

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 191/TT/2017

Coram:

Shri P. K. Pujari, Chairperson

Shri A. K. Singhal, Member

Dr. M. K. Iyer, Member

Date of Order: 3.10.2018

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 Mauda II – Betul 400 kV D/C (Quad) T/L alongwith associated bays at Betul GIS – Asset-1 (Ant. COD – 01.02.2017),Betul – Khandwa 400 kV D/C (Quad) T/L alongwith associated bays at Betul GIS and Khandwa S/S – Asset-2 (Ant. COD – 01.02.2017),Khandwa – Indore 400 kV D/C T/L alongwith associated bays – Asset-3 (Ant. COD – 01.02.2017)& Establishment of 400/220 kV, 2*315 MVA GIS at Betul – Asset-4 (Ant. COD – 01.02.2017) under “Transmission System associated with Mauda Stage-II (2 x 660 MW) Generation Project” in Western Region for tariff block 2014-19 period.

And in the matter of:

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

.....Petitioner

Vs

1. NTPC Ltd., NTPC Bhawan
Core-7, Scope Complex
7, Institutional Area, Lodhi Road
New Delhi – 110003.

2. Madhya Pradesh Power Management Company Ltd.
Shakti Bhawan, Rampur



Jabalpur - 482 008

3. Maharashtra State Electricity Distribution Co. Ltd.
Prakashgad, 4th Floor
Andheri (East), Mumbai - 400 052
4. Gujarat Urja Vikas Nigam Ltd.
Sardar Patel Vidyut Bhawan,
Race Course Road
Vadodara - 390 007
5. Electricity Department
Govt. Of Goa
Vidyut Bhawan, Panaji,
Near Mandvi Hotel, Goa - 403 001
6. Electricity Department
Administration Of Daman & Diu
Daman - 396 210
7. Electricity Department
Administration Of Dadra Nagar Haveli
U.T., Silvassa - 396 230
8. Chhattisgarh State Electricity Board
P.O.Sunder Nagar, Dangania, Raipur
Chhatisgaarh-492013
9. Madhyapradesh Audyogik Kendra
Vikas Nigam (Indore) Ltd.
3/54, Press Complex, Agra-Bombay Road,
Indore-452 008

.....Respondents

The following were present:

- Shri Vivek Kumar Singh, PGCIL
- Shri S. K. Venkatesan, PGCIL
- Shri S. S. Raju, PGCIL
- Shri V. P. Rastogi, PGCIL
- Shri Rakesh Prasad, PGCIL
- Shri B. Dash, PGCIL
- Shri Pankaj Sharma, PGCIL
- Shri Rajeev Kumar Gupta, MPPMCL



ORDER

The present petition has been filed by the petitioner, Power Grid Corporation of India Ltd. ("PGCIL") seeking approval of transmission tariff for 4 assets in subject cited Transmission System associated with Mauda Stage-II (2 x 660 MW) Generation Project in Western Region (hereinafter referred to as "transmission system") for 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "2014 Tariff Regulations").

2. The petitioner has made the following prayer:

- (i) Approve the Transmission Tariff for the tariff block 2014- 19 block for the assets covered under this petition.
- (ii) Admit the capital cost as claimed in the petition and approve the Additional Capitalisation incurred/ projected to be incurred.
- (iii) Tariff may be allowed on the estimated completion cost, Revised Cost Estimate for the project is under approval.
- (iv) Allow the Petitioner to approach Hon'ble Commission for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike, if any, during period 2014-19.
- (v) 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.
- (vi) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, 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.



- (vii) 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.
- (viii) 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.
- (ix) 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.
- (x) Allow reimbursement of any tax Payable by the petitioner on account of implementation of GST, the same may be allowed to be recovered from the beneficiaries.
- (xi) Allow 90% of the Annual Fixed Charges as tariff in accordance with clause 7 (i) of Regulation 7 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for purpose of inclusion in the PoC charges.
- (xii) Allow the petitioner to bill Tariff from actual COD and also the petitioner may be allowed to submit revised Management Certificate and Tariff Forms (as per the Relevant Regulation) based on actual COD.

3. The Investment Approval (IA) for implementation of "Transmission System associated with Mauda Stage-II (2 x 660 MW) Generation Project in Western Region" was accorded by the Board of Directors of the petitioner on 19.9.2013 vide the Memorandum Ref: C/CP/Investment/Mauda-II dated 24.09.2013 at an estimated cost of ₹1575.30 Crore including an IDC of ₹99.92 Crore (based on April, 2013 price level). Further, Revised Cost Estimate (RCE) of the instant assets was approved by the Board of Directors of the petitioner vide Memorandum dated 21.04.2017 for ₹1656.15 Crore including an IDC of ₹150.69 Crore (based on May, 2017 price level).



