CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

<u>Petition No. 352/GT/2014</u>

Coram:
Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member

Date of Hearing : 6.9.2016
Date of Order : 20.9.2016

In the matter of:

Approval of tariff for Mejia Thermal Power Station, Unit-IV (1x210 MW) for the period from 1.4.2014 to 31.3.2019.

And in the matter of

Damodar Valley Corporation (DVC),
DVC Towers, VIP Road
Kolkata **………Petitioner**

Versus

1. West Bengal State Electricity Distribution Company Limited
   Block 'DJ' Sector-11, Salt Lake City,
   Kolkata-700 091

2. Jharkhand Bijli Vitran Nigam Limited
   Engineering Building, HEC, Dhurwa,
   Ranchi- 834 004 **……….Respondents**

Parties present:

For Petitioner:	Shri M.G Ramachandran, Advocate, DVC Ms Anushree Bardhan, Advocate, DVC Shri P.Bhattacharya, DVC Shri Subrata Ghosal, DVC Shri A.Biswas, DVC Shri D.K Aich, DVC Shri S.Ganguly, DVC
For Respondents:	None

ORDER

This petition has been filed by the petitioner, Damodar Valley Corporation (DVC), for approval of tariff of Mejia Thermal Power Station, Unit IV (1 x 210 MW) (hereinafter referred to as “the generating station”) for the period 2014-19 in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

2. The petitioner is a statutory body established by the Central Government under the Damodar Valley Corporation Act, 1948 (hereinafter referred to as the 'DVC Act') for the development of the Damodar Valley, with three participating Governments, namely, the Central Government, the Government of West Bengal and the Government of Jharkhand. The Commercial Operation Date for Unit 4 of Mejia Thermal Power Station, is 13.2.2005.

3. In Petition No. 274/GT/2012 filed by the petitioner for determination of tariff of the generating station for the period 2009-14, the Commission vide order dated 9.7.2013, has determined the annual fixed charges based on actual additional capital expenditure for the years 2009-10, 2010-11 and 2011-12 and projected additional capital expenditure for the years 2012-13 and 2013-14. Thereafter, the Commission vide order dated 29.7.2016 in Petition No. 466/GT/2014 had revised the annual fixed charges of the generating station for the period 2009-14 after truing-up exercise in terms of Regulation 6(1) of the 2009 Tariff Regulations, as summarized under:-

(□ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	5108.90	5110.33	5111.87	5111.99	5111.99
Interest on Loan	2405.96	1949.77	1479.51	1109.03	654.47
Return on Equity	4050.55	3363.03	4205.48	4205.58	3364.12
Interest on Working Capital	1218.29	1206.77	1229.65	1233.67	1221.20
O&M Expenses	3822.00	4040.40	4271.40	4517.10	4775.40
Cost of secondary fuel oil (for coal-based & lignite fired generating stations only)	884.38	884.38	886.81	884.38	884.38
Sub-Total	**17490.09**	**16554.69**	**17184.72**	**17061.76**	**16011.55**
Common Office Expenditure	108.36	114.72	67.18	47.39	36.57
Additional O&M on account of Ash evacuation, Mega insurance, CISF security and Share of subsidiary activities	0.00	0.00	0.00	251.88	263.11
Pension & Gratuity Contribution	2222.92	2222.92	2222.92	2222.92	2222.92
Sinking Fund Contribution	1628.08	1573.34	1505.58	1497.21	1602.01
Adjustment of secondary fuel oil	49.60	244.59	622.22	751.97	775.71
Sub-Total	**4008.96**	**4155.58**	**4417.89**	**4771.37**	**4900.32**
Total Annual Fixed Charges	**21499.05**	**20710.27**	**21602.61**	**21833.13**	**20911.87**

4. The annual fixed charges determined vide orders dated 9.7.2013 and 29.7.2016 are subject to the final outcome of the Civil Appeals pending before the Hon'ble Supreme Court in respect of the determination of tariff of the generating stations and inter-state transmission systems of the petitioner by the Commission for the periods 2006-09 and 2009-14.

5. The petitioner, vide affidavit dated 3.9.2014, has sought approval of tariff of the generating station for the period 2014-19 in accordance with the provisions of the 2014 Tariff Regulations. Accordingly, the capital cost and the annual fixed charges claimed by the petitioner for the period 2014-19 are as under:

Capital Cost

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	72121.19	72121.19	72121.19	72121.19	72222.19
Additional capital expenditure	0.00	0.00	0.00	101.00	0.00
De-capitalization during the year/ period	0.00	0.00	0.00	0.00	0.00
Closing Capital Cost	**72121.19**	**72121.19**	**72121.19**	**72222.19**	**72222.19**
Average Capital Cost	**72121.19**	**72121.19**	**72121.19**	**72171.69**	**72222.19**

