

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 61/GT/2016

Coram:

Shri P.K. Pujari, Chairperson

Shri A.K. Singhal, Member

Shri A.S. Bakshi, Member

Dr. M.K Iyer, Member

Date of order: 29th June, 2018

In the matter of

Revision of tariff for the period from COD to 31.3.2014 based on truing up exercise and approval of tariff for the period from 1.4.2014 to 31.3.2019 in respect of 262.5 MW gross capacity sale from Kamalanga Thermal Power Plant of GMR-Kamalanga Energy Limited (1050 MW) to GRIDCO.

And

In the matter of

GMR-Kamalanga Energy Limited,
Skip House, 25/1 Museum Road,
Bangalore-560 025

.....Petitioner

Vs

1. GRIDCO Limited
Janpath, Bhubaneshwar-751 022, Orissa
2. Central Electricity Supply Utility of Orissa
2nd Floor, IDCO Tower, Janpath,
Bhubaneswar-751 022
3. North Eastern Electricity Supply Company of Orissa Limited
Januganj, Balasore- 756019, Orissa
4. Western Electricity Supply Company of Orissa Limited
Burla, Sambalpur- 768017, Orissa
5. Southern Electricity Supply Company of Orissa Limited
Courtpetta, Berhampur
Ganjam- 760 004, Orissa

.....Respondents

Parties present:

Shri Amit Kapur, Advocate, GKEL

Shri Vishrov Mukherjee, Advocate, GKEL



Ms. Raveena Dhamija, Advocate, GKEL
Shri Yashaswi Kant, Advocate, GKEL
Shri Raj Kumar Mehta, Advocate, GRIDCO
Ms. Himanshi Andley, Advocate, GRIDCO
Shri Sukanta Panda, GRIDCO
Shri Satyabrata Samal, GRIDCO

ORDER

This petition has been filed by the petitioner, GMR-Kamalanga Energy Limited (GKEL) for revision of tariff for the period from COD to 31.3.2014 after truing-up exercise in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter 'the 2009 Tariff Regulations') and for approval of tariff for the period 2014-19 in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter 'the 2014 Tariff Regulations') in respect of 262.5 MW gross capacity sale from Kamalanga Thermal Power Plant (3 x 350 MW) (hereinafter 'the project/generating station') to GRIDCO.

Background

2. Govt. of Odisha (GoO) and GMR Energy Ltd (the parent company of GKEL) entered into Memorandum of Understanding (MOU) dated 9.6.2006 with validity for 3 years for setting up of 1000 MW thermal power plant at Kamalanga, Dhenkanal, Odisha. In terms of the MOU, the nominated agency by GoO shall have the right to purchase 25% of the power from the power plant in accordance with Power Purchase Agreement (PPA) to be executed. The Respondent No.1, GRIDCO (the nominated agency of GoO) entered into the PPA dated 28.9.2006 with GKEL in terms of the MOU dated 9.6.2006 for purchase of 25% power from the Project at a tariff determined by the Appropriate Commission, purchase of entire quantum of power produced in excess of 80% PLF at variable cost and incentive (incentive to be



determined by the Appropriate Commission) and purchase of entire quantum of infirm power at variable cost. The power is being procured by the respondent No.1, GRIDCO on behalf of and for supply to Odisha Discoms.

3. Respondent No.1, GRIDCO filed petition before the State Commission of Odisha for approval of the PPA entered into between GRIDCO and GMR Energy Ltd and the same was approved by the State Commission on 20.8.2009. The State Commission however directed the Respondent No.1, GRIDCO to file petition for approval of tariff under Section 62 read with Section 79 (1) (b) of the Electricity Act, 2003, before the Central Commission.

4. On 29.1.2009, a Supplementary MOU was executed between GEL and GoO making changes/amendments pursuant to the Rehabilitation & Resettlement Policy of GoO regarding employment of oustees of the project and local people of State of Odisha. GKEL signed long term PPAs under competitive bidding route with Haryana on 12.3.2009 for supply of 300 MW through Power Trading Corporation (PTC) and with Bihar on 9.11.2011 for supply of 260 MW from the generating station. Thereafter, on 28.10.2010, a supplementary MOU was executed between GoO and GKEL for extension of the original MOU dated 9.6.2006 for a further period of two years and to increase project size from 1000 MW to 1400 MW. Further, on 4.1.2011, a revised PPA was executed between GKEL and GRIDCO revising the installed capacity of the project to 1400 MW and replacing the counter party to the PPA from GEL to GKEL.

5. The actual COD of the Units of the project are as under:

Unit-I	30.4.2013
Unit-II	12.11.2013
Unit-III	25.3.2014



6. Petition No. 77/GT/2013 was filed by the petitioner for approval of tariff of the generating station for the period from the date of COD of Unit-I i.e. 1.4.2013 till 31.3.2014 and the Commission by interim order dated 3.1.2014 held that the Central Commission has the jurisdiction to determine the tariff of the generating station of the petitioner under Section 62 read with Section 79(1)(b) of the Electricity Act, 2003. Against the said order, the Respondent No.1, GRIDCO filed Appeal No.74/2014 before the Appellate Tribunal for Electricity ('the Tribunal') challenging the jurisdiction of the Commission. These appeals were clubbed along with similar other appeals. During the pendency of the said appeals, the Commission determined the tariff of the generating station for the period from COD of Unit-I till 31.3.2014, subject to final decision of the Tribunal in the said appeals. Accordingly, the annual fixed charges determined by the Commission vide order dated 12.11.2015 in respect of the generating station is as under:

(₹ in lakh)

	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
Depreciation	6399.35	7019.47	499.55
Interest on Loan	12174.95	12928.63	890.47
Return on Equity	5117.72	5684.55	447.63
Interest on Working Capital	2421.96	3198.64	263.94
O&M Expenses	3757.02	5098.82	402.54
Secondary fuel oil cost	781.87	1156.82	98.73
Total Fixed Charges	30652.87	35086.93	2602.87

7. Aggrieved by Commission's order dated 12.11.2015, the Petitioner filed Review Petition No. 3/RP/2016 before the Commission on issues namely (a) Computation of Non-EPC cost; (b) Computation of Pre-operative expenses and (c) Computation of IDC based on time over-run. The petitioner also filed Appeal No. 35/2016 before the Tribunal on various issues, including the disallowance of time overrun on account of (a) acquisition of land and (b) Change in Visa Policy. Similarly, the Respondent, GRIDCO filed Appeal No. 45/2016 before the Tribunal challenging the order dated



12.11.2015 on certain issues, including the jurisdiction of the Central Commission to regulate the tariff of the project.

8. During the pendency of the review petition and the appeals as aforesaid, the full bench of the Tribunal by its judgment dated 7.4.2016 in Appeal Nos. 100/ 2013 & 98/2014 and other similar appeals (including Appeal No.74/2014 filed by GRIDCO), upheld the jurisdiction of the Central Commission to determine the tariff of the generating station of the Petitioner. The relevant portion of the judgment dated 7.4.2016 is extracted hereunder:

“309. Appeal No.74 of 2014 has been filed against Order dated 3/1/2014 passed by the Central Commission in Petition No.77/GT/2013. By the said order dated 3/1/2014, the Central Commission, while relying upon its common order dated 18/12/2013 passed in Petition No.79/MP/2013 and Petition No.81/MP/2013, has held that it has jurisdiction to entertain a petition for determination of tariff under Section 79(1)(b) of the said Act. There is no dispute that GMR Kamalanga Energy Limited, the petitioner therein was supplying power to procurers in more than one State from its power plant at Kamalanga in the State of Orissa. We have already answered Issue No.3 of the Agreed Issues that the supply of power to more than one State from the same generating station of a generating company, ipso facto, qualifies as ‘Composite Scheme’ to attract the jurisdiction of the Central Commission under Section 79 of the said Act. In view of this, Appeal No.74 of 2014 is devoid of any merit and is dismissed.”

9. Against the judgment of the Tribunal, GRIDCO filed Civil Appeal No. 5415 of 2016 before the Hon’ble Supreme Court. Thereafter, the Commission by order dated 17.3.2017 disposed of the Review Petition 3/RP/2016 filed by the petitioner with the following observations:

“13. The matter has been examined. The issues on which review has been sought by the petitioner has been indicated in Para 2 of this order. However, on a careful perusal of the appeal filed by the petitioner before the Tribunal, it is noticed that the petitioner has challenged the Commission’s order dated 12.11.2015 on various grounds, including the disallowance of time over-run in the completion of the project on the ground that same is not attributable to the petitioner. It has also prayed for granting consequential increase in capital cost, IDC and Financing cost. Since the decision of the Tribunal on the issue of time over-run would necessarily have an impact on the computation of IDC, we are of the considered view that the correction of errors in the order, if any, as stated by the petitioner, in the review petition could be undertaken only after a final decision of the Tribunal in the said appeal. We are therefore not inclined to consider the relief prayed for by the petitioner at this stage.”



10. On the issue of correction of errors in the computation of Non- EPC cost, pre-operative expenses and computation of IDC in the review petition, the Commission in the said order dated 17.3.2017 observed as under:

“15. It has been given to understand that the appeal filed by the petitioner is pending before the Tribunal. In line with the above provision of CPC, the errors, if any, in the order dated 12.11.2015 would be undertaken after the final decision of the Tribunal in the said appeal filed by the petitioner. Alternatively, the petitioner will be at liberty to approach the Commission for rectification of the errors pursuant to the judgment of the Tribunal in the said appeal.”

11. Subsequently, the Hon’ble Supreme Court vide its judgment dated 11.4.2017 in Civil Appeal No. 5415/2016 dismissed the said appeal filed by GRIDCO thereby upholding the jurisdiction of the Central Commission for determination of tariff of the generating station of the petitioner. Subsequently, the Tribunal by its judgment dated 1.8.2017 dismissed the Appeal No. 45/2016 filed by GRIDCO and upheld the jurisdiction of Central Commission to determine tariff of the generating station in the light of the Hon’ble Supreme Court order dated 11.4.2017 in Appeal No. 5415/2016 and the full bench judgment of the Tribunal dated 7.4.2016. Also, by a separate judgment dated 1.8.2017, Appeal No. 35/2016 filed by the petitioner was also dismissed by the Tribunal, except on the issue of time overrun from 27.7.2009 to 9.2.2010 on account of the delay in the possession of land by the petitioner, GKEL. The relevant portions of the judgment of the Tribunal dated 1.8.2017 in Appeal No. 35/2016 are extracted hereunder:

“10. After having a careful examination of all the arguments and submissions of the rival parties on various issues raised in the present Appeal, our observations are as follows:-

xxxxx

xi. In view of our discussions at 10 b) A. ii to x above we hold that the initial delay in possession of land to the Appellant was due to reason beyond the control of the Appellant and the impugned findings of the Central Commission denying time overrun in initial delay of handing over possession of land to the Appellant by GoO/IDCO is set aside. The Central Commission is hereby directed to rework and grant consequential reliefs to the Appellant by considering time overrun from



27.7.2009 to 9.2.2010 i.e. initial delay in handing over possession of land to the Appellant for all the three units of the Station.”

12. Based on the above, the Tribunal in the said judgment ordered the following:

“We are of the considered opinion that the issues raised in the present Appeal are devoid of merit except on one issue related to time overrun due to initial delay in handing over possession of land to the Appellant by GoO/IDCO which needs fresh consideration by the Central Commission in line with our decision taken above and accordingly the Appeal and I.A. are hereby partially allowed.

The Impugned Order dated 12.11.2015 passed by the Central Commission is confirmed except to the extent above. Matter is hereby remanded to the Central Commission only to the extent to grant consequential reliefs to the Appellant on account of our decision of allowing initial delay in handing over possession of land to the Appellant as ordered above.”

13. The Petitioner and the Respondent, GRIDCO have filed Civil Appeals challenging the judgments of the Tribunal dated 1.8.2017 in Appeal Nos. 35/2016 and Appeal No. 45/2016 and the same are pending. However, in compliance with the directions of the Tribunal in its judgment dated 1.8.2017 *as quoted above* and in view of the directions of the Commission in order dated 17.3.2017, the capital cost as on COD of the units of the project has been revised by Commission’s order dated 11.10.2017 in Petition No.77/GT/2013, considering the time overrun of 6.5 months (from 27.7.2009 to 9.2.2010). Also, considering the fact that the present petition for revision of tariff based on truing-up exercise was pending for consideration, the Commission in the said order directed that consequential reliefs, based on the revised capital cost would be carried out at the time of disposal of the present petition. Relevant portion of the order dated 11.10.2017 is extracted as under:

“6. In compliance with the above directions of the Tribunal and the Commission’s order dated 17.3.2017, the tariff of the generating station determined vide order dated 12.11.2015 in Petition No. 77/GT/2013 is required to be revised. It is noticed that Petition No. 61/GT/2016 filed by the Petitioner for revision of tariff for the period from COD to 31.3.2014 after truing exercise and approval of tariff for the period 2014-19 in respect of this generating station is pending and the hearing is yet to be completed. In this background, we, in line with the directions of the Tribunal, allow the time overrun of 6.5 months (from 27.7.2009 to 9.2.2010) and revise the capital cost as on COD of units of the generating station, by this order. However, consequential reliefs, based on the revised capital cost, shall be carried out at the time of disposal of Petition No. 61/GT/2016. We proceed accordingly.



7. The Commission in order dated 12.11.2015 had allowed/disallowed the time overrun for Units I, II and III as under:

Units	Schedule COD as per LOA	Revised scheduled COD	Time overrun allowed (in months)	Time overrun disallowed (in months)
I	27.11.2011	15.9.2012	3	14
II	27.1.2012	26.2.2013	6.5	15
II	27.3.2012	11.05.2013	7	17

8. Considering the time overrun of 6.5 months (from 27.7.2009 to 9.2.2010) allowed for initial delay in handing over possession of land to the Petitioner for all three units, the time overrun allowed (against the actual time overrun) for Units-I, II & III and the schedule COD (reset) for the purpose of computation of IDC in the table under para 41 of the order dated 12.11.2015 shall stand revised as under:

Units	Schedule COD as per LOA	Revised scheduled COD	Time overrun allowed (in months)	Time overrun disallowed (in months)
I	27.11.2011	15.9.2012	9.5	7.5
II	27.1.2012	26.2.2013	13	8.5
III	27.3.2012	11.05.2013	13.5	10.5

9. The pro-rata reduction in overhead expenses based on the time overrun disallowed for the units as allowed in the table under para 52 of the order dated 12.11.2015 is revised as under:

	Total period taken from zero date to actual COD (in months)	Time overrun disallowed (in months)	Overhead Expenses (₹ in crore)	Pro-rata reduction = (col.4x col.3) /col.2 (₹in crore)
(1)	(2)	(3)	(4)	(5)
Unit-I	47	7.5	157.16	25.08
Unit-II	47.5	8.5	258.28	46.22
Unit-III	51	10.5	367.74	75.71

10. Based on the above, the capital cost as on COD of Units-I, Unit-II and Unit-III of the generating as approved in the table under para 54 of order dated 12.11.2015 is revised as under:

Description	(₹ in lakh)		
	Actual capital expenditure as on COD of Unit-I (30.4.2013)	Actual capital expenditure as on COD of Unit-II (12.11.2013)	Actual capital expenditure as on COD of Unit-III/ Station (25.3.2014)
Land cost	4399.00	4399.00	10136.00
EPC cost with taxes & duties	195662.00	310768.00	412966.00
Non- EPC Costs	7446.00	21236.00	26012.00
Pre-operating costs (after pro-rata deduction due to time overrun)	17497.00 (20005.00-2508.00)	30482.00 (35104.00-4622.00)	44146.00 (51717.00-7571.00)
IDC & FC	30567.00	57620.00	82732.00
Capital Cost including IDC & FC	255571.00	424505.00	575992.00



11. The capital cost as on COD of the units till 31.3.2014 along with other components of tariff as approved in order dated 12.11.2015 shall be revised at the time of truing up/approval of tariff of the generating station in Petition No. 61/GT/2016. With this, the directions contained in the judgment of the Tribunal dated 1.8.2017 in Appeal No. 35/2016 stands implemented.”

