

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No.30/TT/2019

Coram :

Shri P.K. Pujari, Chairperson

Dr. M. K. Iyer, Member

Shri I.S. Jha, Member

Date of Order: 28th of January, 2020

In the matter of:

Approval under regulation-86 of CERC (Conduct of Business) Regulations, 1999 and CERC (Terms and Conditions of Tariff) Regulations, 2014 for determination of Transmission Tariff from COD to 31.03.2019 for Raipur Pooling Station–Wardha 765 kV 2nd D/C line along with bay extension and equipment at 765 kV Raipur Pooling Station and Wardha Sub-station under “System Strengthening in Raipur-Wardha Corridor for IPP Projects in Chhattisgarh (IPP-F)” as per directives of Commission vide order dated 11.7.2018 in Petition 42/RP/2017.

And in the matter of:

Power Grid Corporation of India Limited
"Saudamini", Plot No.2,
Sector-29, Gurgaon -122 001

.....Petitioner

Versus

1. Madhya Pradesh Power Management Company Ltd.,
Shakti Bhawan, Rampur,
Jabalpur - 482 008.
2. Madhya Pradesh Power Transmission Company Ltd.,
Shakti Bhawan, Rampur,
Jabalpur - 482 008.
3. Madhya Pradesh Audyogik Kendra Vikas Nigam (Indore) Ltd.,



3/54, Press Complex, Agra-Bombay Road,
Indore - 452 008.

4. Maharashtra State Electricity Distribution Co. Ltd.,
Prakashgad, 4th Floor, Andheri (East),
Mumbai - 400 052.
5. Maharashtra State Electricity Transmission Co. Ltd.,
Prakashgad, 4th Floor, Andheri (East),
Mumbai - 400 052.
6. Gujarat Urja Vikas Nigam Ltd.,
Sardar Patel Vidyut Bhawan, Race Course Road,
Vadodara - 390 007.
7. Gujarat Energy Transmission Corporation Ltd.,
Sardar Patel Vidyut Bhawan, Race Course Road,
Vadodara - 390 007.
8. Electricity Department,
Government of Goa,
Vidyut Bhawan, near Mandri Hotel,
Panaji, Goa - 403 001.
9. Electricity Department,
Administration of Daman & Diu,
Daman - 396 210.
10. Electricity Department,
Administration of Dadra Nagar Haveli,
U.T., Silvassa - 396 230.
11. Chhattisgarh State Electricity Board,
P.O. Sunder Nagar, Dangania,
Raipur, Chhattisgarh - 492 013.
12. Chhattisgarh State Power Transmission Co. Ltd.
Office of the Executive Director (C&P),
State Load Despatch Building, Dangania,
Raipur-492 013.



13. Chhattisgarh State Power Distribution Co. Ltd.,
P.O. Sunder Nagar, Dangania,
Raipur, Chhattisgarh - 492 013.

...Respondents

Parties present:

For Petitioner: Shri B.Dash, PGCIL
Shri Zafrul Hasan, PGCIL
Shri, A.K.Jain, PGCIL
Shri S.S.Raju, PGCIL
Shri Pankaj Sharma, PGCIL

For Respondent: None

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. (“the Petitioner”) for determination of tariff for Raipur Pooling Station–Wardha 765 kV 2nd D/C line along with bay extension and equipment at 765 kV Raipur Pooling Station and Wardha Sub-station under “System Strengthening in Raipur-Wardha Corridor for IPP Projects in Chhattisgarh (IPP-F)” in Western Region (hereinafter referred to as “transmission asset”) for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) pursuant to the direction of the Commission given in its order dated 11.7.2018 in Petition 42/RP/2017.

2. The Petitioner has made the following prayers:-

- i. Approve the Transmission Tariff for the tariff block 2014-19 for the assets covered under this Petition.*
- ii. Admit the capital cost as claimed in the Petition and approve the Additional Capitalization incurred/ projected to be incurred.*



- iii. *Tariff may be allowed on the estimated completion cost as the completion cost for the assets covered under instant Petition are within the RCE cost.*
- iv. *Allow the Petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission as provided under clause 25 of the Tariff Regulations 2014.*
- v. *Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 52 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014, and other expenditure (if any) in relation to the filing of petition.*
- vi. *Allow the Petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 52 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.*
- vii. *Allow the Petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2014-19 period, if any, from the respondents.*
- viii. *Allow the Petitioner to bill and recover Service Tax on Transmission Charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future. Further, any taxes and duties including cess etc. imposed by any statutory/ Govt./ Municipal Authorities shall be allowed to be recovered from the beneficiaries.*
- ix. *Allow tariff up to 90% of the Annual Fixed Charges in accordance with clause 7 (i) of Regulation 7 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for purpose of inclusion in the POC charges.*



- x. *Allow the Petitioner to bill Tariff from actual DOCO and also the Petitioner may be allowed to submit revised Auditor Certificate and Tariff Forms (as per the Relevant Regulation) based on actual DOCO, if any.*
- xi. *Allow reimbursement of any tax Payable by the petitioner on account of implementation of GST.*
- and pass such other relief as the Commission deems fit and appropriate under the circumstances of the case and in the interest of justice.*

Background

3. The application for determination of tariff for the subject transmission asset was initially filed under petition no. 218/TT/2016. The Commission after taking into consideration the indicative cost submitted by CTU for the purpose of computation of POC charges restricted the capital cost of the transmission lines to ₹3.90 Cr/km and vide Order dated 18.9.2017, granted the tariff for the transmission asset.