Annual Fixed Charges

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	5089.95	5089.95	5089.95	3285.12	45.45
Interest on Loan	209.23	0.00	0.00	0.00	0.00
Return on Equity	4242.99	4242.99	4242.99	4245.96	4248.93
Interest on Working Capital	2223.62	2272.35	2301.27	2278.86	2230.60
O&M Expenses	5019.00	5334.00	5670.00	6027.00	6407.10
Compensation Allowance	0.00	42.00	42.00	42.00	42.00
Capital Spares	0.00	26.97	266.00	0.00	0.00
Sub-Total	**16784.79**	**17008.26**	**17612.21**	**15878.94**	**12974.08**
Pension & Gratuity Contribution	1209.73	2527.83	2527.83	2527.83	2527.83
Common office expenditure	43.84	40.87	52.08	76.42	86.59
Additional O&M Expenses	814.37	901.33	1005.14	1111.28	1214.79
Sub-Total	**2067.94**	**3470.03**	**3585.05**	**3715.53**	**3829.21**
Total	**18852.73**	**20478.30**	**21197.26**	**19594.47**	**16803.29**

6. In compliance with the directions of the Commission, the petitioner has filed additional information and has served copies on the respondents. None of the respondents have filed replies to the petition. In response to the directions of the Commission, the petitioner vide affidavit dated 1.9.2016 has submitted additional information with copies to the respondents. Taking into consideration the submissions and the documents available on record, we proceed to consider the claims of the petitioner and determine the tariff in respect of this generating station for the period 2014-19.

Capital cost as on 1.4.2014

7. 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 of the 2014 Tariff Regulations **p**rovides as under:

> *"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) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and*
> *(c) expenditure on account of renovation and modernization as admitted by this Commission in accordance with Regulation 15."*

8. The annual fixed charges claimed by the petitioner are based on opening capital cost of ₹72121.19 lakh as on 1.4.2014. Since the petitioner's claim was prior to the true up order dated 29.7.2016, the petitioner's claim is varying from the admitted capital cost in true up order. In accordance with Clause 3 of Regulation 9 of the 2014 Tariff Regulations, the capital cost admitted by the Commission prior to 1.4.2014 is to be considered as opening capital cost. Accordingly, the closing capital cost of ₹72346.67 lakh as on 31.3.2014 as admitted in the order dated 29.7.2016 in Petition No. 466/GT/2014 has been considered as the opening capital cost as on 1.4.2014 for the purpose of tariff determination during tariff period 2014-19.

Projected Additional Capital Expenditure

9. Regulation 14 (3) of the 2014 Tariff Regulations provides as under:

> *"14.(3) 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 obsolesce 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:
……

10. The break-up of the projected additional capital expenditure claimed during 2014-19 is detailed as under:

(□ in lakh)

S. No.	Head of Works/ Equipment	Additional Capital Expenditure Claimed
	2017-18	
1	Procurement, installation and commissioning of CAAQMS 1 set under Regulation 14(3)(iii)	101.00

11. It is observed that the petitioner has claimed projected additional capital expenditure of one item for the year 2017-18 and has prayed that the capitalization of the same may be allowed in exercise of powers under Regulation 14(3)(iii) of the 2014 Tariff Regulations. We shall examine the year-wise claim of these assets as under:

Procurement, Installation and Commissioning of one set of CAAQMS devices in 2017-18

12. The petitioner has claimed projected additional capital expenditure of □ 101.00 lakh towards CAAQMS device (1 set) in 2017-18 under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In justification of the same, the petitioner has submitted that one set of CAAQMS device was to be procured, installed and commissioned in phases as per statutory norms of the Pollution Control Board/ Statutory Compliance. The petitioner was directed to provide the supporting documents mandating the installation of the said system and in response, the petitioner vide affidavit dated 1.9.2016 has submitted the a copy of budget provision, copy of 1st installed CAAQMS and copy of recent budgetary offer for the purpose of installation of one set of CAAQMS devices. However, the

petitioner has neither submitted any documentary evidence nor any justification for the claim under Regulation 14(3)(iii) of the 2014 Tariff Regulations on the ground that the asset is to be procured and installed as per the advice/direction of the appropriate Government Agencies or Statutory authorities. However, considering the fact that the asset is required in compliance to the directions of Pollution Control Board as stated by the petitioner, the projected additional capital expenditure of 101.00 lakhin 2017-18 is allowed. In terms of Regulation 14(3)(iii) of the 2014 Tariff Regulations, the petitioner is directed to submit the documentary evidence that the procurement and installation of the said system is based on advice/direction of Statutory/ Government agencies for consideration, at the time of truing up of tariff.

Capital cost for 2014-19

13. As stated above, the opening capital cost considered in order dated 29.7.2016 in Petition No. 466/GT/2014 is 72346.67 lakh as on 1.4.2014. Accordingly, the same capital cost is considered for working out the capital cost for the period 2014-19 as under:

(in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	72346.67	72346.67	72346.67	72346.67	72447.67
Net Additions Allowed	0.00	0.00	0.00	101.00	0.00
Closing Capital Cost	72346.67	72346.67	72346.67	72447.67	72447.67
Average Capital Cost	72346.67	72346.67	72346.67	72397.17	72447.67

Debt-Equity Ratio

14. 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-equtiy 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 f 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 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.

15. Accordingly, the gross normative loan and equity amounting to ₹50642.68 lakh and ₹21704.00 lakh respectively, as on 31.3.2014 as admitted in order dated 29.7.2016 has

been considered as normative loan and equity as on 1.4.2014. The normative debt equity ratio of 70:30 has been considered in the case of additional capital expenditure. This is subject to truing-up in terms of Regulation 8 of the 2014 Tariff Regulations. The opening and closing debt and equity is as under.