Revision of tariff for 2009-14

14. Clause (1) of Regulation 6 of the 2009 Tariff Regulations provides as under:

"6. Truing up of Capital Expenditure and Tariff

(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2014, as admitted by the Commission after prudence check at the time of truing up.

Provided that the generating company or the transmission licensee, as the case may be, may in its discretion make an application before the Commission one more time prior to 2013-14 for revision of tariff."

15. The annual fixed charges claimed by the petitioner in the present petition are as under:

	(₹ in lakh)		
	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
Depreciation	5867.56	6838.21	491.54
Interest on Loan	10862.51	11908.82	890.06
Return on Equity	4741.94	5921.42	415.74
Interest on Working Capital	2361.91	3165.70	262.21
O & M Expenses	3757.02	5098.82	402.54
Secondary fuel oil cost	781.87	1156.82	98.73
Total Fixed Charges	28372.81	34089.79	2560.92

16. In compliance with the directions of the Commission, the petitioner has filed the additional information and has served copies on the respondents. The respondent, GRIDCO has filed replies and the petitioner has filed rejoinders to the said replies. The parties have also filed their written submissions. The petition was heard on 20.2.2018 and accordingly the Commission reserved its order. Based on the submissions of the parties and the documents available on record, we now proceed to examine the claim of the petitioner as discussed in the subsequent paragraphs.



Capital Cost

17. 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.”

18. The capital cost claimed by the petitioner as per Form 5B, vide affidavit dated 1.4.2016 is as under:

	(₹ in lakh)		
	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
Land	4398.91	4398.91	10135.54
EPC Cost (Including FERV)*	195661.83	310767.85	454038.42
Non EPC	7446.43	21235.86	36093.04
Pre-operative Expenses	20004.66	35103.55	51716.84
Interest During Construction including hedging cost of ₹ 5370.32 lakh	26223.33	50424.43	70317.64
Financial charges	4344.00	7196.00	12414.00
Total capital cost including IDC, Financing charges, FERV and Hedging cost	258079.15	429126.59	634715.48

* FERV of Rs 6999.27 lakh as on 30.4.2013, Rs 21072.16 lakh as on 12.11.2013 and Rs 23948.59 lakh as on 25.3.2014 is included in the EPC cost

Error in dis-allowance of Non-EPC Cost

19. The petitioner in this petition has claimed an amount of ₹101.05 crore in the capital cost as on COD of Unit-III (25.3.2014) towards ‘Error in the dis-allowance of Non-EPC cost’. This issue was raised by the petitioner in Review Petition No 3/RP/2016 wherein the Commission in order dated 17.3.2017 observed that correction of errors in the order, if any, as stated by the petitioner, could be undertaken only after a final decision of the Tribunal in the appeal. The Tribunal having disposed of the said appeals, we now examine the submissions of the petitioner with regard to the correction of errors in Commission’s order dated 12.11.2015 in Petition No. 77/GT/2013. It is observed that the Commission in paras



53 & 54 of its order dated 12.11.2015 had examined each item of capital cost, including Non-EPC cost & Pre-operative expenses and had given sufficient justification for allowing/disallowing the increase in audited capital cost as compared to original project cost. As per original estimate, the Non-EPC cost was ₹99.00 crore and the same had increased by ₹261.93 crore (i.e ₹360.93 crore) as per the audited capital cost. However, the Commission after prudence check, had allowed the total increase of ₹161.12 crore (as against ₹261.93 crore) in Non-EPC cost on account of increase in (i) MGR cost (ii) new scope of work of Wagon Tippler which has been required due to introduction of New Coal Distribution Policy (NCDP), and increase in the transmission line cost of the project at various stages from bidding stage to final revised estimate stage. However, an amount of ₹73.34 crore under Non-EPC due to change of evacuation point Angul instead of Meramandli was not considered as the same was neither claimed as on COD or as on 31.3.2014. Thus, a total capitalisation of Non-EPC cost of ₹260.12 crore (99.00 +161.12) was allowed as on COD of Unit-III/station (24.3.2014) by order dated 12.11.2015. It is observed that the full amount of Non-EPC cost claimed as on COD of Unit-I (₹74.46 crore) and COD of Unit-II (₹212.36 crore) was allowed by the Commission. Therefore, the capitalisation of the Non-EPC cost as on COD of Unit-III/Station was restricted to ₹260.12 crore as stated above by a conscious decision. The increase in non-EPC cost of ₹73.34 crore due to change in evacuation point which was not considered in the said order on account of not being claimed as on COD, shall be considered as and when the same is capitalized. As regards the claim of the petitioner for ₹266.53 crore (₹23.18 crore as on COD of Unit-I, ₹126.44 crore as on COD of Unit-II and ₹116.91 crore as on COD of Unit-III) as error in the computation of pre-operative expenses in order dated 12.11.2015, we have examined the same and have found no



error in the computation of pre-operative expenses. Also, in line with the directions of the Tribunal in its judgment dated 1.8.2017, the Commission by its order dated 11.10.2017 revised the time over-run allowed and the consequential pro-rata increase in pre-operative expenses, In the above background, the disallowance of Non-EPC cost and pre-operative expenses is in order and there is no computational error in the said order dated 12.11.2015.

20. It is noticed that the Respondent, GRIDCO in its written submissions vide affidavit dated 26.8.2017 has raised certain issues for consideration of the Commission for the period 2013-14. According to the Respondent, these issues were originally raised in Appeal No.45/2016 (filed by GRIDCO) but were not entertained by the Tribunal in its judgment dated 1.8.2017 on the ground that the same were not raised before this Commission. The relevant portion of the judgment dated 1.8.2017 is extracted hereunder:

“(d) ii. The Central Commission has submitted that the Appellant has raised many fresh issues which were not raised before the Central Commission during the pleadings before it. These issues include non-impleadment of GoO, loading of entire Capital Cost of Dedicated Transmission Line i.e. 400 kV Single Circuit GMR-Meramundali Line based on single quotation from L&T and Alstom, Higher rate of Interest on Loan, Cost incurred on account of Non-EPC Cost and Pre-Operative Expenses, high start-up fuel cost and related establishment expenses, refund of excess amount earned through sale of infirm power not supplied to the Appellant and non-consideration of sale of infirm power prior to April, 2013

The Central Commission also submitted that the Appellant has not indicated reasons why these issues cannot be raised before the Central Commission. It is settled in law that fresh issues cannot be raised in an appeal. We agree with the contention of the Central Commission that fresh issues cannot be taken at the appeal stage. Hence, we are not inclined to deal with these issues in the present Appeal.”

21. Accordingly, the Respondent has submitted that the following issues may be considered by the Commission:

- (i) Refund of excess amount earned through sale of infirm power as per ECR derived considering price and GCV of Linkage Coal only;
- (ii) Sharing of cost by GKEL incurred towards high start-up fuel cost due to reduced availability of linkage coal along with other establishment expenses;



- (iii) Excess Cost incurred by GKEL on 400 kV S/C GMR -Meramundali dedicated transmission line based on single quotation from L&T and Alstom;
- (iv) Sharing of cost of GKEL-Meramundali 400 kV S/C dedicated Transmission line by GKEL on the ground that the same is used for evacuation of power outside the State of Odisha
- (v) High rate of Interest on Loans contracted by GKEL and consequential increase in Interest During Construction (IDC);
- (vi) Increase in Pre-operating expenses because of time overrun & Reduction in Infirm Power generation due to coal shortage;
- (vii) Consideration of ECR based on Linkage coal for determination of Working capital;
- (viii) Grant of time overrun of 3.5 months and 4 months for Unit-II & Unit-III of the station on account of grid restrictions allegedly imposed by OPTCL;

22. We now proceed to examine the above issues on merit, based on the submissions of the parties and the documents on record.

Issue (i): Refund of excess amount earned through sale of infirm power as per ECR derived considering price and GCV of Linkage Coal only

23. The Respondent, GRIDCO has referred to Regulation 11 of the 2009 Tariff Regulations and has submitted that it has been mandated by the provisions of the MoU, the State thermal Policy and the revised PPA to procure all infirm power from the Petitioner at variable cost. The Respondent has further submitted that all such power has been procured by GRIDCO at provisional tariff of ₹1.75/kWh (as fixed by OERC for other IPPs) which shall be re-casted based on actual ECR derived as per the GCV and price of linkage coal for the said months. It has further submitted that since GRIDCO is under cost plus tariff, the benefits of procuring infirm power at variable cost as per the State thermal policy need not be allowed to be adjusted from the capital cost.

24. The matter has been examined. In terms of Regulation 11 of the 2014 Tariff Regulations, the sale of infirm power is to be accounted as UI and any revenue



earned by sale of infirm power after accounting for fuel expenses shall be applied for reduction in capital cost. Accordingly, the Commission in its order dated 12.11.2015 in Petition no. 77/GT/2013 had adjusted the positive and differential amounts of fuel cost and revenue earned from sale of infirm power in the capital cost. It is noticed that the issue of sale of infirm power was raised by the Respondent, GRIDCO in Appeal No. 45/2016 and the Tribunal by its judgment dated 1.8.2017 had affirmed the findings of the Commission on this issue. The relevant portion is extracted hereunder:

“The Central Commission while dealing with infirm power issue has acted in accordance with the provisions of the Tariff Regulations, 2009. In our opinion there is no infirmity in the decision of the Central Commission on this issue.”

25. On the issue of sale of excess energy beyond 80% PLF at variable charge to GRIDCO, the Tribunal had rejected the contentions of GRIDCO and held that there were no such provisions in the 2009 Tariff Regulations. The relevant portion is extracted hereunder:

“On the issue of sale of excess energy beyond 80% PLF to the Appellant at variable charge as per the provisions of the PPA we observe that there is no such provision in the Tariff Regulations, 2009. The Appellant has contended that in the Tariff Regulations, 2009, incentive was inbuilt in the fixed charges and not separately levied at any particular rate. As such, power generated beyond 85% PLF may be considered to be paid only at Energy Charge Rate for that particular month based on price and GCV of linkage coal. We observe that as per Regulation 26 (i) the Normative Annual Plant Availability Factor (NAPAF) for thermal generating stations is 85%. The stations achieving availability factor of more than 85% are incentivized in the form of capacity charges based on the age of the Station. Any scheduled energy beyond 85% PLF is billed at ECR based on the weighted average landed price of primary fuel and GCV of the coal which may include linkage/ e-auction/ imported coal. Accordingly, the contention of the Appellant on this issue is misplaced and this issue has been taken care by the Central Commission based on Tariff Regulations, 2009.”

26. In our considered view, the Respondent, GRIDCO has sought to re-agitate the same issue which had been settled by the Tribunal in its judgment dated 1.8.2017. The Tribunal having rejected the submissions of the Respondent and settled the issue, the Respondent cannot be permitted in law to re-agitate the issue in this



petition on any ground whatsoever. Accordingly, there is no reason to entertain the submissions of the Respondent, GRIDCO on this issue. The prayer of the Respondent GRIDCO is therefore rejected.

Issues (ii) & (vi): Sharing of cost by GKEL incurred towards high start-up fuel cost due to reduced availability of linkage coal along with other establishment expenses; Increase in Pre-operating expenses because of time overrun & Reduction in Infirm Power generation due to coal shortage

27. The Respondent, GRIDCO has submitted that the Increase in Pre-operating cost i.e. reduced infirm power generation due to coal shortage is not justified and lacks sufficient supporting documentary proof. It has also submitted that during the commissioning of Unit-I, the Petitioner had intimated vide letter dated 30.4.2013 that it has built up fuel stock for the same. The Respondent has further submitted that the Petitioner never intimated regarding any constraints in the supply of linkage coal prior to the synchronization or COD of its Units and thus there should not have been shortage of linkage coal to run and carry out the MCR Test and operate thereafter also. It has stated that since the delay in Project Work is due to inefficient Project Management by the Petitioner, the subsequent cost incurred towards high Start-up fuel cost (if any) due to reduced availability of linkage coal (if at all) along with other establishment expenses like salaries, professionals, and consultancy charges are to be borne by the Petitioner and should not have been loaded in tariff. The Respondent has further stated that it could be well ascertained from the letter 30.4.2013 and the status report that there was no dearth of linkage coal for synchronization and COD of Unit-I (350 MW) also. Accordingly, the Respondent has prayed that this matter may be examined by the Commission during the truing up exercise.



28. The Petitioner vide affidavit dated 22.12.2017 has clarified that GRIDCO has been billed only for infirm energy supplied to it by the Petitioner and not on the gross generation of infirm power. It has also submitted that that there is no inefficiency on part of the Petitioner in operation of plant and that the Petitioner had used linkage coal to the extent available for supply of power and had procured coal from alternate sources to carry out the commissioning activities and to achieve COD. The Petitioner has further submitted that it had furnished the details of the actual fuel used for generation of Infirm power vide affidavit dated 31.7.2014 in Petition No. 77/GT/2013. The Petitioner has pointed out that the issue regarding sale of infirm power stands settled by the judgment of the Tribunal dated 1.8.2017 in Appeal No. 45 of 2016 upholding the order of the Commission thereby rejecting the contentions of GRIDCO. The Petitioner has further submitted that it is allowed pre-operating expenses incurred corresponding to the time delay allowed. It is also noticed that the Petitioner in its reply submissions before the Tribunal in Appeal No. 45/2016 had submitted that it had informed the Respondent of the shortage of linkage coal vide its letter dated 6.6.2015 and requested the Respondent to take up the issue with the Ministry of Coal. Pursuant to this letter, the Department of Energy, Government of Odisha had written to the Ministry of Coal, GOI on 9.11.2015 requesting for supply of full quota of linkage coal.

29. The submissions have been considered. It is observed that the issue of Start-up fuel cost and Establishment charges have been examined by the Commission in terms of the submissions made by the parties in Petition No. 77/GT/2013 and by order dated 12.11.2015, the Commission, under the head "Pre-operative expenses" had observed the following:

"The pre-operative expenses as per the original Project cost is ₹156 crore. The pre-operating costs has increased by ₹361.17 crore as on COD as compared to the original



estimate. This increase is due to Commissioning & Start up fuel cost of ₹149.43 crore and Overhead expenses (establishment, admin, etc.) of ₹367.74 crore claimed under the above heads.

The Startup-fuel cost is higher due to the reduced availability of linkage coal which led to increased procurement of coal from open market ,e-auction. Further oil consumption which was assumed to be used in minimum had to be increased due higher dependence on oil while revenue earned through infirm power was reduced. Pre-operative expenses claimed for ₹517.17 crore appears to be on higher side. However it is observed that in case of other contemporary projects like Mauda STPS and Vidhyachal STPS Stage-IV, the Start-up fuel cost for 2x500 MW units under similar shortage of linkage coal and higher oil cost with less revenue earned from sale of infirm power had led to higher start-up costs of ₹144 crore and Overhead expenses of ₹364 crore, in case of Mauda STPS and ₹245 crore in case of Vindhyachal STPS Extension project. However, the establishment expenses have been reduced on pro rate basis for time overrun disallowed.”