4. Aggrieved by the order said dated 18.9.2017 in petition No. 218/TT/2016, a Review Petition No.42/RP/2017 was filed by the Petitioner. Subsequently, the Commission vide Order dated 11.7.2018 directed the Petitioner to file a fresh petition for the transmission asset. The relevant extracts of the Order dated 11.7.2018 is reproduced below:-

“14. The Commission has sought certain information/documents in para 18 of the impugned order. Therefore, we direct the Review Petitioner to file a fresh petition including all relevant information for determination of tariff of the instant assets in terms of the directions in this order.”

5. In compliance of the aforesaid direction of the Commission in the Order dated 11.7.2018 in petition no. 42/RP/2017, the Petitioner has filed the instant petition.



6. The Investment Approval (hereinafter referred to as "IA") for implementation of assets under "System Strengthening in Raipur - Wardha Corridor for IPP Projects in Chhattisgarh (IPP-F)" in Western Region was accorded by the Board of Directors of the Petitioner in 266th meeting held on 23.1.2012 for ₹142285 lakh including IDC of ₹8756 lakh based on 3rd Quarter, 2011 price level (communicated vide Memorandum No. C/CP/Chattisgarh-IPP dated 24.1.2012).

7. The scope of the scheme was discussed and agreed upon in 30th Standing Committee Meeting (SCM) of Western Region (WR) held on 8.7.2010 and 14th meeting of WRPC held on 19.8.2010 at Mumbai.

8. The scope of work covered under the project "System Strengthening in Raipur - Wardha Corridor for IPP Projects in Chhattisgarh (IPP-F)" in Western Region is as follows:-

Transmission Line

(i) Raipur Pooling Station – Wardha 765 kV 2nd D/C line

Substation

(i) Bay extensions at 765 kV Raipur Pooling Station and Wardha Substation

Reactive Compensation

Line Reactor	From Bus (Raipur PS end)	To Bus (Wardha end)
Raipur Pooling Station – Wardha 765 kV 2 nd D/C line	2x240 MVAR (Switchable)	2x330 MVAR

9. The Petitioner has submitted that the entire scope of the project is covered under the instant petition, details of which are as under:-

S.N.	Asset
1	Raipur Pooling Station – Wardha 765 kV 2 nd D/C line along with bay extension and equipment at 765kV



S.N.	Asset
	Raipur Pooling station & Wardha substation

10. The details of the Annual Transmission Charges claimed by the Petitioner are as under:-

Particulars	(₹ in lakh)		
	2016-17 (Pro-rata)	2017-18	2018-19
Depreciation	24.24	9326.01	9704.87
Interest on Loan	27.72	10219.62	9799.57
Return on Equity	27.04	10405.65	10839.50
Interest on Working Capital	1.85	704.00	714.26
O & M Expenses	2.54	977.02	1009.50
Total	83.39	31632.30	32067.70

11. The details of the interest on working capital claimed by the Petitioner are as under:-

Particulars	(₹ in lakh)		
	2016-17 (Pro-rata)	2017-18	2018-19
Maintenance Spares	141.73	146.55	151.43
O&M expenses	78.74	81.42	84.13
Receivables	5170.05	5272.05	5344.62
Total	5390.25	5500.02	5580.18
Rate of Interest	12.80%	12.80%	12.80%
Interest on working capital	1.85	704.00	714.26

12. The Petitioner has served the copy of a petition upon the respondents and notice of this tariff application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the notices published by the Petitioner under Section 64 of the Electricity Act, 2003. Reply to the petition has been filed by MPPMCL (Respondent no. 1) vide affidavit dated 22.2.2019 and the Petitioner vide its affidavit dated 19.3.2019 filed its rejoinder to the reply of MPPMCL, in the matter.



13. The Petition was heard on 18.11.2019 and the Commission reserved the order in the Petition.

14. Having heard the representatives of the Petitioner present at the hearing and perused the material on record, we proceed to dispose of the petition.

15. This order has been issued after considering the main petition dated 13.12.2018 and Petitioner's affidavits dated 19.3.2019, 11.7.2019, and reply dated 22.2.2019 of the Respondent, MPPMCL.

