has been filed by the Respondent No. 1, MPPMCL and the petitioner has filed its rejoinder to the same. 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**

14. 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.”*

15. The petitioner has claimed opening capital cost as ₹239679.86 lakh on cash basis as on 1.4.2009 as determined in order dated 11.9.2013 in Petition No.





23/GT/2013. The Commission vide order dated 11.9.2013 in Petition No. 23/GT/2013 had considered the opening capital cost of ₹239679.86 lakh as on 1.4.2009 which is in line with Regulation 7 of the 2009 Tariff Regulations. Accordingly, the admitted opening capital cost of ₹239679.86 lakh as on 1.4.2009 has been considered, subject to the adjustment of un-discharged liabilities as on 1.4.2009.

#### **Un-discharged liabilities as on 1.4.2009**

16. The un-discharged liabilities of ₹0.35 lakh as approved in order dated 11.9.2013 in Petition No. 23/GT/2013 has also been adjusted from the capital cost as on 1.4.2009. Accordingly, the opening capital cost on cash basis as on 1.4.2009 works out to ₹239680.21 lakh. The un-discharged liabilities of ₹0.35 lakh and ₹5.00 lakh discharged during the years 2009-10 and 2011-12 has been considered as additional capitalization during the year of discharge.

#### **Actual Additional Capital Expenditure**

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

##### *“9. Additional Capitalization*

*(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;*

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



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

18. The details of the actual/projected additional capital expenditure allowed for 2009-14 in order dated 11.9.2013 in Petition No. 23/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)
R&M Package	0.00	0.00	0.00	0.00	0.00
Land Compensation claim deposit in court	0.00	0.00	10394.42	0.00	0.00
Safety Centre	0.00	0.00	0.00	19.00	1.00
AAQMS	111.30	4.00	0.00	0.00	0.00
Energy Management System	0.00	0.00	0.00	0.00	0.00
CCTV Camera	0.00	30.00	0.00	0.00	23.00
Mixed Bed Polishing Unit	205.40	0.00	0.00	0.00	0.00
Replacement of Fire Tender (Water/Foam)	0.00	0.00	45.99	0.00	0.00
<b>Total (on actual values)</b>	<b>316.69</b>	<b>34.00</b>	<b>10440.41</b>	<b>19.00</b>	<b>24.00</b>
Add: Exclusions not allowed	(-)1588.39	(-)7.36	(-)224.54	0.00	0.00
Add: Discharge of Liabilities	0.35	0.00	5.00	0.00	0.00
<b>Net Additional Capital Expenditure Allowed</b>	<b>(-)1271.35</b>	<b>26.64</b>	<b>10220.86</b>	<b>19.00</b>	<b>24.00</b>

19. The Commission vide order dated 11.9.2013 in Petition No. 23/GT/2013 had revised the tariff of the generating station for the years 2009-10, 2010-11 and 2011-12 after truing up of the additional capital expenditure based on actual expenditure incurred for the said years. However, the tariff for the year 2011-12 has been revised as the Land Compensation for the year 2011-12 has been considered as submitted by the petitioner in the instant petition. Accordingly the actual additional capital expenditure incurred for the years 2012-13 and 2013-14 has only been considered in the order for truing-up exercise in terms of Regulation 6(1) of the 2009 Tariff Regulations.



## **R&M package**

20. The petitioner has claimed additional capital expenditure of ₹5440.54 lakh (including IDC, FC etc.) in 2012-13 and ₹23100.59 (including package ERV) on the R&M package which includes R&M of GTs, Generator Rotor Refurbishment, Vane row 5 blades, HGC Component, up-gradation of Generator Relay Panel, Replacement of EA Bus I/O and Control Module in GT, Replacement of PLC of DM Plant and Offsite, Replacement of LP inner casing of steam turbine, Up-gradation of line protection system by replacing existing RAZFE and LZ96 with numerical control relays, Replacement of supervisory instruments, Generator excitation system etc.

21. The petitioner has further submitted that the Commission in order dated 30.12.2011 in Petition No. 226/2009 had allowed the projected additional capitalization for R&M of Gas Turbine during the period 2009-14. It has also submitted that since the R&M work got delayed and shifted from the period 2011-14 to the period 2012-15, the petitioner had revised the projected additional capital expenditure on the basis of revised schedule of work, on completion of part work of Gas Turbine i.e. GT-1 in 2012-13, second Gas Turbine i.e. GT-3 in 2013-14 and the remaining work of GT-I along with the Gas Turbine i.e. GT-II in 2014-15. The petitioner has however submitted that the Commission vide order dated 11.9.2013, had observed that expenditure on R&M package claimed would be considered during the next tariff period (2014-19) against which it had filed appeal before the Tribunal as stated in the para 7 above. The relevant portion of the said order is extracted as under:

*“19. It is observed from the revised phasing of expenditure as projected by the petitioner, the expenditure towards R&M of GTs are to be incurred from 2012-13 onwards only and the major expenditure on R&M, which constitute to 54% (approx) of the total expenditure, is to be incurred during the year 2014-15. Since the complete benefit of R&M in the form of life extension, improvement in operational performance would only be passed to the respondents after the completion of major*



*R&M works during 2014-15, we are of the view that the expenditure on R&M package could only be considered during the next tariff period. We direct accordingly. In view of this, the total net additional capital expenditure of `170.17 crore towards R&M package as allowed by the Commission by order dated 30.12.2011 for the period 2009-14 has not been considered in this order. However, the expenditure claimed on this count would only be considered during the next tariff period for the reasons stated above.”*

22. Aggrieved by the said order the petitioner filed an Appeal No. 319 of 2013 before the Tribunal on the ground as mentioned above in para 7(a) and (b).

23. The petitioner has referred to the judgment of the Tribunal dated 17.4.2014 in Appeal No. 245/2013 (tariff for Kawas GPS 2009-14) and has submitted that the Tribunal in its judgment had granted liberty to the petitioner to claim GT wise additional capitalization at the time of truing up of tariff based on additional capital expenditure for the period 2009-14. Accordingly, the petitioner has submitted that the additional capital expenditure incurred for part work towards R&M of GT-I in 2012-13 and capital expenditure incurred towards R&M work of GT-3 in 2013-14 along with other schemes. in respect of this generating station. The petitioner has also submitted that the remaining work of GT-I and GT-2 of Gas Turbines along with the other schemes and rotor refurbishment of GT-3 shall be completed during the period 2014-19. It has further submitted that additional capital expenditure of ₹5440.54 lakh (including IDC and FC etc) in 2012-13 and ₹22972.67 (including IDC and FC etc) in 2013-14 has been claimed towards R&M Package under Regulation 9(2)(vi) of the 2009 Tariff Regulations.