30. Thus, the Commission on prudence check of the Start-up fuel cost and after pro rata deduction of time overrun disallowed in the Establishment charges, had allowed the Pre-operating expenses amounting to ₹238.59 crore (instead of ₹361.17 crore claimed), in terms of the 2009 Tariff Regulations. As the issues raised by the Respondent had already been considered in the order dated 12.11.2015, we find no reason to revise/modify the said findings in the order, based on the submissions of the Respondent, GRIDCO. Further, the submissions of the Respondent GRIDCO that delay in Project Work due to inefficient Project Management by the Petitioner had resulted in the increase in Start-up fuel cost and Establishment charges do not deserve any merit for consideration, as the Tribunal in its judgment dated 1.8.2017 had rejected the submissions of the Respondent on the question of time overrun of the project. In this background, the submissions of the Respondent, GRIDCO are rejected.

Issues (iii) & (iv): Excess Cost incurred by GKEL on 400 kV S/C GMR -Meramundali dedicated transmission line based on single quotation from L&T and Alstom; and Sharing of cost of GKEL-Meramundali 400 kV S/C dedicated Transmission line by GKEL on the ground that the same is used for evacuation of power outside the State of Odisha

31. The Respondent GRIDCO has submitted that as per Record note of discussion, the construction of the 400kV S/c Line from 400 kV Meramundali Grid Sub-Station



was to be done by the Petitioner, under OPTCL supervision after deposit of supervision and other charges. It has also submitted that as per Cost estimation done by OPTCL, the Petitioner was informed of the estimated amount of ₹23,27,80,2591- for the said work and an amount of ₹8,26,67,4841/- as per Technical Sanction Order dated 18.4.2014 for construction of I No. of 400 kV Feeder Bay at Meramundali Grid Sub-station Switchyard for connectivity of the Petitioner. The Respondent has further submitted that the construction work of the Transmission line and associated Bays was carried out by Petitioner at its own cost. It has stated that the Work Contract and Purchase Contract Award Orders of all the Works related to the Construction of 400 kV dedicated Transmission Line has not been disclosed in the submissions to the Commission. The Respondent has added that as per the documents submitted, Purchase/Work Orders for the part of the Transmission Line and corresponding Bay Work were placed on L & T and Alstom on the basis of Single Quotation from these firms and no reason or justification has been given for Competitive Bidding not being done for the said Work which would result in minimum cost. As regards sharing of cost of the line, the Respondent has submitted that the Line is capable of transferring maximum up to 320 MW (ACSR Moose Power Conductor) of power out of which after State share of power (25%) i.e. 243 MW (maximum) and balance power is sold through Open Access. Therefore, the differential revenue earned from such sale after adjustment of fuel cost, must be considered for adjustment from the capital cost. The Respondent has further submitted that the extra-cost incurred due to construction of the line and associated bays will therefore have to be borne by the Petitioner from the differential revenue it has earned by availing Open Access through that Line and the Respondent should not be burdened with such cost. Accordingly, the Respondent has



prayed that the Commission may consider the same at the time of truing-up of tariff.

32. The matter has been examined. It is noticed from the submissions of the Petitioner in Petition No. 77/GT/2013 that the cost towards the said transmission line had not been capitalized by the Petitioner during the year 2013-14 and the Petitioner had accordingly not included/considered the same in the total capital cost of ₹5936 crore claimed for the purposes of tariff. It is further noticed that the Commission in the table under para 53 of the order dated 12.11.2015 had observed the following:

v) The change of evacuation point at Angul instead of Meramundali amounting to `73.34 crore - This has not been considered since the same is not claimed as on COD or as on 31.3.2014.”

33. In view of this, the prayer of the Petitioner for truing up of the cost of the line in 2013-14 lacks merit. The Respondent has also not furnished any details in support of its plea for sharing of the cost of 400 kV S/C GKEL-Meramundali dedicated transmission line by the Petitioner for evacuation of power to other entities. Hence, in the absence of any details, there is no basis to consider the submissions of the Respondent.

34. The respondent, GRIDCO has further raised the issue of selection of contractor for execution of the 400 kV GKEL Meramundali transmission line on single tender basis. The petitioner has not responded on this issue. However, the Tribunal has recorded the submissions of the petitioner on this issue in its judgment dated 1.8.2007 in Appeal No. 45/2016 as under:

“All the contracts for construction and laying of transmission lines were placed following a competitive bidding process. The Respondent No. 1 has awarded the contract to Alstom after following the due process. In this regard, it is submitted that the lowest bid received was from Alstom (₹13.75 crores), whereas OPTCL had levied supervision charges @ 6% of Technical Sanction value (₹23.27 crores)”.



35. As per the submission of the petitioner, due process has been followed by the petitioner while selecting the bidder. In any case, the issues with regard to placing of work on single tender basis on L&T and Alstom etc., as alleged by the Respondent were not raised in Petition no. 77/GT/2013 for which no explanation has been given. In our view, after determination of tariff of the generating station, this issue cannot be considered at this belated stage. In view of the above, the submissions of the Respondent, GRIDCO deserve no merit for consideration and are therefore rejected.

Issue (v): High rate of Interest on Loans contracted by GKEL and consequential increase in Interest During Construction (IDC)

36. The Respondent, GRIDCO has submitted that the rate of Interest on loan is on higher side as per tariff Order dated 12.11.2015 in Petition No.77/GT/2013 i.e 12.88%, 12.936% and 12.989% for each of the periods, namely, from COD of Unit-I (30.4.2013) to 11.11.2013, COD of Unit-II (12.11.2013) to 24.3.2014 and COD of Unit-III (25.3.2014) to 31.3.2014 respectively. It has also submitted that the Petitioner has availed Loan from Consortium of 14 Banks/Institutions having Lead Lender as IDFC and from the summary of Interest statement furnished by the petitioner, it is observed that the terms and conditions of loan so availed from different banks are not uniform. The Respondent has submitted that where Petitioner could avail the loan from all the banks below PLR, but in case of the Lead Lender, IDFC it was 300 basis point above the PLR. Accordingly, the Respondent has prayed that the matter may be examined.

37. The Petitioner vide its affidavit dated 4.1.2018 has submitted that the rate of interest on loan has undergone change primarily on account of change in the base rate. It has also tabulated the historic base rate since 2010 as available in public domain (<https://www.sbi.co.in>) for reference.



Effective Date	Interest Rate (%)
05.10.2015	9.30
08.06.2015	9.70
10.04.2015	9.85
07.11.2013	10.00
19.09.2013	9.80
04.02.2013	9.70
20.09.2012	9.75
13.08.2011	10.00
11.07.2011	9.50
12.05.2011	9.25
25.04.2011	8.50
14.02.2011	8.25
03.01.2011	8.00
21.10.2010	7.60
01.07.2010	7.50

38. Accordingly, the Petitioner has stated that the base rate during 2013-14 period has increased to 10% from 7.5% in 2010 i.e. increase of 33%. The Petitioner is bearing financing costs since the supply of power to GRIDCO has commenced. While the Petitioner has endeavoured to optimize all costs, refinancing at lower interest rate is not possible at this stage particularly under the uncertain tariff revenues and continuous erosion of net worth.

39. The matter has been examined. Regulation 16 (5) of the 2009 Tariff Regulations provides as under:

"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."

40. Accordingly, the Commission in its order dated 12.11.2015 in Petition No. 77/GT/2013 had worked out the interest on loan considering the following:

"i) The weighted average rate of interest has been calculated on the basis of average balance of actual individual loans such as 12.881%, 12.936% and 12.989% (annual) for each of the period, namely, from COD of Unit-I (30.4.2013) to 11.11.2013, COD of Unit-II (12.11.2013) to 24.3.2014 and COD of Unit-III (25.3.2014) to 31.3.2014 respectively. Accordingly, the same is considered for the calculation of interest of normative loan.

ii) The repayment for the period has been considered equal to the depreciation allowed for that period;



iii) The interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest. The calculation for weighted average rate of interest is enclosed as Annexure-I to this order”

41. The rates of interest considered for calculation of IDC in order dated 12.11.2015 is as per the loan agreements between the lenders and the petitioner and is in terms of the above regulations. In view of this, the submission of the Respondent on this issue is rejected.

Issue (vii): Consideration of ECR based on Linkage coal for determination of Working capital;

42. The Respondent GRIDCO has submitted that the petitioner has not submitted the details of linkage coal procured from MCL and utilized for generation of power during the period prior to COD of Unit I & II, despite request by GRIDCO. It has also submitted that the petitioner has procured linkage coal from MCL with effect from June, 2013 and since the Respondent was the only beneficiary during the period from 30.4.2013 to 31.3.2014, the question of pro-rating of linkage coal amongst the beneficiaries does not arise at all. It has stated that while submitting the arrear bills for the period 2013-14, the Petitioner had not submitted the Coal & Oil data for the period from January, 2013 to October, 2013 and therefore, the Respondent could not verify the ECR as per the linkage coal data. However, based on the linkage coal data provided by the petitioner for the period from November, 2013 to March, 2014 and considering the GCV and Landed Price of coal as per OERC tariff order dated 12.6.2013 in Case No. 34 of 2010 (in respect of IPP of M/s. Vedanta Ltd, procuring coal from MCL) for the period January, 2013 to March, 2013 and that of August, 2013 to October, 2013, ECR was derived by the Respondent, GRIDCO and the same may be considered by the Commission for determining the Working Capital for 2013-14. The Respondent has added that the Landed Price of coal considered in the Commission's order dated 12.11.2015 is almost three times the Landed Price of linkage Coal.



GRIDCO has requested MCL to furnish the details of commencement of Coal Supply to the Petitioner and the quantum of coal supplied in each month during the said period and once the data is obtained from MCL, the same will be furnished to the Commission.

43. In response, the Petitioner vide affidavit dated 22.12.2017 has clarified the following:

(i) The petitioner has already furnished the data regarding the receipt and consumption of Linkage Coal in the form of audited Form-15. The supply under FSA starts only after the commencement of the PPA/Change in Long term PPA quantum.

(ii) The petitioner has not diverted linkage coal and is utilizing linkage coal in accordance with this Commission's order dated 3.2.2016 in Petition No. 79/MP/2013. In terms of clause 4.1.1 of the FSA dated 26.3.2013, the ACQ has to be proportionately allocated among all the Long Term PPAs i.e. Bihar, Haryana & GRIDCO. The Haryana PPA had commenced from 7.2.2014.

(iii) GRIDCO has to bear the impact of shortfall in Linkage Coal shortfall for the period till the coal supplies are not restored to 100% of FSA quantum and there is no need to procure alternate coal in order to achieve the normative availability under the PPAs. ECR for billing purpose has always been based on the actual coal receipt. There was shortfall in supply of linkage coal and the petitioner has utilized the linkage coal to the extent available.

(iv) GRIDCO had challenged the computation of ECR and working capital in Appeal No. 45 of 2016 before the Tribunal and the Tribunal had rejected the contentions raised by GRIDCO vis-à-vis computation of ECR vide judgment dated 1.8.2017. As such, GRIDCO's contentions vis-à-vis computation of ECR is without merit.

(v) The working capital has been computed based on fuel data furnished by the Petitioner as in terms of the existing regulations and not otherwise. The Petitioner had submitted complete details of fuel used for infirm power generation vide affidavit dated 31.7.2014 in Petition No. 77/GT/2013.

(vi) The petitioner had suffered under recovery in fuel cost due to use of costly fuel. It is submitted that generation capacity of the Petitioner covered under Long Term linkage is 500 MW only and not the entire PPA capacity (872 MW) from MCL, as alleged by the GRIDCO.

44. In Commission's order dated 12.11.2015, ECR was determined as under:

'120. The petitioner has claimed an 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 and not on based on the price and GCV of coal for the preceding three months from the COD of Unit-I, II and III. Since the same was not in conformity with the regulations, the petitioner was directed to submit the price and GCV of Fuels for preceding 3 months from the COD of Unit-I, II and III. The respondent, GRIDCO has submitted that the ECR as computed by the petitioner is based on large number of variable parameters works out to 204.19 paisa/kWh. It has also pointed out that the energy charge rate quoted by the petitioner in the competitive bidding for tariff under Section 63 of the Electricity Act, 2003 in respect of the State of Haryana State is 90.4 paisa/kWh. Accordingly, the respondent has submitted that there is wide gap in the ECR under the cost plus mechanism and the competitive bidding mechanism which can be attributed to the manipulation of large number of variable parameters in the calculation of ECR

121. We have examined the matter. In compliance with the directions of the Commission, the petitioner has filed the details of price and GCV of coal for the preceding three months from the COD of Unit-I, II and III. Based on the weighted average price and GCV of coal procured and burnt for the preceding three months from the COD of Unit-I, II and III the ECR is worked out and allowed as under:

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122. 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.

45. The petitioner has submitted that it has not diverted linkage coal and is utilising the linkage coal in terms of the Commission's order dated 3.2.2016 in Petition No. 79/MP/2013. It is however noticed that the Respondent GRIDCO had raised the issue of reduction of ECR in the appeal (Appeal No. 45/2016) filed by it before the Tribunal and submitted the following:

“viii. On the issue of high ECR the Appellant has contested that the Central Commission should have considered the price of linkage coal instead of open market coal prices etc. as that would have resulted in lower ECR for the Appellant. The ECR of the power supplied through competitive bidding route to Bihar and Haryana is much lower than that of the Appellant as determined by the Central Commission. The Appellant has also submitted that while fixing the Energy Charge Rate the Central Commission ought to have considered the actual price and GCV of fuel procured and burnt for each month since the Energy Charge Rate was fixed post facto and the information relating to price and GCV of each month was available with Respondent No. 1.”

46. The Tribunal after considering the submissions of the parties by judgment dated 1.8.2017 had rejected the contentions of the Respondent, GRIDCO and upheld the Commission's order dated 12.11.2015 on this issue. The relevant portion of the judgment is extracted hereunder:



“...From the above findings of the Central Commission two things can be concluded. First the Central Commission has worked out ECR based on the weighted average price and GCV of coal procured and burnt for the preceding three months from the COD of Unit-I, II and III. Second ECR on month on month basis to be billed is to be calculated as per Regulation 21 (6) (a) of the Tariff Regulations, 2009 as reproduced above.

xii. In our opinion the Appellant has mixed two issues i.e. ECR for the purpose of working out Interest on Working Capital (IWC) and monthly ECR to be billed for scheduled energy. The Central Commission has calculated ECR for the purpose of working out IWC and for calculation of monthly ECR it has referred to Regulation 21 (6) (a) of the Tariff Regulations.

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In view of our discussions as above and the relevant regulations of the Central Commission, it is clear that the contentions of the Appellant are misplaced and the Central Commission has acted according to the Tariff Regulations, 2009.”

47. Thus, the Tribunal had decided the issue of calculation of ECR for the purpose of working capital in its judgment dated 1.8.2017 and had affirmed the order of the Commission. Therefore, the Respondent cannot be permitted in law to raise the said issue in the present petition. In our view, the Respondent cannot seek to unsettle the settled issue by raising extraneous grounds in this petition. In this background, the prayer of the Respondent, GRIDCO for revision of the calculation of ECR for the purpose of working capital has not been considered. Further, in the computation of ECR on month to month basis, the Commission vide its order dated 20.3.2018 in Petition No. 105/MP/2017 had clarified that the shortage in linkage coal and procurement of coal other than linkage coal shall be shared on pro-rata basis between all the beneficiaries. The relevant portion of the order dated 20.3.2018 is extracted below:

“33. Therefore, in light of the allocation of firm as well as tapering linkage for all three beneficiaries and our order dated 3.2.2016 in Petition No. 79/MP/2013, the firm and tapering linkage coal supplied to the Petitioner has to be apportioned on pro rata basis to all beneficiaries of the project and the cost of procurement of coal from alternate sources to meet the shortfall of firm and tapering linkage coal has also to be apportioned pro rata based on power supplied to these beneficiaries”

In view of the above, the contention of the Respondent, GRIDCO with regard to high ECR is not tenable and is therefore rejected.