Analysis and Decision

Date of Commercial Operation (COD)

16. The Petitioner has claimed COD of 31.3.2017 for the instant asset filed in the petition. The Commission vide order dated 18.9.2017 in Petition no 218/TT/2016 has already approved the COD of the instant asset as 31.3.2017. The relevant extracts of the said Order dated 18.9.2017 is as under:

"12. The Petitioner has claimed the COD of the instant assets as 1.3.2017. In support of the claim, the Petitioner has submitted the trial operation certificate issued by RLDC and the certificate issued by CEA under Regulation 43 of CEA (Measures relating to safety and Electric Supply) Regulations, 2010. Taking into consideration the submissions made by the Petitioner and the certificate issued by CEA and the RLDC, the COD of the instant assets is approved as 31.3.2017"

Capital Cost

17. Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations provide as follows:-

"(1) 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"



(2) *The Capital Cost of a new project shall include the following:*

- (a) *The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) *Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) *Increase in cost in contract packages as approved by the Commission;*
- (d) *Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;*
- (e) *Capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;*
- (f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;*
- (g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and*
- (h) *Adjustment of any revenue earned by the transmission licensee by using the assets before COD.”*

18. The Petitioner has submitted Auditor Certificate dated 6.10.2018, claiming capital cost incurred as on COD as well as additional capitalization projected to be incurred in respect of the instant asset. The details of apportioned approved cost, capital cost as on COD and estimated additional capital expenditure incurred or projected to be incurred during 2017-18 and 2018-19 along with estimated completion cost as claimed by the Petitioner for the instant asset are as under:

(₹ in lakh)

Approved Cost (FR)	Approved Cost (RCE)	Expenditure up to COD	Expenditure for FY 2016-17	Expenditure for FY 2017-18	Expenditure for FY 2018-19	Estimated Completion Cost
142285.00	187513.00	175279.8	24.54	7424.99	3043.94	185773.28



Approved Cost (FR)	Approved Cost (RCE)	Expenditure up to COD	Expenditure for FY 2016-17	Expenditure for FY 2017-18	Expenditure for FY 2018-19	Estimated Completion Cost
		1				

Cost Over-run

19. The Petitioner has submitted that the estimated completion cost of the instant asset is more than the initial approved cost (FR). However, the estimated completion cost of the instant assets is within the RCE cost. The Petitioner has submitted the following reasons for cost over-run with respect to F.R. cost in respect of the instant asset:

A. Transmission Line (Increase of ₹31918 lakh):

i) Crop/Tree compensation including land cost for tower footing and diminishing value of corridor (Increase of ₹6157 lakh):

Subsequent to Investment approval, MOP issued compensation guidelines dated 15.10.2015 as per which, in addition to crop/ Tree compensation, 85% land cost towards tower footing and 15% land cost towards diminishing value of ROW corridor is also payable as per assessment and rate determination from Government Revenue Authorities. Therefore, the compensation for the same has increased from ₹550 lakh (envisaged in FR) to ₹5785.99 lakh based on actual/ anticipated payments during execution. Further, forest compensation has also increased from ₹4402.84 lakh (envisaged in FR) to ₹5323.48 lakh based on actual/ anticipated payments during execution.

ii) Tower steel (Increase of ₹18522 lakh):

a) The line length, type of various towers and foundations in the DPR were



estimated on the basis of walk-over/ preliminary survey. However, during execution, due to change in route alignment from FR and other site conditions, increase was necessitated in the number of tension/angle towers (comparatively heavier DC and DD towers) w.r.t. FR; leg extension, raised chimney etc. The said change is attributed to following:-

- 1) Passing of the line through dense forest area.
 - 2) Encounter of new obstructions i.e. villages/ habitats enroute the line, resulting into re-routing of the line to minimize ROW issues.
- b) The weight of tension/angle towers is comparatively very high (more than 2 times) w.r.t. suspension towers, thereby increasing the tower quantities substantially w.r.t. FR quantities. Further, the said increase in number of angle/tension towers have also resulted in corresponding increase in hardware fittings and accessories, erection and tower foundation, civil work quantities etc. The comparison of tower mix i.e. Angle (Tension) and suspension towers (FR v/s actual) are given hereunder:-

Type of tower	As per FR	As per actual
Suspension tower- DA type (Generally used upto 2° deviation in route alignment)	832	759
Tension (angle) tower- DB type (Generally used upto 15° deviation in route alignment)	78	45
DC type (Generally used upto 30° deviation in route alignment)	28	47
DD type (Generally used upto 60° deviation in route alignment)	85	104
River Crossing (RC) type towers	2	6
Anchor tower	2	0
Transposition tower	0	1

- c) Change in the type of towers resulted in increase of quantity of tower steel to



the extent of 7354 MT. The actual cost of tower steel also includes proto type test charges of ₹1454 lakh necessitated during execution of the project. Further, the increase under the subject head is also attributable to increase in awarded/ executed rate of tower steel.

iii) Conductor (decrease of ₹3180 lakh):

The decrease in cost of conductor is attributable to decrease in required conductor quantities. The line length has reduced from 380 Km (envisaged in FR) to 357.267 Km (as per actual). Therefore, the actual cost has decreased due to reduction in quantity of conductor. Further, there is a decrease in the cost of conductor due to lower awarded rates as well received in competitive bidding.

iv) Insulators, hardware fittings and conductor and earth-wire accessories (Increase of ₹2865 lakh):

Due to increase in number of angle towers, number of tension insulators (210kN), hardware tension fittings and conductor and earth-wire accessories also increased. Further, there is some variation in awarded/ executed rates as compared to unit rates considered in FR. The said factors have contributed in increase in cost under the subject head.

v) Erection, Stringing & Civil works including foundation (Increase of ₹7494 lakh):

The ratio of number of angle towers and suspension towers increased substantially with respect to FR and the same has resulted into corresponding increase in foundation & erection related quantities etc. resulting into higher



actual/ anticipated cost under the subject head. Further, the awarded/ executed rates, obtained through Open competitive bidding process, also contributed to increase in costs.