24. The respondent, MPPMCL has submitted that, it has been admitted by the petitioner that the R&M work of GT-I has partially completed, the R&M work of rotor refurbishment of GT-3 is also not complete and the R&M work of GT-2 has been planned during the tariff period 2014-19. It has further stated that that R&M work of not a single Gas Turbine has been completed yet and no benefit of R&M has been passed on



to the beneficiaries. The respondent has accordingly stated that the petitioner is not entitled to claim any additional capital expenditure on account of R&M works of Gas Turbines during the period 2009-14 and therefore, no additional capital expenditure on R&M of Gas Turbine should be allowed. The respondent has further submitted that from the perusal of the details submitted under Form 9(1) attached with the petition, it is noted that the petitioner has claimed additional capital expenditure on Steam Turbine under Regulation 9 (2) (vi) and the same may not be allowed as the additional capital expenditure incurred on renovation of Gas Turbines and the expenditure necessary due to obsolescence or non-availability of spares for successful and efficient operation of the stations is only covered under Regulation 9(2)(vi). It has submitted that the said regulation does not allow any additional capital expenditure incurred on items such as of Steam Turbines and has accordingly prayed that additional capital expenditures claimed by the petitioner under R&M of Steam Turbines may not be allowed. It has further submitted that the completion of R&M has been abnormally delayed and the delay is contributed to the petitioner and therefore all cost on account of delay / overrun of the R&M work has to be borne by the petitioner.

25. The petitioner vide affidavit dated 20.4.2016 has submitted that the petitioner has claimed additional capitalization against R&M of Gas Turbines in line with the Tribunal's judgment dated 17.4.2014 in Appeal No. 245 of 2013 & the judgment dated 25.2.2016 in Review Petition No. 24 of 2015 in Appeal No. 319 of 2013 as quoted in para 10 above. The petitioner has further submitted that R&M of GT-3 has been completed in 2013-14 and accordingly the claim for the same has been made in this petition. The petitioner has further submitted that the provisions of Regulation 9(2)(vi) of the 2009 Tariff Regulations are applicable for the expenditures made for R&M for open as well as combined cycle



thermal generating stations. It has also submitted that in combined cycle generating station, a module of a Gas Turbine comprises Gas Turbines as well as the associated Steam Turbine and that the applicable heat rate would not be achievable in a combined cycle operation without steam turbine and therefore, the reference of R&M of Gas turbine itself connotes the complete module of the gas turbine, which implies the inclusion of steam turbine and without R&M of the same, the complete R&M of a module cannot be achieved. The petitioner has also submitted that the R&M of Steam Turbine system (ST system) mainly covers the replacement of Generator relay panel (installing numerical relay) & excitation system on account of obsolescence and replacement of LP inner casing, replacement of studs of HPT parting planes etc, which had been allowed by the Commission vide order dated 30.12.2011 in Petition no. 226/2009 under Regulation 9(2)(vi) of 2009, Tariff Regulations for this generating station after prudence check. The petitioner has further submitted that Gas based generating station do not have any provision for Compensatory allowance and hence the additional capitalization maybe considered under Regulation 9(2)(vi) of the 2009 Tariff Regulations. The petitioner has further submitted that when the process of tendering and procurement activities were initiated only the OEM M/s Alstom had shown their interest for participation in response to the petitioner's proposal for capital addition scheme of the Gas turbine of this generating station. The petitioner has also submitted that, total 14 nos. leading Gas Turbines manufacturers/Gas Turbine components manufactures(other than OEM) were contacted but all of them expressed their unwillingness on the ground that that components of 13 E/13E1 model Gas Turbines machines do not fall within their product of line manufacturing. The petitioner has also stated that after concluding the techno commercial negotiations and Price negotiations, the main package of GT Renovation was awarded on 16.5.2012 to the said OEM M/s Alstom which has resulted



in shifting of R&M work to the period 2012-15. The petitioner has submitted that the delay in execution of R&M was beyond the reasonable control of the petitioner as the same was due to attempt made by the petitioner to bring in competition. The petitioner has accordingly submitted that the contentions raised by the respondent are thus liable to be rejected.

26. We have examined the matter. It is observed from the phasing of expenditure projected by the petitioner, the expenditure on R&M of GTs had started from 2012-13 onwards only and the petitioner itself has submitted that the R&M of GT-1 shall be completed during the period 2014-19. As regards GT-3 the petitioner has submitted that the same was completed during the year 2013-14 except the work of rotor refurbishment which would be completed during the period 2014-19. It is however noted that the petitioner vide affidavit dated 20.4.2016 has submitted that the entire works were completed in 2013-14.

27. From the revised phasing of expenditure projected by the petitioner, it is observed that the expenditure towards R&M of GT-3 along with ST is to be considered from the year 2013-14 onwards only, as the R&M of GT-3 has been completed in 2013-14. Accordingly in line with the judgment of the Tribunal (as quoted above) we are of the view that the expenditure on R&M package towards GT-3 along with ST should be considered during the 2013-14. Accordingly, the R&M expenses of GT-3 and ST as claimed by the petitioner in 2013-14 is allowed. However considering the remaining work of GT-1 and GT-2 along with rotor refurbishment of GT-3 will be completed during the period 2014-19 and the same shall be considered at the time of determination of tariff for the period 2014-19 in terms of the 2014 Tariff Regulations.





28. As regards to the de-capitalization value considered for R&M work of Gas Turbines, the petitioner has adopted the submission made vide affidavit dated 21.10.2010 in Petition No. 226/2009 in respect of this generating station. It has submitted that on completion of the R&M, the life extension work of the generating station in 2012-13 for GT-I (Partly) and 2013-14 for GT-3 has effected de-capitalization of assets during the respective financial years in the books of account duly certified by the auditors. The petitioner has further submitted that accordingly tariff has been calculated considering the actual de-capitalization amount as per books of accounts and not on the basis of order dated 30.12.2011 wherein de-capitalization was considered on estimation basis. The petitioner has further submitted that it has carried out part de-capitalization of ₹1445.53 lakh for GT-1 in 2012-13 and complete de-capitalization of assets replaced for GT-3 and ST amounting to ₹4909.73 lakh in 2013-14.