4. The details of the transmission elements covered under the transmission system are broadly as follows:-

Transmission Line

- (i) Mauda II – Betul 400 kV D/C (Quad) T/L
- (ii) Betul – Khandwa 400 kV D/C (Quad) T/L
- (iii) Khandwa - Indore 400 kV D/C T/L

Sub-Station

- (i) Establishment of 400/220 kV, 2x315 MVA GIS sub-station at Betul
- (ii) Extension of 400 kV Sub-Stations at Indore at Khandwa

Reactive Compensation

(i) Line Reactors

S. No.	Transmission Line	Line Reactor (MVAr)	
		Sending End	Receiving End
1	Mauda II – Betul 400 kV D/C (Quad) T/L	2x50 (under the Scope of NTPC)	2x50
2	Betul – Khandwa 400 kV D/C (Quad) T/L	2x50 (Switchable line reactor)	2x50
3	Khandwa – Indore 400 kV D/C T/L	--	2x80* (Switchable Line Reactor)

*1 Reactor for each circuit at one end.

(ii) Bus Reactor

1x125 MVAr, 420 kV Bus Reactor at Betul Sub-Station

5. The detail status of assets, submitted by the petitioner in the petition is mentioned as below:-

Asset	Particulars	COD (as filed in Petition)
1	Mauda II – Betul 400 kV D/C (Quad) T/L along with associated bays at Betul GIS	01.04.2017 (anticipated)
2	Betul – Khandwa 400 kV D/C (Quad) T/L along with associated bays at Betul GIS and Khandwa S/S	01.04.2017 (anticipated)
3	Khandwa – Indore 400 kV D/C T/L along with associated bays	01.01.2017 (actual)
4	Establishment of 400/220 kV, 2*315 MVA GIS at Betul	01.04.2017 (anticipated)



6. The Petitioner has submitted that the entire scope of the project stands completed on COD of the assets covered in the instant petition. Vide affidavit dated 19.9.2017, the petitioner has submitted the COD letter, WRLDC certificate and CEA certificate for Asset 1, 2 and 4. Further, vide affidavit dated 6.2.2018, petitioner has submitted that the Asset-1, 2 and 4 have been declared under commercial operation on 24.8.2017. Since all the three Assets namely Asset-1, 2 and 4 have been commissioned on the same day, i.e., 24.8.2017, the Assets have been combined as Asset-A. Further, petitioner vide the same affidavit has submitted that Asset-3, which shall be called Asset-B, has been commissioned on 1.1.2017.

7. Annual Fixed Charges were granted for assets in the instant petition vide order dated 10.10.2017 under the first proviso to Regulation 7(7) of the 2014 Tariff Regulations, for inclusion in the PoC charges.

8. The details of the transmission charges claimed by the petitioner are as under:-

Particulars	(₹ in lakh)	
	Asset-A	
	2017-18	2018-19
Depreciation	3,674.92	6,462.43
Interest on Loan	4,003.14	6,608.65
Return on Equity	4,109.11	7,225.54
Interest on Working Capital	299.72	515.52
O&M Expenses	817.77	1,397.02
Total	12,904.66	22,209.16



(₹ in lakh)

Particulars	Asset-B		
	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	380.31	1,611.95	1,673.00
Interest on Loan	423.66	1,710.89	1,638.92
Return on Equity	424.53	1,799.38	1,867.49
Interest on Working Capital	33.58	139.75	141.93
O&M Expenses	129.93	537.00	554.79
Total	1,392.01	5,798.97	5,876.13

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

(₹ in lakh)

Particulars	Asset-A	
	2017-18 (pro-rata)	2018-19
Maintenance Spares	112.67	116.42
O&M expenses	202.81	209.55
Receivables	3,555.95	3,701.53
Total	3,871.43	4,027.50
Rate of Interest	12.80%	12.80%
Interest	298.68	515.52

(₹ in lakh)

Particulars	Asset-B		
	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	43.31	44.75	46.23
O&M expenses	77.96	80.55	83.22
Receivables	928.01	966.49	979.35
Total	1,049.27	1,091.79	1,108.81
Rate of Interest	12.80%	12.80%	12.80%
Interest	33.12	139.75	141.93



10. 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. MPPMCL has filed a reply vide affidavit dated 22.09.2017. In response, the Petitioner has filed its rejoinder vide affidavit dated 22.03.2018. The issues raised by the MPPMCL and the clarifications given by the Petitioner are addressed in the relevant paragraphs of this order.

11. Having heard the representatives of the petitioner present during the hearing and having perused the material on record, we proceed to dispose of the petition.

Capital Cost

12. This has been dealt with in line with Clause (1) and (2) of Regulation 9 of the 2014 Tariff Regulations.

13. The petitioner has submitted Auditor certificate dated 08.02.2017 for Asset-B in the petition. Further, vide affidavit dated 24.08.2018, the petitioner has submitted the Auditor Certificate dated 02.11.2017 along with revised tariff forms for Asset A. The details of approved apportioned cost, capital cost as on the date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred during 2016-17, 2017-18 and 2018-19 along with estimated completion cost for the instant asset covered in the petition and considered for the purpose of computation of tariff are as under:-



(₹ in lakh)

Asset	Apportioned Approved Cost (FR)	Apportioned Approved Cost (RCE)	Cost as on COD	Estimated additional capital expenditure				Total Estimated Completion Cost
				2016-17	2017-18	2018-19	2019-20	
Asset-A	127502.83	130150.00	113728.70	0.00	6907.12	5031.75	822.95	126490.52
Asset-B	30026.71	35465.00	28445.44	1628.02	1406.18	528.57	114.06	32122.27
Total	157529.54	165615.00	142174.14	1628.02	8313.3	5560.32	937.01	158612.79

14. Vide Affidavit dated 20.09.2017, the petitioner has submitted the RCE. We have considered the submissions of the petitioner. It is observed that the estimated completion cost claimed for Asset-A and Asset-B is within the RCE apportioned approved cost.