B. IEDC (decrease of ₹8600 lakh)

At the time of estimation, 3% and 5% of equipment cost has been considered as contingency and IEDC, respectively. The actual amount of IEDC has been taken at the time of claim.

C. IDC (increase of ₹17904 lakh)

At the time of FR estimation, IDC was calculated considering rate of interest at 10.5% for domestic loans and considering completion schedule as 36 months, whereas the actual amount of IDC accrued upto COD has been taken at the time of claim. The main reasons for increase in IDC are the increase in the project cost (excluding IDC) from ₹133529 lakh to ₹166951 lakh and increase in the Project Time Cycle (PTC) from 36 months to 62 months.

D. Substation (Increase of ₹2267 lakh):

i) Civil works (Increase of ₹1790 lakh)

The FR estimation under the subject head was done as per normative data. However, during detailed engineering, actual requirement has increased. Further, there was variation in rates received for the same with respect to FR. The said variation has contributed to increase in cost under the subject head.

ii) Substation equipment (Increase of ₹477 lakh)

There is no variation in the quantity of substation equipment. The cost of



substation equipment has increased due to higher awarded price received in competitive bidding. Open competitive bidding route is followed for procurement, by providing equal opportunity to all eligible firms, whereby lowest possible market prices for required product/services is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending upon prevailing market conditions. Further, regarding variation in cost of individual item in Sub-Station packages, it is submitted that the packages under subject scope of works comprise of a large no. of items and the same are awarded through open competitive bidding. In the said bidding process, bids are received from multiple parties quoting different rates for various BOQ items under the said package. Further, lowest bidder can be arrived at/ evaluated on overall basis only. In spite of prudent FR estimation, item-wise unit prices in contracts and its variation over unit rate considered in FR estimates are unavoidable and beyond the control of the Petitioner. Reasons for item wise cost variation between approved cost (FR) and actual cost are explained in detail in form-5.

20. The Petitioner has submitted the comparison of RCE cost of ₹187513 lakh against the FR cost of ₹142285 lakh and the details are summarized here under:-

S.N.	Variation on account of:	Variation (₹ in lakh)
(i)	Price Variation	
a	Change in awarded rates	16388
b	LOA provisions (towards PV based on indices)	13777



S.N.	Variation on account of:	Variation (₹ in lakh)
	Sub-Total (PV)	30165
(ii)	Variation in quantities of approved items	2540
(iii)	Crop and Forest Compensation	4939
(iv)	FERV	302
(v)	Other Reasons (IEDC and IDC)	
a	IEDC (incl. Contingencies)	(-) 4524
b	IDC	11806
	Sub- Total (IEDC & IDC)	7281
	GRAND TOTAL	45228

21. It may be seen from the above table that there is a variation of ₹45228 lakh in the RCE cost compared to the approved cost (FR) of ₹142285 lakh. The Petitioner has submitted the following explanation for head wise variation in cost:-

a. Price Variation including change in award rates with respect to FR (Increase of ₹30165 lakh):

There has been an increase in the cost of the project by ₹30165 lakh on this account, out of which a price variation of ₹16388 lakh has been incurred from the time of approval of project till award of various contracts (DPR to LOA) based on prices received as per competitive bidding and a variation of ₹13777 lakh has been incurred/ likely to be incurred on the basis of PV based on indices as per provision of respective contracts. With regard to PV from DPR to LOA, it is submitted that the Contracts for various packages under this project were awarded to the lowest evaluated and responsive bidder, on the basis of Competitive Bidding by the Petitioner, after publication of NITs in leading newspapers. Thus, the award prices represent the lowest prices available at the time of bidding of various packages. Further, the price variation of ₹13777 lakh has been incurred/ likely to be incurred under contract on the basis of provision



of respective contracts. Thus, the price variation under the project is attributable to the inflationary trend prevailing during execution of project and also market forces prevailing at the time of bidding process of various packages.

b. Variation in Quantities of Approved Items (Increase of ₹2540 lakh):

The line length, type of various towers and foundations in the DPR were estimated on the basis of walk-over/ preliminary survey. However, during execution, the quantity of suspension towers has reduced and quantity of tension towers (DC & DD) has increased due to passing of line through dense forest area and limitation of straight alignment. Further, due to encountering of new obstructions i.e, villages/ habitats enroute the line, the line had to be diverted to avoid ROW thereby resulting in increase in angle towers. This has resulted in increase in the quantity of tower-steel, concreting and reinforcement etc. Accordingly, there has been an increase in the cost of the project by ₹2540 lakh.

c. Crop, Tree and Forest Compensation (Increase of ₹4939 lakh):

Based on approved cost, there was a provision of ₹4915 lakh under this head. However, based on actual expenditure incurred and balance anticipated expenditure an amount of ₹9854 lakh is incurred/ likely to be incurred under the head, resulting in an increase of ₹4939 lakh in cost of the project. The detail of increase in cost under the head is explained hereunder:-

(₹ in lakh)