Issue (viii) Grant of time overrun of 3.5 months and 4 months for Unit-II & Unit-III of the station on account of grid restrictions allegedly imposed by OPTCL

48. The Respondent GRIDCO has submitted that OPTCL was not a party before the Central Commission in the determination of tariff of the generating station. It has further submitted that though it has not countered the time overrun on account of grid restrictions in Petition No. 77/GT/2013, facts collected from OPTCL is being furnished for consideration of the Commission in this petition. Referring to para 39 of the Commission's order dated 12.11.2015 allowing time overrun, the Respondent has submitted that the findings of the Commission as regards the delay in COD of Units II & III are incorrect and misleading due to the following:

(i) The petitioner applied for test synchronisation of Unit-II to OPTCL vide letters dated 25.5.2013 and 31.5.2013 and OPTCL accorded in-principle approval on 4.7.2013. The petitioner carried out test synchronisation of the said unit on 9.7.2013.

(ii) The observation of the Commission in para 38 of the order 12.11.2015 is based on the submission of the petitioner. However, during the said period, the Petitioner was intimated several times and despite consent of GRIDCO, the COD of the unit had not materialised.

(iii) The petitioner got necessary clearance from the Regional Inspector for energisation of electrical equipment's on 10.10.2013. The observation in para 36(a) that GRIDCO was not inclined to accept costly thermal power from July to November, 2013 in lieu of cheaper power lacks documentary evidence.

(iv) Cyclone had hit the State of Odisha during September, 2013 was a force majeure condition for which GRIDCO may not be penalised. The petitioner vide letter dated 4.11.2013 intimated to carry out COD of Unit-II and GRIDCO intimated the Petitioner vide letter dated 7.11.2013 to witness MCR test from 8.11.2013 to 11.11.2013 prior to COD on 12.11.2013.

(v) The petitioner applied for test synchronisation of Unit-III to OPTCL vide letters dated 12.11.2013. OPTCL intimated the Petitioner to furnish 'Consent to Operate' order for State Pollution Control Board and approval for energisation from the Electrical Inspector which was furnished by the petitioner on 6.3.2014.

(vi) OPTCL accorded in-principle approval for synchronisation of Unit-III on 7.3.2014 and the unit was test synchronised on the same date and the COD declared on 25.4.2014.

(viii) The above facts with supporting documents make it evident that there was no such delay on the part of OPTCL to allow for COD of Unit-III. The delay was



solely on account of the petitioner, who had complied with the requirements in March, 2014.

(ix) Due to various reasons not attributable to GRIDCO, the dedicated transmission line could not be completed by PGCIL and hence petitioner should have claimed LD from PGCIL and reduced the capital cost. The petitioner is misleading the Commission under the shelter of 'grid restrictions' to draw the benefits of time overrun of 7.5 months thereby financially burdening GRIDCO.

49. Accordingly, the Respondent has submitted that the Commission may consider the above issues and may not condone the total delay of 7.5 months (for Units-II & III).

50. The submissions have been considered. The Commission in its order dated 12.11.2015 had examined the question of time overrun in the declaration of COD of Units II & III on various grounds including the ground of delay for permission to conduct COD post synchronization of Unit-II due to high hydro conditions and grid constraints limiting evacuation to 350 MW only. The Commission after prudence check of the submissions of the parties had decided the following:

“38. We have examined the matter. From the documents furnished by the petitioner, it is noticed that the permission for synchronization of Unit-II was accorded by OPTCL on 4.7.2013 and accordingly Unit-II was synchronized on 9.7.2013. As per terms of the Bulk Power Transmission Agreement (BPTA) entered between the petitioner and PGCIL, the pooling station and transmission lines were required to evacuate 800 MW capacity as per the commissioning schedule of the power plant of the petitioner. However, due to construction related issues, there was delay expected in the completion of the transmission line. Hence, PGCIL provided the petitioner an interim arrangement of LILO of one circuit of Talcher-Meramundali 400kV D/C line. Under this interim arrangement, the petitioner could not inject more than 350 MW and this fact was communicated by M/s. OPTCL vide on 4.7.2013. Unit-II was first synchronized with the grid on 9.7.2013 and applied to OPTCL /SLDC on 27.7.2013 for permission for COD. The permission of OPTCL/SLDC for COD was received on 7.11.2013 and COD of Unit-II was achieved only on 12.11.2013. PGCIL has also considered its inability to provide the power evacuation facility of the petitioner as a Force Majeure constraint as per the Minutes of Meeting. In the background of the events and discussions, it is evident that the delay of 3.5 months (from 27.7.2013 to 7.11.2013) in the COD of Unit-II is on account of grid constraints and the petitioner cannot be held responsible for the same.

39. It is further noticed that due to capacity constraints in the OPTCL transmission system, the petitioner was not provided access for connecting the generation units to the grid. Unit-III, which was otherwise ready for synchronization in November, 2013 with the grid to achieve COD in the month of January, 2014, had received grid clearance only during March, 2014. The petitioner applied for grid connection on



11.11.2013 and the permission was obtained on 7.3.2014. Accordingly, the petitioner could declare the COD of Unit-III under commercial operation only on 24.3.2014. Thus, there was delay of 4 months (11.11.2013 to 7.3.2014) in getting the grid clearance for Unit-III. Moreover, as PGCIL pooling station including 765 kV Jharsuguda-Dharamjaygadh D/C line were still not available, the operation of the plant was restricted to 350 MW only. In the background of the events and discussions, it is evident that the delay of 4 months in the COD of Unit-III is on account of grid restrictions by OPTCL for which the petitioner cannot be held responsible. In view of the above, we conclude that the delay due to grid restrictions/evacuation constraints were beyond the control of the petitioner and the petitioner cannot be made attributable for the same. Accordingly, in terms of the principles laid down by the Tribunal in the judgment dated 27.4.2011 [(situation (ii))], the total delay of 7.5 months (3.5 months for COD of Unit-II and 4 months for COD of Unit-III) is condoned and the generating company is given the benefit of the additional cost incurred due to time overrun. However, the LD recovered from the contractor and the insurance proceeds, if any, would be considered for reduction of capital cost.

40. To summarise, the time overrun of 3 months due to Chinese Visa Policy in case of Unit-I, Unit-II and Unit-III from 11.2.2010 to 10.5.2010 have been condoned as the same is found to be beyond the control of the petitioner. Further, the time overrun of 3.5 months (from 27.7.2013 to 7.11.2013) in case of Unit-II and 4 months (from 11.11.2013 to 7.3.2014) in case of Unit-III due to delay in allowing grid access by OPTCL/ SLDC have also been allowed as these delays were beyond the control of the petitioner. The balance period of delay on account of other reasons furnished by the petitioner is not found to be beyond the control of the petitioner and hence not allowed”

51. However, the Respondent, GRIDCO in Appeal No.45/2016 filed by it before the Tribunal had raised the issue of total time overrun of 7.5 months allowed by the Commission and had contended, amongst others, that the Petitioner was only responsible for the delays in the construction of the dedicated transmission line and that OPTCL had helped it to commission all the three units by providing LILO for evacuation of power with limitation of 350 MW. The Tribunal after examining the findings of the Commission in the said order, as above, rejected the submissions of the Respondent, GRIDCO by judgment dated 1.8.2017 thereby upholding the findings of the Commission on time overrun in order dated 12.11.2015. The relevant portion of the judgment dated 1.8.2017 is extracted hereunder:

“The Central Commission has granted time overrun of 3.5 months and 4 months for Unit II & Unit III of the Station on account of grid restrictions based on the submissions of the Respondent No.1.

vii. It is noticed that the Appellant vide its affidavit dated 17.2.2014 before the Central Commission has not objected to the claim of the Respondent No. 1 for time overrun due



to grid restrictions. The Central Commission based on the submissions of the Respondent No. 1 and material on record and by applying prudence check has held that the permission to withhold the trial run operation of Unit II & Unit III by OPTCL is beyond the control of the Respondent No. 1 and is eligible for time overrun on this count and has decided to grant time overrun of 3.5 months and 4 months for Unit II & Unit III of the Station. We have observed that the Appellant has not made any submissions before the Central Commission objecting to the claim of the Respondent No.1 seeking time overrun for Unit II & Unit III due to grid restrictions imposed by OPTCL. The Appellant has also utilised the LILO arrangement for drawl of its share of power from the Station during the said period. In view of our discussions as above, we are of the considered opinion that there is no infirmity in the decision of the Central Commission and the findings of the Central Commission on these issues are upheld.”

52. Thus, the issue of time overrun having been settled by the Tribunal in its judgment dated 1.8.2017 as above, the Respondent GRIDCO cannot be permitted in law to raise and/or re-agitate the issue of time overrun on any ground whatsoever. The submissions of the Respondent that OPTCL was not a party to the proceedings in Petition No. 77/GT/2013 lacks bonafide and cannot be a ground to re-agitate the settled issue of time overrun. Nothing prevented the Respondent GRIDCO from making OPTCL a party to the proceedings before the Commission and/or collect any information from OPTCL and submit the same in Petition No.77/GT/2013. Having not done so, the Respondent cannot raise extraneous grounds to unsettle the settled issue of time overrun in the present petition. The submissions of the Respondent GRIDCO are therefore untenable. In view of this, the submissions of the Respondent GRIDCO are rejected.

Additional Capital Expenditure

53. Regulation 9 (1) of the 2009 Tariff Regulations 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.”

54. The petitioner has claimed actual additional capital expenditure of ₹6712.00.00 lakh in 2013-14 towards un-discharged liabilities. As the claim of the petitioner pertains to un-discharged liabilities which are within the original scope of work and within the cut-off date (31.3.2017), the same is allowed as actual additional capital expenditure under Regulation 9(1)(i) of the 2009 Tariff Regulations.

55. The Petitioner in Form 9A has claimed un-discharged liabilities (including retention money) of ₹59641.63 lakh (for Unit-I), ₹46818.08 lakh (for Unit-II) and ₹51006.23 lakh (Unit-III excluding Unit-IV). This has been considered for working out the capital cost for the purpose of tariff on cash basis.

Interest During Construction (IDC) and Hedging Cost

56. The petitioner has claimed IDC (including Hedging Cost of ₹5370.32 lakh as on COD of Unit-3) as on COD of each unit as under:

<i>(₹ in lakh)</i>		
Unit I 30.4.2013	Unit II 12.11.2013	Unit III 25.3.2014
26223.33	50424.43	70317.64

57. In compliance with the Tribunal judgment dated 1.8.2017, the Commission vide its order dated 11.10.2017 in Petition No. 77/GT/2013 had reset the scheduled COD, considering the time overrun of 6.5 months for the purpose of computation of IDC (as referred in para 13 above). Accordingly, the claim of the petitioner with respect to IDC has been examined. IDC has been worked out based on the bank-wise loan



details and the interest rates as per the loan agreement submitted by the petitioner. However, IDC has been restricted up to the revised scheduled CODs and has been apportioned to the gross block and CWIP in the ratio of their respective values in the audited balance sheets.

58. As regards the claim towards Hedging Cost of ₹5370.32 lakh, the petitioner vide affidavit dated 1.4.2016 has furnished Auditor's certificate along with the computation and the numbers of Auditor's certificate have been verified with the balance sheet. Accordingly, on prudence check, the claim of the petitioner with respect to Hedging Cost is in order and is allowed. In view of this, IDC including hedging cost is allowed as under:

<i>(₹ in lakh)</i>		
Unit I (30.4.2013)	Unit II (12.11.2013)	Unit III (25.3.2014)
17378.35	36490.28	55220.82

Financing Charges

59. As regards Financing Charges, the Commission vide order dated 12.11.2015 in Petition No. 77/GT/2013 had observed as under:

“69. The petitioner has not furnished detailed calculations and breakup of the financial charges claimed, along with the supporting documents to substantiate the unit-wise allocation of the financing charges. In the absence of the same, financing charges have not been allowed as of now, as a conservative measure. However, the petitioner is granted liberty to submit the details of expenditure incurred towards the financing charges along with detailed breakup/ calculations, duly certified by Auditor, along with all supporting bank documents, including the basis of unit-wise allocation of the financing charges, at the time of revision of tariff based on truing-up exercise in terms of Regulation 6(1) of the 2009 Tariff Regulations.”

60. Accordingly, the petitioner has claimed Financing Charges of ₹4344.17 lakh (for Unit-I), ₹7196.91 lakh (for Unit-II) and ₹12444.89 lakh (for Unit-III). In compliance with the directions of the Commission as above, the petitioner has submitted the Auditor's certificate with respect to the financing charges claimed, as on the COD of each unit and the numbers of Auditor's certificate have been verified with the



Balance sheet as on each COD. Accordingly, the Financing Charges allowed are as under:

(₹ in lakh)		
30.4.2013	12.11.2013	25.3.2014
4344.17	7196.91	12444.89

Foreign Exchange Rate Variation (FERV)

61. As regards FERV, the Commission in order dated 12.11.2015 had observed as under:

“...the documents indicating the break-up and calculations of FERV have not been furnished by the petitioner. In the absence of the same, the extent of admissibility of FERV could not be worked out and hence as a conservative measure the same has not been considered. The petitioner is however granted liberty to furnish the detailed calculations of FERV, duly certified by Auditor, at the time of revision of tariff based on truing-up exercise in terms of Regulation 6(1) of the 2009 Tariff Regulations.”

62. The petitioner vide Form-5B of the affidavit dated 1.4.2016 has claimed capitalisation on account of FERV as under:

(₹ in lakh)		
30.4.2013	12.11.2013	25.3.2014
6999.27	21072.16	23948.59

63. Based on the liberty granted by the Commission in its order dated 12.11.2015, the petitioner has furnished detailed calculations and Auditor's certificate in support of the above claim in terms of the said directions of the Commission. Accordingly, the claim of the petitioner has been examined with respect to the numbers in Auditor's certificate and Balance sheet as on COD, and the same is allowed for the purpose of tariff.

Liquidated Damages

64. As regards the claim for Liquidated Damages (LD), the Commission in its order dated 12.11.2015 in Petition No. 77/GT/2013 had observed as under:

“67. The petitioner is directed to furnish the amount of LD recovered from the contractor, if any, at the time of revision of tariff based on truing-up exercise in



terms of Regulation 6(1) of the 2009 Tariff Regulations for consideration of the Commission for adjustment in the capital cost.”

65. In compliance with the above, the petitioner vide affidavit dated 7.4.2018 has furnished the Auditor certificate validating the status of LD and insurance proceeds as on 31.3.2014 and has submitted that no LD has been recovered. It is however noticed from the balance sheet as on COD as well as 31.3.2015 that the petitioner has invoked the Bank Guarantee in respect of its EPC contractors on 12.11.2014 towards LD, non-payment of debit notes issued by the company and for outstanding liabilities to the sub-contractors of EPC contractor amounting to ₹57926.34 lakh.

66. As stated, the Tribunal in its judgement dated 27.4.2011 *in* Appeal No. 72 of 2010 (MSPGCL V MERC & ors) has laid down the principles regarding prudence check of time overrun and cost overrun of a project including the treatment of LDs (depending upon whether time overrun is attributable to generator or not) in such cases, and the same had been considered by the Commission in its various orders including the order dated 12.11.2015.

