

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 66/GT/2012

Coram:

Shri Gireesh B. Pradhan, Chairperson

Shri A.K.Singhal, Member

Shri A.S.Bakshi, Member

Date of Hearing: 11.11.2014

Date of Order: 20.04.2015

In the matter of

Approval of tariff of Unit Nos.I and II of Durgapur Steel Thermal Power Station (2 x 500 MW) of DVC from the respective dates of their commercial operation till 31.3.2014.

And

In the matter of

Damodar Valley Corporation
DVC Towers
VIP Road
Kolkata-700054

...Petitioner

Vs

1. Delhi Transco Limited,
Shakti Sadan, Kotla Road, New Delhi-110002

(a) BSES Yamuna Power Ltd.,
Shakti Kiran Building, Karkardooma
New Delhi-110092

(b) BSES Rajdhani Power Ltd.,
BSES Bhawan, Nehru Place,
New Delhi.

(c) North Delhi Power Ltd.
Grid Substation Building
Hudson Lines, Kingsway Camp
New Delhi- 110 009

2. Punjab State Power Corporation Ltd
Interstate Billing, Shed No. TI-A,
Patiala,

3. Madhya Pradesh Power Trading Co Ltd,
Shakti Bhawan, Vidyut Nagar,
Jabalpur -482008

...Respondents



Parties present:

For Petitioner: Shri Avinash Menon, Advocate, DVC
Shri D.K Aich, DVC
Shri Amit Biswas, DVC

For Respondents: Shri R.B Sharma, Advocate BRPL& JSEB
Shri S.P Singh, DTL

ORDER

This petition has been filed by the petitioner, DVC, for approval of tariff for Durgapur Steel Thermal Power Station, Unit-I and Unit-II (2X500 MW) (“the generating station”) from their respective dates of commercial operation (COD) till 31.3.2014 in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”).

2. The project comprises of two units of 500 MW each. The petitioner has entered into Power Purchase Agreements (PPAs) with the respondents Delhi Transco Ltd., PSEB, and MP Power Trading Company Ltd. on 24.8.2006, 7.11.2006 and 14.5 .2007 respectively. As per order of DERC dated 31.3.2007, the PPA with DTL dated 24.8.2006 has been assigned to three Distribution Companies of Delhi namely, BSES-BPL, BSES-BYPL and TPDDL with effect from 1.4.2007. The petitioner vide affidavit dated 24.5.2012 has submitted that Units I and II of the generating station achieved commercial operation on 15.5.2012 and 5.3.2013 respectively. Pursuant thereto, the petitioner vide affidavit dated 24.7.2013 has revised the tariff petition based on the actual capital cost as on respective CODs.

3. The Capital Cost (including IDC and FC) claimed by the petitioner vide affidavit dated 24.7.2013 is as under:

(₹ in lakh)

	2012-13		2013-14
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
Capital cost	322755.28	593431.73	596245.62
Actual/projected Additional Capital Expenditure	0.00	2813.89	23902.00
Closing Capital Cost	322755.28	596245.62	620147.62

4. Based on the above, the annual fixed charges claimed by the petitioner for the period from 15.5.2012 to 31.3.2014 are as under:

(₹ in lakh)

	2012-13		2013-14
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
Depreciation	19688.24	3333.90	46309.22
Interest on Loan	19165.48	3217.69	42989.11
Return on Equity	15112.43	2557.86	35354.96
Interest on Working Capital	5347.81	959.26	13082.94
O&M Expenses	6186.08	1136.22	16240.00
Cost of secondary fuel oil	2148.50	394.62	5334.70
Interest on Govt. Capital (As per Sec.38-Part-IV of DVC Act)	4484.53	759.03	10491.39
Interest & Contribution on Sinking fund (As per Sec.40 of DVC Act)	1431.04	131.42	2665.61
Total	73564.11	12490.01	172467.94

5. Reply to the petition has been filed by the respondent, BRPL and the petitioner has filed rejoinder to the said reply.

Commissioning Schedule

6. The petitioner has submitted that the time schedule for completion of the project as per CERC time line is 44 months for First unit and 50 months for Second unit from the date of investment approval of 16.6.2008. Accordingly, the details of the actual date of commercial operation (COD) of the project as against its scheduled date of commercial operation, submitted by the petitioner are as under:

Units	Date of investment approval	Schedule COD as per CERC timeline	Actual COD	Delay (months)
I	16.6.2008	15.2.2012	15.5.2012	3
II		15.8.2012	5.3.2013	7

7. According to the petitioner, there is a delay of 3 months in case of Unit-I and 7 months in case of Unit-II of the generating station. In response to the directions of the Commission vide ROP dated 27.8.2013, the petitioner vide its affidavit dated 13.9.2013 has submitted its justification for the computation of scheduled COD as per CERC time line and has pointed out that the Commission while passing the provisional tariff order dated 10.10.2012 in respect of Chandrapura TPS Units 7 & 8 (another project of the petitioner) had considered the delay in the commissioning of the project with respect to the date of investment approval as per Appendix-II of Regulation-15 of the 2009 Tariff Regulations. Accordingly, the petitioner has argued that the time overrun of 3 months for Unit-I and 7 months for Unit-II is as per the timeline specified by the Commission.

8. We have examined the matter. The project was envisaged to supply power to the respondent, Delhi Transco Ltd as per petitioner Corporation resolution No. 7567 dated 30.4.2007. Also, the Central Government had cleared the project subject to the condition that the units shall be commissioned before the Commonwealth Games in 2010. Thus, the generating station was contemplated to be under commercial operation before October, 2010. We are not inclined to accept the submissions of the petitioner regarding computation of scheduled COD as per time line specified in Appendix –II to the 2009 Tariff Regulations. It could be observed from para-12 of the Commission's order dated 10.10.2012, that the schedule CoD as per timeline specified by the Commission is considered to examine whether the units of the generating station are entitled for additional Return on Equity (RoE) of 0.5% for timely commissioning of plant in terms of 2009 Tariff Regulations, and not for assessing the time overrun. The question of time overrun was left to be decided before the determination of final tariff after hearing of all the parties on merits. It is clarified that the timeline specified by the Commission in Regulation 15 of the 2009 Tariff Regulations is for considering whether any project/unit is

entitled for an additional Return on Equity (ROE) of 0.5% on account of timely commissioning of unit/project and shall not be taken as a benchmark norm to assess the actual time over run in the commissioning of different units. In this connection, the observations of the Appellate Tribunal for Electricity (The Tribunal) in its judgment dated 12.1.2012 in Appeal No. 104/2011 is extracted as under:

"13. Perusal of Regulation 15 along with Appendix II and Para 13.12.1 of SoR would amply reveal that these deal with Return on Equity and completion time frame provided therein refers only to additional Return on Equity of 0.5%. It does to limit the time frame for calculation of IDC.

14. The period of 36 months is the actual construction period allowed. Regulation 7 (1) does not provide for the construction period to commence from the date of the Investment Approval. In fact, such construction period cannot be construed to be commenced immediately from the date of Investment Approval. After the Investment Approval is given, the Appellant has to initiate the process of awarding the contract, select the contractor and then issue the Letter of Award. Thus, the construction can start only after the award of contract and not before."