Description	As per DPR	As per RCE	Remarks
i) Compensation towards crop, PTCC	512	4478	Based on actual/ anticipated payment.
ii) Compensation towards Forest	4403	5405	Based on actual/ anticipated payment though there is decrease in the forest involvement from about 388.60 Ha/ (58 km) during DPR to 295.425 Ha/ (45.47 km) as per actual implementation.
TOTAL	4915	9854	

d. FERV (Increase of ₹302 lakh):

The project involves payment in foreign currency under various contracts awarded in the project. Increase in liability on account of FERV due to above is ₹302 lakh (0.21 %). The detail of exchange rate considered is as follows:-

Foreign currency (in INR)		
	As per DPR (Q3/ 2011 PL)	Remarks
1 USD	48.19	Varied from 44.90 to 65.73

e. Variation in IDC/IEDC (Increase of ₹7281 lakh: 5.12%):

Total IDC and IEDC under the project has increased by ₹7281 lakh in comparison to approved cost, which works out to 5.12 % as per the following break-up:-

A. Decrease in IEDC:

As per the investment approval, the IEDC including contingencies for the project as per approved cost (FR) was estimated at ₹9575 lakh on normative basis, whereas, the IEDC in RCE works out to ₹5051 lakh as per actual booking of cost, resulting in a decrease of ₹4524 lakh.



B. Increase in IDC:

Interest during Construction (IDC) for the project as per approved cost (FR) was estimated at ₹8756 lakh, whereas, based on actual and anticipated funds flow, the IDC for the project in the RCE works out to ₹20562 lakh. Thus, there is an increase of ₹11806 lakh in IDC. The main reasons for increase in IDC are the (i) increase in the project cost (excluding IDC) from ₹133529 lakh to ₹166951 lakh and (ii) increase in the Project Time Cycle (PTC) from 36 months to 53 months.

22. MPPMCL vide affidavit dated 22.2.2019 has submitted that there is an increase of ₹1790 lakh under the head of civil works. MPPMCL has submitted that the Petitioner has argued that FR estimation under the subject head was done as per normative data but during detailed engineering, actual requirement has increased resulting in higher cost, this perception is highly misleading, illogical and far away from engineering standard. MPPMCL further submitted that the Petitioner is also the Central Transmission Utility (CTU) and is engaged in this type of work since long. The Petitioner has trained work force to frame estimates and the site of substation was very well available for inspection while framing the estimate. Therefore MPPMCL has submitted that the quantity that increased during execution and accordingly the excess cost may be disallowed.

23. In response, the Petitioner, vide affidavit dated 19.3.2019, submitted the following:

- a. That the FR estimation under the subject head was done as per preliminary assessment. However, the cost has increased as per actual



site conditions i.e. FGL and soil conditions and as per rates received during competitive bidding.

- b. The cost over-run under the head of civil works is beyond the control of the Petitioner. As the total completion cost of subject asset is within the apportioned approved cost as per RCE, the Commission is requested to allow the entire cost and tariff claimed under subject Petition.

24. The Commission vide ROP dated 18.6.2019 directed the Petitioner to submit the basis of arriving at the cost estimates along with the background computation and the efforts made to achieve the cost efficiencies while estimating the capital cost of the 765 kV D/C Raipur Pooling Station Wardha 765 kV second line. In response, the Petitioner vide affidavit dated 11.7.2019 has submitted the following:-

a. The basis of arriving at the cost estimates along with the background computation:

The Cost estimate for subject project is based on Schedule of Rates (SOR) for 3rd quarter, 2011 price level. The said SOR was prepared based on average of unit rates of latest bids/ LOA/ raw material prices applicable for 3rd quarter, 2011 price level. The details of LOAs/ bid prices for preparation of Schedule of Rates for 3rd quarter, 2011 price level is enclosed with this affidavit. The cost estimate is inclusive of Excise Duty at the rate of 10.30% and CST at the rate of 2.0% (applicable for supply of equipment to be done through Domestic Sources). F&I at the rate of 4% have been considered in the Estimate.



b. The efforts made to achieve the cost efficiency:

The Petitioner follows a robust and time-tested system of preparing cost estimates before obtaining Investment Approval. After Investment Approval, the award letters are placed on the executing agencies on the basis of a tendering process as per best industry practices and due diligence including justification of bid prices vis-à-vis estimated cost before placing the awards. Further, cost control measures are also taken during execution of the project. The schedule of rates was prepared based on the average of unit rates of latest bids/LOAs/ Raw material prices at 3rd quarter, 2011 Price level. Further, the award for execution of the Transmission Asset was placed after following a transparent process of tendering, bid evaluation and award of work to lowest technical and commercially responsive bid. Further, the actual cost incurred during Project execution was compiled and the proposal for RCE was put up before the Board of Directors of the Petitioner. Before submission to Board of Directors, the proposal was routed through various departments for Management approval. Subsequently it was submitted for approval of Committee of Directors on Investment of projects (“COIP”).