29. The matter has been examined. Considering the fact the petitioner has not provided any reconciliation of the each of the de-capitalized assets from books of accounts of the Petitioner's Company, and has also not submitted the value of de-capitalization (Annexure B) duly certified by the Auditor. In this background the de-capitalization of ₹24023.00 lakh corresponding to R&M of GT plus combustion chamber plus GT refurbishment as considered in order dated 30.12.2011 in Petition No. 26/2009 has been considered. Accordingly, the total value of de-capitalization along with other assets works out to ₹25028.80 lakh.

30. Accordingly, in the absence of any reconciliation for the de-capitalization from the books of accounts and in line with the Judgment of the Tribunal dated, 25.10.2013 in Appeal No. 71/2012 the corresponding value of de-capitalization of R&M of GT plus



combustion chamber plus GT refurbishment, has been considered as ₹24855.80 lakh (27775\*55380.37/61884.54), for the purpose of tariff.

31. The petitioner has further submitted that the Commission in its order dated 30.12.2011 in Petition No. 226/2009 had deducted an amount of ₹5877 lakh from the additional capital expenditure allowed for Renovation and Modernization of Gas Turbine on account of capital spares included in normative O&M expenses corresponding to major overhaul. The petitioner submitted that it has considered the same on pro-rata basis for working out tariff for this generating station.

32. We have considered the matter, in line with decision of the Commission in order dated 30.12.2011 an amount of ₹1959.00 lakh has been deducted from the R&M package on account of capital spares as claimed by the petitioner.

#### **Other claims-Regulation 9(2)(i) of the 2009 Tariff Regulations**

#### **Liabilities to meet award of arbitration or for Compliance of order or decree of court under**

33. The petitioner has submitted that the Commission in order dated 11.9.2013 in Petition No. 23/GT/2013 had allowed the additional capital expenditure of ₹10394.42 lakh in 2011-12 towards Land compensation deposited in Civil court, Bharuch in terms of the order of the High Court of Gujarat dated 18.3.2011 read with the order of the Civil court, Bharuch. The petitioner has further submitted that out of the total payment of ₹10394.42 lakh, an amount of ₹3951.24 lakh and ₹ 46.00 lakh was capitalized in the books of accounts during the year 2010-11 and 2011-12 respectively. The petitioner has further submitted that the balance payment of ₹6397.18 was charged to Revenue (₹6244.18 lakh and ₹153.00 lakh during the years 2010-11 and 2011-12 respectively.



The petitioner has also submitted that the Hon'ble Civil Court of Bharuch had reduced the compensation for the land outsees and as per the revised court order an amount of ₹337.09 lakh and ₹540.13 lakh have been reversed in gross block and revenue expenditure respectively during the year 2012-13. The petitioner has further submitted that the correction of area has been done as per judgment of the Civil Court of Bharuch and thus the liability provision of ₹31.00 lakh and ₹54.15 lakh has been provided in the gross block and revenue expenditure respectively during the year 2013-14.

34. We have examined the matter. It is observed that there is reduction in Land compensation amount as ordered by the Court, therefore the petitioner has deducted an amount of ₹877.22 lakh in the year 2012-13 from the opening capital cost for the said year. The petitioner further created a provision for liability for an amount of ₹85.14 lakh towards additional capitalization in 2013-14. In consideration of the submission of the petitioner that the amount of ₹6397.18 lakh has been charged to revenue we are inclined to allow the reimbursement of the same. However, the said revenue expenditure shall be amortized and reimbursed over a period of three years starting from the period 2012-13 onwards after adjustment of liabilities. Further, since the petitioner has made a liability provision for the amount of ₹85.14 lakh (₹31.00 lakh in gross block and ₹54.15 lakh in revenue account) in 2013-14 and has not submitted the discharge of the same during 2013-14 on cash basis. Accordingly, the said expenditure is not capitalized in 2013-14. The same will be considered as and when discharged in accordance with the Regulations.

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

35. **Safety Centre:** The petitioner has claimed additional capital expenditure of ₹29.56 lakh including liability of ₹1.50 lakh in 2013-14 towards Safety centre and has



submitted that as per Factories Act, 1948, it is mandatory to have Disaster Management plan and as part of the Disaster management plan, Emergency Control Centre (ECC) was being set up by the petitioner. The petitioner has also proposed that the said centre would also work as Safety control room which would monitor the ongoing works in the generating station through CCTV cameras and display the same in the control room. It has further submitted that the said centre would help in controlling and analyzing the accidents in the generating station. The petitioner has also submitted that the Commission in order dated 11.9.2013 had approved the above expenditure and hence the same maybe allowed to be capitalized.

36. The matter has been examined. We are of the considered view that Disaster Management System in a thermal power generating station should be equipped with all facilities and also require the addition of new facilities to keep pace with emerging requirements so that the Disaster Management System remains dynamic and fool proof. In this consideration we allow the petitioner capitalization of this expenditure under Regulation 9(2)(ii) of the 2009 Tariff Regulations.

**Ambient Air Quality Measurement System (AAQMS):**

37. The petitioner has claimed additional capital expenditure of ₹12.13 lakh in 2013-14 towards ambient air quality measurement system 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 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.”*

38. 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.

### **CCTV Camera**

39. The petitioner has claimed additional capital expenditure of ₹12.54 lakh including liability of ₹3.62 lakh in 2012-13 towards Installation of CCTV Cameras at sensitive points in the plants and on the plant premises boundary. In justification of the same the petitioner has submitted that in term of the meeting held on 9.5.2011 and 10.5.2011 with the officials of the Intelligence Bureau and CISF and in view of the enhanced security requirements and perceived security threat to central establishments, the petitioner has incurred/projected the expenditure for installation of CCTV cameras. The matter has been considered. It is noted that the Commission in order dated 11.9.2013 in Petition No. 23/GT/2013 had allowed the claim of the petitioner for this work during the year 2011-12. Considering the fact that the asset/works is in regards to maintain the safety and security of the generating station and since the same is for security expenses we



are inclined to allow the expenditure claimed by the petitioner under this head under Regulation 9(2)(ii) of the 2009 Tariff Regulations.