9. Accordingly, the time line for the purpose of time overrun shall be reckoned on the basis of the timeline indicated in the Investment approval.

Time Overrun

10. The scheduled date of commercial operation of units of the generating station as per the agenda Note of the 573rd meeting of the Petitioner Corporation is 36 months for Unit-I and 38 months for Unit-II from the date of Letter of Award (LOA). The date of LOA for Main Plant package has been mentioned as 27.7.2007 in Form-5D of the revised tariff filing forms filed vide affidavit dated 24.7.2013, the scheduled COD (from date of LOA), the actual COD and delay in actual COD are indicated as under:

Units	Date of LOA (for Main Plant Package)	Expected COD as per resolution of Corporation (from date of LOA)	Actual COD	Delay (approx) (months)
1	27.7.2007	26.07.2010	15.05.2012	22
2		26.09.2010	05.03.2013	29

11. The petitioner vide ROP dated 11.9.2014 was directed to furnish certain information / clarification on the following issues:

“(i) Detailed justification of time overrun of 22 months for Unit-1 and 29 months for Unit-2 from the scheduled COD with reference to Board Resolution.

(ii) Reasons for delay in acquiring land giving details of total land required for the project i.e. land required for main plant, land required for ash pond, land required for railway siding, land required coal handling plant etc. and whether the land was in the possession of DVC as on the date of Letter of Award (LOA)

(iii) Cost over-run due to time over-run of 22 months and 29 months from the date of scheduled COD to actual COD as per the investment approval and to be quantified with detailed computations giving break-up of increase due to (i) escalation in prices in different contract packages, (ii) increase in IDC & FC with detailed computation giving the actual phasing of expenditure & considering the phasing of expenditure as per the investment approval, (iii) increase in IEDC and (iv) increase/decrease due to change in scope, if any.”

12. In response to the above directions, the petitioner vide affidavit dated 24.9.2014 has submitted additional information/clarifications on the above issues. The petitioner has computed the time overrun as 14 months in case of Unit-I and 16 months in case of Unit-II by considering the scheduled COD as 42 months for Unit-I and 48 months for Unit-II from the date of start of work (zero date) on 3.8.2008.

13. The submissions have been examined. We do not find any merit in the computation of time overrun by the petitioner as the scheduled COD of the units of the generating station is required to be considered as per time line indicated in the Investment Approval as per Resolution of the petitioner Corporation. The scheduled COD of the Units I and II shall be considered as 36 months for Unit-I and 38 months for Unit-II from the date of LOA, as these dates of commercial operation does coincide with the date of Commonwealth Games during October, 2010. Considering this, we conclude that there is time overrun of 22 months in respect of Unit-I and 29 months for Unit-II of the generating station.

Reasons for Time overrun

14. The petitioner vide affidavit dated 13.9.2013 has furnished additional information indicating the reasons for time overrun in the commissioning of the units as summarized in the table given below:

Sl. No.	Activity/ Event	Delay (in months)	Reasons
1	Possession of land for main plant	12 months	Procedural delay for actual acquisition of land due to problem of ROW and obstruction by local villagers
2	Leveling and grading	13 months	Due to non-availability of borrowed earth in time for land filling from Kajoria Mines of ECL.
3	Charging of Cross country Pipe line and availability of raw water and DM water arrangement	19 months	Due to change of lay out for railway crossing as done by Railway Authority. However, requirement of DM water for boiler light up was arranged by DVC from its nearby power plant at Durgapur to continue commissioning activities.
4	Availability of Coal	14 months	Due to non-existence of FSA, Coal had to be arranged by diverting coal from other DVC power stations. Till the FSA was done, coal was arranged through MOU. However, FSA could be finalized on 19.7.2013.

15. The respondent, BRPL has submitted that the reasons furnished by the petitioner as regards the delay in the completion of units of the generating station is attributable to the delay in providing inputs like making land available to the contractor and slackness in project management etc. are problems narrated by the petitioner only an excuse for the delay, and the same is entirely attributable to the petitioner. The learned counsel has also submitted that prudence check for Time and Cost overrun may be considered in terms of the principle laid down in the judgment of the Appellate Tribunal for Electricity (the Tribunal) dated 27.4.2011 in Appeal No. 72 of 2010 (MSPGCL-v-MERC & Ors).

16. The petitioner was directed to furnish the reasons for time overrun of 22 months for Unit-I and 29 months for Unit-II along with the PERT chart, and the petitioner has failed to furnish complete information in the required forms. On a specific query by the Commission during the hearing on 11.11.2014 as regards the submission of additional details regarding time and cost overrun along with PERT chart, the learned counsel for

the petitioner clarified that all information has been submitted and no further details are available for submission in the matter.

17. The Tribunal in its judgment dated 27.4.2011 in Appeal No. 72 of 2010 has laid down the principle for prudence check of time over run and cost overrun of a project as under:

“7.4. The delay in execution of a generating project could occur due to following reasons:

i. Due to factors entirely attributable to the generating company, e.g., imprudence in selecting the contractors/suppliers and in executing contractual agreements including terms and conditions of the contracts, delay in award of contracts, delay in providing inputs like making land available to the contractors, delay in payments to contractors/suppliers as per the terms of contract, mismanagement of finances, slackness in project management like improper co-ordination between the various contractors, etc.

ii. Due to factors beyond the control of the generating company e.g. delay caused due to force majeure like natural calamity or any other reasons which clearly establish, beyond any doubt, that there has been no imprudence on the part of the generating company in executing the project.

iii. Situation not covered by (i) & (ii) above.

In our opinion in the first case the entire cost due to time over run has to be borne by the generating company. However, the Liquidated damages (LDs) and insurance proceeds on account of delay, if any, received by the generating company could be retained by the generating company. In the second case the generating company could be given benefit of the additional cost incurred due to time over-run. However, the consumers should get full benefit of the LDs recovered from the contractors/supplied of the generating company and the insurance proceeds, if any, to reduce the capital cost. In the third case the additional cost due to time overrun including the LDs and insurance proceeds could be shared between the generating company and the consumer. It would also be prudent to consider the delay with respect to some benchmarks rather than depending on the provisions of the contract between the generating company and its contractors/suppliers. If the time schedule is taken as per the terms of the contract, this may result in imprudent time schedule not in accordance with good industry practices.

7.5 in our opinion, the above principle will be in consonance with the provisions of Section 61(d) of the Act, safeguarding the consumers ' interest and at the same time, ensuring recovery of cost of electricity in a reasonable manner.”