(□ in lakh)

Asset	As on 1.4.2014		Net Additional capitalization during 2014-19		As on 31.3.2019	
	Amount	**(%)**	**Amount**	**(%)**	**Amount**	**(%)**
Debt	50642.68	70.00%	70.70	70.00%	50713.38	70.00%
Equity	21704.00	30.00%	30.30	30.00%	21734.30	30.00%
Total	**72346.67**	**100.00%**	**101.00**	**100.00%**	**72447.67**	**100.00%**

Return on Equity

16. 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.

17. 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."

18. The petitioner has claimed return on equity considering the base rate of 15.50% and effective tax rate (MAT rate) of 20.961%. However, the actual tax rate of 2013-14 is "NIL" as per annual audited accounts of 2013-14 submitted by the petitioner. It is also observed from the Annual Accounts for the years 2014-15 and 2015-16, that the tax liability is 'nil' in respect of the petitioner's company as a whole. In view of this, the actual tax rate of 2013-14 to 2015-16 has been considered 'NIL' for grossing up of the base rate. This is however, subject to truing-up and shall be raised as per the actual effective tax rate applicable for the financial year. Accordingly, Return on Equity has been worked out as under:-:-

(□ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Notional Equity-Opening	21704.00	21704.00	21704.00	21704.00	21734.30
Addition of Equity due to Additional Capitalization	0.00	0.00	0.00	30.30	0.00
Normative Equity- Closing	21704.00	21704.00	21704.00	21734.30	21734.30
Average Normative Equity	21704.00	21704.00	21704.00	21719.15	21734.30
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 Equity (Pre Tax)	15.500%	15.500%	15.500%	15.500%	15.500%
Return on Equity	**3364.12**	**3364.12**	**3364.12**	**3366.47**	**3368.82**

Interest on Loan

19. 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 orthe 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:"*

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

a. The gross normative loan of □50642.68 lakh has been considered on 1.4.2014 in order dated 29.7.2016 in Petition No. 466/GT/2016. In addition to this, loan component towards additional capitalization has been considered as per the approved debt equity ratio.

b. Cumulative repayment of loan as on 31.3.2014 has been considered as cumulative repayment as on 1.4.2014.

c. Addition to normative loan on account of additional capital expenditure approved above has been considered on year to year basis.

d. Depreciation allowed has been considered as repayment of normative loan during the respective year of the tariff period 2014-19. Proportionate adjustment has been made to the repayments on account of de-capitalizations considered in the additional capital expenditure approved above.

e. In line with the provisions of the regulations, the weighted average rate of interest has been calculated by applying the actual loan portfolio existing as on 1.4.2014 along with subsequent additions during the period 2014-19, if any, for the Petitioner company. In case of loans carrying floating rate of interest, the rate of interest as furnished by the petitioner has been considered for the purpose of tariff. The calculations for weighted average rate of interest on loan have been enclosed as Annexure-I to this order. The necessary calculations for interest on loan is as under:

(□ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Notional Loan for the purpose of tariff in the instant petition	50642.68	50642.68	50642.68	50642.68	50713.38
Cumulative repayment of loan up to previous year	46411.59	50642.68	50642.68	50642.68	50713.38
Net opening loan	4231.08	0.00	0.00	0.00	0.00
Addition due to Net Additional Capitalization	0.00	0.00	0.00	70.70	0.00
Repayment of Loan during the period	4231.08	0.00	0.00	70.70	0.00
Add: Repayment adjustment on account of de-capitalization	0.00	0.00	0.00	0.00	0.00
Less: Repayment on account of adjustment in discharge in liabilities	0.00	0.00	0.00	0.00	0.00

	2014-15	2015-16	2016-17	2017-18	2018-19
Net Closing Loan	0.00	0.00	0.00	0.00	0.00
Average Loan	2115.54	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan (%)	10.2433%	10.3499%	10.3547%	11.5453%	11.6025%
Interest on Loan	**216.70**	**0.00**	**0.00**	**0.00**	**0.00**

Depreciation

21. 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 on1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 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."

22. Regulation 53(2)(iii) of the 2014 Tariff Regulations provides as under:

*"**53. Special Provisions relating to Damodar Valley Corporation.** (1) Subject to clause (2), these regulations shall apply to determination of tariff of the projects owned by Damodar Valley Corporation (DVC).*

(2) The following special provisions shall apply for determination of tariff of the projects owned by DVC:
(i)….
(ii)….
(iii) Depreciation: The depreciation rate stipulated by the Comptroller and Auditor General of India in terms of section 40 of the Damodar Valley Corporation Act, 1948 shall be applied for computation of depreciation of projects of DVC.