67. As indicated in the table under para 13 above, the Commission in its order dated 11.10.2017 in Petition No. 77/GT/2013 had revised the time overrun allowed/disallowed in terms of the judgment of the Tribunal dated 1.8.2017 and has accordingly reset the scheduled COD of the project for all three units. Taking into consideration the principles laid down by the Tribunal as regards the treatment of LD and in the absence of full break-up details regarding the amount invoked, a proportionate amount of BG pertaining to time overrun allowed has been deducted from the capital cost as on COD of the units in proportion to the total time overrun with respect to EPC contracts. This works out to ₹13367.62 lakh (3/13 x 57926.34 lakh). However, the petitioner is granted liberty to approach the Commission with



complete details as and when the LD amount is finalised for necessary adjustment in the capital cost of the project.

68. Based on the above discussions, the capital cost allowed on account of the reduction in the cost claimed in Form-5b in EPC cost, Non-EPC cost, Pre-operative expenses, IDC/hedging cost, FC and FERV and adjustment of Retention money/ un-discharged liabilities and liquidated damages is as under:

	(₹ in lakh)		
	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
1. Land cost claimed/ allowed	4398.91	4398.91	10135.54
2. EPC Cost			
EPC Cost claimed excluding FERV	188662.56	289695.69	430089.83
Less: Cost pertaining to unit-IV	-	-	41072.00
EPC Cost allowed w.r.t. unit 1,2 & 3 and excluding FERV	188662.56	289695.69	389017.83
Add: FERV Claimed/ allowed	6999.27	21072.16	23948.59
EPC Cost allowed including FERV	195661.83	310767.85	412966.42
3. Non EPC Cost			
Non EPC Cost claimed	7446.43	21235.86	36093.04
Less: Non EPC cost disallowed in 77/GT/2013	-	-	10105.00
Non EPC Cost allowed	7446.43	21235.86	25988.04
4. Pre-operative Expenses			
Pre-operative Expenses claimed	20004.66	35103.55	51716.84
Less: Pre-operative expenses disallowed	2507.66	4621.55	7570.84
Pre-operative Expenses allowed	17497.00	30482.00	44146.00
5. IDC & Hedging			
IDC & Hedging claimed	26223.33	50424.43	70317.64
less: IDC disallowed	8844.98	13934.15	15096.83
IDC and Hedging Cost allowed	17378.35	36490.28	55220.82
6. Financing Charges			
Financing Charges claimed/ allowed	4344.17	7196.91	12444.89
7. Capital cost before adjustment of undischarged liabilities and liquidated damages (1+2+3+4+5+6)	246726.69	410571.81	560901.70
Less: Un-discharged liabilities	59641.63	46818.08	51006.23
Less: Liquidated damages	-	-	13367.62
8. Capital cost allowed on cash basis	187085.06	363753.73	496527.85
Add: Additional Capitalization	-	-	6712.00
9. Closing Capital cost	187085.06	363753.73	503239.85

Debt-Equity Ratio

69. 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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

70. The Commission in order dated 12.11.2015 in Petition No. 77/GT/2013 had considered debt-equity ratio as under:

(₹ in lakh)				
Sl. No		Unit I 30.4.2013	Unit II 12.11.2013	Unit III 25.3.2014
1	Debt (Commercial loan)	341322.68	336665.62	392020.34
2	Equity (Share Capital excluding share application money)	135637.40	159325.63	185275.63
3	Share Application Money	13165.00	21900.00	12724.37
4	Borrowing from other sources	46755.94	44613.00	48821.00
5	Promoter's subordinate debt	24417.00	30817.00	34672.32
6	Total fund deployed	561298.02	593321.25	673513.66
7	Actual capital expenditure (Form 14A)	530995.00	609200.00	641900.00
8	Equity % (2/7)	25.54%	26.15%	28.86%
9	Debt% (Considering “balance in capital expenditure as per form 14A” as debt)	74.46%	73.85%	71.14%

71. It is noticed that the petitioner in Petition No. 77/GT/2013 had used other sources of funds like share application money, borrowing from other sources, promoter's subordinate debt to bridge the funding gap. Accordingly, the debt equity ratio was calculated in order dated 12.11.2015 by considering share capital (i.e. paid up capital excluding share application money) as a percentage of the actual cash



expenditure to derive the equity percentage and balance as debt as above. The petitioner was also directed to furnish the actual equity and debt deployed with supporting balance sheet as on COD of respective unit. In compliance with the said directions of the Commission, the petitioner has submitted the actual debt equity position along with the balance sheets as on each COD as under:

(₹ in lakh)

		Unit I 30.4.2013	Unit II 12.11.2013	Unit III 25.3.2014	As on 31.3.2014
1	Capital Expenditure (Form-14 A)	516418.00	559197.00	581373.00	582970.00
2	Equity Share Capital	135638.00	159325.00	159325.00	185276.00
3	Share application money	22835.00	25950.00	38674.37	12724.37
4	Equity %	26.27%	28.49%	27.40%	31.78%
5	Loan %	73.73%	71.51%	72.60%	68.22%

72. The claim of the petitioner as regards debt-equity ratio has been examined vis-a-vis the position of debt, equity and cash expenditure as per balance sheet as on COD and 31.3.2014 and is summarized as under:

(₹ in lakh)

	30.4.2013	12.11.2013	25.3.2014	31.3.2014
Funding:				
Debt (Commercial loan)	341322.68	336665.62	393305.81	392020.34
Equity (Share Capital excluding share application money)	135637.40	159325.63	159325.63	185275.63
Share Application Money	22835.00	25950.00	38674.37	12724.37
Borrowing from other sources	46755.94	44613.00	48821.00	48821.00
Promoter's subordinate debt	28417.00	30817.00	33092.63	34672.32
Total fund deployed	574968.02	597371.25	673219.44	673513.66
Expenditure				
Tangible assets	257556.49	428603.4	634192.3	634262.88
Add: Intangible assets	522.67	523.22	523.22	452.6
Total Fixed Assets	258079.16	429126.62	634715.52	634715.48
Add: CWIP	246604.81	116008.61	17217.11	17273.61
Gross block including CWIP	504683.97	545135.23	651932.63	651989.09
Add: Capital Advances	97677.83	90564.07	26000.19	42451.05
Capital expenditure including advances	602361.8	635699.30	677932.82	694440.14
Less: Undischarged liabilities	59641.63	46604.00	65981.00	59269.00
Capital Expenditure on cash basis, as per balance sheet	542720.17	589095.30	611951.82	635171.14
Equity%	24.99%	27.05%	26.04%	29.17%
Debt%	75.01%	72.95%	73.96%	70.83%



73. The petitioner has submitted that the share application money of ₹25950.00 lakh out of ₹38674.37 lakh outstanding as on 25.3.2014, has been converted into share capital. The petitioner has calculated the debt-equity ratio of 68.22:31.78 as on 31.3.2014 and has accordingly claimed the debt equity ratio of 70:30 for the period 2014-19. It is noticed that the petitioner has excluded an amount of ₹41072.00 lakh pertaining to Stage-II of the generating station from cash expenditure, while claiming the debt equity ratio as on 31.3.2014. This approach, in our view, is not acceptable, as while determining the debt equity ratio, all the expenditure emanating from the considered sources of funds are required be taken into account. Accordingly, the debt equity ratio as on each COD and as on 31.3.2014 is worked out and allowed as under:

	Unit I 30.4.2013	Unit II 12.11.2013	Unit III 25.3.2014	31.3.2014
Equity %	24.99%	27.06%	26.04%	29.17%
Loan %	75.01%	72.94%	73.96%	70.83%

Return on Equity

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

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

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

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

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

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

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

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

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



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

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

Illustration. -

(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 11.33% including surcharge and cess:

Rate of return on equity = $15.50 / (1 - 0.1133) = 17.481\%$

(ii) In case of generating company or the transmission licensee paying normal corporate tax @ 33.99% including surcharge and cess:

Rate of return on equity = $15.50 / (1 - 0.3399) = 23.481\%$

75. It is observed from the Annual reports of the petitioner company that no tax has been paid for the year 2013-14. Therefore, Return on Equity has not been grossed up as no tax has been paid against the same. Accordingly, the Return on Equity has been computed as under:

	(₹ in lakh)		
	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
Gross Notional Equity	46756.57	98380.16	129274.25
Addition due to Additional Capitalisation	0.00	0.00	1747.51
Closing Equity	46756.57	98380.16	131021.76
Average Equity	46756.57	98380.16	130148.01
Return on Equity (Base Rate)	15.500%	15.500%	15.500%
Tax rate	0.000%	0.000%	0.000%
Rate of Return on Equity (Pre-Tax)	15.500%	15.500%	15.500%
Return on Equity (Pre Tax)	3891.68	5556.46	386.88

Interest on Loan

76. 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.”

77. Interest on loan has been worked out as under:

(i) The weighted average rate of interest has been calculated on the basis of average balance of actual individual loans as 12.88% from COD of Unit-I to 11.11.2013, 12.87% from COD of Unit-II to 24.3.2014 and 12.98% from COD of Unit-III to 31.3.2014.

(ii) The repayment for the period has been considered equal to the depreciation allowed for that period

(iii) The interest on loan has been calculated on the normative average loan of the year by applying the weighted average rate of interest.

78. Accordingly, the necessary calculation for interest on loan is as under:



	(₹ in lakh)		
	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
Gross Notional Loan	140328.50	265373.56	367253.60
Cumulative Repayment of Loan up to previous year	0.00	5062.93	11822.52
Net Opening Loan	140328.50	260310.64	355431.08
Addition due to Additional Capitalization	0.00	0.00	4964.49
Repayment of Loan during the period	5062.93	6759.59	485.08
Net Closing Loan	135265.57	253551.04	359910.49
Average Loan	137797.03	256930.84	357670.79
Weighted Average Rate of Interest on Loan	12.751%	12.638%	12.655%
Interest on Loan	9435.07	11832.03	868.07

Depreciation

79. 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 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.

80. In terms of the above regulations, depreciation has been calculated as under:



(₹ in lakh)

	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
Opening Gross Block	187085.06	363753.73	496527.85
Addition during 2009-14	0.00	0.00	6712.00
Closing Gross Block	187085.06	363753.73	503239.85
Average Gross Block	187085.06	363753.73	499883.85
Rate of Depreciation	5.04%	5.10%	5.06%
Depreciation (for the period)	5062.93	6759.59	485.08

Operation & Maintenance Expenses

81. O & M expenses allowed vide order dated 12.11.2015 in Petition No. 77/GT/2013 is considered as under:

(₹ in lakh)		
30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
3757.02	5098.82	402.54

Interest on Working Capital

82. 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-pit head 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.

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

Fuel components in working capital

84. The fuel components in working capital as allowed in order dated 12.11.2015 is considered and allowed as under:



	<i>(₹ in lakh)</i>		
	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
Coal Stock	10835.28	22240.77	36260.34
Secondary Fuel oil cost	242.67	529.12	858.04

O&M Expenses

85. O & M expenses for 1 month as allowed in order dated 12.11.2015 is considered and allowed as under:

<i>(₹ in lakh)</i>		
30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
583.04	1166.08	1749.12

Maintenance Spares

86. Maintenance spares as allowed in order dated 12.11.2015 is considered and allowed as under:

<i>(₹ in lakh)</i>		
30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
1399.30	2798.60	4197.90

Receivables

87. Receivables equivalent to two months of capacity charge and energy charge for sale of electricity has been calculated on normative plant availability factor. Accordingly, receivables have been worked out on the basis of two months of fixed and energy charges are as under:

<i>(₹ in lakh)</i>			
	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
Fixed Charges	7814.05	15320.98	21700.53
Variable Charges	10835.28	22240.77	36260.34

Rate of interest on working capital

88. 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.”

89. Necessary computations in support of calculation of interest on working capital are as under:

	(₹ in lakh)		
	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
O&M expenses	583.04	1166.08	1749.13
Receivables (Fixed Charges)	7814.05	15320.98	21700.53
Receivables (Variable Charges)	10835.28	22240.77	36260.34
Maintenance Spare	1399.30	2798.60	4197.90
Coal cost (2 months)	10835.28	22240.77	36260.34
Secondary Fuel oil cost (2 months)	242.67	529.12	858.04
Total Working Capital	31709.63	64296.33	101026.28
Interest Rate	13.20%	13.20%	13.20%
Interest on Working Capital (annualized)	4185.67	8487.12	13335.47
Interest on Working Capital (pro rata)	2247.65	3092.57	255.75

Cost of Secondary Fuel

90. Regulation 20(2) of the 2009 Tariff Regulations provides for cost of secondary fuel oil as under:

“(2) Initially, the landed cost incurred by the generating company on secondary fuel oil shall be taken based on actuals of the weighted average price of the three preceding months and in the absence of landed costs for the three preceding months, latest procurement price for the generating station, before the start of the year.

The secondary fuel oil expenses shall be subject to fuel price adjustment at the end of the each year of tariff period as per following formula:

$$SFC \times NAPA F \times 24 \times NDY \times IC \times 10 \times (LPSF_y - LPSF_i)$$

Where, LPSF_y = The weighted average landed price of secondary fuel oil for the year in ₹/ml”



91. The petitioner has claimed the cost of Secondary Fuel oil in 2013-14 as under:

(₹ in lakh)

2013-14		
30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
781.87	1156.82	98.73

92. Accordingly, the petitioner is directed to adjust the cost incurred on secondary fuel oil as per actuals.

Fixed Charges

93. Based on the above, the fixed charges allowed for the generating station for the period 30.4.2013 to 31.3.2014 is summarized as under:

(₹ in lakh)

	30.4.2013 to 11.11.2013	12.11.2013 to 24.3.2014	25.3.2014 to 31.3.2014
Depreciation	5062.93	6759.59	485.08
Interest on Loan	9435.07	11832.03	868.07
Return on Equity	3891.68	5556.46	386.88
Interest on Working Capital	2247.65	3092.57	255.75
O&M Expenses	3757.02	5098.82	402.54
Secondary fuel oil cost	781.87	1156.82	98.73
Fixed charges	25176.23	33496.28	2497.05

94. The fixed charges approved as above are applicable corresponding to the capacity of 262.5 MW (25% of 1050 MW) which has been contracted for supply to the respondent beneficiaries.

Determination of Annual Fixed Charges for the period 2014-19

95. As stated, the petitioner in this petition has also prayed for determination of annual fixed charges of the generating station for the period 2014-19 in accordance with the provisions of the 2014 Tariff Regulations. Accordingly, the annual fixed charges claimed by the petitioner for the period 2014-19 are as under:



	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	27055.71	28487.51	29781.98	30628.96	30628.96
Interest on Loan	46652.14	45419.38	43793.12	39952.58	35742.52
Return on Equity	31327.97	32956.87	34469.79	35473.93	35473.93
Interest-on Working Capital	9292.64	9669.63	9740.53	9787.40	9789.03
O&M Expenses	20947.50	22270.50	23667.00	25158.00	26743.50
Total Annual Fixed Charges	135275.96	138803.89	141452.42	141000.88	138377.95

96. In compliance with the directions of the Commission, the petitioner has filed additional information with copy to the respondents. The respondent, GRIDCO has filed reply in the matter and the petitioner has filed rejoinder to the said reply. Based on the submissions and the documents available on record, we proceed to determine the tariff of the generating station for the period 2014-19 as stated in the subsequent paragraphs.