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

40. 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:

(₹ in lakh)		
Sl.No.	<b>2012-13</b>	
1	Closing Gross Block as per Audited Balance Sheet as on 31.3.2012 (A)	253947.25
2	Opening Gross Block as per audited Balance Sheet as on 1.4.2012 (B)	253945.00
3	Difference in opening Gross Block as on 1.4.2012 (C)*	2.25
4	Closing Gross Block as per audited Balance Sheet as on 31.3.2013 (D)	260381.79
5	Addition during the year 2012-13 E=(D-B) (as per books)	6436.79
6	Exclusions (F)	2765.78
7	Additional capital expenditure claimed G=(E-F) (for tariff purpose)	3671.02
8	Un-discharge liability included (H)	4.18
9	Net additional capitalization excluding liabilities I=(G-H)	3666.84
10	Discharge of liabilities (J)	3.39
11	Amount claimed for land compensation towards interest from the date of COD to 8.6.2011 charged in Revenue account in the year 2010-11 and 2011-12 (K)	(-)540.13
12	<b>Net additional capitalization claimed on cash basis (L=I+J+K)</b>	3130.09
S No.	<b>2013-14</b>	
1	Opening Gross Block as per audited Balance Sheet as on 1.4.2013 (A)	260381.79
2	Closing Gross Block as per audited Balance Sheet as on 31.3.2014 (B)	281948.69
3	Addition during the year 2013-14 C=(B-A) (as per books)	21566.90
4	Exclusions (D)	3079.21
5	Additional capital expenditure claimed E=(C-D) (for tariff purpose)	18487.69
6	Liability included (F)	225.64
7	Net additional capitalization excluding liabilities G=(E-F)	18262.06
8	Discharge of liabilities (H)	1.47
9	Changes in amount claimed for land compensation towards interest from date of COD to 8.6.2011 charged in Revenue account (I)	54.14
10	Less: Due to adjustment in O&M Expenditure (J)	1959
11	<b>Net additional capitalization claimed on cash basis (K=G+H+I-J)</b>	16358.67

\*The petitioner has submitted that the difference in opening Gross Block is due to unserviceable assets which are held for disposal.



## Exclusion

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

### 2012-13

		capitalization/ De-cap	Liabilities in add cap	Net Claim on cash basis
1	Inter-unit transfer	3.66	0.00	3.66
2	capitalization of spares	1386.00	5.94	1380.06
3	Plant and Machinery	2.87	0	2.87
4	Temporary erection	0.99	0	0.99
5	capitalization of MBOA	64.92	5.03	59.89
6	Assets pertaining to 2 Nos. of bays constructed for EPTCL	1409.07	119.77	1289.30
7	De-capitalization of spares (admitted)	(-)43.51	0.00	(-)43.51
8	De-capitalization of MBOA's (admitted)	(-)0.73	0.00	(-)0.73
9	De-capitalization of spares (not allowed by Commission)	(-)65.16	0.00	-65.16
10	De-capitalization of Plant and Machinery (not allowed earlier)	(-)0.16	0.00	(-)0.16
11	De-capitalization of MBOA's (not allowed)	(-)2.70	0.00	(-)2.70
12	Loan ERV	17.83	0.00	17.83
13	Furniture's and Fixtures	3.16	0.00	3.16
14	Office Equipments	(-)3.16	0.00	(-)3.16
15	<b>Total Exclusions</b>	<b>2765.78</b>	<b>130.74</b>	<b>2635.03</b>

### 2013-14:

		capitalization/ De-cap	Liabilities in add cap	Net Claim on cash basis
1	Inter-unit transfer	(-)14.56	0.00	(-)14.56
2	capitalization of spares	1913.81	260.83	1652.97
3	Reversal of Liability pertaining to GT Rotor Refurbishment of GT1	(-)0.56	0.00	(-)0.56
4	Temporary Erection	1.30	0.00	1.30
5	capitalization of MBOA	89.08	4.52	84.56
6	Assets pertaining to 2 Nos. of bays constructed for EPTCL	25.66	0.00	25.66
7	De-capitalization of spares (admitted)	(-)258.32	0.00	(-)258.32
8	De-capitalization of MBOA's	(-)11.01	0.00	(-)11.01



		capitalization/ De-cap	Liabilities in add cap	Net Claim on cash basis
	(Admitted)			
9	De-capitalization of spares (Not allowed by Commission)	(-)36.80	0.00	(-)36.80
10	Energy Management System	42.90	0.00	42.90
11	HP Turbine rotor blade for ST	1253.20	0.00	1253.20
12	De-capitalization of MBOA's (Not Allowed)	(-)6.57	0.00	(-)6.57
13	Loan ERV	81.09	0.00	81.09
14	<b>Total Exclusions</b>	<b>3079.21</b>	<b>265.35</b>	<b>2813.86</b>

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

- a) **Inter-unit Transfer:** The petitioner has capitalized expenditure for ₹3.66 lakh towards inter unit transfer in books of accounts in 2012-13 and (-) ₹14.56 lakh in 2013-14 which 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 applications 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 and shall be ignored for the purpose of tariff. In consideration of the same, the exclusion of ₹3.66 lakh in 2012-13 and (-)₹14.56 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 ₹1386.00 lakh including liability of ₹5.94 lakh in 2012-13 and ₹1913.81 lakh including liability of ₹260.83 lakh during 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) **Plant and Machinery:** The petitioner has claimed an expenditure of ₹2.87 lakh in 2012-13 for plant and machinery. Since the capitalization for Plant and Machinery procured after cut-off date are not allowed for the purpose of tariff, the petitioner has claimed the expenditure under exclusions. In view of this, the exclusion of the said amount under this head is in order and has been allowed.
- d) **Temporary erection:** The petitioner has capitalized expenditure of ₹0.99 lakh during 2012-13 and ₹1.30 lakh in 2013-14 towards temporary erection. Since the capitalization of the said asset was not allowed after the cut-off date, the exclusion of the said amount under this head is in order and has been allowed.
- e) **Capitalization of MBOA's:** The petitioner has capitalized amount of ₹64.92 lakh including liability of ₹5.03 lakh in 2012-13 and ₹89.08 including liability of ₹4.51 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.
- f) **Assets pertaining to 2 No. of bays constructed for Essar Power Transmission Corporation Ltd. (EPTCL):** The petitioner has claimed expenditure of ₹1409.07 lakh in 2012-13 and ₹25.66 lakh in 2013-14 towards construction of 2 number of bays constructed for EPTCL. The petitioner has submitted that the expenditure has been incurred from internal accruals and does not form part of capital cost for tariff. Since the capital expenditure do not form part of the gross block for which tariff has been



claimed, the exclusion of the said amount under this head is in order and has been allowed.