25. We have considered the submissions of the Petitioner and the Respondent, MPPMCL, with respect to cost variation. As compared with apportioned approved cost of ₹142285.00 lakh, the estimated completion cost has increased by about ₹43488.28 lakh. As compared with FR cost, the RCE cost has increased by about ₹45228 lakh. We have gone through the form-5 as submitted by the Petitioner. The variation of capital cost and justification submitted by the Petitioner is as follows:-



(₹ in lakh)

S.N.	Particulars	Estimated cost as per FR	Estimated cost as on COD	Variation	Reasons for variation
1.	Transmission Line				
(a)	Preliminary works	4952.84	11109.47	6156.63	The Petitioner has estimated crop/tree compensation including land for cost for tower footing and dismantling value of corridor was ₹550 lakh. MOP vide letter dated 15.10.2015 issued guide lines pertaining to compensation, accordingly the Petitioner has paid an amount of ₹5785.99 lakh. Further, Forest compensation also increased from ₹4402.84 lakh to ₹5323.48 lakh.
2.	Sub-Station				
(a)	Civil works	142.00	1931.60	1789.60	The Petitioner has submitted that an amount of ₹1789.60 lakh has varied towards foundation for structures
(b)	Sub-station equipments	13018.08	13495.34	477.26	The Petitioner has submitted that the cost has increased based on rates received in competitive bidding.
(c)	Interest during Construction (IDC)	8756.40	26659.92	17903.52	The Petitioner has submitted that the main reason for increase in IDC is due to the increase in project cost from ₹142285 lakh to ₹186379 lakh and increase in the project time cycle.
(d)	Over heads	9576.06	974.55	(8601.51)	The actual amount of IEDC booked has been taken.
Total Variation				43486.94	

26. It is observed that the capital cost has increased due to (i) crop/ tree compensation including land cost for tower footing, (ii) increase of cost towards tower



steel due to increase in no of angle/ tension towers, (iii) increase of cost of substation equipment based on rates received in competitive bidding and (iv) increase in IDC. The estimated completion cost of the instant asset is within the RCE. Accordingly, the cost variation is allowed. Further, the estimated completion cost of instant asset including additional capitalization is within the apportioned approved cost as per RCE as mentioned in the table of para 18 above. Therefore, there is no cost overrun.

Time over-run

27. As per the Investment Approval (IA) dated 23.1.2012, the transmission scheme was scheduled to be commissioned within 36 months from the date of investment approval i.e. 23.1.2012. Accordingly, the Commissioning Schedule comes to 23.1.2015. Thus, there is a time over-run of 798 days in commissioning of the instant asset.

28. The Commission vide order dated 18.9.2017 in Petition no 218/TT/2016 has already dealt the issue of time over-run and condoned the time over-run of 798 days. Accordingly, the same is not dealt further in this Order.

Interest During Construction (IDC)

29. The Petitioner has claimed Interest During Construction (IDC) for the instant asset and submitted Auditor Cost Certificate in support of the same. In addition, the Petitioner has submitted the IDC statement containing details of IDC computation alongwith year-wise IDC discharges in respect of the instant asset. Among various bonds through which loan have been raised by the Petitioner, repayment schedule of some of the bonds falls under the construction period of the transmission asset. The repayment of bonds is not appearing in the IDC statement submitted by the Petitioner.



Further, the loan portfolio as mentioned in IDC statement and in Form 9C is not matching. For a time being, the allowable IDC has been worked out considering the information submitted by the Petitioner. However, the Petitioner is directed to submit the detailed IDC statement by rectifying the above discrepancies at the time of true up.

30. Accordingly, the IDC claimed and considered as on COD and summary of discharge of IDC liability up to COD and thereafter, for the purpose of tariff determination, subject to revision at the time of true up is as under:-

(₹ in lakh)				
IDC Claimed	IDC allowed on accrual basis	IDC allowed on cash basis as on COD	Un-discharged IDC liability as on COD	IDC discharged during 2017-18
1		4	5=(3-4)	6
26659.92	26659.92	22379.60	4280.32	4280.32

Incidental Expenditure During Construction (IEDC)

31. The Petitioner has claimed IEDC for instant assets and submitted Auditor's Certificate in support of the same. The claimed IEDC is within the percentage of hard cost of 5% as indicated in the FR abstract cost estimate. Hence, the IEDC of ₹974.55 lakh has been allowed and considered for the purpose of tariff calculation. The IEDC allowed for the instant asset will be reconsidered in the light of the directions of Appellate Tribunal for Electricity (APTEL) in judgment dated 2.12.2019 in Appeal Nos. 95 of 2018 and 140 of 2018 against Commission's orders dated 29.7.2016 and 5.10.2017 in Petition Nos. 46/TT/2014 and 2/RP/2017 respectively, at the time of trueing up.

Initial Spares

32. This has been dealt in line with Regulation 13 of the 2014 Tariff Regulations.



The Petitioner has claimed initial spares for the instant asset and submitted Auditor Cost Certificate in support of the same. The Petitioner has claimed the Initial Spares corresponding to Transmission line (TL) and Sub-Station (S/S) components of the instant asset and also submitted discharge details vide affidavit dated 11.7.2019. The same has been summarized as under:-

(₹ in lakh)

Element	Initial spares claimed	Discharge details of initial spares				Total
		Up to COD	2017-18	2018-19	2019-20	
Transmission Lines (T/L)	989.73	8.17	790.56	190.12	0.88	989.73
Sub-station (S/S)	636.95	315.63	236.75	84.58	0.00	636.95