18. In the light of the judgment of the Tribunal and based on the submissions of the parties and the documents available on record, we proceed to examine the question of time and cost overrun involved in the completion of the project as under:

(a) Possession of land for main Plant area: The petitioner has submitted that there is a delay of 12 months on account of the procedural delay for actual acquisition of

land. By affidavit dated 24.9.2014, the petitioner has submitted that the proposal for land acquisition was submitted to Government of West Bengal on 16.12.2002, but the possession of 683.63 acres of land, out of total required land for 809.78 acres was obtained in phases during the period from 16.10.2007 to 12.8.2010. It has also submitted that the balance land for 126.15 acres is required for Ash Pond, Drain, Boundary wall etc. and the same is yet to be materialized. We have examined the matter. As per LOA, the zero date of the project was 27.7.2007 and the work had started on 3.8.2007. From the documents submitted by the petitioner with regard to handing over of land to the petitioner, it is observed that 339 acres of land (approx) was acquired on 16.10.2007 as against the total requirement of land for 809.78 acres. Accordingly, there has been a delay of 3 months (approx) in acquiring the land for 339 acres. In our view, the petitioner could have started the erection work as the land acquired is a contiguous land bearing the same mouza, P.S. and J.L. No. Hence, the submission of the petitioner as regards the delay of 12 months for problems related to land acquisition cannot be fully acceptable. In our view, out of the total delay of 12 months, only the delay of 3 months towards acquisition of 339 acres of land was beyond the control of the petitioner, for which the petitioner cannot be made responsible. Accordingly, in terms of the principles laid down by the Tribunal in its judgment dated 27.4.2011 [(situation (ii) above)], the delay of 3 months cannot be made attributable to the petitioner and the generating company should be given the benefit of additional cost incurred due to time overrun. However, the consumers should get full benefit of the LDs recovered from the contractors/supplied of the generating company and the insurance proceeds, if any, to reduce the capital cost. However, the time overrun for the balance period of 9 months has not been condoned.

(b) Leveling and grading: The petitioner has submitted that there has been a delay of 13 months due to non-availability of borrowed earth for land filling from ECL's Kajora mines in time. On scrutiny of the documents submitted by the petitioner regarding Leveling and grading, it is observed that ECL vide letter dated 12.8.2008 had given its clearance for transportation of overburden from Kajora Area. As stated above, the delays of 3 months from the zero date (27.7.2007 to 16.10.2007) for land acquisition has already been condoned. From the letter dated 8.3.2008 of M/s BHEL, it is observed that the filling and cutting had been completed up to 8.3.2008. However, the leveling and grading had come to a grinding halt and the excavation and leveling

machinery deployed for this work was lying idle and M/s BHEL had raised the issue of financial loss due to idling of machinery. Thus, it emerges that as on 8.3.2008, there was no clearance of ECL for transportation of overburden from Kajora Mines. It is also observed from other correspondences between DVC and M/s BHEL that the clearance from ECL was obtained only on 12.8.2008 for transportation of soil and overburden from Kajora Mines. Hence, there has been a delay of 10 months (from 16.10.2007 to 12.8.2008) on account of leveling and grading. From the correspondences between the petitioner and BHEL from March, 2008 to October, 2008, it is evident that the petitioner was making endeavours to get ECL clearance for lifting of earth from their mines for leveling and grading. However, ECL clearance could only be obtained only on 12.8.2008, despite reasonable efforts by the petitioner. Accordingly the delay, in our view, was beyond the control of the petitioner and in terms of the principles laid down by the Tribunal in its judgment dated 27.4.2011 [(situation (ii) above)], the delay of 10 months on account of leveling and grading was beyond the control of the petitioner and the same is not attributable to the petitioner. Accordingly, the generating company shall be given the benefit of additional cost incurred due to time overrun. However, the consumers should get full benefit of the LDs recovered from the contractors/supplied of the generating company and the insurance proceeds, if any, to reduce the capital cost.

(c) Charging of cross Country pipe line and availability of Raw water & DM water arrangement: The petitioner has submitted that there has been a delay of 19 months due to change of lay out for railway crossing as directed by the Railway Authority. The petitioner has also submitted that the requirement of DM water for boiler light up was however arranged by the petitioner from its nearby power plant at Durgapur TPS in order to continue the commissioning activities. The matter has been examined. From the documents submitted by the petitioner it is observed that though the petitioner had discussions with the authorities of Eastern Railway on 10.1.2007 for Way leave permission for laying the raw water pipe line, the revised drawings along with some documents had been submitted to Eastern Railway only on 4.1.2010 and the Eastern Railway had given its permission vide letter dated 7.3.2011. Thus, there has been a significant time delay on the part of the petitioner to provide necessary inputs/information to the Eastern Railway authorities. In our view, if the documents would have been submitted by the petitioner immediately after 10.1.2007, the

clearance from Railway authorities could have been obtained in March, 2008 when the project work was getting delayed due to non availability of borrowed earth for land filling from ECL's Kajora mines. Also, any further delay on this count could have been subsumed in the delay on account of Leveling and grading, and thereby the petitioner could have prevented further delay on this count. Considering the fact that the petitioner was well aware that the project was required to be commissioned before the Commonwealth Games during 2010, the delay in the submission of necessary documents to Railway authorities that too after a period of 3 years, is not justifiable. Thus, there has been slackness on the part of the petitioner in the project management which in turn has caused the delay. Accordingly, in terms of the principles laid down by the Tribunal in its judgment dated 27.4.2011 [(situation (i) above)], the delay of 19 months is attributable to the petitioner and the entire cost due to time over run has to be borne by the generating company. However, the Liquidated damages (LDs) and insurance proceeds on account of delay, if any, received by the generating company could be retained by the generating company.

(d) Availability of Coal: The petitioner has submitted that there is a delay of 14 months due to non existence of Fuel Supply Agreement (FSA) and Coal for the project had to be arranged by diverting coal from other power stations of the petitioner. The petitioner has stated that till the signing of FSA on 19.7.2013, coal was arranged through MOU. The submissions have been examined. The project was approved by the Central Government contemplating power supply to Delhi during the Commonwealth Games in 2010 and hence priority should have been given for linkage of coal to the project prior to its commissioning. Nevertheless, we observe that both the units have been declared under commercial operation without any FSA in place and were in operation for a substantial time. Thus, the non-existence of FSA cannot be considered as a factor resulting in the delay in COD of the units. Accordingly, in terms of the principles laid down by the Tribunal in its judgment dated 27.4.2011 [(situation (i) above)], the delay of 14 months is for attributable to the petitioner and the cost implications due to time overrun shall be borne by petitioner. However, the Liquidated Damages if any, received by the petitioner could be retained.

19. As against the delay of 22 months for Unit-I and 29 months for Unit-II claimed by the petitioner, the delay of 3 months towards acquisition of land and 10 months on

account of the delay in leveling and grading, thereby, resulting in the total delay of 13 months has only been condoned for Units-I and II respectively. The time overrun for balance period of 9 months in case of Unit-I and 16 months in case of Unit-II due to reasons such as non-acquisition of full land, delay in laying of cross country pipeline for DM water, non-availability of coal etc., has not been allowed as discussed above. Accordingly, the time overrun allowed (against the actual time overrun) for the units are summarized as under:

Units	Schedule COD as per LOA	Actual COD	Time overrun (months)	Time overrun allowed (months)
I	26.7.2010	15.5.2012	22	13
II	26.9.2010	5.3.2013	29	13

20. Consequent upon the condonation of time overrun of 13 months in completion of the project, the date of Schedule COD has been reset for computation of IDC is as under:

Units	Schedule COD as per LOA	Actual COD	Time overrun (months)	IDC allowable upto
I	26.7.2010	15.5.2012	13	25.8.2011
II	26.9.2010	5.3.2013	13	25.10.2011

Admissibility of Additional Return on Equity

21. As noted, both the units of the generating station have been declared under commercial operation beyond the timeline specified by the Commission. For the reasons stated in para 6 above, these units of the generating station are not entitled to additional return on equity of 0.5% in terms of the 2009 Tariff Regulations.