Cost Over-Run/Variation

15. The estimated completion cost of the Project is slightly higher than that of the Project Cost as per FR, although it is well within the approved RCE Cost of ₹1656.15 crore. Against the apportioned approved cost (FR) of ₹ 1575.30 crore, the estimated completion cost is ₹ 1586.13 crore with a marginal increase of ₹ 11 crore.

16. The main reasons for variation/increase in RCE Cost (₹ 1656.15 Crore) to that of FR cost (₹ 1575.30 Crore) have been submitted by the petitioner vide affidavit dated 06.02.2018 and are elaborated below:

Comparison of Revised Cost Estimate with the Approved Cost:



S.No	Variation on account of:	Variation	
		(₹. in crore)	(%)
(i)	Price Variation		
	DPR to LOA (on competitive bidding while award)	(-) 6.80	(-) 0.43 %
	As per contractual provisions (towards PV based on indices)	60.55	3.84 %
	Sub-Total (PV)	53.75	3.41 %
(ii)	Variation in quantities of approved items	1.23	0.08 %
(iii)	Land and Compensation	22.05	1.40 %
(iv)	Other Reasons (IEDC and IDC)		
a	IEDC (incl. Contingencies)	(-) 46.96	(-) 2.98 %
b	IDC	50.77	3.22%
	Sub- Total (IEDC & IDC)	3.81	0.24 %
	GRAND TOTAL	80.85	5.13 %

It may be seen from the above table that there is a variation of ₹ 80.85 crore (5.13 %) from the approved cost of ₹ 1575.30 crore. The major variation in cost is attributable to the following:

- | | |
|--|---------|
| a. Price variation | 3.41 %; |
| b. Variation in quantities of approved items | 0.08 %; |
| c. Land and Compensation | 1.40 %; |
| d. Increase in IDC and IEDC | 0.24 %. |

The head wise variation in cost has been explained by the petitioner hereunder:

(i) Price Variation (PV) (Net Increase of ₹ 53.75 crore: 3.41 %)

There is an increase in the cost of the project by ₹ 53.75 crore on this account, which works out to 3.41 % of the approved cost. It may be seen



from the above table that out of a total price variation, there has been a decrease of ₹ 6.80 crore from the time of approval of project till award of various contracts (DPR to LOA) based on prices received as per competitive bidding and an increase of ₹ 60.55 crore 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, the Petitioner has 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, it a price variation of ₹60.55 crore has been incurred/ likely to be incurred under the contract mainly due to variation in indices of various major raw materials during execution of project as indicated below:

NAME OF INDICES	Aug'13 (one month prior to first OBD)	Mar'14	Mar'15	Mar'16	% Increase from first OBD
Tower Steel	34892	35186	35186	35186	0.84%
HG Zinc	132300	159200	155600	143900	8.77%
EC Grade Al	142383	147717	151883	135972	(-) 4.50%
CRGO	163897	194009	226050	226050	37.92%
Copper	484517	436523	398850	360347	(-) 25.63%
WPI	179.0	180.3	176.1	175.3	(-) 2.07%
Cement & Lime	168.2	164.1	177.7	175.7	4.46%
WPI for Fuel & Power	204.7	214.2	188.0	172.4	(-) 15.78%
<i>CPI</i>	<i>237</i>	<i>239</i>	<i>254</i>	<i>268</i>	<i>13.08%</i>



(ii) Variation in Quantities of Approved Items (Net increase of ₹ 1.23 Crore: 0.08 %)

The line length, number and type of towers have been considered as per detailed survey carried out during execution of the project as per available RoW. On account of this, there has been variation in quantities of various items such as tower steel, conductor, concrete and reinforcement as per details given below:

- Tower : (-) ₹ 01.07 Crore,
- Conductor : (-) ₹ 13.64 Crore;
- Insulators : ₹ 07.93 Crore;
- Concreting : ₹ 09.01 Crore;
- Stringing : (-) ₹ 01.00 Crore.

Due to above reason, there is an increase of ₹ 1.23 Crore under the head which works out to 0.08 % of the approved cost. Even though the quantity of conductor and earth wire has decreased due to decrease in line length, there has been an increase in almost all other heads as the number of angle towers has increased based on actual route alignment. Due to involvement of more power line crossings near Khandwa S/S and Indore S/S, as per site execution, DD towers has increased from 31 nos. (in FR) to 80 nos. (in actual), correspondingly total number of DB and DC towers has decreased from 74 nos. (in FR) to 59 nos. (in actual) resulting into increase of tower tonnages.