- g) **De-capitalization of Spares:** The petitioner has de-capitalized capital spares amounting to (-)₹65.16 lakh in books of account in 2012-13 and (-)₹36.80 lakh in 2013-14 on the ground that these spares have become unserviceable. After examining the exclusions sought on de-capitalization of capital spares, it is noticed that amounts capitalized in the books of accounts in 2009-13 does not pertain to spares which 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.
- h) **De-capitalization of MBOA's (capitalized before cut-off date):** The petitioner has excluded de-capitalized MBOAs in books of accounts amounting to (-)₹0.73 lakh in 2012-13 and (-)₹11.01 lakh in 2013-14 on the same being rendered unserviceable. The total de-capitalization in 2013-14 for (-)₹11.01 lakh includes hydrogen cylinder for (-)₹0.05 lakh and Fire tender for {(-)₹5.57 lakh + (-)₹5.38lakh}. In justification of the same the petitioner has submitted that these MBOAs were capitalized before 31.3.2004 and have been replaced subsequently either due to completion of useful life or due to obsolescence. The petitioner has also submitted that the Commission vide order dated 11.9.2013 had allowed 2 nos. of Fire Tender after considering the notional de-capitalization of ₹10.95 lakh in 2011-12. Since these assets were capitalized prior to 31.3.2004 and form a part of the capital cost of the generating station for the purpose of tariff, exclusions on account of de-capitalization of these spares is not justified. Accordingly, the exclusion of these de-capitalization of these spares is not in order and has not been allowed.



- i) **De-capitalization of spares (capitalized before cut-off date):** The petitioner has de-capitalized spares amounting to (-) ₹43.51 lakh in 2012-13 and (-) ₹258.32 lakh in 2013-14 in books of accounts on these spares becomes unserviceable. The petitioner has submitted that the Commission has not allowed the capitalization of these spares after the cut-off date which form part of capital cost of the generating station for the purpose of tariff. Since the spares form part of the capital cost of the generating station for the purpose of tariff, the exclusions on account of de-capitalization is not justifiable and accordingly, the same has not been allowed.
- j) **De-capitalization of Plant and Machinery:** The petitioner has de-capitalized an amount of (-) ₹0.16 lakh towards Plant and Machinery in books of accounts on the same being rendered unserviceable. These MBOAs were capitalized after 1.4.2004 and do not form part of the capital cost for the purpose of tariff. Hence, exclusions on account of de-capitalization of these MBOAs are justifiable and has been allowed.
- k) **De-capitalization of MBOA's items after 1.4.2004:** The petitioner has excluded de-capitalisation of (-) ₹2.70 lakh in 2012-13 and (-) ₹6.57 lakh in 2013-14 towards MBOA items in books of accounts on the same rendered unserviceable. These MBOAs were capitalized after 1.4.2004 and do not form part of the capital cost for the purpose of tariff. Hence, exclusions on account of de-capitalization of these MBOAS are justifiable and have been allowed.
- l) **Liability Reversal pertaining to GT Rotor Refurbishment of GT1:** The petitioner had excluded an amount of (-) ₹0.56 lakh in 2013-14 on account of reversal of liability. This pertains to the claim for R&M works of refurbishment of GT-1 rotor excluding the liability. As per 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.

m) **Energy Management System:** The petitioner has claimed expenditure of ₹42.90 towards Energy Management System. It has submitted that since the Energy Management System was not been allowed in Commission vide order dated 11.9.2013 and the same has been claimed under exclusion.

It is noted that against the disallowance of this item in order dated 11.9.2013 in Petition No.23/GT/2013 the petitioner had filed appeal before the Tribunal and the Tribunal vide judgment dated 5.10.2015 has affirmed the order of the Commission. In line with the above since the asset does not the part of capital cost the same is considered under exclusions.

n) **Loan ERV:** The petitioner has claimed an amount of ₹17.83 lakh in 2012-13 and ₹81.09 lakh in 2013-14 toward Loan FERV. Since the impact of FERV has been directly billed to the beneficiaries, the same has been considered under exclusion.

o) **Furniture's and Fixtures and Office Equipments:** The petitioner had claimed an amount of ₹3.16 lakh and (-) ₹3.16 lakh towards Office equipment and Furniture and Fixtures respectively. The petitioner has submitted that the payment is due to regrouping from Office equipment and from furniture and fixture. There is overall no impact on exclusions.

p) **HP Turbine rotor blade for ST:** The petitioner has claimed amount of ₹1253.20 lakh the towards HP turbine rotor blade for ST, and has submitted that the R&M of rotor blades for ST works was not approved for capitalization vide order dated 30.12.2011



and hence kept under exclusions. Accordingly, as the same was not approved as a part of gross fixed assets the Commission has allowed the same under exclusions.

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

(₹ in lakhs)				
		2012-13	2013-14	Total
<b>(A) Exclusions allowed under different heads</b>				
1	Inter-unit transfer	3.66	(-)14.56	(-)10.90
2	capitalization of spares	1386.00	1913.81	3299.81
3	Plant and Machinery	2.87	0.00	2.87
4	Temporary Erection	0.99	1.30	2.29
5	capitalization of MBOA	64.92	89.08	154.00
6	Assets pertaining to 2 Nos. of bays constructed for EPTCL	1409.07	25.66	1434.73
7	De-capitalization of spares (Not allowed by Commission)	(-)65.16	(-)36.80	(-)101.96
8	De-capitalization of Plant and Machinery (Not allowed earlier)	(-)0.16	0.00	(-)0.16
9	De-capitalization of MBOA's (Not Allowed)	(-)2.70	(-)6.57	(-)9.27
10	Loan ERV	17.83	81.09	98.92
11	Furniture's and Fixtures	3.16	0.00	3.16
12	Office Equipments	(-)3.16	0.00	(-)3.16
13	Reversal of Liability pertaining to GT Rotor Refurbishment of GT1	0.00	(-)0.56	(-)0.56
14	HP Turbine Rotor blade for ST	0.00	1253.20	1253.20
15	Energy Management System	0.00	42.90	42.90
<b>16</b>	<b>Total Exclusions</b>	<b>2810.01</b>	<b>3348.54</b>	<b>6158.55</b>