23. The rate of depreciation has been arrived at by considering the weighted average of depreciation computed on the gross value of asset as on 31.3.2014 and at the rates approved by C&AG which works out to 7.066%. Further, the proportionate adjustment has been made to the cumulative depreciation corresponding to de-capitalization during the period 2014-19 for the purpose of tariff. The necessary calculations in support of depreciation are as under:-

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	72346.67	72346.67	72346.67	72346.67	72447.67
Net Additional Capitalization	0.00	0.00	0.00	101.00	0.00
Closing Capital Cost	72346.67	72346.67	72346.67	72447.67	72447.67
Average capital cost	72346.67	72346.67	72346.67	72397.17	72447.67
Value of freehold land	0.00	0.00	0.00	0.00	0.00
Depreciable value	7.066%	7.066%	7.066%	7.066%	7.066%
Balance depreciable value	18700.41	13588.42	8476.44	3409.90	45.45
Depreciation	**5111.99**	**5111.99**	**5111.99**	**3409.90**	**45.45**
Cumulative depreciation at the end of the period (before adjustment)	51523.58	56635.57	61747.55	65157.45	65202.90
Less: Cumulative depreciation adjustment on account of de-capitalization	0.00	0.00	0.00	0.00	0.00
Cumulative depreciation after adjustment (at the end of the period)	51523.58	56635.57	61747.55	65157.45	65202.90

Compensation Allowance

24. Regulation 17(1) of the 2014 Tariff Regulations provides as under:

> ***"17. Compensation Allowance:*** *(1) In case of coal-based or lignite-fired thermal generating station or a unit thereof, a separate compensation allowance shall be admissible to meet expenses on new assets of capital nature which are not admissible under Regulation 14 of these regulations, and in such an event, revision of the capital cost shall not be allowed on account of compensation allowance but the compensation allowance shall be allowed to be recovered separately*
> *(2) The Compensation Allowance shall be allowed in the following manner from the year following the year of completion of 10, 15, or 20 years of useful life:"*

Years of operation	Compensation Allowance (lakh/MW/year)
0-10	Nil
11-15	0.20
16-20	0.50
21-25	1.00

25. The petitioner has claimed compensation allowance (unit-wise) to meet the expenses on new assets of capital nature including in the nature of minor assets as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
0.00	42.00	42.00	42.00	42.00

26. It is observed that the petitioner while computing the compensation allowance for Unit IV has considered the COD of the said unit as February 13, 2005. Therefore, Unit IV completes 10 years of operation in 2015-16 as claimed by the petitioner. Based on this, compensation allowance of ₹ 42.00 lakh for Unit-4 for each year of the period 2015-16 to 2018-19 is allowed.

27. Accordingly, in terms of the above regulations, the compensation allowance worked out and allowed is as under:

(₹ in lakh)

Description	**Unit-IV**
Capacity in MW	210
COD	13-Feb-2005
Balance useful life as on 1.4.2014 (yrs.)	15.87
a) 10 years	13-Feb-2015
b) 15 years	13-Feb-2020
c) 20 years	13-Feb-2025
2014-15	0.00
2015-16	42.00
2016-17	42.00
2017-18	42.00
2018-19	42.00
Total	**168.00**

<u>Operation & Maintenance Expenses</u>

28. Regulation 29 (1) (a) of the 2014 Tariff Regulations provides the year-wise O&M expense norms for the generating station of the petitioner as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
5019.00	5334.00	5670.00	6027.00	6407.10

29. In addition to above, the petitioner has claimed additional O&M expenses towards Ash evacuation, Mega insurance and Share of Subsidiary activity.

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Ash Evacuation	682.34	750.57	825.63	908.19	999.01
Mega Insurance	23.94	23.94	26.33	30.99	34.09
CISF Security	0.00	0.00	0.00	0.00	0.00
Share of Subsidiary activity	108.10	126.83	153.18	172.10	181.70
Total	**814.37**	**901.33**	**1005.14**	**1111.28**	**1214.79**

30. We have considered the submissions of the petitioner. In the Statement of Reasons in support of the 2014 Tariff Regulations, it has been observed by the Commission as under:

> *"…29.39 Some of the generating stations have suggested that site specific factors should be taken into account and additional O&M expenses should be allowed. The Commission is of the view that the site specific norms in case of thermal generating stations may not serve much purpose as there is a set of advantages and disadvantages associated with every site, which average out, and the proposed norms are also based on multiple stations with wide geographical spread and therefore, such aspects are already factored in the norms…"*

31. In line with the above observations and in accordance with the 2014 Tariff Regulations, the additional O&M expenses claimed by the petitioner under the above head has not been allowed.

Water Charges

32. 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 capitalization or consumption of stores and spares and renovation and modernization"

33. 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. The petitioner has submitted that at present water charges have not been claimed for the generating station. However, the petitioner has sought liberty to approach the Commission as and when the same is billed by the Authority and paid by the petitioner. In view of the above submission, we grant liberty to the petitioner to claim water charges at the time of truing up, with proper justification, and the same will be considered in accordance with law.

Capital spares

34. The petitioner has claimed capital spares on projection basis under Regulation 29(2) of the 2014 Tariff Regulations. However, the petitioner has also submitted that the actual year-wise capital spares along with adequate justification will be submitted at the time of truing up. In view of this, the claim of the petitioner has not been considered in this order. The claim of the petitioner, if any, at the time of truing-up, shall be considered on merits, prudence check in terms of the provisions of the 2014 Tariff Regulations.