(iii) Land and Compensation (Net increase of ₹ 22.05 Crore : 1.40 %)



Based on approved cost, there was a provision of ₹ 77.17 crore under this head. However, based on actual/anticipated expenditure, an amount of ₹99.22 crore is incurred/to be incurred under this head, resulting in increase of ₹ 22.05 crore in project cost. Main reason for increase in project cost is as follows:

Description	As per DPR	As per RCE	Remarks
Land for substation And R&R Compensation	4.64	1.00	Based on actual/anticipated Payments.
Compensation towards Crop, Tree, PTCC etc.	27.01	39.13	Based on actual/ anticipated payments.
Compensation towards Forest	45.52	59.09	Based on actual/ anticipated payments.
TOTAL	77.17	99.22	

(iv) Variation in IDC and IEDC (Net increase of ₹ 3.81 crore: 0.24 %)

Total IDC and IEDC under the project have increased by ₹ 3.81 crore in comparison to approved cost, which works out to 0.24% as per the following break-up:

As per the investment approval, the IEDC including contingencies for the project as per approved cost was estimated at ₹ 102.96 crore on normative basis whereas in the RCE, on the basis of actual/ anticipated expenditure incurred, this works out to ₹ 56.00 crore resulting in a decrease of ₹ 46.96 crore.



Interest during Construction (IDC) for the project as per approved DPR cost was estimated at ₹ 99.92 crore whereas based on the actual and anticipated funds flow, the IDC for the project in the RCE works out to ₹ 150.69 crore. Thus there is an Increase of ₹ 50.77 crore in IDC.

The main reasons for increase in IDC are (i) increase in the Project Time Cycle from 32 months to 46 months and (ii) increase in COD cost (excluding IEDC & IDC) from reasons cited earlier.

(v) Increase in Forest & Crop Compensation as envisaged versus as per actual execution:

There are total 479 nos. tower locations in 400 kV D/C Khandwa – Indore T/L out of which 40 nos. tower locations fall in forest area (12.18 km length). The, forest and crop compensation has increased from approx. ₹15 crores as envisaged in the FR to about ₹24 crores as per actual execution and payments. Thus, there has been an increase in the estimated completion cost of the Asset-B for reasons beyond the control of Petitioner.

Time over-run

17. As per the investment approval, vide Memorandum dated 24.09.2013, the instant assets were scheduled to be commissioned within 32 months from the date of approval of Board of Directors dated 19.09.2013. Accordingly, the scheduled date of commercial operation was 19.05.2016 against which instant assets were



put under commercial operation on 24.08.2017 and 01.01.2017 respectively. Hence, there is time over-run of 15 months 5 days and 7 months 13 days in COD of the Asset-A and Asset-B respectively.

18. With regard to delay in commissioning, the petitioner has submitted that for evacuation of power from Mauda-II STPP of NTPC, the whole TS had to be put under commercial operation as Mauda-II – Betul – Khandwa – Indore as the Scheme was approved as such. Moreover, since the Zero Dates as agreed had already passed and neither side came up, the COD of the entire Transmission System was proposed from 01.02.2017, matching it with that of the commissioning of Unit #1 of Mauda-II Generation Project.

19. Although Betul – Khandwa 400 kV D/C (Quad) T/L alongwith associated bays and Khandwa – Indore 400 kV D/C T/L along with associated bays were ready for COD since June 2016 itself, there were RoW issues encountered in the implementation of Mauda-II – Betul 400 kV D/C (Quad) T/L due to which there was delay in the scheduled commercial operation of the T/L and that of the entire system. Mauda-II – Betul GIS – Khandwa was declared commercially operational on 24.08.2017. However, Khandwa – Indore 400 kV D/C T/L was declared under Commercial Operation w.e.f. 01.01.2017 in line with decision taken in 41st SCM of WR Constituents held on 21.12.2016 at NRPC.

20. Severe RoW issues were encountered during implementation of Mauda-II – Betul 400 kV D/C (Quad) T/L. The detailed chronology covering tower type, Name of Owner of Land, Name of Village, Field Survey No., Date of filing of case, Date of Order issued by the Relevant Authority and time taken for resolution of case etc.



have been submitted by the petitioner along with supporting documentation.

21. It is observed that due to the RoW issues, the COD of the T/L was delayed. Though there was no impact of this delay on the beneficiaries as associated Generation had not come up.

22. The Petitioner has submitted that vide letters dated 16.12.2016, 19.12.2016 & 12.01.2017, NTPC conveyed completion of Trial Operation of Unit#1 of Mauda Stage-II on 06.01.2017 and their readiness for COD. Vide letter dated 23.12.2016, GM(CMG) conveyed to NTPC that the line was stuck-up in severe RoW and the matter was escalated to MoP level and also included for review under "Pragati" by the Prime Minister.

23. Further, vide letter dated 25.01.2017, AGM (CTU-Planning) proposed despatch of about 1520 MW through Mauda – Wardha 400 kV T/L (ATS of Mauda Stage-I) with implementation of SPS for Unit-I of Mauda Stage-II. On confirmation from WRLDC for the proposed despatch of 1520 MW through Mauda – Wardha 400 kV T/L itself, until the commercial operation of ATS for Mauda Stage-II, evacuation constraint issue for Unit#1 of Mauda Stage-II shall stand resolved.