Interest During Construction (IDC) & Financing Charges (FC)

22. Regulation 7(1)(a) of 2009 Tariff Regulations provides as under;

“Capital cost for a project shall include: (a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (i) being equal

to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;"

23. The claim of the petitioner for IDC, including Notional IDC, as on COD of Units I and II is as under:

	(₹ in lakh)	
	2012-13	
	As on COD of Unit-I (15.5.2012)	As on COD of Unit-II (5.3.2013)
IDC&FC including Notional IDC	94763.43	123999.67

24. It emerges from the above regulation that if the actual equity deployed is less than 30% of funds deployed (i.e. actual debt is more than 70%), the interest on the actual amount of loan has to be included in capital cost. Also, if the actual equity deployed is more than 30% of the funds deployed (i.e. actual debt is less than 70%), interest on 70% of the funds deployed has to be included in capital cost as Interest during Construction (IDC) by treating equity infusion above 30% as normative loan by the company to itself. Accordingly, IDC has been worked out based on the actual amount of loan deployed as per the details submitted by the petitioner in Form-7 and Form-14 (quarterly cash expenditure) by using average re-payment method. This method has been considered by the Commission in its tariff orders determining tariff in respect of other generating stations for the period 2004-09 which has been upheld by the Appellate Tribunal for Electricity. Accordingly, interest on normative loan has been worked out as per regulations and by considering the following.

(a) The fund deployment done by the petitioner periodically till the COD of respective units (i.e. during construction period) has been sourced partly by equity and partly by debt (i.e. debt-equity ratio) which was not uniform during the entire construction period. Therefore, quarter wise debt-equity ratio has been computed as per the quarter-wise cash expenditure submitted by the petitioner in Form 14A and Appendix –V of the affidavit dated 24.7.2013 and the infusion of debt has been computed as per the drawl and repayment schedule claimed by the petitioner in Form 7 and Appendix – VI of the affidavit dated 24.7.2013.

(b) In case the cumulative equity deployed in any quarter is more than 30% of the cumulative fund deployed, the excess of equity over and above 30% of cumulative fund deployed has been treated as normative loan.

(c) The interest on normative loan has been allowed based on the quarter-wise rate arrived as per the actual interest and the actual loan balance applicable to the concerned quarter.

(d) It is observed that the debt infusion started only after some period and the initial expenditure for the project has been met entirely through equity. For this period, interest on normative loan has been allowed by considering the Weighted Average Rate of Interest (WAROI) of all corporate loans running during that period. The interest rate allowed in order dated 8.5.2013 in Petition No. 272/2013 has been considered as the WAROI of all corporate loans during that period. Further, all the cash expenditure prior to LOA has been considered in the quarter of LOA for the computation of interest on normative loan.

(e) The interest during construction including interest on normative loan has been allowed as per the capitalization ratio arrived from the IDC Capitalization details submitted by the petitioner.

25. Based on above, the IDC& FC worked out and allowed in respect of the Units of the generating station are as under:

	2012-13		(₹in lakh)
	As on COD of Unit-I (1505.2012)	Addition as on COD of Unit-II (5.3.2013)	Total
IDC&FC	34801.49	21658.69	56460.18
Interest on Normative loan*	2496.42	1198.31	3694.73
Total	37297.91	22857.00	60154.91

* Interest on normative loan is to be treated as income in the Financial Statement i.e Profit & Loss A/c and Balance Sheet by the petitioner as it form part of capital cost for the purpose of allowing tariff.

Capital Cost

26. Regulation 7(1) of the 2009 Tariff Regulations, provides as follows:

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

Capitalized initial spares subject of the ceiling rates specified in regulation 8; and

Additional capital expenditure determined under regulation 9:

Provided that the assets forming part of the project, but in use shall be taken out of the capital cost.

The capital cost admitted by the Commission after prudence check shall form the basis for determination of tariff;

Provided that in case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out based on the benchmark norms to be specified by the Commission from time to time.

27. The Board of the Petitioner Corporation in its 573rd meeting held on 30.4.2007 has approved the project cost of ₹4457 crore, including IDC & FC of ₹300 crore. However, as per Investment Approval dated 30.3.2011, the revised approved cost of the project is ₹5715.62 crore, including IDC & FC of ₹654.93 crore.

28. The petitioner vide its affidavit dated 24.7.2013 has submitted that the actual capital cost duly certified by the Auditor is ₹5934.32 crore including Notional IDC of ₹1240 crore as on COD of Unit-II (5.3.2013) of the generating station and ₹3227.55 crore, including IDC of ₹947.63 crore as on COD of Unit-I. However, the actual capital expenditure incurred as on COD of Unit-I and COD of the generating station is as under:

	(₹ in crore)		
	Actual capital expenditure as on COD of Unit-I as on 15.5.2012	Actual capital expenditure as on COD of Unit-II as on 5.3.2013	Total Capital Cost as on COD of generating station
Capital cost excluding IDC (notional)	2279.92	2414.40	4694.32
Notional IDC	947.63	292.36	1240.0
Capital cost including IDC	3227.55	2706.76	5934.32

29. The capital cost of Unit-I and II includes an amount for ₹3.41 crore and ₹6.35 crore respectively towards the cost of transmission line. The inclusion of transmission tariff for the 19 km portion of the 400 kV D/C Durgapur-Jamshedpur Transmission Line (187 km) in order to facilitate start-up power to the generating station is in line with the Commission's order dated 24.2.2012 in Petition No. 30/TT/2011. However, in the said order, the Commission had directed that the tariff for the transmission asset shall have to be borne by the petitioner till COD of Unit-I of the generating station and thereafter, to be

shared by the respondents in accordance with the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges & Losses) Regulations, 2009. Accordingly, the transmission tariff of ₹3.41 crore as on COD of Unit-I and the generating station, has only been allowed and the transmission tariff for ₹6.35 crore claimed by the petitioner has accordingly been disallowed.

Initial Spares

30. The cost of initial spares capitalised as on COD of Units-I & II are ₹25.10 crore and ₹3.26 crore respectively. Thus, the total initial spares incurred up to COD of the generating station is ₹28.36 crore. Since the value of initial spares consumed is within the ceiling limit of 2.5% of the project cost as per Regulation 8 of the 2009 Tariff Regulations, the same is allowed.