Capital Cost

97. Clause (1) of Regulation 9 of the 2014 Tariff Regulations provides that the capital cost as determined by the Commission after prudence check, in accordance with this regulation, shall form the basis of determination of tariff for existing and new projects. Clause (3) of Regulation 9 provides as under:

“9(3) The Capital cost of an existing project shall include the following:

(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;

(b) xxxx

(c) xxxx”

98. The Commission in this order has revised the tariff of the generating station based on truing up exercise for the year 2013-14 and has considered the closing capital cost of ₹503239.85 lakh as on 31.3.2014. Accordingly, in terms of the above regulations, the closing capital cost of ₹503239.85 lakh as on 31.3.2014 has been considered as the opening capital cost as on 1.4.2014 for determination of tariff for the period 2014-19.



Additional Capital Expenditure for 2014-19

99. Regulation 14 of the 2014 Tariff Regulations provides as under:

“14. Additional Capitalisation and De-capitalisation: (1) The capital expenditure in respect of the new project or an existing project 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 recognized to be payable at a future date;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;

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

(v) Change in law or compliance of any existing law: Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.

(2) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may 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 of law;

(ii) Change in law or compliance of any existing law;

(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;

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

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;

(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal / lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;

(viii) 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) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;

(ix) 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 due to obsolescence of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and

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

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, 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. 1.4.2014:

Provided further that any capital expenditure other than that of the nature specified above in (i) to (iv) in case of coal/lignite based station shall be met out of compensation allowance:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation.”

100. The petitioner has claimed additional capital expenditure of ₹46978.17 lakh during the period 2014-19 which includes an amount of ₹28907.17 lakh in 2014-15 (₹470.00 lakh for land, ₹2232.22 lakh for EPC, ₹20327.95 lakh for Non-EPC, ₹2168.00 lakh for additional spares and ₹3709.00 lakh for IDC & FC), ₹7800.00 lakh for additional spares in 2015-16 and ₹10271.00 lakh in 2016-17 (₹3300.00 lakh for EPC and ₹6971.00 lakh for Non-EPC) towards projected additional capital expenditure in respect of the deferred works and for Initial spares within the original scope of work and within the cut-off date of the generating station (31.3.2017).



101. The Commission vide ROP of hearing dated 23.9.2016 had directed the petitioner to furnish the detailed break-up of the additional capital expenditure incurred/ projected (year-wise and item-wise) under the heads of Land, EPC, Non EPC cost, additional spares, IDC & FC along with justification under the relevant provisions of Regulation 14 of the 2014 Tariff Regulations. In compliance with the said direction, the petitioner has submitted the additional capitalisation on actual and estimated basis.

102. The petitioner has revised its claims for additional capital expenditure to ₹80526.00 lakh for 2014-17 (as against the additional capital expenditure claimed of ₹48978.17 lakh in the original petition) based on the actual expenditure incurred for the years 2014-15 and 2015-16 and has claimed projected additional capital expenditure for 2016-17. The claim of the petitioner for ₹80526.00 lakh for 2014-17 includes an expenditure of ₹38079.00 lakh in 2014-15 (₹470.00 lakh for land, ₹2232.00 lakh for EPC, ₹24037.00 lakh for Non-EPC (Transmission Line), ₹2168.00 lakh for additional spares and ₹9172.00 lakh for Retention money paid and Liabilities discharged) on actual basis, ₹10523.00 lakh in 2015-16 (₹165.00 lakh for land, ₹2130.00 lakh for EPC, ₹294.00 lakh for Non-EPC (Transmission Line), ₹5355.00 lakh for additional spares and ₹2579.00 lakh for Retention money paid and Liabilities discharged towards additional spares on actual basis and ₹31924.00 lakh in 2016-17 (₹3200 lakh for Non-EPC, ₹2485.00 lakh for additional spares and ₹26239.00 lakh for Retention money paid and Liabilities discharged) and the projected additional capitalization in respect of deferred works and initial spares within the original scope of work and within the cut-off date (31.3.2017) under Regulations 14(1)(ii) and 14(1)(iii) of the 2014 Tariff Regulations. The petitioner has however not projected any additional expenditure for capitalisation during the years 2017-18 and



2018-19. Accordingly, the additional capital expenditure claimed during the period 2014-17 is summarized as under:

	Regulation	2014-15 (Actual)	2015-16 (Actual)	2016-17 (projected)	Total
Land	14(1)(ii)	470.00	165.00	0.00	635.00
EPC works	14(1)(ii)	2232.00	2130.00	0.00	4362.00
Non-EPC works	14(1)(ii)	24037.00	294.00	3200.00	27531.00
Initial Spares procured within original scope of work	14(1)(iii)	2168.00	5355.00	2485.00	10008.00
Retention money paid and Liabilities discharged	14(1)(ii)	9172.00	2579.00	26239.00	37990.00
Total		38079.00	10523.00	31924.00	80526.00

103. We now examine the claim of the petitioner for additional capital expenditure, on prudence check, as stated in the subsequent paragraphs.

Land

104. The petitioner has claimed total additional capital expenditure of ₹635.00 lakh during 2014-16 (₹470.00 lakh in 2014-15 and ₹165.00 lakh in 2015-16) towards Land under Regulation 14(1)(ii) of the 2014 Tariff Regulations. In justification of the same, the petitioner has submitted that the said claim is within the original scope of work and was deferred for execution.

105. We have examined the matter. Since the expenditure for land is a deferred work within the original scope of work and the cut-off date, we allow the additional capital expenditure of ₹635.00 lakh (₹470.00 lakh in 2014-15 and ₹165.00 lakh in 2015-16) under Regulation 14(1)(ii) of the 2014 Tariff Regulations.

EPC Works

106. The petitioner has claimed additional capital expenditure of ₹2232.00 lakh in 2014-15 and ₹2130.00 lakh in 2015-16 towards EPC works under Regulation 14(1)(ii) of the 2014 Tariff Regulations. In justification of the same, the petitioner has submitted that the claim for EPC works is within the original scope of work which



was deferred for execution. Accordingly, the petitioner has prayed that the said expenditure may be allowed.

107. The Commission vide ROP of hearing dated 23.9.2016 directed the petitioner to furnish the detailed breakup of the additional capital expenditure under this head. In compliance, the petitioner vide affidavit dated 7.11.2016 has furnished the assets pertaining to EPC which includes the Buildings, Plant and Machinery (EPC-forex) and Plant and Machinery (others). The petitioner has however not submitted the details of the equipment which are claimed under Plant and Machinery.

108. The matter has been examined. It is observed that the expenditure of ₹4362.00 lakh (₹2232.00 lakh in 2014-15 and ₹2130.00 lakh in 2015-16) is in respect of EPC works which falls within the original scope of work and is within the cut-off date of the generating station. Accordingly, the said claim of the petitioner is allowed under Regulation 14(1)(iii) of the 2014 Tariff Regulations. The petitioner is however directed to furnish the details of the equipment's capitalized under EPC works duly certified by auditor, at the time of truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.

Non-EPC Works

109. The petitioner has claimed additional capital expenditure of ₹24037.00 lakh in 2014-15, ₹294.00 lakh in 2015-16 and ₹3200.00 lakh in 2016-17 towards Non-EPC works under Regulation 14(1)(ii) of the 2014 Tariff Regulations. In justification of the same, the petitioner has submitted that the claim towards Non- EPC works is within the original scope of work and has been deferred for execution. Accordingly, the petitioner has prayed that the said expenditure may be allowed.



110. The Commission vide ROP of hearing dated 23.9.2016 had directed the petitioner to furnish detailed the break-up of the additional capital expenditure claimed under this head. In response, the petitioner has furnished the assets pertaining to Non-EPC works which include Plant and Machinery (Transmission line) and other equipment's such as office equipment etc.

111. The matter has been examined. It is observed that the petitioner has furnished the assets pertaining to Non-EPC works but has not submitted the details of the equipment's claimed under Non-EPC and other equipment. However, considering the fact that the claim of the petitioner towards non-EPC works falls within the original scope of work and is within the cut-off date, we allow the additional capital expenditure of ₹27531.00 lakh claimed for the period 2014-17. This is however subject to the petitioner furnishing the details of the equipment's capitalized under the Non-EPC work at the time of truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.

Initial Spares

112. The petitioner has claimed additional capital expenditure of ₹2168.00 lakh in 2014-15, ₹5355.00 lakh in 2015-16 and ₹2485.00 lakh in 2016-17 towards Initial Spares procured within the original scope of work. As regards initial spares, the Commission in its order dated 12.11.2015 in Petition No 77/GT/2013 had observed as under:

“58. The petitioner has submitted that initial spares amounting to Rs.10000 lakh is proposed to be capitalized after 31.3.2014 as additional capital expenditure. It is noticed that there is no actual expenditure incurred on initial spares as on COD of the generating station as per audited capital cost. Hence, expenditure on initial spares has not been considered during this tariff period.”

113. The capital cost of the project as on cut-off date (31.3.2017) is ₹583765.85 lakh. The initial spares allowed in terms of the 2009 Tariff Regulations is 2.5% of the



capital cost, as on cut-of date of the generating station. Accordingly, the initial spares work out to ₹14594.15 lakh. Thus, the claim of the petitioner is less than the initial spares admissible under the said regulation as on the cut-off date. In view of this, initial spares amounting to ₹10008.00 lakh during 2014-17 (₹2168.00 lakh in 2014-15, ₹5355.00 lakh in 2015-16 and ₹2485.00 lakh in 2016-17) is allowed to be capitalised under Regulation 14(1) (iii) of the 2014 Tariff Regulations.

Retention Money paid and Liabilities discharged

114. The petitioner has claimed an amount of ₹37990.00 lakh during 2014-17 (₹9172.00 lakh in 2014-15, ₹2579.00 lakh in 2015-16 and ₹26239.00 lakh in 2016-17) towards Retention money paid and Liabilities discharged under Regulation 14(1)(ii) of the 2014 Tariff Regulations. The matter has been examined based on the auditor's certificate placed on the record vide affidavit dated 25.11.2016. It is observed that the claim of the petitioner towards Retention money paid and Liabilities discharged is in respect of works which are within the original scope of work and is within the cut-off date. Accordingly, the claim of the petitioner for additional capitalization is allowed, subject to revision based on truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.

115. Based on the above discussions, the actual/ projected additional capital expenditure allowed for the period 2014-19 is summarized as under:

	(₹ in lakh)				
Package Name	2014-15	2015-16	2016-17	2017-18	2018-19
Land	470.00	165.00	0.00	0.00	0.00
EPC works	2232.00	2130.00	0.00	0.00	0.00
Non-EPC works	24037.00	294.00	3200.00	0.00	0.00
Initial Spares procured within Original scope	2168.00	5355.00	2485.00	0.00	0.00
Retention Money paid & liabilities discharged	9172.00	2579.00	26239.00	0.00	0.00
Total	38079.00	10523.00	31924.00	0.00	0.00



116. Accordingly, the capital cost allowed in respect of the generating station for the period 2014-19 is as under:

	(₹ In lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	503239.85	541318.85	551841.85	583765.85	583765.85
Add: Admitted additional capital expenditure	38079.00	10523.00	31924.00	0.00	0.00
Capital Cost as on 31 March of the FY	541318.85	551841.85	583765.85	583765.85	583765.85

Debt Equity Ratio

117. Regulation 19 of the 2014 Tariff Regulations provides as under:

“(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. 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:

(i) where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:

(ii) the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

(iii) any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt-equity ratio.

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, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) The generating Company or the transmission licensee shall submit the resolution of the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilisation made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.

(4) In case of generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, but where debt:equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall approve the debt:equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.



(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.

118. The petitioner has submitted that due to conversion of share application money into share capital after the COD of the generating station i.e. 25.3.2014, the debt equity ratio as on 31.3.2014 and 31.3.2015 is 68.22:31.78 and 64.12:35.88 respectively. Accordingly, the petitioner has claimed debt-equity ratio of 70:30 from 1.4.2014 onwards i.e. for the period 2014-19. It is noticed that the debt equity ratio as on 31.3.2014 is 70.83:29.17. Hence, the same has been used for determination of the opening position of gross notional equity and loan as on 1.4.2014 as well as on the additional capital expenditure for the period 1.4.2014 to 31.3.2015. Accordingly, the following claim of the petitioner for debt-equity ratio as on 31.3.2015 is examined:

	(₹ in lakh)
	31.3.2015
Expenditure	
Tangible assets	671654.04
Add: Intangible assets	452.60
Total Fixed Assets	672106.64
Add: CWIP	13154.07
Gross block including CWIP	685260.71
Add: Capital Advances	8458.68
Capital expenditure including advances	693719.39
Less: Undischarged liabilities	50097.00
Capital Expenditure on cash basis, as per balance sheet	643622.39
Equity (Share capital excluding Share application money)	214873.41
Equity%	33.39%
Debt% (balancing figure)	66.61%

119. As regards the increase in equity due to conversion of share application money into share capital and the corresponding change in the debt equity ratio after the COD, it is noticed that the Commission in its order dated 11.7.2017 in Petition No. 277/GT/2014 (determination of tariff of Vallur TPS for 2014-19) had decided as under:



“It appears from the above that the share application money pending allotment as reflected in the balance sheet as on 25.2.2015 was converted into equity share capital subsequently. Conversion of the said sum into equity has since been achieved and there has been increase in position of equity capital albeit after the date of COD to tune of `11999.00 lakh, the denial of return on such sum as equity capital for the entire project life of 25 years, in our view, is not justified. In view of the above, we, in exercise of power to relax under Regulation 54 of the 2014 Tariff Regulations, allow the revision of debt-equity ratio post COD.”

120. In line with the above decision and the regulations as aforesaid, since the actual equity deployment as on 31.3.2015 is higher than 30%, the debt- equity ratio of 70:30 is allowed for the period 1.4.2015 onwards.

Return on Equity

121. Regulation 24 of the 2014 Tariff Regulations provides as under:

“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:

ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.



122. Regulation 25 of the 2014 Tariff Regulations provides as under:

“Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non-generation or non-transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”.

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

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

Where “t” is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.”

123. For the tariff period 2014-19, the petitioner has grossed up the RoE based on the MAT rate of 2013-14. The Commission in its orders determining tariff for 2014-19 for generating stations on projection basis, has consistently adopted the methodology of allowing the grossing up of RoE based on MAT rate of 2014-15. However, in the present case, it is noticed that there is no taxable income/tax payable in the year 2014-15. As such, no grossing up of ROE has been allowed for the period 2014-19. However, the same will be considered at the time of truing-up of tariff based on the effective tax rate furnished by the petitioner. Accordingly, Return on Equity has been computed as under:

	(₹ In lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Notional Equity	146792.06	162395.66	165552.56	175129.76	175129.76
Addition due to Additional capitalization	11107.42	3156.90	9577.20	0.00	0.00
Closing Equity	157899.48	165552.56	175129.76	175129.76	175129.76
Average Equity	152345.77	163974.11	170341.16	175129.76	175129.76
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax rate for the year	0.000%	0.000%	0.000%	0.000%	0.000%
Rate of Return on	15.500%	15.500%	15.500%	15.500%	15.500%



Equity					
Return on Equity	23613.59	25415.99	26402.88	27145.11	27145.11

Interest on Loan

124. Regulation 26 of the 2014 Tariff Regulations provides as under:

“26. Interest on loan capital: (1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalization of such asset.

(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 depreciation allowed for the year or part of the year.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

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 beneficiaries or the long term transmission customers /DICs 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.”