The petitioner has also submitted that the Commission in order dated 23.12.2016 in Petition No. 247/MP/2016 has allowed NTPC the interchange of infirm power into the grid for commissioning tests including full load test of unit-1 upto 27.4.2017 or actual date of commercial operation, whichever is earlier.

24. The petitioner has submitted that on request of MPPTCL, four no. 220 kV Down-stream line bays were planned. Two no. bays were meant for Betul (PG) –



Betul (MPPTCL) T/L and two no. bays for Betul (PG) – Sarni (MPPTCL) T/L. However, downstream transmission system at 220 kV level at Betul GIS has not come up for which regular correspondence was done with MPPTCL.

S. No.	Dated	Remarks
1	19.01.2015	From GM (Engg./Comml.), POWERGRID, Vadodara to CE- Planning & Design, MPPTCL, Jabalpur
2	13.03.2015	From Chief Manager (Engg.), POWERGRID, Vadodara to CE- Planning & Design, MPPTCL, Jabalpur
3	17.03.2015	From Chief Manager (Engg.), POWERGRID, Vadodara to CE- Planning & Design, MPPTCL, Jabalpur
4	24.03.2015	From CE- Planning & Design, MPPTCL, Jabalpur to Chief Manager (Engg.), POWERGRID, Vadodara
5	04.04.2015	From CE- Planning & Design, MPPTCL, Jabalpur to Chief Manager (Engg.), POWERGRID, Vadodara
6	21.07.2015	From Assistant General Manager, POWERGRID, Betul to Executive Engineer (T/L construction), MPPTCL, Itarsi
7	19.09.2015	From AGM, Projects-I, POWERGRID, Jabalpur to CE- Planning & Design, MPPTCL, Jabalpur
8	25.09.2015	From Assistant General Manager, POWERGRID, Betul to Superintendent Engineer (EHT Division), MPPTCL, Bhopal
9	07.10.2015	From EE EHT(C) Dvn, MPPTCL, Itarsi to Assistant General Manager, POWERGRID, Betul
10	23.11.2015	From AGM, Projects-I, POWERGRID, Jabalpur to CE- Planning & Design, MPPTCL, Jabalpur
11	09.12.2015	From CE- Planning & Design, MPPTCL, Jabalpur to AGM Engg.-S/S, POWERGRID, Gurgaon
12	29.12.2015	From AGM Engg.-S/S, POWERGRID, Gurgaon to CE- Planning & Design, MPPTCL, Jabalpur
13	03.03.2016	From AGM, Projects-I, POWERGRID, Jabalpur to CE- Planning & Design, MPPTCL, Jabalpur
14	05.08.2016	From Assistant General Manager, POWERGRID, Betul to CE- Planning & Design, MPPTCL, Jabalpur
15	21.09.2016	From Assistant General Manager, POWERGRID, Betul to Superintending Engineer EHT (C) Circle, MPPTCL, Bhopal
16	02.11.2016	From Assistant General Manager, POWERGRID, Betul to CE- Planning & Design, MPPTCL, Jabalpur



The Petitioner has submitted that this issue was discussed in 40th SCM of WR constituents, 41st SCM of WR constituents and 32nd WRPC Meeting. In the 41st SCM of WR constituents held on 21.12.2016, MPPTCL intimated that they are working vigorously to complete Betul (PG) – Betul (MPPTCL) T/L by 31.03.2017. However, other T/L, i.e., Betul (PG) – Sarni (MPPTCL) was anticipated to be commissioned by June 2018.

25. In addition to the details submitted along with the petition, Petitioner has submitted additional RoW issues up to December 2016 and onwards upto the commissioning of the system in August 2017, encountered during execution of 400 kV D/C Mauda II TS – Betul GIS vide affidavit dated 06.02.2012.

26. The respondent No.2, MPPMCL vide affidavit dated 22.09.2017 has submitted that first notice of information of PGCIL about construction of transmission line passing through the field was given on 3.3.2015 which is already 18 months after the date of approval i.e. 19.9.2013. The action on part of PGCIL was initiated very late resulting in delay in COD. The delay resulted due to poor implementation done by petitioner. The Petitioner has not given any details supporting its efforts for the RoW after the issuance of order. The Petitioner has not submitted statutory documents of CPM analysis and PERT chart in support of their claim of condonation of time overrun to establish why the work of the area has been affected and has not been completed on time.

27. The petitioner vide affidavit dated 22.3.2018 has submitted the rejoinder reply to MPPMCL and submitted that the delay in commissioning of the assets was due to delay in ROW issues, delay in commissioning of the downstream system and



co-ordination with NTPC for matching the scheme with associated generation. With regard to Right of way problems, the Petitioner has stated that in 24 no. of cases, orders were issued but RoW issues were not resolved and police protection was needed. The petitioner has further submitted that the tower erection and stringing work was hindered by villagers at many locations namely 6/1, 6/2, 6/4, 24/0, 24/0, 25/0 and 50/1. The tower foundation and erection was obstructed by landowners and construction of line could not be taken up due to compensation demand beyond the provision of the relevant Act from the land owners.