Infirm power

31. The petitioner has submitted that the revenue generated from sale of infirm power from Units I & II of the generating station is ₹2.50 crore and ₹53.28 crore respectively. The petitioner has also submitted that an amount of ₹56.33 crore and ₹215.56 crore was incurred towards the cost of fuel till COD of Unit-I & Unit-II and accordingly the differential amount has been considered in the capital cost. The petitioner has further submitted that there is no Cost overrun on account of time overrun.

32. We have examined the submissions. It is noticed that there is no Cost overrun in the contractual price on account of Time overrun. However, due to delay in the declaration of commercial operation of the said units, the Overhead establishment expenses such as salary, transportation, etc. has increased. Accordingly, a *pro rata* deduction of Overhead expenses has been made for a period of 9 months as on COD of Unit-I and 16 months as on COD of the Unit-II (generating station). The Establishment cost as on COD of Unit-I is

₹76.47 crore and as on COD of Unit-II is ₹170.13 crore. This works out to an Establishment cost for Unit-II as ₹93.66 crore. Based on the above, the *pro rata* deduction of overhead expenses due to delay of 9 months and 16 months disallowed in the COD of Unit-I and Unit-II respectively is worked out as under:

	Total period taken from zero date to actual COD (in months)	Time overrun disallowed (months)	Overhead Expenses (₹ in crore)	Pro-rata reduction (₹ in crore)
Unit-I	58	9	76.47	11.87
Unit-II	67	16	93.66	22.37

33. After adjustment of transmission charges (₹6.35 crore) as on COD of Unit-II of the generating station and *pro rata* reduction of establishment cost as on COD of Units-I & II (as above), the capital cost as on COD of Units I & II of the generating station is worked out as under :

	Actual capital expenditure as on COD of Unit-I as on 15.5.2012	Actual capital expenditure as on COD of Unit-II as on 5.3.2013	Total Capital Cost as on COD of generating station
Capital cost excluding IDC (notional) & FC	227992	241440	469432
Adjustment transmission line cost as on COD of Unit-II	0.00	(-) 294	(-) 294
Less: Pro rata Establishment cost due to period of time overrun not allowed	1187	2237	3424
Capital cost excluding IDC & FC	226805	238909	465714

Liabilities included in Capital Cost

34. The Capital cost as on COD of the Units has been worked out on cash basis, after deduction of un-discharged liabilities, if any. Similarly, in case of discharge of any liabilities, the same has been considered in the capital cost during the period of discharge.

Capital Cost as on COD of Unit-I (15.5.2012)

35. As stated above, the Capital cost as on COD of Unit-I is ₹226805.00 lakh. However, the capital cost, after considering the IDC & FC and adjustment of liabilities has been worked out as under:

	(₹ in lakh)
	Amount
Capital Cost excluding IDC&FC	226805.00
Add: IDC & FC	34801.49
Add: Interest on Normative Loan	2496.42
Total	264102.91
Less: Un discharged Liabilities	43549.90
Total Capital Cost on cash basis as on COD of Unit-I	220553.01

Additional Capital Expenditure

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

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

(i) Un-discharged liabilities;

(ii) Works deferred for execution;

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

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

(v) Change in law:

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

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

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

(ii) Change in law;

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

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

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

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

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

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

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

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

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

Additional Capital Expenditure from COD of Unit-I (15.5.2012) to COD of Unit- II (5.3.2013)

37. The petitioner has not claimed any additional capital expenditure in respect of Unit-I during the period. However, the discharge of liabilities, if any, during the period is to be considered as additional capital expenditure in the capital block during the period. The petitioner vide its affidavit dated 1.11.2013 has submitted the liability flow statement

and has indicated the discharge of liability of ₹20624.10 lakh during this period. However, it is noticed that the amount includes a discharge of ₹9844.39 lakh for which no justification or the nature of discharge has been furnished. In view of this, the additional capital expenditure for ₹10779.71 lakh has only been considered. However, the petitioner is directed to submit the details/justification as regards the nature of discharge for ₹9844.39 lakh, in the truing-up petition to be filed in respect of the generating station for the period 2012-14 in terms of Regulation 6(1) of the 2009 Tariff Regulations.

Capital Cost as on COD of Unit-II (5.3.2013)

38. The total capital expenditure allowed after considering IDC & FC and adjustments liabilities as on COD of Unit-II (generating station) is as under:

	<i>(₹ in lakh)</i>
Capital Cost as on COD of Unit-I (a)	220553.01
Additional Capitalization for the period from 15.5.2012 to 5.3.2013 (b)	10779.71
Capital Cost allowed for Unit-II as on COD	238909.00
Add: IDC & FC including interest on normative loan	21658.69
Add: Interest on Normative loan	1198.31
Less: Un-discharged liabilities	13306.91
Capital cost of Unit -II as on COD (c)	248459.09
Total Capital Cost as on COD of generating station (a+b+c)	479791.81

39. The interest on normative loan of ₹2496.42 lakh and ₹1198.31 lakh allowed is to be treated as income in the Financial Statements i.e. Profit and Loss A/c and Balance Sheet of the petitioner as the same forms part of capital cost for the purpose of tariff determination.

Reasonableness of Capital Cost

40. The hard cost of the project considered as on COD of the generating station is ₹4657.14 crore before adjustment of un-discharged liability etc. This works out to ₹4.66 crore/ MW for both the units. This is lesser than or comparable to the benchmark average cost of ₹4.90 crore/MW for first two units as specified by the Commission in its order dated 4.6.2012 in respect of coal based thermal power station of the unit size of

500 MW capacity. Accordingly, the hard cost of the project is found reasonable and is therefore allowed for the purpose of tariff.

Projected Additional Capital Expenditure from COD of Unit-II (5.3.2013) to 31.3.2014

41. The projected additional capital expenditure claimed by the petitioner for the period from 5.3.2013 (COD of Unit-II) to 31.3.2014 is as under:

<i>(₹ in lakh)</i>	
2012-13	2013-14
2813.89	23902.00

42. The additional capital expenditure of ₹2813.89 lakh claimed during 2012-13 (i.e. from 5.3.2013 to 31.3.2013) has been duly audited and the projected additional capital expenditure claimed for 2013-14 is ₹23902 lakh. The petitioner vide affidavit dated 24.7.2013 has submitted that the additional capital expenditure after COD includes both balance of payments and balance of works. It is observed that the additional capital expenditure for the years 2012-13 and 2013-14 claimed under Regulation 9 (1) (i) & 9 (1) (ii) of the 2009 Tariff Regulations mainly pertains to deferred works under the Original scope of work comprising Land, R&R, Plant & Equipment, Coal Handling Plant, Railway, Infrastructure, Water System, Garland Drain, Office Furniture etc., These have been allowed on prudence check based on the justification submitted by the petitioner. The petitioner is directed to furnish the reconciliation statement of the actual additional capital expenditure with the books of accounts for the years 2012-13 and 2013-14 respectively along with the details of additional capital expenditure actually incurred at the time of revision of tariff based on truing-up exercise to be undertaken in terms of Regulation 6(1) of the 2009 Tariff Regulations for the generating station for the period 2012-14. Accordingly, the additional capital expenditure allowed after adjustment of liabilities is as under:

	(₹ in lakh)	
	2012-13 (5.3.2013 to 31.3.2013)	2013-14
Additional Capital expenditure allowed	2813.89	23902.00
Less: Un-discharged liabilities	2851.76	0.00
Add: Discharge of Liabilities	1583.31	0.00
Total	1545.44	23902.00

43. The Capital cost allowed for the purpose of tariff for the period 2012-14 is as under:

	(₹ in lakh)		
	2012-13 (15.5.2012 to 4.3.2013)	2012-13 (5.3.2013 to 31.3.2013)	2013-14
Opening Capital cost	220553.01	479791.81	481337.25
Additional Capital expenditure	10779.71	1545.44	23902.00
Closing Capital cost	231332.72	481337.25	505239.25
Average Capital cost	225942.86	480564.53	493288.25

44. The capital cost allowed as above is subject to truing-up in terms of Regulation 6(1) of the 2009 Tariff Regulations

Debt-Equity Ratio

45. Regulation 12 of the 2009 Tariff Regulations provides as under:

(1) 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.