#### Exclusions not allowed

		2012-13	2013-14	Total
<b>(B) Exclusions not allowed</b>				
1	De-Capitalization of spares (Capitalized before cut-off date)	(-)43.51	(-)258.32	(-)301.83
2	De-capitalization of MBOA items prior to 31.3.2004	(-)0.73	(-)11.01	(-)11.74
<b>3</b>	<b>Total items not allowed</b>	<b>(-)44.24</b>	<b>(-)269.33</b>	<b>(-)313.57</b>
<b>4</b>	<b>Grand Total exclusion (A+B)</b>	<b>2765.78</b>	<b>3079.21</b>	<b>5844.99</b>



44. Based on above discussions, the additional capital expenditure allowed 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	0.00	0.00	0.00	0.00	22858.34
Package ERV	0.00	0.00	0.00	0.00	127.92
Less Reduction in Capital expenditure due to O&M cost	0.00	0.00	0.00	0.00	-1959.00
Land Compensation claim deposit in court	0.00	0.00	3997.24	(-)337.09	<b>0.00</b>
Safety Centre	0.00	0.00	0.00	0.00	28.06
AAQMS	111.33	4.17	0.00	0.00	0.00
Energy Management System	0.00	0.00	0.00	0.00	0.00
CCTV Camera	0.00	29.83	0.00	8.92	0.00
Mixed Bed Polishing Unit	205.36	0.00	0.00	0.00	0.00
Replacement of Fire Tender (Water/Foam)	0.00	0.00	45.99	0.00	0.00
<b>Total (on actual values)</b>	<b>316.69</b>	<b>34.00</b>	<b>4043.23</b>	<b>(-)328.17</b>	<b>21055.33</b>
Total De-capitalization	0.00	0.00	0.00	(-)2200.00	-7472.32
Add: Exclusions not allowed	(-)1588.39	(-)7.36	(-)224.54	(-)44.24	-269.33
<b>Net Additional Capital Expenditure Allowed</b>	<b>(-)1271.70</b>	<b>26.64</b>	<b>3818.68</b>	<b>(-)2572.40</b>	<b>13313.67</b>

#### Liabilities

45. 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	(-)1271.70	26.64	3818.68	(-)2572.40	13313.67
Add: Discharge of Liabilities	0.35	0.00	5.00	3.39	1.46
<b>Total Additional Capital Expenditure allowed</b>	<b>(-)1271.35</b>	<b>26.64</b>	<b>3823.68</b>	<b>(-)2569.01</b>	<b>13315.13</b>

46. 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	239,679.86	238,408.51	238,435.15	242,258.83	239,689.82
Additional capital expenditure	(-)1271.35	26.64	3823.68	(-)2569.01	13315.13
<b>Closing capital cost</b>	<b>238,408.51</b>	<b>238,435.15</b>	<b>242,258.83</b>	<b>239,689.82</b>	<b>253,004.95</b>
Average Capital cost	239,044.19	238,421.83	240,346.99	240,974.32	246,347.38

### **Debt: Equity**

47. 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.”*

48. The gross loan and equity amounting to ₹119839.93 lakh each as on 1.4.2009, as considered in order dated 11.9.2013 in Petition No. 23/GT/2013 has been considered as gross loan and equity as on 1.4.2009. However, the un-discharged liabilities amounting to ₹10.2 lakh pertains to assets/works allowed for the purpose of tariff till 31.3.2014. Further, out of the un-discharged liabilities of ₹10.2 lakh, ₹0.35 lakh pertains



to liabilities prior to 1.4.2009 and ₹9.85 lakh pertains to liabilities for the period 2009-14. The un-discharged liabilities have been adjusted in the debt-equity ratio of 70:30 for liabilities pertaining to the period prior to period 2004-09 and 2009-14. Further, the additional expenditure approved as above has been allocated in debt-equity ratio 70:30. This is subject to truing-up in terms of Regulation 6 of the 2009 Tariff Regulations.

(₹ in lakh)

	As on 1.4.2009		Net Additional capitalization during 2009-14		As on 31.3.2014	
	Amount	(%)	Amount	(%)	Amount	(%)
Debt	119839.93	50.00	9327.56	70.00	129,167.49	51.05
Equity	119839.93	50.00	3997.53	30.00	123,837.46	48.95
Total	239679.86	100.00	13325.09	100.00	253,004.95	100.00

### **Return on Equity**

49. 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.”

50. 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 normative equity	119839.93	119458.53	119466.52	120613.62	119842.92
Addition due to Additional Capitalisation	(-)381.51	7.99	1145.61	(-)771.72	3994.10
Addition due to un-discharge liability	0.11	0.00	1.50	1.02	0.44
Closing Equity	119458.52	119466.52	120613.62	119842.92	123837.46
Average Equity	119649.23	119462.52	120040.07	120228.27	121840.19
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%
<b>Return on Equity (Pre Tax)</b>	<b>28094.84</b>	<b>27727.25</b>	<b>27541.99</b>	<b>27585.17</b>	<b>28609.29</b>



## Interest on Loan

51. 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.*



52. Interest on loan has been worked out as under:-
- a. The gross normative loan of ₹119839.93 lakh has been considered as on 1.4.2009.
  - b. Cumulative repayment approved as on 31.3.2009 in order dated 30.12.2011 in Petition No. 226/2009 has been adjusted on account of removal of un-discharged liabilities from the capital cost as on 1.4.2009. The cumulative repayment has been revised to ₹114447.25 lakh vide order dated 11.9.2013 in Petition No. 23/GT/2013.
  - c. Accordingly, the net normative opening loan as on 1.4.2009 works out to be ₹5392.68 lakh.
  - 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 tariff 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.
53. 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	119839.93	118949.99	118968.63	121645.21	119846.90
Cumulative repayment of loan up to previous year	114447.25	114602.22	115948.62	117501.66	117120.74
Net opening loan	5392.68	4347.76	3020.01	4143.55	2726.16
Addition due to Additional Capitalisation	(-)889.94	18.65	2676.58	(-)1798.31	9320.59
Repayment of Loan during the period	1266.68	1351.55	1345.04	1158.36	2122.69
Less: Repayment adjustment on a/c of de-capitalization	1111.88	5.15	164.85	1541.57	5230.63
Add: Repayment adjustment on a/c of discharges / reversals corresponding to un-discharged liabilities deducted as on 01.04.2009	0.17	0.00	372.84	2.29	1.00
Net Closing Loan	4347.76	3020.01	4143.55	2726.16	15153.69
Average Loan	4870.22	3683.89	3581.78	3434.85	8939.93
Weighted Average Rate of Interest on Loan (%)	9.5800%	9.5800%	9.5800%	9.638%	8.6642%
<b>Interest on Loan</b>	<b>466.57</b>	<b>352.92</b>	<b>343.13</b>	<b>331.04</b>	<b>774.57</b>