28. The Commission vide provisional order dated 10.10.2017 had directed the petitioner to submit details of reason for the assets covered in the instant petition for time over-run and chronology of the time over-run along with documentary evidence in the prescribed format.

29. In response, the petitioner vide affidavit dated 12.2.2018 has submitted that 400 kV D/C Betul-Khandwa T/L were ready for commissioning since June 2016. The details of inspection of these elements by CEA Inspector and subsequent approval for charging of the same under Regulation 43 of CEA (Measures relating to Safety and Electric Supply) are given below:

Sl.No	Element	Approval for Energisation by CEA
1	50 MVAr Shunt Reactor of Khandwa-Betul Ckt1 and Ckt2	30.05.2017
2	400 kV Betul Bays and 400 kV Indore Bays at Khandwa S/S	6.07.2016
3	400 kV D/C Khandwa-Indore T/L	1.8.2016



4	400 kV Betul-Khandwa T/L	2.8.2016
5	315 MVA ICTs, 12 nos GIS bays, 125 MVar Bus Reactor and 50 MVar Line Reactor at Betul GIS	2.8.2016

The petitioner has submitted that the above mentioned elements were ready for commercial operation but could not be placed under commercial operation due to non-availability of upstream element 400 kV D/C Mauda II-Betul transmission line which was stuck in severe RoW issues.

Analysis and decision:

30. We have considered the submissions of the petitioner. The time overrun of 15 months 6 days for Asset-A and 7 months 14 days for Asset- B has been mainly due to delay in resolution of ROW problems, delay in downstream system under the scope of MPPTCL and co-ordination with the NTPC for matching with the scheme with associated generation.

31. It is observed that there were severe RoW problems at location no's namely 6/1, 6/2, 6/4, 24/0, 24/0, 25/0 and 50/1. The tower foundation and erection was obstructed by landowners and construction of line could not be taken up due to compensation demand beyond the provision of the relevant acts from the land owners. The Petitioner has also submitted the documents in support of the same. The Petitioner has submitted documentary evidences from 3.3.2015 to 15.07.2017 towards RoW problems faced by the Petitioner at various locations. The Petitioner has also submitted documentary evidence to show the co-ordination carried out with NTPC and MPPTCL.



32. In our view, as the delay due to ROW problems and delay of downstream system under the scope of MPPTCL, were beyond the control of the Petitioner, the entire period of time overrun in respect of instant assets (Asset-A and Asset-B) is condoned.

Interest During Construction (IDC)

33. The Petitioner has claimed IDC of ₹12618.51 lakh and ₹2246.84 lakh in respect of Asset-A and Asset-B respectively. The IDC on cash basis up to allowable dates has been worked out on the basis of the loan details given in Form-9C. It is submitted by petitioner that it has not made any default in the payment of interest. Further, the petitioner has submitted the statement showing discharged of IDC liability as on COD and thereafter.

34. The IDC considered as on COD for the purpose of tariff determination is as below:-

(₹ in lakh)

Asset	Total IDC allowed	Accrual IDC as on COD and discharged during subsequent years	IDC allowed (As on COD)
Asset-A	12618.51	2741.00	9877.51
Asset-B	2246.84	408.96	1837.88

Incidental Expenditure During Construction (IEDC)

35. The petitioner has claimed ₹3386.09 lakh and ₹352.91 lakh in respect of Asset-A and Asset-B respectively. The petitioner has claimed IEDC as on COD, which is within the percentage on hard cost as indicated in the abstract cost estimate. In the



instant petition, 5% of hard cost is indicated as IEDC in the abstract cost estimate. The petitioner has submitted that the entire IEDC has been discharged as on COD. Therefore, IEDC of ₹3386.09 lakhs and ₹352.91 lakhs is being considered for determination of tariff in respect of Asset-A and Asset-B respectively.

Initial spares

36. Regulation 13(d) of the 2014 Tariff Regulations provides that initial spares shall be capitalized as a percentage of plant and machinery cost upto cut-off date, subject to following ceiling norms:-

“(d) Transmission System Transmission line: 1.00%
Transmission sub-station (Green Field): 4.00%
Transmission sub-station (Brown Field): 6.00%”

37. The petitioner has claimed the Initial Spares for Asset-A and Asset-B and the same is considered for the purpose of tariff in this order. The details of initial spares allowed are given below:-

Asset	Transmission Line ₹ in lakhs			
	Plant and Machinery Cost (excluding IDC and IEDC, Land cost and cost of civil works)	Initial Spares	Initial spares as % of Capital Cost	Ceiling as per Reg. %
A	82122.90	770.61	0.93%	1.00%

Asset	Substation (GIS) ₹ in lakhs			
	Plant and Machinery Cost (excluding IDC and IEDC, Land cost and cost of civil works)	Initial Spares	Initial spares as % of Capital Cost	Ceiling as per Reg. %
A	24995.06	967.92	3.87%	5.00%

Asset	Substation (Brown-field-AIS) ₹ in lakhs
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	Plant and Machinery Cost (excluding IDC and IEDC, Land cost and cost of civil works)	Initial Spares	Initial spares as % of Capital Cost	Ceiling as per Reg. %
A	2232.53	44.68	2.00%	6.00%

Asset	T/L ₹ in lakhs			
	Plant & machinery cost excluding IDC, IEDC, Land Cost & Cost of Civil works	Initial Spares	Initial spares as % of Capital Cost	Ceiling as per Reg %
B	24961.70	24.83	0.10%	1.00%
	Substation(AIS- brown field)			
	4410.82	154.37	3.50%	6.00%

Further, the petitioner has submitted the statement showing discharged of Initial Spare as on COD and thereafter.