33. The initial spares allowed for the purpose of tariff calculation after considering the Plant and Machinery cost excluding IDC, IEDC and Land expenses up to 31.3.2019, subject to true-up are as under:-

(₹ in lakh)

Element	Plant and Machinery Cost excluding IDC, IEDC and Land expenditure (up to 31.3.2019)	Initial spares claimed	Initial spares admissible	Initial spares Discharged as on COD	Year-wise initial spares discharged		
					2017-18	2018-19	2019-20
TL	142711.87	989.73	989.73	8.17	790.56	190.12	0.88**
S/S	13495.32	636.95	636.95	315.63	236.75	84.58	0.00

**Discharged beyond 2014-19 tariff control period, thus, disallowed.

Capital cost as on COD

34. Accordingly, the capital cost allowed as on COD under Regulation 9(2) of the 2014 Tariff Regulations is summarized as under:-



(₹ in lakh)

Capital Cost as on COD	Un-discharged IDC as on COD	IEDC Disallowed as on COD	Initial Spares disallowed	Capital Cost as on COD considered for tariff calculation
a	b	c	d	e=a-b-c-d
175279.81	4280.32	0.00	0.88	170998.61

Additional Capital Expenditure (ACE)

35. As per Clause (13) of Regulation 3 of the 2014 Tariff Regulations, the cut-off date for instant assets is 31.3.2020. The Petitioner has submitted Auditor Cost Certificates in support of the ACE. In addition, the Petitioner has also claimed the discharge of IDC liability as ACE. The Petitioner vide form 7 has claimed both these cost as ACE under Regulation 14(1)(i) and 14(1)(ii), which has been summarized upto 31.3.2019 as under:-

(₹ in lakh)

Additional Capital Expenditure claimed			Total
2016-17	2017-18	2018-19	
24.54	7424.99	3043.94	10493.47

36. The Petitioner has claimed additional capital expenditure towards Balance and Retention payments and unexecuted work and prayed to allow the same. The admissible un-discharged IDC liability as on COD has been allowed as ACE during the year of its discharge. The allowed ACE are summarized below which is subject to true up:-

(₹ in lakh)

Particulars	Regulation	2016-17	2017-18	2018-19
ACE to the extent of Balance & Retention Payment	14 (1)(i)	24.54	2437.17	0.00
ACE to the extent of unexecuted work	14 (1)(ii)	0.00	4987.82	3043.94
IDC Discharged	14 (1)(i)	0.00	4280.32	0.00



Particulars	Regulation	2016-17	2017-18	2018-19
Total Add-Cap allowed for tariff		24.54	11705.31	3043.94

Capital cost for the tariff period 2014-19

37. Accordingly, the capital cost considered for the tariff period 2014-19, subject to truing up, is as follows:-

(₹ in lakh)				
Capital cost allowed as on COD	ACE allowed during 2016-17	ACE allowed during 2017-18	ACE allowed during 2018-19	Total Estimated Completion Cost up to 31.03.2019
170998.61	24.54	11705.31	3043.94	185772.40

Debt-Equity Ratio

38. Debt-Equity Ratio is considered as per Regulation 19 of the 2014 tariff Regulations. The financial package up to COD as submitted in Form 6 has been considered to determine the debt-equity Ratio. The capital cost allowed as on the date of commercial operation has been considered in the debt-equity ratio of 70:30 and additional capitalization allowed have been considered in the debt-equity ratio of 70:30. The debt-equity as on dates of commercial operation and 31.3.2019 considered on normative basis are as under:-

(₹ in lakh)				
Particulars	As on COD		As on 31.03.2019	
Debt	119699.03	70.00%	130040.68	70.00%
Equity	51299.58	30.00%	55731.72	30.00%
Total	170998.61	100.00%	185772.40	100.00%

Return on Equity (ROE)

39. The Petitioner has submitted that ROE has been calculated at the rate of 19.61% after grossing up the ROE with MAT rate of 20.961% as per the above



Regulations. The Petitioner has further submitted that the grossed up ROE is subject to truing up based on the effective tax rate of respective financial year applicable to the Petitioner Company.

40. We have considered the submissions made by the Petitioner and Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations.

41. Accordingly, the ROE allowed is as follows:-

Particulars	(₹ in lakh)		
	2016-17 (Pro-rata)	2017-18	2018-19
Opening Equity	51299.58	51306.95	54818.54
Addition due to Additional Capitalization	7.36	3511.59	913.18
Closing Equity	51306.95	54818.54	55731.72
Average Equity	51303.26	53062.74	55275.13
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
MAT rate	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%
Return on Equity (Pre-tax)	27.56	10405.60	10839.45



Interest on Loan (IOL)

42. The IOL has been calculated as per the provisions of Regulation 26 of the 2014 Tariff Regulations as detailed below:-

- (i) Gross amount of loan, repayment of installments & rate of interest and weighted average rate of interest on actual average loan have been considered as per petition including additional information.
- (ii) The yearly repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that year.
- (iii) Weighted average rate of interest on actual average loan worked out as per (i) above is applied on the notional average loan during the year to arrive at the interest on loan.