Operational Norms

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

Target Availability (%)	83.00
Heat Rate (kCal/kWh)	2450.00

Auxiliary Energy Consumption (%)	9.00
Specific Oil Consumption (ml/kWh)	1.00

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

Normative Annual Plant Availability Factor (NAPAF)

37. Regulation 36 (A) (a) of the 2014 Tariff Regulations provides as under:

> *"(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 01.04.2014."*

38. The petitioner has considered the Target Availability of 83% during 2014-19 due to inadequate regular supply of quality coal. In this regard, the petitioner was asked to provide the details of month wise opening stock of coal, coal received during the month, closing stock of the coal for 2015-16 along with annual contracted quantity of coal. In response, the petitioner vide affidavit dated 1.9.2016 has submitted the details of month wise details of coal for 2015-16 for Mejia Unit 1 to 8 as under:-

(in MT)

Sl. No.	Particulars	Apr-2015	May-2015	Jun-2015	Jul-2015	Aug-2015	Sep-2015
1	Opening Stock	292618.57	444862.48	322816.34	235407.00	145005.00	111931.00
2	Qty received	773177.62	606314.26	628749.99	569919.00	612445.00	538359.00
3	Total	1065796.19	1051176.74	951566.33	805326.00	757450.00	650290.00
4	Consumption	620933.71	728360.40	716159.33	660321.00	645519.00	584482.00
5	Closing Stock	444862.48	322816.34	235407.00	145005.00	111931.00	65808.00

(in MT)

Sl. No.	Particulars	Oct-2015	Nov-2015	Dec-2015	Jan-2016	Feb-2016	Mar-2016
1	Opening	65808.00	83716.00	102937.00	85832.00	201730.00	448832.00

Sl. No.	Particulars	Oct-2015	Nov-2015	Dec-2015	Jan-2016	Feb-2016	Mar-2016
	Stock						
2	Qty received	613329.00	559720.00	594018.07	780562.00	860905.00	902717.32
3	Total	679137.00	643436.00	696955.07	866394.00	1062635.00	1351549.32
4	Consumption	595421.00	540499.00	611123.07	664664.00	613803.00	704169.75
5	Closing Stock	83716.00	102937.00	85832.00	201730.00	448832.00	647379.57

Details of coal as submitted by the petitioner for MTPS units 1 to 8 (4x210 MW + 2x250 MW + 2x500 MW) as a whole	in MT
Opening Stock as on 1.4.2015	292618.57
Quantity received in 2015-16	8040216.26
Consumption in 2015-16	7685455.26
Closing Stock as on 31.3.2016	647379.57

39. The above details would clearly show that the coal supply of the generating station was adequate during 2015-16. Accordingly, the Target Availability of 85% has been considered for the period from 2014-15 to 2018-19.

Station Heat Rate (kCal/kWh)

40. Regulation 36(C)(a) of the 2014 Tariff Regulations provides the Gross Station Heat Rate of 2450 kCal/kWh for existing coal based thermal generating stations of 210 MW sets whose CODs were before 1.4.2009. The generating station was declared under commercial operation on 13.2.2005. Hence, the gross station heat rate considered by the petitioner as per regulation is in order and is allowed.

Auxiliary Energy Consumption

41. Regulation 36(E)(a) of the 2014 Tariff Regulations provides Auxiliary Energy Consumption of 8.5% for coal based generating stations of 210 MW sets with Natural Draft cooling tower or without cooling tower with. It further provides that for thermal generating stations with induced draft cooling towers, the norms shall be further

increased by 0.5%. The petitioner has claimed Auxiliary Energy Consumption of 9.00% for the period 2014-19. Accordingly, the Auxiliary Energy Consumption considered is as per the Regulation 36(E)(a) of the 2014 Tariff Regulations and the same is allowed.

Specific fuel Oil Consumption

42. Regulation 36(D)(c) of the 2014 Tariff Regulations provides secondary fuel oil consumption of 1.00 ml/kWh for coal-based generating stations of the petitioner. Accordingly, the secondary fuel oil consumption considered by the petitioner is as per regulation and is allowed.

Interest on working capital

43. 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 or lignite and limestone towards stock, if applicable, for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*
> *(ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the normative annual plant availability factor;*
> *(iii) 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 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 charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and*
> *(vi) Operation and maintenance expenses for one month.*

Fuel Components and Energy Charges in working capital

44. The petitioner has claimed cost for fuel components in working capital based on "as received" GCV of coal procured for the preceding three months of January, 2014,

February, 2014 and March, 2014 and secondary fuel oil for the preceding three months of January, 2014, February, 2014 and March, 2014, as under:

(□ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal/Lignite- 2 months	5810.49	5810.49	5810.49	5810.49	5810.49
Cost of Main Secondary Fuel Oil- 2 months	143.05	143.44	143.05	143.05	143.05
Total	**5953.54**	**5953.93**	**5953.54**	**5953.54**	**5953.54**

45. The petitioner was directed to submit the coal yard stocking capacity for the generating station in million tones. In response, the petitioner vide affidavit 1.9.2016 has submitted that the total coal yard storage capacity for Mejia TPS Unit 1 to 4 (4x210 MW) is 220000 MT. Thus, on proportionate basis, the total coal yard storage capacity for this generating station (Mejia TPS Unit 4) works out to 55000 MT. However, it is submitted that the average coal consumption per month for this generating station (Mejia TPS Unit 4) is 97724.29 MT. It is therefore evident that the generating station has coal storage capacity available for only 0.56 months and accordingly, the coal stock for 0.56 months has been considered, instead for one month.