### Depreciation

54. 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**

55. As regards balance useful life of the generating station the Commission in Paragraph 40 of the order dated 11.9.2013 in Petition No. 23/GT/2013 had decided as under:

“ ...40. As stated in para 18 of this order, the petitioner in its additional submissions vide affidavit dated 7.9.2012 has submitted that major part of R&M on GTs would be completed beyond 31.3.2014 i.e. in the next tariff period by revised phasing of expenditure. 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 the 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. Hence, considering the weighted average of elapsed life of 13.78 years as on 31.3.2009 and 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 works out to 11.22 years (25-13.78 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
11.22 years	10.22 years	9.22 years	8.22 years	7.22 years

.....”



56. The petitioner in the petition has submitted that the Commission vide order dated 30.12.2011 in Petition No. 226/2009 had considered the life enhancement of 15 years after the completion of major R&M of Gas Turbine and had accordingly worked out the balance life for the purpose of recovery of depreciation. It has also submitted that in terms of the judgment of the Tribunal dated 25.10.2013 in Appeal No. 71 of 2012 has remanded the matter back to the Commission for re-determination of useful life of the station after extension of life by 10 years for GTs after Renovation instead of 15 years. The Commission in its order dated 11.9.2013 had decided that the implementation of the judgment of the Tribunal shall be taken at the time of final truing up.

57. The petitioner in this petition has submitted the life extension of the generating station as under:

	Capacity (MW)	COD	Life as on 1.4.2009	Life as on 1.4.2013	Useful life after completion of R&M work of GT-3
GT-1	144.30	1.3.1995	14.08	18.08	25
GT-2	144.30	1.7.1995	13.75	17.75	25
GT-3	144.30	1.3.1995	14.08	18.08	28.08
ST	224.49	1.11.1995	13.42	17.42	25
Total	657.39		13.782	17.78	25.68

58. The petitioner has also submitted that only partial R&M work of GT-1 has been completed during the year 2012-13 and therefore no life extension has been considered for GT-1 in the instant petition. The petitioner has also submitted that R&M work of GT-3 has been completed during the year 2013-14 except the rotor refurbishment and therefore the life extension of GT-3 has been considered with effect from 1.4.2013.

59. The respondent, MPPMCL has submitted that, the petitioner in terms of the judgment as the Tribunal dated 25.10.2013 in Appeal No. 71/2012 has recalculated the



balance useful life of the generating station by extending the life by 10 years as on 1.4.2013. It has also submitted that the balance useful life calculations done by the petitioner, are totally wrong, misconceived and incorrect. It has further submitted that as per the Tribunal judgment dated 25.10.2013, the balance life of the Gas Turbines shall be (10)Ten years from the date of completion of R&M work of the Turbines and the petitioner has submitted that R&M work of all the three Gas Turbines are yet to be completed, the life of Gas Turbines would be calculated from the date of completion of the R&M of the Gas Turbines. Accordingly, it has prayed that the Commission may consider balance useful life for recovery of depreciation, only after completion of R&M work of the Turbines.

60. In response, the petitioner has submitted that the harmonious reading of the judgment dated 25.10.2013 in Appeal No 71/2012 and the judgment dated 25.2.2016 in Review Petition No. 24 of 2015 in Appeal No. 319 of 2013 of the Tribunal clearly would indicate that the claim for GT wise R&M expenditure and its effect tariff shall be implementable only if the balance useful life of the generating station is computed taking into effect the life extension of each GT on completion of its individual R&M. Accordingly, it has prayed that the submission of the petitioner may be rejected.

61. We have examined the matter. We are of the considered view that the projected additional capital expenditure claimed towards R&M of GTs and R&M of C&I of STs shall be considered in respect of those GTs whose R&M work has been completed, 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 the GTs. Since, the R&M of GT1 is complete, the R&M of GT 1 has been considered effective by the end of the year, as the benefits of the R&M will be



passed on to the beneficiaries on completion of R&M. Accordingly, the life of GT 3 has been extended by 10 years with effect from 1.4.2014. Based on this, the weighted average balance life of the generating station as on 1.4.2014 has been computed as under:

	Capacity (MW)	COD	Elapsed Life as on 1.4.2009	Elapsed Life as on 1.4.2013	Balance life as on 1.4.2014	Life after extension of 10 years of GT 3as on 1.4.2014
GT-1	144.30	1.3.1995	14.08	18.08	6.92	6.92
GT-2	144.30	1.7.1995	13.75	17.75	7.25	7.25
GT-3	144.30	1.3.1995	14.08	18.08	6.92	16.92
ST	224.49	1.11.1995	13.42	17.42	7.58	7.58
Total	657.39		13.78	17.78	7.22	9.41

62. Accordingly, the balance life of the generating station as on 1.4.2014 is 9.41 years. The balance useful life of the generating station will be revised again after completion of the R&M of GT 1 and 2 during the 2014-19 period. 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 in order dated 11.9.2013 in Petition No. 23/GT/2013 till 2009-14 as shown under:

2009-10	2010-11	2011-12	2012-13	2013-14
11.22 years	10.22 years	9.22 years	8.22 years	7.22 years

63. The cumulative depreciation as on 31.3.2009 has been proportionately adjusted on account of un-discharged liabilities deducted as on 1.4.2009. Accordingly, the revised cumulative depreciation as on 1.4.2009 works out to be ₹200698.06 lakh. Hence, the balance depreciable value for the year 2009-10 works out to be ₹14212.20 lakh.