125. In terms of the above regulations, the normative loan outstanding as on 31.3.2014 has been considered as the normative loan as on 1.4.2014. The petitioner vide form 13 A has submitted the weighted average rates of interest on loan. The same has been considered for the purpose of calculation of interest on normative loan with minor corrections. This is subject to truing-up. Necessary calculations for interest on loan are as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
	(₹ in lakh)				
Gross Notional Loan	356447.79	378923.20	386289.30	408636.10	408636.10
Cumulative Repayment of Loan up to previous year	12307.60	38844.60	66640.73	95503.28	125157.25
Net Opening Loan	344140.19	340078.59	319648.57	313132.82	283478.85
Addition due to Additional Capitalization	26971.58	7366.10	22346.80	0.00	0.00
Repayment of Loan during the period	26537.00	27796.13	28862.55	29653.97	29653.97
Net Closing Loan	344574.77	319648.57	313132.82	283478.85	253824.88
Average Loan	344357.48	329863.58	316390.70	298305.84	268651.87
Weighted Average Rate of Interest on Loan	12.504%	12.511%	12.462%	12.410%	12.372%
Interest on Loan	43059.41	41268.36	39427.80	37018.66	33238.80

Depreciation

126. Regulation 27 of the 2014 Tariff Regulations provides as under:

“27. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. 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.



(3) 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 station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the plant.

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

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

(4) 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.

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II 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 the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.

(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.”

127. The weighted average rate of depreciation furnished by the petitioner vide Form 11 has been examined and has been allowed. Accordingly, depreciation has been calculated as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross Block	503239.85	541318.85	551841.85	583765.85	583765.85
Addition due to Projected Additional Capitalization	38079.00	10523.00	31924.00	0.00	0.00
Closing Gross Block	541318.85	551841.85	583765.85	583765.85	583765.85



Average Gross Block	522279.35	546580.35	567803.85	583765.85	583765.85
Value of Freehold Land included in Gross Block	13.36	13.36	13.36	13.36	13.36
Rate of Depreciation	5.081%	5.085%	5.083%	5.080%	5.080%
Depreciable Value (90%)	470039.40	491910.30	511011.45	525377.25	525377.25
Remaining Depreciable Value	457731.79	453065.69	444370.72	429873.97	400220.00
Depreciation	26537.00	27796.13	28862.55	29653.97	29653.97

Operation & Maintenance Expenses

128. Regulation 29(1) (a) of the 2014 Tariff Regulations provides the normative O&M expenses for 350 MW units of coal based generating stations as under:

(₹ In lakh/MW)				
2014-15	2015-16	2016-17	2017-18	2018-19
19.95	21.21	22.54	23.96	25.47

129. The Petitioner has claimed the following total O&M expenses:

(₹ in lakh)					
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses under Regulation 29(1)	20947.50	22270.50	23667.00	25158.00	26743.50
O&M Expenses under Regulation 29(2)					
Water Charges	0.00	0.00	0.00	0.00	0.00
Total O&M Expenses	20947.50	22270.50	23667.00	25158.00	26743.50

130. In terms of Regulation 29(1) of the 2014 Tariff Regulations, the normative O&M expenses claimed for the period 2014-19 is in order and is accordingly allowed.

Water Charges

131. Regulation 29(2) of the 2014 Tariff Regulations provide as under:

“29.(2) The Water Charges and capital spares for thermal generating stations shall be allowed separately:

Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check.

The details regarding the same shall be furnished along with the petition:

Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance or special allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization”.



132. In terms of the above regulations, Water charges are to be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check of the details furnished by the petitioner.

133. The petitioner vide affidavit dated 14.9.2016 has submitted the details of the actual water consumption for the years 2014-15 and 2015-16 as ₹12.63 crore and ₹11.61 crore respectively. Based on the average of the actual water consumption for the years 2014-15 and 2015-16, the petitioner has claimed water charges of ₹12.12 crore each for the years 2016-17 to 2018-19.

134. The Commission vide ROP of hearing dated 15.9.2016 directed the petitioner to furnish the details in respect of water charges such as the (i) contracted quantum since COD of Unit-I to 31.3.2014, (ii) rate of water charges (iii) actual water charges paid duly certified Auditor, (iv) justification for variation in allocated quantity of water vis-à-vis actual consumption, (v) type of cooling water system etc., as applicable.

135. In response, the petitioner vide affidavit dated 7.11.2016 has submitted that the contracted quantum of water is 30 cusecs or 73405.44 CuM/day and has also furnished the auditor certified actual water charges for 2013-14 as under:

Agreement quantity (CuM)	Actual consumption quantity (CuM)	Rate (₹/CuM)	Amount (in ₹)
26792986	26792986	4.5	120568459

136. The quantity of water consumed by the petitioner during the year 2013-14 is within the limits of 3.5 CuM /MW/Hour for a 500 MW plant as provided by the CEA. Therefore, the actual water charges furnished by the petitioner for the year 2013-14 has been considered as the water charges for the period 2014-19. This is however subject to revision at the time of truing-up of tariff, based on the actual water



charges for the period 2014-19. Accordingly, the total O&M expenses including water charges as claimed by the petitioner and as allowed for tariff purpose is summarised as under:

	(₹ in lakh)					
	2014-15	2015-16	2016-17	2017-18	2018-19	Total
O&M Expenses as claimed	20947.50	22270.50	23667.00	25158.00	26743.50	118786.00
O&M Expenses as allowed	20947.50	22270.50	23667.00	25158.00	26743.50	118786.00
Water Charges as claimed	0.0	0.0	0.0	0.0	0.0	0.0
Water Charges as allowed	1205.68	1205.68	1205.68	1205.68	1205.68	6028.40
Total O&M Expenses as claimed	20947.50	22270.50	23667.00	25158.00	26743.50	118786.00
Total O&M Expenses as allowed	22153.18	23476.18	24872.68	26363.68	27949.18	124814.4

Capital spares

137. The petitioner has not claimed capital spares on projection basis, during the period 2014-19. Accordingly, the same has not been considered in this order. The claim of the petitioner, if any, at the time of truing-up of tariff, shall be considered on merits, after prudence check.

Operational Norms

138. The operational norms considered by the petitioner in respect of the generating station are as under:

Target Availability (%)	83.0
Heat Rate (kcal/kwh)	2378.45
Auxiliary power consumption %	7.55
Specific Oil Consumption (ml/kwh)	0.50

139. The operational norms claimed by the petitioner are discussed as under:

Target Availability

140. Regulation 36 of the 2014 Tariff Regulations provides as under:

“(A) Normative Annual Plant Availability Factor



(a) All Thermal generating stations, except those covered under clauses (b)(c) (d) & (e)- 85%.

Provided that in view of the shortage of coal and uncertainty of assured coal supply on sustained basis experienced by the generating stations, the NAPAF for recovery of fixed charges shall be 83% till the same is reviewed. The above provision shall be reviewed based on actual feedback after 3 years from 1.4.2014.”

141. The petitioner has considered the Target Availability of 85% for the period 2014-19. The Commission, due to shortage of domestic coal supply has relaxed the Target Availability norm to 83% for first 3 years from 1.4.2014 and the same shall be reviewed after 3 years. Accordingly, in terms of the Regulation 36(A) of the 2014 Tariff Regulations, the Target Availability of 83% is considered for the period 2014-17 and 85% for the period 2017-19.

Gross Station Heat Rate

142. Regulation 36(C)(c) of Tariff Regulations, 2014 provides as follows:-

“36(C) Gross Station Heat Rate:-

(c) Thermal Generating Station having COD on or after 1.4.2009 till 31.3.2014

(i) Coal-based and lignite-fired Thermal Generating Stations

$$= 1.045 \times \text{Design Heat Rate (kCal/kWh)}$$

Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure:

Provided that the heat rate norms computed as per above shall be limited to the heat rate norms approved during FY 2009-10 to FY 2013-14.

143. The petitioner in Form-2 vide affidavit dated 1.4.2016 has furnished the Turbine Cycle Heat Rate of 1945 Kcal/ kWh and Boiler Efficiency of 87.20%. Accordingly, the Gross Station Heat Rate of the generating station for the period 2014-19 has been computed as 2330.88 Kcal/kWh (1.045x1945/0.872). The Commission in its order dated 12.11.2015 in Petition No. 77/GT/2013 had considered the Gross Station Heat Rate of 2423.97 kCal/kWh for 2013-14 in terms of Regulation 26(B)(a) of the 2009 Tariff Regulations. Accordingly, the Gross Station Heat Rate of 2330.88 kCal/ kWh has been allowed for the period 2014-19.



Auxiliary Power Consumption

144. Regulation 36(E)(a)(i) of the 2014 Tariff Regulation provides Auxiliary power consumption as under:

(E) Auxiliary Energy Consumption

(a) Coal-based generating stations except at (b) below:

	With Natural Draft cooling tower or without cooling tower
(i) 200 MW series	8.5%
(ii) 300/330/350/500 MW and above	
Steam driven boiler feed pumps	5.25%
Electrically driven boiler feed pumps	7.75%

Provided further that for thermal generating stations with induced draft cooling tower, the norms shall be further increased by 0.5%.

145. The petitioner has considered Annual Power Consumption (APC) of 7.55% for 2014-19 which is not in accordance with the norm of 5.75 % for 350 MW units with induced draft cooling under the 2014 Tariff Regulations. In justification of the same, the petitioner has submitted that it has considered the APC of 7.55% based on following facts:

- (i) The designed Auxiliary Power Consumption for Petitioner's 3 x 350 MW project is 7.55%.
- (ii) The average of the actual Auxiliary Power Consumption even at >90% PLF is 7.55%.

146. It is observed that the prayer of the petitioner for relaxation of APC to 7.55% was examined by the Commission while determining the tariff of the generating station for the period 2009-14 in Petition No. 77/GT/2013 and by order dated 12.11.2015, the Commission had rejected the prayer of the petitioner. The relevant portion of the order dated 12.11.2015 is extracted hereunder:

“112. It is evident from the submissions of the petitioner that the APC of 7.94% is mainly due to installation of some additional systems like High Concentrate Slurry disposal system, Additional water pumping system, Ash water reclamation system, Coal water treatment plant and Reverse Osmosis system. However, the petitioner has claimed the APC of 7.55% which include High Concentrate slurry Disposal (HCSD) system, additional water pumping system, Ash water reclamation system, Coal waste water treatment Plant and Reverse Osmosis system as part of the auxiliary consumption. In our view the installation of these systems namely, Ash water reclamation, coal water treatment etc. are for meeting the zero discharge of effluents to optimize the water usage as per the environmental norms. The systems



for zero discharge of effluents have been installed in most of the existing plants based upon which the APC norm of 6.5 % has been specified by the Commission under the 2009 Tariff Regulations. In case of Indira Gandhi Super Thermal Project of Aravalli Power Company Pvt. Ltd, the generating company (APPCL) had not sought for any relaxation in the APC, even though high density Ash slurry system was installed. In case of smaller size units like Feroze Gandhi Unchahar TPS (2x210 MW) of NTPC, the actual APC during the period 2009-14 was 8.13% with motor driven Boiler Feed Pump and in case the consumption of motor driven BFP is considered as 2.5%, then the APC works out to 5.6%. Also, in the case of Simhadri STPS Stage- I (2x500 MW) of NTPC, the actual APC during the period 2008-13 was 5.58 % with steam driven BFP (which is less than norm of 6%). Considering these factors in totality, we are not inclined to exercise the Power to relax and allow the prayer of the petitioner for relaxation in the APC norm to 7.55% as claimed by the petitioner. Accordingly, the prayer of the petitioner is not allowed and the APC of 6.5% has been allowed in accordance with the 2009 Tariff Regulations for the purpose of tariff.”

147. In line with the above, the prayer of the petitioner for relaxation of APC to 7.55% for 2014-19 is not allowed. Accordingly, the APC of 5.75% as per the said regulation has been allowed.

Specific Oil Consumption

148. Regulation 36(D)(a) of the 2014 Tariff Regulations, provides for the Secondary fuel oil Consumption of 0.50 ml/kWh for coal-based generating stations. Hence, the Secondary fuel oil Consumption considered by the petitioner is as per norms and is allowed.

149. Based on the above, the Operational norms allowed in respect of the generating station is summarised as under:

Target Availability (%) (2014-2017)	83.0
Target Availability (%) (2017-2019)	85.0
Heat Rate (kcal/kwh)	2330.88
Auxiliary Power Consumption (%)	5.75
Specific Oil Consumption (ml/kwh)	0.50

Interest on Working Capital

150. Sub-section (a) of clause (1) of Regulation 28 of the 2014 Tariff Regulations provides as under:



“28. Interest on Working Capital:

(1) The working capital shall cover

(a)Coal based/lignite fired thermal generating stations

i) Cost of coal towards stock for 15 days for pit-head generating stations and 30 days for non-pit-head generating station for generation corresponding to the normative annual plant availability factor or the maximum coal stock storage capacity whichever is lower.

ii) Cost of coal for 30 days for generating corresponding to the normative annual plant availability factor.

iii) Cost of secondary fuel oil for two month for generating corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil.

iv)Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 29.

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

vi)Operation and maintenance expenses for one month.”

Fuel Components and Energy Charges in working capital

151. The petitioner has claimed the cost for fuel component in working capital based on price and “as received” GCV of coal procured and burnt for the preceding three months of January, February, and March, 2014 and price and GCV of secondary fuel oil (LDO) for the preceding three months of January, February, and March, 2014, as under:-

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal for stock (1 month)	9872.21	10280.04	10251.95	10251.95	10251.95
Cost of Coal for Generation (1 month)	9872.21	10280.04	10251.95	10251.95	10251.95
Cost of Secondary fuel oil 2 months	428.64	429.82	428.64	428.64	428.64

152. The Respondent, GRIDCO vide affidavit dated 17.12.2016 has submitted that the Commission may exercise prudence check of the weighted average calorific value of coal of 3747.66 kcal/kg for the year 2018-19 and landed secondary fuel oil price of ₹65790.67/KL while working out the energy charges in respect of the generating station.



153. In terms of the 2014 Tariff Regulations, 'as received' GCV of coal is to be considered for computation of coal cost and 2 months energy charges in working capital based on preceding three months GCV of coal i.e. January, February and March, 2014 for the period 2014-19. In absence of 'as received' GCV in terms of the 2014 Tariff Regulations and the Commission's order dated 25.1.201, the 'as billed' GCV of coal as per the 3rd party samples at the mine end has been considered by the Commission and the same has been discussed. In respect of secondary fuel oil, HFO based on the October, 2013 price and GCV has been considered as main secondary fuel oil as the same is generally used as secondary oil compared to LDC for allowing 2 months secondary oil cost in the working capital.

154. The Computation of Energy Charges and Fuel component (coal cost) by the petitioner in working capital during the period 2014-19 is based on "as received" GCV of coal. The petitioner in the petition had not furnished Form-15 in terms of the 2014 Tariff Regulations. Accordingly, the Commission vide ROP of the hearing dated 23.9.2016 directed the petitioner to furnish the following.

- (i) Form-15 duly filled with as per the 2014 Tariff Regulations, coal data and secondary oil consumption for the month of January, February, and March, 2014;
- (ii) GCV on "as received" basis as per the Commission's order dated 25.1.2016 in Petition No. 283/GT/2014 and also furnish the "as billed" GCV of coal.