43. The Petitioner has submitted that the IOL has been claimed on the basis of rate prevailing as on COD and the change in interest due to floating rate of interest applicable, if any, needs to be claimed/ adjusted over the tariff block 2014-19. We have calculated IOL on the basis of rate prevailing as on the date of commercial operation. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing-up. The IOL is allowed considering all the loans submitted in Form-9C. The Petitioner is directed to reconcile the total Gross Loan for the calculation of weighted average Rate of Interest and for the calculation of IDC, which would be reviewed at the time of truing-up.



44. The details of IOL calculated are as follows:-

Particulars	(₹ in lakh)		
	2016-17 (Pro-rata)	2017-18	2018-19
Gross Normative Loan	119699.03	119716.21	127909.92
Cumulative Repayment upto previous Year	0.00	24.70	9350.66
Net Loan-Opening	119699.03	119691.50	118559.26
Addition due to Additional Capitalization	17.18	8193.72	2130.76
Repayment during the year	24.70	9325.96	9704.82
Net Loan-Closing	119691.50	118559.26	110985.19
Average Loan	119695.26	119125.38	114772.23
Weighted Average Rate of Interest on Loan	8.6154%	8.5788%	8.5382%
Interest on Loan	28.25	10219.51	9799.54

Depreciation

45. Depreciation has been dealt with in line of Regulation 27 of 2014 Tariff Regulations. The instant asset was put under commercial operation during 2016-17. Accordingly, it will complete 12 years beyond the tariff period 2014-19 and depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations. Details of the depreciation allowed are as under:-

Particulars	(₹ in lakh)		
	2016-17 (Pro-rata)	2017-18	2018-19
Opening Gross Block	170998.61	171023.15	182728.46
Additional Capital expenditure	24.54	11705.31	3043.94
Closing Gross Block	171023.15	182728.46	185772.40
Average Gross Block	171010.88	176875.81	184250.43
Rate of Depreciation	5.2724%	5.2726%	5.2672%
Depreciable Value	153909.79	159188.22	165825.39
Remaining Depreciable Value	153909.79	159163.52	156474.72
Depreciation	24.70	9325.96	9704.82

Operation and Maintenance Expenses (O&M Expenses)

46. The Petitioner has claimed the O&M expenses for assets covered in the instant



petition as per following details:-

Particulars	(₹ in lakh)		
	2016-17 (Pro-rata)	2017-18	2018-19
O&M Expenses	2.54	977.02	1009.50

47. O&M expenses allowed by the Commission vide order dated 18.9.2017 in petition no. 218/TT/2016 has been considered as it is in the instant petition which summarized as under:-

Particulars	(₹ in lakh)		
	2016-17 (Pro-rata)	2017-18	2018-19
O&M Expenses	2.54	977.02	1009.50

Interest on Working Capital (IWC)

48. As per the 2014 Tariff Regulations the components of the working capital and the interest thereon are discussed hereinafter:-

a) Maintenance spares:

Maintenance spares @ 15% of Operation and maintenance expenses specified in Regulation 28.

b) O & M expenses:

Operation and maintenance expenses have been considered for one month of the O&M expenses.

c) Receivables:

The receivables have been worked out on the basis of 2 months of annual fixed cost as worked out above.



d) Rate of interest on working capital:

As per Clause 28 (3) of the 2014 Tariff Regulations, SBI Base Rate as on 1.4.2016 (9.30%) plus 350 Bps i.e. 12.80% has been considered as the rate of interest on working capital.

49. Accordingly, the interest on working capital (IWC) is summarized as under:-

Particulars	(₹ in lakh)		
	2016-17 (Pro-rata)	2017-18	2018-19
Maintenance Spares	139.07	146.55	151.43
O&M expenses	77.26	81.42	84.13
Receivables	5167.59	5272.01	5344.60
Total	5383.91	5499.99	5580.15
Rate of Interest	12.80%	12.80%	12.80%
Interest on working capital	1.89	704.00	714.26

Annual Transmission charges

50. Accordingly, the annual transmission charges being allowed for the instant asset are as under:-

Particulars	(₹ in lakh)		
	2016-17 (Pro-rata)	2017-18	2018-19
Depreciation	24.70	9325.96	9704.82
Interest on Loan	28.25	10219.51	9799.54
Return on Equity	27.56	10405.60	10839.45
Interest on Working Capital	1.89	704.00	714.26
O & M Expenses	2.54	977.02	1009.50
Total	84.95	31632.09	32067.57



Filing fee and the publication expenses

51. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

License fee and RLDC Fees and Charges

52. The Petitioner has prayed to allow the Petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. We are of the view that the Petitioner shall be entitled for reimbursement of license fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a) of Regulation 52 in the 2014 Tariff Regulations.

Goods and Services Tax

53. The Petitioner has prayed for reimbursement of tax, if any, on account of implementation of GST. GST is not levied on transmission service at present and we are of the view that Petitioner's prayer is premature.

Sharing of Transmission Charges

54. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time and as provided in Regulation 43 of the 2014 Tariff



Regulations.

55. The transmission charges allowed for the asset covered under the instant petition vide Order dated 18.9.2017 in petition no. 218/TT/2016 stands revised.

56. This order disposes of Petition No.30/TT/2019.

Sd/-
(I. S. Jha)
Member

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

Sd/-
(P. K. Pujari)
Chairperson