46. Accordingly, the actual debt equity ratio as on COD has been considered, since the equity actually deployed as on COD is less than 30% of the total cash expenditure and the actual debt-equity ratio works out to 76.61:23.39 as on COD of the generating station. This debt-equity ratio has been considered for the period up to COD. Further, the petitioner in Form-10 of the petition has submitted that the additional capital expenditure has been financed entirely through internal sources. Hence, the normative debt equity ratio of 70:30 has been considered in the case of additional expenditure. This is subject to truing-up in terms of Regulation 6 of the 2009 Tariff Regulations.

Return on Equity

47. Regulation 15 of the 2009 Tariff Regulations, as amended on 21.6.2011, provides as under:

“(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.”

48. Accordingly, return on equity has been worked out after accounting for projected additional capital expenditure as under:

	2012-13		2013-14
	(15.5.2012 to 4.3.2013)	(5.3.2013 to 31.3.2013)	
Notional Equity- Opening	51587.35	112223.30	112686.94
Addition of Equity due to Additional Capital Expenditure	2521.37	463.63	7170.60
Normative Equity-Closing	54108.72	112686.94	119857.54
Average Normative Equity	52848.04	112455.12	116272.24
Return on Equity (Base Rate)	15.500%	15.500%	15.500%
Tax Rate for period	20.008%	20.008%	20.008%
Rate of Return on Equity (Pre Tax)	19.377%	19.377%	19.377%
Return on Equity(Pre Tax)- (annualised)	10240.36	21790.43	22530.07

Interest on loan

49. Regulation 16 of the 2009 Tariff Regulations provides as under:

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

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

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

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

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

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

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

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

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

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

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

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

50. Interest on loan has been worked out as mentioned below:

(a) *The gross normative loan corresponding to 76.61% of the admitted capital cost is ₹168965.66 lakh as on 15.5.2012 (COD of Unit-I) and ₹367568.51 lakh as on 5.3.2013 (COD of Unit-II/ generating station).*

(b) *Net loan opening as on 15.5.2012 is same as gross loan. Hence, cumulative repayment of loan up to previous year/period is 'nil'.*

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

(d) *Depreciation allowed for the period has been considered as repayment.*

(e) *Average net loan has been calculated as the average of opening and closing.*

(f) *Weighted Average Rate of Interest has been calculated as under:*

a. The rate of interest considered in the calculation in case of all loans is on annual rest basis;

b. Actual draws upto COD of the generating station and actual rate of interest corresponding to each loan has been considered;

c. In line with the provisions of the regulations above, the weighted average rate of interest has been calculated after considering the actual loan portfolio during respective periods. Further, average method of repayment has been considered for the calculation of weighted average rate for the purpose of tariff (calculations enclosed at Annexure-I).

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

(₹ in lakh)

	2012-13		2013-14
	(15.5.2012 to 4.3.2013)	(5.3.2013 to 31.3.2013)	
Gross opening loan	168965.66	367568.51	368650.31
Cumulative repayment of loan up to previous year	0.00	13750.99	16414.20
Net Loan Opening	168965.66	353817.51	352236.11
Addition due to Additional capitalisation	8258.34	1081.81	16731.40
Repayment of loan during the year	13750.99	2663.21	36962.48
Net Loan Closing	163473.00	352236.11	332005.03
Average Loan	166219.33	353026.81	342120.57
Weighted Average Rate of Interest on Loan	10.9849%	10.8743%	10.7627%
Interest on Loan	18259.03	38389.34	36821.35

Depreciation

52. Regulation 17 of the 2009 Tariff Regulations provides as under:

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

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

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

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

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

(4) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-III to these regulations for the assets of the generating station and transmission system.

Provided *that, the remaining depreciable value as on 31st March of the year closing after a period of 12 years from date of commercial operation shall be spread over the balance useful life of the assets.*

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

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

53. Depreciation has been calculated considering the weighted average rate of depreciation computed on the gross value of asset as per Auditor Certificate as on respective dates of COD at the rates approved by C&AG. Further, the value of freehold land of ₹7476.00 lakh and ₹15241.00 lakh has been considered on COD of Unit-I & II respectively. The necessary calculations in support of depreciation are as shown below:

	2012-13		2013-14
	(15.5.2012 to 4.3.2013)	(5.3.2013 to 31.3.2013)	
Opening capital cost	220553.01	479791.81	481337.25
Closing capital cost	231332.72	481337.25	505239.25
Average capital cost	225942.86	480564.53	493288.25
Depreciable value @ 90%	196620.18	418791.18	430242.52
Balance depreciable value	196620.18	405040.18	413828.32
Rate of Depreciation	7.5558%	7.4917%	7.4931%
Depreciation	13750.99	2663.21	36962.48
Depreciation (annualized)	17071.81	36002.61	36962.48
Cumulative depreciation at the end	13750.99	16414.20	53376.68

Operation & Maintenance Expenses

54. The 2009 Tariff Regulations provides for the following O&M expense norms in respect of 500 MW units of coal based generating stations for the years 2012-13 and 2013-14:

	(₹ lakh / MW)	
	2012-13	2013-14
O&M expenses Norms for 500 MW Units	15.36	16.24

55. The O&M expenses claimed by the petitioner for the years 2012-13 and 2013-14 are on pro rata basis, based on number of days are mentioned under:

2012-13		2013-14
15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
6186.08	1136.22	16240.00

56. Based on above, the following O&M expenses have been allowed:

(₹ in lakh)

	2012-13		2013-14
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
O&M Expenses (<i>pro rata</i>)	6186.08	1136.22	16240.0
O&M Expenses (annualized)	7680	15360	16240.0

Interest on Working Capital

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

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

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

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

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

(v) O&M expenses for one month.

58. 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.