38. The Initial Spare considered as on COD for the purpose of tariff determination is as below:-

(₹ in lakh)

Asset	Element	Total Initial Spare allowed	Accrual Initial Spare as on COD and discharged during subsequent years	Initial Spare allowed (As on COD)
Asset-A	Transmission Line	770.61	174.97	595.64
	Substation (GIS)	967.92	212.59	755.33
	Substation (AIS)	44.68	14.19	30.49
	Total	1783.21	401.75	1381.46
Asset-B	Transmission Line	24.83	0.00	24.83
	Substation (AIS)	154.37	110.17	44.20
	Total	179.20	110.17	69.03



Capital Cost allowed as on COD

39. Based on the above, the capital cost allowed as on COD are summarized as under:-

(₹ in lakh)

Assets	Capital Cost as on COD (A)	Accrual IDC as on COD (B)	IEDC Disallowed as on COD (C)	Accrual Initial Spare as on COD (D)	Capital Cost as on COD considered for tariff calculation (E)=(A)-(B+C+D)
Asset-A	113728.70	2741.01	0.00	401.75	110585.94
Asset-B	28445.44	408.96	0.00	110.17	27926.31

Additional Capital Expenditure (ACE)

40. The cut-off date for the instant assets is 31.3.2020.

The petitioner has claimed ACE as per Auditor certificate dated 02.11.2017 and 08.02.2017. The petitioner has claimed the entire ACE under Regulation 14(1)(i).

The ACE claimed by the petitioner is summarized in the table below:-

(₹ in lakh)

Assets	2016-17	2017-18	2018-19
Asset-A	0.00	6907.12	5031.75
Asset-B	1628.02	1406.18	528.57

In addition, the petitioner has also claimed the discharge of IDC liability and Initial Spare liability for 2016-17, 2017-18 and 2018-19 in respect of Asset A and Asset-B respectively as ACE.

41. Based on the information submitted by the petitioner the allowable ACE has been summarized as under:-



(₹ in lakh)

Assets	2016-17	2017-18	2018-19
Asset-A	0.00	9036.41	6045.22
Asset-B	1682.06	1830.84	568.99

42. The capital cost considered for the purpose of computation of tariff is as follows:-

(₹ in lakh)

Asset	Expenditure up to COD	2016-17	2017-18	2018-19	Total Estimated Completion Cost up to 31.3.2019
A	110585.94	0.00	9036.41	6045.22	125667.57
B	27926.31	1682.06	1830.84	568.99	32008.20

Debt-Equity Ratio

43. This has been dealt with in line of Clause 1 and 5 of Regulation 19 of the 2014 Tariff Regulations.

44. The petitioner has claimed debt: equity ratio of 70:30 as on the date of commercial operation. Debt: equity ratio of 70:30 is considered as provided in Regulation 19 of the 2014 Tariff Regulations. The details of debt: equity ratio in respect of the instant assets as on the date of commercial operation and as on 31.3.2019 are as under:-

(₹ in lakh)

Asset-A				
Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	77,410.16	70.00	87967.31	70.00
Equity	33,175.78	30.00	37700.26	30.00
Total	110585.94	100.00	125667.57	100.00



(₹ in lakh)

Asset-B				
Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	19,548.42	70.00	22405.74	70.00
Equity	8,377.89	30.00	9602.46	30.00
Total	27926.31	100.00	32008.20	100.00

Return on Equity

45. This has been dealt with in line of Clause (1) and (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations.

46. The petitioner has submitted that it is liable to pay income tax at MAT rate, the RoE has been calculated @ 19.610% after grossing up the RoE with MAT rate of 20.961% as provided under Regulation 25(2)(i) of the 2014 Tariff Regulations. As per Regulation 25(3) of the 2014 Tariff Regulations, the grossed up rate of RoE at the end of the financial year shall be trued up based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the IT authorities pertaining to the 2014-19 period on actual gross income of any financial year.