46. Further, the fuel components in the working capital has been computed based on the price and GCV of coal on as received basis and the secondary fuel oil procured and burnt for the preceding three months of January, 2014, February, 2014 and March, 2014. Accordingly, the fuel component is allowed as under:-

(□ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of coal towards stock- 0.56 months	1697.75	1702.40	1697.75	1697.75	1697.75
Cost of coal/lignite for generation- 1 month	3016.57	3024.84	3016.57	3016.57	3016.57

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Main Secondary Fuel Oil- 2 months	146.50	146.90	146.50	146.50	146.50
Total	**4860.82**	**4874.14**	**4860.82**	**4860.82**	**4860.82**

Maintenance spares

47. The petitioner has claimed maintenance spares in working capital as under:

(□ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1003.80	1066.80	1134.00	1205.40	1281.42

48. Maintenance spares claimed is as per the 2014 Tariff Regulations and hence allowed.

Receivables

49. 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 (based on primary fuel only) as under:

(□ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges -2 months	6179.65	6196.58	6179.65	6179.65	6179.65
Fixed Charges - 2 months	2624.77	2644.28	2703.06	2476.45	1970.49
Total	**8804.41**	**8840.85**	**8882.71**	**8656.09**	**8150.13**

O&M expenses for 1 month

50. O & M expenses for 1 month as claimed by the petitioner for the purpose of working capital is allowed as under:

(□ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
418.25	444.50	472.50	502.25	533.93

Rate of interest on working capital

51. 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."

52. In terms of the above regulations, SBI PLR of 13.50% (Bank rate 10.00% + 350 bps) has been considered for the purpose of calculating interest on working capital. Interest on working capital has been computed as under:

(□ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of coal towards stock- 0.56 months	1697.75	1702.40	1697.75	1697.75	1697.75
Cost of coal/lignite for generation- 1 month	3016.57	3024.84	3016.57	3016.57	3016.57
Cost of secondary fuel oil – 2 month	146.50	146.90	146.50	146.50	146.50
O&M expenses – 1 month	418.25	444.50	472.50	502.25	533.93
Maintenance Spares	1003.80	1066.80	1134.00	1205.40	1281.42
Receivables – 2 months	8804.41	8840.85	8882.71	8656.09	8150.13
Total working capital	**15087.28**	**15226.29**	**15350.03**	**15224.57**	**14826.30**
Rate of interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on working capital	**2036.78**	**2055.55**	**2072.25**	**2055.32**	**2001.55**

Other Elements of tariff

53. In addition, the petitioner has claimed expenditure towards Pension & Gratuity contribution and Cost of Common Offices. We now discuss and decide these elements as detailed below:

Pension & Gratuity Contribution

54. The petitioner has claimed pension and gratuity contribution for the period 2014-19 and has submitted that it has considered the actuarial valuation as on 31.3.2014, for liability towards pension and gratuity fund and projected P&G liability for the tariff period 2014-19 including impact of pay revision.

55. We have examined the matter. It is observed that the liability claimed by the petitioner pertains to the period 2009-14 and does not pertain to the tariff period 2014-19. In this regard it is observed that the Commission in Para 95 of the order dated 29.7.2016 in Petition No. 466/GT/2014, had disallowed the claim of the petitioner and had observed as under:

> *"95…the Commission in order dated 9.7.2013 in Petition No. 269/GT/2012 had allowed the recovery of 40% of the difference in liability as per Actuarial valuation 31.3.2009 and 31.3.2006 in five equal installments. It is observed that the O&M expenses norms specified by the Commission under the 2009 Tariff Regulations applicable for the period 2009-14 had taken into consideration the P&G liability as part of O&M expenses. The statement of reason of the 2009 Tariff Regulations, at para 20.3 clearly states that O&M cost for purpose of tariff covers expenditure incurred on the employees including gratuity, CPF, medical, education allowances etc. The expenses on account of CPF considered in Public Sector Undertakings take care of pension liability applicable in Government Undertaking."*

56. We have already taken a view that these expenses maybe met through the normative O&M Expenses allowed to the generating station. In view of this the share of pension and gratuity is not allowed.

Common Office Expenditure

57. The petitioner has submitted that the expenditure pertaining to common office expenditure such as Direction Office, Central Office, Other Offices, Subsidiary activities, IT centre and R&D caters services to all generating stations as well as composite transmission and distribution systems. It has also submitted that the total cost of common assets computed is based on capital cost as on 31.3.2014 as per Audited Accounts for the year 2013-14 which have been apportioned based on the opening cost of all generation and T&D system as on 1.4.2014 and apportionment thereof to each of the productive generating station in proportion to their installed capacities in MW as per directive of the Commission vide its order dated 29.7.2013 in Petition No. 268/GT/2013. Accordingly, the additional capital expenditure claimed by the petitioner towards various offices is as under.