155. In response, the petitioner vide affidavit dated 7.11.2016 has furnished the 'as received GCV' and 'as billed GCV' for the coal utilized during the months of January, February and March, 2014 as stated hereunder:

Month	As received GCV (Kcal/kg)				As billed GCV (Kcal/kg)			
	Open Market	E-auction	Linkage	Imported	Open Market	E-auction	Linkage	Imported
Jan-14	NA	NA	3717	4154	NA	NA	3701-4000	4154
Feb-14	3072	NA	3762	NA	3072	NA	3701-4000	NA
Mar-14	3412	3019	3781	4135	3412	3019	3701-4000	4135



156. As noticed, the petitioner in the said affidavit has not furnished an exact figure of 'as billed' GCV but has instead furnished 'as billed' GCV in the range of 3700-4000 kCal/Kg. In view of this, the Commission vide ROP dated 21.12.2017 directed the petitioner to submit the following information:

- (i) *Exact value of 'as billed' GCV as indicated by the Coal Company;*
- (ii) *Confirmation as to whether coal samples for measuring 'as received' GCV of coal in the months of January, February and March, 2014 were taken from the wagons at the unloading point in the site or from any other point; and*
- (iii) *Whether the infrastructure for taking coal from wagon at the unloading point for measuring 'as received' GCV of coal in terms of the order dated 25.1.2016 in Petition No. 283/GT/2014 was in place prior to 2014. If so, the details of infrastructure installed along with videography of taking coal samples from wagons."*

157. In response, the petitioner vide its affidavit dated 6.3.2017 has furnished Form-15 and has submitted that the invoice issued by the Mahanadi Coalfields Limited (MCL) does not indicate a specific GCV, but has instead specified GCV range in the invoice (for example 3700-4000 kCal/Kg.). However, it has submitted that MCL has engaged a third party which conducts measurement of GCV at the loading end in accordance with the BIS (Part I) 1984 & IS 1350 (Part II) 1970 and the petitioner has relied upon these reports shared by MCL and has furnished the following "as billed GCV" for the linkage coal for the respective months of January, February and March, 2014:

Month	GCV (Air Dried basis)
January 2014	3796
February 2014	3820
March 2014	3808

158. As per the directions of the Hon'ble High Court, the Commission vide its order dated 25.1.2016 in Petition No. 283/GT/2014 had decided as under:

"58. In view of the above discussion, the issues referred by the Hon'ble High Court of Delhi are decided as under:

(a) There is no basis in the Indian Standards and other documents relied upon by NTPC etc. to support their claim that GCV of coal on as received basis should be measured by taking samples after the crusher set up inside the generating station, in terms of Regulation 30(6) of the 2014 Tariff regulations.



(b)The samples for the purpose of measurement of coal on as received basis should be collected from the loaded wagons at the generating stations either manually or through the Hydraulic Auger in accordance with provisions of IS 436(Part1/Section1)-1964 before the coal is unloaded. While collecting the samples, the safety of personnel and equipment as discussed in this order should be ensured. After collection of samples, the sample preparation and testing shall be carried out in the laboratory in accordance with the procedure prescribed in IS 436(Part1/Section1)-1964 which has been elaborated in the CPRI Report to PSERC.”

159. The petitioner has claimed Energy Charge Rate (ECR) of 167.50 Paise/kWh for 2014-15 and 173.80 Paise/kWh for 2015-19 based on the weighted average price, GCV of coal (as received) & oil (LDO) procured and burnt for the preceding three months. It is observed that the petitioner has not placed on record the GCV of coal on “as received” basis taken from the loaded wagons at the unloading point, though the petitioner was statutorily required to furnish such information with effect from 1.4.2014. In compliance with the direction of the Hon’ble High Court of Delhi, the Commission in its order dated 25.1.2016 in Petition No. 283/GT/2014 has clarified that the measurement of GCV of coal on as received basis shall be taken from the loaded wagons at the unloading point either manually or through the Hydraulic Augur. The petitioner has not submitted the required data regarding measurement of GCV of coal in compliance with the directions contained in the said order dated 25.1.2016. The present petition cannot be kept pending till the petitioner submits the required information. In line with the decision of the Commission in order dated 27.6.2016 in Petition No.270/GT/2014 (Simhadri Super Thermal Power Station Stage-I), it has been decided to compute fuel components and the energy charges in the working capital by provisionally taking the GCV of coal on as “billed basis” and allowing an adjustment for total moisture as per the formula given as under:

$$\frac{\text{GCV} \times (1 - \text{TM})}{(1 - \text{IM})}$$

Where: GCV= Gross Calorific value of coal
TM=Total moisture
IM= Inherent moisture



160. The petitioner has procured and burnt secondary fuel oil, LDO in the months of January, February and March, 2014 and HFO in the month of October, 2013 before the COD of the generating station. As per the 2014 Tariff Regulations, if the secondary fuel oils are used then the main secondary fuel oil shall be considered. In case of HFO & LDO, HFO is the main secondary fuel oil and has been considered for computation of secondary oil cost in working capital.

161. In view of the above, the cost for fuel components in working capital have been computed at 83% NAPAF for the years 2014-15, 2015-16 and 2016-17 and at 85% NAPAF for the year 2017-18 and 2018-19 and based on 'as billed' GCV of coal and price of coal procured and secondary fuel oil (HFO) for October, 2013 as the petitioner had not procured any secondary oil for the preceding three months from January, 2014 to March, 2014 and the same is allowed as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal for stock-30 days	7043.02	7043.02	7043.02	7212.73	7212.73
Cost of Coal for Generation-30 days	7043.02	7043.02	7043.02	7212.73	7212.73
Cost of Secondary fuel oil 2 months	309.50	310.35	309.50	316.96	316.96

162. Similarly, the Energy Charge Rate (ECR) based on operational norms specified in the 2014 Tariff Regulations and on 'as billed' GCV of coal for preceding three months i.e. January to March, 2014 is worked out as under:

Sl.No.	Description	Unit	2014-19
1	Capacity	MW	3x350
2	Gross Station Heat Rate	Kcal/kWh	2330.88
3	Aux. Energy Consumption	%	5.75
4	Weighted average GCV of oil	Kcal/lit	11000
5	Weighted average GCV of Coal (as billed)	Kcal/kg	3793.00
6	Adjustment on account of coal received at the generating station for equilibrated basis (Air dried) in the billed GCV Of Coal India		*
7	Weighted average price of oil	₹/KL	48649.00
8	Weighted average price of Coal	₹/MT	1830.83
9	Rate of energy charge ex-bus	Paise/kWh	117.422**

* To be calculated by the petitioner based on the adjustment formula

** To be revised as per the figures at Sr. No. 6
Computation sheet is attached as Annexure-I.



163. The GCV of coal as computed above shall be adjusted in the light of the GCV of coal on “as received basis” computed by the petitioner as per our directions in order dated 25.1.2016 in Petition No. 283/GT/2014.

Energy Charges

164. Energy charges for 2 months on the basis of ‘as billed’ GCV for the purpose of interest in working capital has been worked out as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
14591.18	14631.16	14591.18	14942.78	14942.78

Maintenance Spares

165. The Petitioner has claimed maintenance spares in working capital as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
4189.50	4454.10	4733.40	5031.60	5348.70

166. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 20% of the Operation & Maintenance expenses as specified in Regulation 29 of the 2014 Tariff Regulations. The maintenance spares considered by petitioner does not include the water charges. However, in line with the consistent decision of the Commission, maintenance spares including water charges have been worked out and allowed as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
4430.64	4695.24	4974.54	5272.74	5589.84

Receivables

167. Receivables equivalent to two months of capacity charges and energy charges has been worked out and allowed as under: -

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Receivables (Fixed Charges)	20481.46	20933.22	21215.77	21346.52	20982.71



Receivables (Variable Charges)	14591.18	14631.16	14591.18	14942.78	14942.78
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O&M expenses for 1 month

168. The O&M expenses for 1 month claimed by the petitioner for the purpose of working capital in Form -13B are as under:

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
1745.63	1855.88	1972.25	2096.50	2228.63

169. Regulation 28(a)(vi) of the 2014 Tariff Regulations provides for Operation and maintenance expenses for one month for coal-based generating station. The One (1) month O&M expenses considered by petitioner do not include water charges. Accordingly, the 1 (one) month O&M expenses including water charges have been worked out and allowed as under:

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
1846.10	1956.35	2072.72	2196.97	2329.10

Rate of interest on working capital

170. Clause (3) of Regulation 28 of the 2014 Tariff Regulations provides as under:

“Interest on working Capital: (3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later.”

171. In terms of the above regulations, SBI PLR of 13.50% has been considered for the purpose of calculating interest on working capital. Accordingly, Interest on working capital has been computed as under:

(₹ in lakh)					
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal for stock-30 days	7043.02	7043.02	7043.02	7212.73	7212.73
Cost of Coal for generation-30 days	7043.02	7043.02	7043.02	7212.73	7212.73



Cost of Secondary fuel oil 2 months	309.50	310.35	309.50	316.96	316.96
Maintenance Spares	4430.64	4695.24	4974.54	5272.74	5589.84
Receivables (Fixed Charges)	20481.46	20933.22	21215.77	21346.52	20982.71
Receivables (Variable Charges)	14591.18	14631.16	14591.18	14942.78	14942.78
O&M expenses	1846.10	1956.35	2072.72	2196.97	2329.10
Total Working Capital	55744.92	56612.36	57249.75	58501.43	58586.85
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	7525.56	7642.67	7728.72	7897.69	7909.23

Annual Fixed Charges

172. Accordingly, the annual fixed charges approved for the generating station for the period from 1.4.2014 to 31.3.2019 is summarized as under:

	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	23613.59	25415.99	26402.88	27145.11	27145.11
Interest on Loan	43059.41	41268.36	39427.80	37018.66	33238.80
Depreciation	26537.00	27796.13	28862.55	29653.97	29653.97
Interest on Working Capital	7525.56	7642.67	7728.72	7897.69	7909.23
O & M Expenses	22153.18	23476.18	24872.68	26363.68	27949.18
Annual Fixed Charges	122888.75	125599.32	127294.62	128079.11	125896.28

173. The annual fixed charges approved as above are applicable corresponding to the capacity of 262.5 MW (25% of 1050 MW) which has been contracted for supply to the respondent beneficiaries.

Month to Month Energy Charges

174. The petitioner shall determine month to month Energy Charges Rate (ECR) in Rupees per kWh to three decimal places on ex-power plant in accordance with the following formulae:

“6. Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula:

(a) For coal based and lignite fired stations

$$ECR = \{(GHR - SFC \times CVSF) \times LPPF / CVPF + SFC \times LPSFi + LC \times LPL\} \times 100 / (100 - AUX)$$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic metre, as applicable.

CVSF = Calorific value of secondary fuel, in kCal per ml.

ECR = Energy charge rate, in Rupees per kWh sent out.



*GHR = Gross station heat rate, in kCal per kWh.
LC = Normative limestone consumption in kg per kWh.
LPL = Weighted average landed price of limestone in Rupees per kg.
LPPF = Weighted average landed price of primary fuel, in Rupees per kg”*

175. The petitioner shall compute and claim the Energy Charges on month to month basis from the beneficiaries based on the formulae given under Regulation 30 (6) (a) of the 2014 Tariff Regulations read with Commission’s order dated 25.1.2016 in Petition No. 283/GT/2014.

176. The Commission in its order dated 19.2.2016 in Petition No. 33/MP/2014 (TPDDL v NTPC & anr) had directed as under:

“The respondents shall introduce help desk to attend to the queries and concerns of the beneficiaries with regard to the energy charges. The contentious issues regarding the energy charges should be sorted out with the beneficiaries at the senior management level, preferably at the level of Executive Directors.”

Accordingly, in line with the above decision, help desk shall be introduced by the petitioner and contentious issues if any, which arise in respect of energy charges for this generating station shall be sorted out with the beneficiaries at the Senior Management level.

177. In terms of Clause 6.2.2 of the PPA, all cess, duty, tax, governmental levy etc incurred by the petitioner towards generation of electricity shall be reimbursed in proportion to the capacity contracted by the respondent beneficiaries.

Application filing fee and Publication Expenses

178. The petitioner has sought reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2014-

19. The petitioner has deposited total filing fees of ₹4620000/- for the period 2014-18 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. Accordingly, in terms of Regulations 52 of the



2014 Tariff Regulations, we direct that the petitioner shall be entitled to recover *pro rata*, the filing fees and the expenses incurred on publication of notices directly from the respondents, on production of documentary proof. The filing fees for the balance period i.e 2018-19 shall be recovered *pro rata* after deposit of the same and production of documentary proof.

179. The annual fixed charges approved for the period 2014-19 as above are subject to truing up in terms of Regulation 8 of the 2014 Tariff Regulations.

180. Petition No. 61/GT/2016 is disposed of in terms of above.

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

Sd/-
(A.S. Bakshi)
Member

Sd/-
(A.K. Singhal)
Member

Sd/-
(P.K.Pujari)
Chairperson



Annexure-I

Petition No. 61/GT/2016- Details of computaion of Energy Charges

Name of Company GMR

Name of Power Station GMR-Kamalanga GCV on 'As billed' basis

Computation of Energy Charges for the period 2014-19		2014-15 & 2016-17	2015-16	2017-18 & 2018-19
Description	Unit			
Capacity	MW	1050.00	1050.00	1050.00
No. operational hours at PLF corresponding to Availability of	83.00%	7270.80	7290.72	7446.000
Gross Station Heat Rate (Wt. Average)	kCal/kWh	2330.880	2330.880	2330.88
Specific Fuel Oil Consumption	ml/kWh	0.50	0.50	0.50
Aux. Energy Consumption (Wt. Average)	%	5.75	5.75	5.75
Weighted Average GCV of Oil	kCal/l	11000.00	11000.00	11000.000
Weighted Average GCV of Coal	kCal/Kg	3793.00	3793.00	3793.00
Weighted Average Price of Oil	Rs./KL	48649.00	48649.00	48649.00
Weighted Average Price of Coal	Rs./MT	1830.83	1830.83	1830.83
Rate of Energy Charge from Sec. Fuel Oil	Paise/kWh	2.432	2.432	2.432
Heat Contributed from SFO	kCal/kWh	5.50	5.50	5.50
Heat Contributed from Coal	kCal/kWh	2325.38	2325.38	2325.38
Specific Coal Consumption	Kg/kWh	0.613	0.613	0.613
Rate of Energy Charge from Coal	Paise/kWh	112.243	112.243	112.243
Rate of Energy Charge ex-bus per kWh Sent	Paise/kWh	121.672	121.672	121.672
Computation of component of working capital				
Annual Generation corresponding to 83% PLF(gross)	MU	7634.34	7655.26	7818.30
Annual Generation corresponding to 83% PLF(ex-bus)	MU	7195.37	7215.08	7368.75
ESO in 30 days	MU	591.40	591.40	605.65
1 month ESO	MU	599.61	601.26	614.06
Annual Coal requirement	MMT	4.68	4.69	4.79
30days Coal Requirement	MMT	0.38	0.38	0.39
1 month coal requirement	MMT	0.39	0.39	0.40
Value of 30 days Coal Stock	Rs. Lakhs	7043.02	7043.02	7212.73
Value of 60 days stock	Rs. Lakhs	14086.04	14086.04	14425.47
Value of one month Coal Stock	Rs. Lakhs	7140.84	7160.40	7312.91
Annual Oil Requirement	KL	3817.17	3827.63	3909.15
1 month Oil requirement	KL	318.10	318.97	325.76
two months Oil requirement	KL	636.20	637.94	651.53
Value of one month Oil Stock	Rs. Lakhs	154.75	155.18	158.48
Value of 2 months Oil Stock	Rs. Lakhs	309.50	310.35	316.96
value of 1 month coal + 1 month oil	Rs. Lakhs	7295.59	7315.58	7471.39
Energy Charges for two months	Rs. Lakhs	14591.18	14631.16	14942.78
Cost of secondary fuel oil for one year	Rs. Lakhs	1857.02	1862.10	1901.76