64. As mentioned, the elapsed life of the generating station is 13.78 years as on 31.3.2009 and the residual life of the generating station as on 31.3.2009 is 11.22 years





considering a total life of 25 years for the generating station. Since the elapsed life of the generating station i.e., 13.78 years is more than the ceiling limit of 12 years (for normal depreciation) as on 1.4.2009, the balance depreciable value for each year has been spread over the remaining useful life for the purpose of calculating depreciation for the respective years. The Commission in order dated 11.9.2013 in Petition No. 23/GT/2013 had calculated the depreciable value considering freehold land amounting to ₹255 lakh till 31.3.2011. From the year 2011-12, the land value is ₹3997.24 lakh after accounting of additions as allowed above. Further, the land value for the year 2012-13 and 013-14 is adjusted according to the Judgment of Civil court of Bharuch. Necessary calculations in support of depreciation are as under:

	(₹ in lakh)				
	2009-10	2010-11	2011-12	2012-13	2013-14
Opening capital cost	239,679.86	238,408.51	238,435.15	242,258.83	239,689.82
Additional Capital expenditure	(-)1271.35	26.64	3823.68	(-)2569.01	13315.13
Closing capital cost	238,408.51	238,435.15	242,258.84	239,689.82	253,004.95
Cost of Land	255.00	255.00	2253.62	4083.70	3915.15
Average capital cost	239044.18	238421.83	240346.99	240974.32	246347.38
Capital cost excluding Land	238789.19	238166.83	238093.37	236890.63	242432.23
Depreciable value @ 90%	214910.27	214350.15	214284.03	213201.56	218189.01
Balance depreciable value	14212.20	13812.83	12401.30	9521.72	15325.80
<b>Depreciation (Annualized)</b>	<b>1266.69</b>	<b>1351.55</b>	<b>1345.04</b>	<b>1158.36</b>	<b>2122.69</b>
Total Life of the Station	25.00	25.00	25.00	25.00	25.00
Elapsed life of the station	13.78	14.78	15.78	16.78	17.78
Balanced life of the station	11.22	10.22	9.22	8.22	7.22
Cumulative depreciation at the end of the period (before adjustment)	201964.75	201888.87	203227.77	204838.20	204985.90
Add: Cumulative depreciation adjustment on account of discharges out of un-discharged liabilities deducted as on	0.29	0.00	653.82	2.85	1.24



	2009-10	2010-11	2011-12	2012-13	2013-14
1.4.2009					
Less: Cumulative depreciation adjustment on account of de-capitalization	1427.73	6.13	201.75	1977.84	6761.50
Cumulative depreciation after adjustment (at the end of the period)	200537.32	201882.74	203679.84	202863.21	198225.63

### **Operation & Maintenance Expenses**

65. The petitioner has claimed O&M expenses as approved by the Commission in its order dated 11.9.2013. The Operation & Maintenance expenses allowed in order dated 11.9.2013 in Petition No. 23/GT/2013 has been considered for the purpose of tariff and as under:

<i>(₹ in lakh)</i>				
2009-10	2010-11	2011-12	2012-13	2013-14
9,729.37	10,288.15	10,873.23	11,497.75	12,155.14

### **Interest on working capital**

66. Regulation 18 (1) (b) 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.”*

67. 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*

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

#### **Fuel components in working capital**

69. The petitioner has claimed the following cost of fuel component in working capital based on price and GCV of APM and RLNG fuel oil procured and burnt for the preceding three months of April 2010, May 2010 and June 2010.

<i>(₹ in lakh)</i>				
<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
10339.99	10339.99	10368.32	10339.99	10339.99



70. The claim of the petitioner for the cost of coal and secondary fuel oil is in order and has been considered for computation of the interest on working capital.

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

<i>(₹ in lakh)</i>				
2009-10	2010-11	2011-12	2012-13	2013-14
810.78	857.35	906.10	958.15	1012.93

### Maintenance Spares

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

<i>(₹ in lakh)</i>				
2009-10	2010-11	2011-12	2012-13	2013-14
2918.81	3086.45	3261.97	3449.33	3646.54

### Receivables

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

<i>(₹ in lakh)</i>					
	2009-10	2010-11	2011-12	2012-13	2013-14
Variable charges for two months	20679.97	20679.97	20736.63	20679.97	20679.97
Fixed charges for two months	7454.58	7486.67	7558.37	7641.37	8172.25
<b>Total</b>	<b>28134.55</b>	<b>28166.64</b>	<b>28295.00</b>	<b>28321.34</b>	<b>28852.22</b>

74. SBI PLR of 12.25% 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	10339.99	10339.99	10368.32	10339.99	10339.99
Liquid fuel stock - 1/2 month	0.00	0.00	0.00	0.00	0.00
Maintenance spares	2918.81	3086.45	3261.97	3449.33	3646.54
O&M expense 1 month	810.78	857.35	906.10	958.15	1012.93
Receivables 2 months	28134.55	28166.65	28295.00	28321.34	28852.22
Total working capital	42204.13	42450.43	42831.40	43068.81	43851.68
Rate of Interest	12.25%	12.25%	12.25%	12.25%	12.25%
IWC Calculated	<b>5170.01</b>	<b>5200.18</b>	<b>5246.85</b>	<b>5275.93</b>	<b>5371.83</b>

### Annual Fixed charges

75. 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	1266.68	1351.55	1345.04	1158.36	2122.69
Interest on Loan	466.57	352.92	343.13	331.04	774.57
Return on Equity	28094.84	27727.25	27541.99	27585.17	28609.29
Interest on Working Capital	5170.01	5200.18	5246.85	5275.93	5371.83
O&M Expenses	9729.37	10288.15	10873.23	11497.75	12155.14
<b>Total</b>	<b>44727.46</b>	<b>44920.05</b>	<b>45350.25</b>	<b>45848.25</b>	<b>49033.52</b>

76. The difference in the annual fixed charges determined by order dated 11.9.2013 and those determined by this order shall be adjusted in accordance with Regulation 5(3) of the 2009 Tariff Regulations.

77. Petition No. 326/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)*

	<b>2009-10</b>	<b>2010-11</b>	<b>2011-12</b>	<b>2012-13</b>	<b>2013-14</b>
Net opening loan	38,284.20	34,030.40	29,776.60	25,522.80	32,217.62
Add: Addition during the period	-	-	-	10,948.62	15,844.83
Less: Repayment during the period	4,253.80	4,253.80	4,253.80	4,253.80	4,253.80
Net Closing Loan	34,030.40	29,776.60	25,522.80	32,217.62	37,308.65
Average Loan	36,157.30	31,903.50	27,649.70	28,870.21	34,763.14
<b>Rate of Interest (%)</b>	9.5800	9.5800	9.5800	9.6375	8.6642
Interest	3,463.87	3,056.36	2,648.84	2,782.38	3,011.93