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Direction office	-	-	-	-	-
Subsidiary activities	-	-	-	-	-
Other offices	-	-	-	-	-
R&D	-	-	-	-	-
IT	698.90	685.00	4508.00	4508.00	300.00
Central Office	-	-	-	-	-
Total expenditure	**698.90**	**685.00**	**4508.00**	**4508.00**	**300.00**

58. The petitioner has computed Return on Equity, Interest on Loan and Depreciation on the Common Assets for the period 2014-19 based on the opening capital cost as on 1.4.2014 and projected additional capitalization during the period 2014-19 towards

different offices and has apportioned them to each generating stations and T&D system in proportion to the capital cost approved as on 31.3.2014. Further, the petitioner has allocated the cost of common offices among generating stations on the basis of installed capacity. Accordingly, the annual fixed charges claimed towards Common Assets are as under:-

(□ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Direction office	181.64	83.17	60.36	60.36	60.36
Subsidiary activities	169.44	89.54	58.91	58.91	58.91
Other offices	126.07	122.24	122.24	105.32	48.81
R&D	280.10	270.44	260.17	253.34	241.98
IT	100.99	219.39	667.10	1497.65	1893.35
Central Office	554.87	532.74	509.91	487.66	487.66
Total expenditure	**1413.11**	**1317.51**	**1678.69**	**2463.24**	**2791.07**

(□ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Generating Stations claimed	1327.15	1237.37	1576.58	2313.41	2621.29
T&D	85.96	80.14	102.11	149.83	169.78
Total	**1413.11**	**1317.51**	**1678.69**	**2463.24**	**2791.07**

(□ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Mejia TPS Unit-IV	43.84	40.87	52.08	76.42	86.59

59. In response to the directions of the Commission, it is observed that the petitioner has not submitted any details with regard to additional capitalization claimed under IT offices. In view of this, the additional capitalization claimed under IT office is not allowed. However, the petitioner is granted liberty to submit detailed justification on the said claim at the time of revision of tariff based on truing-up exercise.

60. It is noticed that the claim of the petitioner for common office expenditure is in line with the Commission's order dated 6.8.2009 in Petition No. 66/2005 and order dated 8.5.2013 in Petition No. 272/2010. Accordingly, the annual fixed charges for Common

offices have been worked out by considering as the admitted opening capital cost as on 1.4.2014 in order dated 29.7.2016 in Petition No. 466/GT/2014. The annual fixed charges of Common offices as worked out have been apportioned to the generating stations / T&D systems as considered as on 31.3.2014.

61. Accordingly, the fixed charges have been computed as per the admitted capital cost as on 1.4.2014 (as approved in order dated 29.7.2016 in 466/GT/2014) and has been allocated to various generating stations as under.

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	438.37	390.47	331.22	331.22	331.22
Interest on loan	130.32	105.00	93.73	92.63	81.03
Return on Equity	573.79	573.79	573.79	573.79	573.79
Total	**1142.48**	**1069.27**	**998.75**	**997.65**	**986.05**

(₹ in lakh)

	Capital cost as on 1.4.2014	2014-15	2015-16	2016-17	2017-18	2018-19
Entire generating station	574165.23	989.45	926.04	864.97	864.01	853.97
T&D	88805.81	153.04	143.23	133.78	133.64	132.08
Total	**662971.04**	**1142.48**	**1069.27**	**998.75**	**997.65**	**986.05**

(₹ in lakh)

Station	Capacity	2014-15	2015-16	2016-17	2017-18	2018-19
Bokaro TPS	630	99.64	91.77	85.72	85.62	84.63
Chandrapura TPS	390	61.68	56.81	53.06	53.01	52.39
Durgapur TPS	350	55.36	50.98	47.62	47.57	47.02
Mejia TPS #1 to 3	630	99.64	91.77	85.72	85.62	84.63
Mejia TPS #4	**210**	**33.21**	**30.59**	**28.57**	**28.54**	**28.21**
Mejia TPS #5 & 6	500	79.08	72.83	68.03	67.96	67.17
Maithon HS	63.2	10.00	9.21	8.60	8.59	8.49
Panchet HS	80	12.65	11.65	10.88	10.87	10.75
Tilaiya HS	4	0.63	0.58	0.54	0.54	0.54
Total	2857.2	451.91	416.20	388.75	388.32	383.81
Chandrapura	500	79.08	72.83	68.03	67.96	67.17

Station	Capacity	2014-15	2015-16	2016-17	2017-18	2018-19
TPS #7 & 8						
Mejia TPS 7 & 8	1000	158.16	145.67	136.06	135.91	134.33
Durgapur Steel TPS # 1 & 2	1000	158.16	145.67	136.06	135.91	134.33
Koderma TPS	898.63	142.13	145.67	136.06	135.91	134.33
Total	**3398.63**	**537.54**	**509.84**	**476.21**	**475.69**	**470.16**
Grand Total-Generation	**6255.83**	**989.45**	**926.04**	**864.97**	**864.01**	**853.97**
Total T&D		153.04	143.23	133.78	133.64	132.08
Grand total		**1142.48**	**1069.27**	**998.75**	**997.65**	**986.05**

62. Accordingly, 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
Depreciation	5111.99	5111.99	5111.99	3409.90	45.45
Interest on Loan	216.70	0.00	0.00	0.00	0.00
Return on Equity	3364.12	3364.12	3364.12	3366.47	3368.82
Interest on Working Capital	2036.78	2055.55	2072.25	2055.32	2001.55
O&M Expenses	5019.00	5334.00	5670.00	6027.00	6407.10
Compensation Allowance	0.00	42.00	42.00	42.00	42.00
Sub-Total	**15748.59**	**15907.66**	**16260.36**	**14900.68**	**11864.92**
Share of Common Office Expenses	33.21	30.59	28.57	28.54	28.21
Additional O&M on account of Ash Evacuation, Mega Insurance, CISF Security and Share of subsidiary activities	0.00	0.00	0.00	0.00	0.00
Share of Pension & Gratuity Contribution	0.00	0.00	0.00	0.00	0.00
Sub-Total	**33.21**	**30.59**	**28.57**	**28.54**	**28.21**
Total Annual Fixed Charges	**15781.80**	**15938.25**	**16288.93**	**14929.23**	**11893.13**