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

Fuel components in working capital

60. The petitioner has claimed the following cost of fuel in working capital:

	2012-13		2013-14
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
Coal stock for 2 months	12621	2318	31338
Oil stock for 2 months	358.08	65.77	889.12

61. Based on the weighted average GCV and price of fuel for the preceding three months from the COD of Unit-I(15.5.2012) and from COD of Unit-II (5.3.2013), the fuel component in working capital for the period 2012-13 to 2013-14 is worked out and allowed as under:

	2012-13		2013-14
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
Coal stock for 2 months	12722.76	2263.22	30595.35
Oil stock for 2 months	358.08	54.72	739.77

62. The difference in the fuel cost allowed as against the claim of the petitioner is on account of the fact that the petitioner vide affidavit dated 24.7.2013 has considered the GCV and price of coal for preceding 3 months of December, 2011, January, 2012 and February, 2012, in case of Units I and II, which is not in line with the provisions of the 2009 Tariff Regulations. In response to the directions of the Commission, the petitioner has furnished the price and GCV of coal for the preceding 3 months from the COD of Unit-I and the COD of Unit-II which has been considered for computation.

Cost of Secondary Fuel Oil

63. The petitioner has claimed the cost of Secondary Fuel Oil during 2012-13 to 2013-14.

(₹ in lakh)			
	2012-13		2013-14
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
Cost of Secondary fuel Oil	2148.50	394.62	5334.70

64. The cost of Secondary fuel oil based on the weighted average price and GCV for the three preceding months from the COD of Unit-I (15.5.2012) and COD of Unit-II (5.3.2013) has been worked out and allowed for purpose of tariff as under:

(₹ in lakh)			
	2012-13		2013-14
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
Cost of Secondary fuel Oil	2148.50	328.34	4438.63

Maintenance Spares

65. Maintenance Spares claimed by the petitioner for the purpose of working capital are as under:

(₹ in lakh)			
	2012-13		2013-14
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
Cost of maintenance spares (pro rata)	1237	227	3248

66. In terms of the regulations, the cost of maintenance spares in working capital is allowed as under:

(₹ in lakh)			
	2012-13		2013-14
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
Cost of maintenance spares (pro rata)	1237.22	227.24	3248
Cost of maintenance spares (annualised)	1536.00	3072.00	3248.00

O&M Expenses for 1 month

67. O & M expenses for 1 month (*pro rata*) claimed by the petitioner for the purpose of working capital are as under:

		(₹ in lakh)	
		2012-13	2013-14
15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013		
516	95		1353

For the purpose of computation of interest on working capital, the O&M expense for one month has been worked out as allowed as under:

	2012-13		(₹ in lakh)
	15.5.2012 to 4.3.2013	15.5.2012 to 4.3.2013	2013-14
O & M expenses for 1 month (<i>Pro rata</i>)	515.51	94.69	1353.33
O & M expenses for 1 month (<i>annualized</i>)	640.00	1280.00	1353.33

Receivables

68. Receivables on the basis of two months of fixed and energy charges (based on primary fuel only) have been worked out as under:

	2012-13		(₹ in lakh)
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	2013-14
Variable Charges -2 months	15795.26	30595.35	30595.35
Fixed Charges - 2 months	10321.75	21300.79	21479.00
Total	26117.00	51896.14	52074.35

Rate of interest

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:

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.

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. Accordingly, SBI base rate plus 350 basis points as on 1.4.2012 has been considered on all the above components of working capital for the purpose of calculating interest on working capital on annualized basis as under:

	2012-13		2013-14
	(15.5.2012 to 4.3.2013)	(5.3.2013 to 31.3.2013)	
Cost of coal – 2 months	15795.26	30595.35	30595.35
Cost of secondary fuel oil – 2 months	444.56	739.77	739.77
O&M expenses – 1 month	640.00	1280.00	1353.33
Maintenance Spares	1536.00	3072.00	3248.00
Receivables – 2 months	26117.00	51896.14	52074.35
Total working capital	44532.82	87583.26	88010.80
Rate of interest	13.5000%	13.5000%	13.5000%
Interest on working capital	6011.93	11823.74	11881.46

Operational Norms

71. The following norms of operation have been considered by the petitioner:

Normative Annual Plant Availability Factor	85%
Gross Station Heat rate (kcal/kWh)	2443
Auxiliary power consumption (%)	6.83
Specific Fuel Oil Consumption (ml/kWh)	1.0

72. The operational norms considered by the petitioner as above except for Auxiliary Energy Consumption (AEC) are in accordance with the provisions of the 2009 Tariff Regulations and are allowed. In respect of Auxiliary Energy Consumption, the petitioner in Form-3 of the affidavit dated 24.7.2013 has claimed Auxiliary Energy Consumption of 6.83 % as against the norm of 6.0% with natural draft cooling. The

generating station has two steam driven BFR and one number electrical motor driven BFP. It appears that the petitioner has considered the weighted average of the two considering the norm of 6% for steam driven BFP and 8.5% for electrically driven BFP petition which works out to $[(6.0*2+8.5*1)/3] = 6.83\%$. It is noticed that the Commission in respect of some of the generating stations of NTPC having same configuration of 2 BFP of steam driven & IBFP of electrically driven (including 1 spare BFP) as that of this generating station, had by its orders allowed the AEC of 6%. Considering the same, we allow the Auxiliary Energy Consumption of 6.0% in respect of this generating station also.

Contribution to Sinking Fund

73. As per judgment of the Appellate Tribunal for Electricity (Tribunal) dated 23.11.2007 in Appeal No. 273/2006, sinking fund, established with the approval of Comptroller and Accountant General of India vide letter dated December 29, 1992 under the provision of Section 40 of the DVC Act, 1948 is to be taken as an item of expenditure to be recovered through tariff. Accordingly, in terms of Regulation 43(iv) of the 2009 Tariff Regulations, the contribution towards sinking fund created for redemption of bond is allowed. This is however subject to the decision of the Hon'ble Supreme Court in C.A.No.4289/2008. The petitioner has claimed Contribution and Interest on sinking fund created for redemption of bond as per Section 40 of DVC Act as under:

	2012-13		(₹ in lakh)
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	2013-14
Contribution to sinking fund including interest.	1431.04	131.42	2665.61

74. Para 4.2 of the note to the financial statements for the year ended 31st March 2013 provides as under:

“For Bonds issued from 1st April 2012, the sinking fund is created for redemption of Bonds with the proportionate annuity contribution every year. The amount will be kept in a

*separate fund account to be managed and governed through **Escrow Mechanism**. Interest on investment on such fund will be credited to the Sinking Fund Account on annual basis"*

75. It emerges from the above that the funds are being managed outside and the interest which accrues on the investment are being credited to the fund annually. Hence the claim of the petitioner towards interest on sinking fund cannot be considered as there is no actual cash outlay towards interest. As regards annual contribution, the petitioner has claimed sinking fund contribution of bonds issued on 30.3.2012 and 25.3.2013. However, it is observed from Form-7 and Form-10 that the bonds issued on 30.3.2012 has only been utilized for funding the project. Accordingly, the bond issued on 30.3.2012 has only been considered for determination of the contribution to sinking fund. This is subject to truing-up in terms of Regulation 6(1) of the 2009 Tariff Regulations. The petitioner is directed to furnish the bond-wise, project-wise contribution towards the sinking fund duly certified by Auditor at the time of truing-up. Accordingly, the amount allowed towards contribution to the sinking fund on annualized basis has been worked out as under:

	2012-13		(₹ in lakh)
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	2013-14
Contribution to sinking fund (annualized)	1460.24	1460.24	1562.46

Interest on Capital as per Section 38 of the DVC Act

76. The interest on Government capital is not allowable as per provisions of the 2009 Tariff Regulations. As per the provisions of the 2009 Tariff Regulations, the interest on Government capital is not allowable. Also, the Tribunal in its judgment dated 10.5.2010 in Appeal No. 146/2009 (against Commission's order dated 6.8.2009) had confirmed that the interest on Government capital is not to be allowed separately, if the capital deployed is getting fully serviced either through return on equity or interest on loan. The relevant portion of the judgment is extracted as under:

"(7) In regard to the issue relating to the aspect of Revenues to be allowed under section 38 of the DVC Act, 1948, the Tribunal in the Remand order directed the Central Commission to ensure that the capital deployed in financing operating assets is getting fully serviced either through Return on Equity or interest on loan. **In compliance with the said order, the Central Commission allowed Debt Equity Ratio on the total capital employed and provided return @ of 14% on normative equity capital and also provided interest on loan of the normative type.** The revised Debt Equity Ratio and depreciation was considered in line with the direction of the Tribunal. The Appellant itself had admitted in the earlier appeal that the Appellant is required to pay interest on the amount of capital under section 38 of the DVC Act, but the same was retained by the Appellant in view of the obligation of participating Governments and as such the retained interest is ploughed back as capital to the creation of capital assets relating to power. Thus, the Appellant enjoyed the perpetual moratorium on it and never repaid the loans. So the question of adjustment of depreciation for the loan does not arise."

77. Accordingly, this interest on Government capital has not been considered for the computation of tariff.

Annual Fixed Charges

78. The annual fixed charges for the generating station for the period from 15.5.2012 to 31.3.2014 are approved as under:

	2012-13		2013-14
	15.5.2012 to 4.3.2013	5.3.2013 to 31.3.2013	
Depreciation	17071.81	36002.61	36962.48
Interest on Loan	18259.03	38389.34	36821.35
Return on Equity	10240.36	21790.43	22530.07
Interest on Working Capital	6011.93	11823.74	11881.46
O&M Expenses	7680.00	15360.00	16240.00
Cost of Secondary fuel oil	2667.35	4438.63	4438.63
Total	61930.48	127804.75	128873.99
Contribution to Sinking Fund	1460.24	1460.24	1562.46
Grand Total	63390.72	129264.99	130436.45

Note: 1) All figures are on annualized basis. 2) All the figures under each head have been rounded. The figure in total column in each year is also rounded. Because of rounding of each figure the total may not be arithmetic sum of individual items in columns.

Energy Charge Rate (ECR)

79. The petitioner has claimed Energy Charge Rate (ECR) of 271.04 paisa/kWh based on the weighted average price and GCV of Coal procured and burnt for the period December, 2011, January, 2012 and February, 2012 respectively and not based on the price and GCV of coal for the preceding three months from the COD of Unit-I (15.5.2012) and Unit-II (5.3.2013). The computation of ECR by the petitioner is not as per provisions of the 2009 Tariff Regulations. Accordingly, the price and GCV of fuels for the preceding

3 months were sought for from the petitioner which has been submitted. Accordingly, based on the weighted average price and GCV of Coal procured and burnt for the preceding three months from the COD of Unit-I (15.5.2012) and COD of Unit-II (5.3.2013) ECR has been worked out and allowed as under:

Description	Unit	15.5.2012 to 4.3.2013 (Unit-I)	5.3.2013 to 31.3.2014 (Unit-II /Generating station)
Capacity	MW	500	1000
Gross Station Heat Rate	kCal/kWh	2443	2443
Specific Fuel Oil Consumption	ml/kWh	1.0	1.0
Aux. Energy Consumption	%	6.0	6.0
Weighted Average GCV of Oil	kCal/l	10541	10500
Weighted Average GCV of Coal	kCal/Kg	4583	4213
Weighted Average Price of Oil	₹/KL	71645.20	59610.93
Weighted Average Price of Coal	₹/MT	4796.17	4269.94
Rate of energy charge ex-bus	Paisa/kWh	270.805	262.274

80. The Energy charge on month to month basis shall be billed by the petitioner as per Regulation 21 (6) (a) of the 2009 Tariff Regulations.

Application fee and the publication expenses

81. In terms of our decision contained in order dated 11.1.2010 in Petition No.109/2009, the expenses towards filing of tariff application and the expenses incurred on publication of notices are to be reimbursed. Accordingly, the expenses incurred by the petitioner for petition filing fees for the period 2009-14 in connection with the present petition and the publication expenses incurred shall be directly recovered from the beneficiaries, on *pro rata* basis.

82. The difference between the tariff determined by this order and the tariff already recovered from the respondents (on mutually agreed basis) shall be adjusted in accordance with the proviso to Regulation 5(3) of the 2009 Tariff Regulations.

83. Petition No. 66/GT/2012 is disposed of in terms of the above.

Sd/-
(A.S Bakshi)
Member

Sd/-
(A.K.Singhal)
Member

Sd/-
(Gireesh B Pradhan)
Chairperson

Annexure-I

Calculation of Weighted Average Rate of Interest

Sl. no.	Name of loan	Particulars	(₹ in lakh)		
			2012-13 (15.05.2012 to 04.03.2013)	2012-13 (05.03.2013 to 31.03.2013)	2013-14
1	REC	Net opening loan	291200.00	275600.00	270400.00
		Add: Addition during the period			
		Less: Repayment during the period	15600.00	5200.00	20800.00
		Net Closing Loan	275600.00	270400.00	249600.00
		Average Loan	283400.00	273000.00	260000.00
		Rate of Interest	11.3000%	11.3000%	11.3000%
		Interest	32024.20	30849.00	29380.00
2	Bonds (30.3.2012)	Net opening loan	53000.00	53000.00	53000.00
		Add: Addition during the period	-	-	-
		Less: Repayment during the period	-	-	-
		Net Closing Loan	53000.00	53000.00	53000.00
		Average Loan	53000.00	53000.00	53000.00
		Rate of Interest	9.3000%	9.3000%	9.3000%
		Interest	4929.00	4929.00	4929.00
2	BONDS (25.3.2013)	Net opening loan	-	-	30000.00
		Add: Addition during the period	-	30000.00	-
		Less: Repayment during the period	-	-	-
		Net Closing Loan	-	30000.00	30000.00
		Average Loan	-	15000.00	30000.00
		Rate of Interest	8.6900%	8.6900%	8.6900%
		Interest	-	1303.50	2607.00
	Gross Total	Net opening loan	344200.00	328600.00	353400.00
		Add: Addition during the period	-	30,000.00	-
		Less: Repayment during the period	15600.00	5200.00	20800.00
		Net Closing Loan	328600.00	353400.00	332600.00
		Average Loan	336400.00	341000.00	343000.00
		Rate of Interest	10.9849%	10.8743%	10.7627%
		Interest	36953.20	37081.50	36916.00