Energy Charge Rate (ECR)

63. Clause (6) sub-clause (a) of Regulation 30 of the 2014 Tariff Regulations provides for computation and payment of Capacity Charge and Energy Charge for thermal generating stations:

"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 formulae:
(a) For coal based and lignite fired stations
ECR = {(GHR – SFC x CVSF) x LPPF / CVPF+SFC x LPSFi + LC x LPL} x 100 / (100 – AUX)
Where,
AUX = Normative auxiliary energy consumption in percentage.
CVPF = (a) Weighted Average Gross calorific value of coal as received, in kCal per kg, for coal based stations.
(b)….
(c) In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio.
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, per litre or per standard cubic metre, as applicable, during the month. (In case of blending of fuel from different sources, the weighted average landed price of primary fuel shall be arrived in proportion to blending ratio)
SFC = Normative Specific fuel oil consumption, in ml per kWh.
LPSFi=Weighted Average Landed Price of Secondary Fuel in Rs./ml during the month."

64. The petitioner has claimed an Energy Charge Rate (ECR) of 260.574 paise/kWh considering the normative transit and handling losses of 0.8% for coal supplied through Railway system. Accordingly, the base energy charge of 260.574 paise/kWh determined based on the price and GCV of fuel for the preceding three months and calculated in accordance with the 2014 Tariff Regulations is allowed as under:

Description	**Unit**	**2014-19**
Capacity	MW	1x210 MW
Gross Station Heat Rate	kCal/kWh	2450.00
Auxiliary Energy Consumption	%	9.0 %
Specific Fuel Oil Consumption	ml/kWh	1.00
Weighted Average GCV of Oil	kCal/l	9685.35
Weighted Average GCV of Coal	kCal/kg	3262.82
Weighted Average Price of Coal	□ /MT	3095.28
Weighted Average Price of Oil	□ /ml	0.0562
Rate of Energy Charge ex-bus per kWh	**Paise/kWh**	**260.574**

Application Fee and Publication Expenses

65. The petitioner has sought the 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 the filing fees for the period 2014-15 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations and in line with the decision in Commission's order dated 5.1.2016 in Petition No. 232/GT/2014, we direct that the petitioner shall be entitled to recover pro rata, the filing fees and the expenses incurred on publication of notices for the period 2014-15 directly from the respondents on submission of documentary proof. The filing fees for the remaining years of the tariff period 2015-19 shall be recovered pro rata after deposit of the same and production of documentary proof.

66. The annual fixed charges determined as above are subject to truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

67. Petition No. 352/GT/2014 is disposed of in terms of the above.

Sd/-	Sd/-
(Dr. M. K. Iyer) **Member**	**(A.S. Bakshi)** **Member**

Annexure-I

DETAILS OF LOAN BASED ON ACTUAL LOAN PORTFOLIO (2014-19)

(₹ in lakh)

Particular	Interest Rate					Loan deployed as on 1.4.2014	Additions during the tariff period	Total
	2014-15	2015-16	2016-17	2017-18	2018-19			
Loan- 1 DVC BONDS	8.95	8.95	8.95	8.95	8.95	30000.00	0.00	30000.00
Loan-2 PFC	6.91	6.91	6.91	6.91	0.00	8451.00	0.00	8451.00
Loan-3 GOI RVP	9.00	9.00	9.00	9.00	9.00	500.00	0.00	500.00
Loan 4 US Exim $Loan$	2.00	2.00	2.00	2.00	2.00	6177.00	0.00	6177.00
Loan 5-DVC Bonds- For T&D	8.95	8.95	8.95	8.95	8.95	34000.00	0.00	34000.00
Loan - 6 REC Loan (For T&D)	11.68	11.66	11.66	11.66	11.66	63499.00	15500.00	78999.00
Total						**142627.00**	**15500.00**	**158127.00**

WEIGHTED AVERAGE RATE OF INTEREST ON LOAN DURING 2009-14 TARIFF PERIOD

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Opening Loan	142643.00	158143.00	158143.00	158143.00	158143.00
Cumulative Repayments of Loans upto Previous Year	12659.00	13119.00	20163.00	91207.00	98238.00
Net Loans Opening	129984.00	145024.00	137981.00	66936.00	59905.00
Add: Drawl(s) during the year	15500.00	0.00	0.00	0.00	0.00
Increase/Decrease due to FERV	0.00	0.00	0.00	0.00	0.00
Increase/Decrease due to ACE	0.00	0.00	0.00	0.00	0.00
Less: Repayment(s) of Loan during the year	460.00	7043.00	71044.00	7031.00	7002.00
Net Closing Loan	145024.00	137981.00	66937.00	59905.00	52903.00
Average Net Loan	135059.00	142443.00	129613.00	64355.00	57324.00
Interest on Loan	13834.49	14742.66	13421.00	7430.00	6651.00
Rate of Interest on Loan (%)	10.2433%	10.3499%	10.3547%	11.5453%	11.6025%