47. We have considered the submissions made by the petitioner and MPPMCL. 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. Accordingly, the RoE allowed is as follows:-

(₹ in lakh)

Particulars	Asset-A	
	2017-18 (pro-rata)	2018-19
Opening Equity	33175.78	35886.70
Addition due to Additional Capitalization	2710.92	1813.57
Closing Equity	35886.70	37700.26
Average Equity	34531.24	36793.48
Return on Equity (Base Rate)	15.50%	15.50%
MAT rate for the Financial year 2013-14	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%
Return on Equity (Pre-tax)	4081.50	7215.20

(₹ in lakh)

Particulars	Asset-B		
	2016-17 (pro-rata)	2017-18	2018-19
Opening Equity	8377.89	8882.51	9431.76
Addition due to Additional Capitalization	504.62	549.25	170.70
Closing Equity	8882.51	9431.76	9602.46
Average Equity	8630.20	9157.14	9517.11
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
MAT rate for the Financial year 2013-14	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%
Return on Equity (Pre-tax)	417.30	1795.71	1866.31



Interest on loan (IOL)

48. This has been dealt with in line of Regulation 26 of 2014 Tariff Regulations.

49. IOL has been worked out as under:-

- (i) Gross amount of loan, repayment of instalments and rate of interest on actual average loan have been considered as per the petition;
- (ii) The yearly repayment for the tariff period 2014-19 has been considered to be equal to the depreciation allowed for that year; and
- (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.

50. Based on above, details of IOL calculated are as follows:

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Gross Normative Loan	77410.16	83735.65
Cumulative Repayment upto previous Year	0.00	3650.18
Net Loan-Opening	77410.16	80085.47
Addition due to Additional Capitalization	6325.49	4231.65
Repayment during the year	3650.18	6453.14
Net Loan-Closing	80085.47	77863.98
Average Loan	78747.82	78974.73
Weighted Average Rate of Interest on Loan	8.3789%	8.3679%
Interest on Loan	3976.99	6608.51



(₹ in lakh)

Particulars	Asset-B		
	2016-17 (pro-rata)	2017-18	2018-19
Gross Normative Loan	19548.42	20725.86	22007.45
Cumulative Repayment upto previous Year	0.00	373.83	1982.49
Net Loan-Opening	19548.42	20352.03	20024.96
Addition due to Additional Capitalization	1177.44	1281.59	398.29
Repayment during the year	373.83	1608.66	1667.66
Net Loan-Closing	20352.03	20024.96	18755.59
Average Loan	19950.22	20188.49	19390.27
Weighted Average Rate of Interest on Loan	8.4668%	8.5587%	8.5502%
Interest on Loan	416.50	1727.87	1657.91

Depreciation

51. This has been dealt with in line of Regulation 27 of 2014 Tariff Regulations.

52. The instant transmission asset was put under commercial operation on 24.08.2017 to 01.01.2017. Accordingly, it will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations.

53. Details of the depreciation allowed are as under:-



(₹ in lakh)

Particulars	Asset-A	
	2017-18 (pro-rata)	2018-19
Opening Gross Block	110585.94	119622.35
Additional Capital expenditure	9036.41	6045.22
Closing Gross Block	119622.35	125667.57
Average Gross Block	115104.15	122644.96
Rate of Depreciation	5.2613%	5.2616%
Depreciable Value	103509.27	110291.50
Remaining Depreciable Value	103509.27	106641.32
Depreciation	3650.18	6453.14

(₹ in lakh)

Particulars	Asset-B		
	2016-17 (pro-rata)	2017-18	2018-19
Opening Gross Block	27926.31	29608.37	31439.21
Additional Capital expenditure	1682.06	1830.84	568.99
Closing Gross Block	29608.37	31439.21	32008.20
Average Gross Block	28767.34	30523.79	31723.71
Rate of Depreciation	5.2702%	5.2702%	5.2568%
Depreciable Value	25890.61	27471.41	28551.33
Remaining Depreciable Value	25890.61	27097.58	26568.84
Depreciation	373.83	1608.66	1667.66

Operation and Maintenance Expenses (O&M Expenses)

54. This has been dealt with in line of Clause 29(4)(a) of 2014 Tariff Regulations.

55. The petitioner has claimed the O&M Expenses as below:



(₹ in lakh)

Element	2016-17	2017-18	2018-19
Asset-A	-	817.77	1397.02
Asset-B	129.93	537.00	554.79

56. We have considered the following O&M Expenses:-

(₹ in lakh)

Element	2016-17	2017-18	2018-19
Asset-A	-	814.93	1397.07
Asset-B	128.13	537.00	544.79

57. The petitioner has claimed normative O&M Expenses as per sub-clause (a) of clause (4) of Regulation 29 of the 2014 Tariff Regulations. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 had been arrived at on the basis of normalized actual O&M Expenses during the periods 2008-09 to 2012-13. The wage revision of the employees is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff period 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19.

58. The O&M Expenses have been worked out as per the norms specified in the 2014 Tariff Regulations. As regards impact of wage revision, any application filed by the Petitioner in this regard will be dealt with in accordance with the appropriate provisions of the 2014 Tariff Regulations.



Interest on Working Capital (IWC)

59. Interest on Working capital has been dealt with in line of regulation 28(1)(c) of 2014 Tariff Regulations.

Rate of interest on working capital

60. As per proviso 3 of Regulation 28 of the 2014 Tariff Regulation, SBI Base Rate Plus 350 bps as on 1.04.2017 (i.e.12.60%) for Asset-A and SBI Base Rate Plus 350 bps as on 1.04.2016 (i.e.12.80%) for Asset-B has been considered as the rate of interest on working capital.

61. Accordingly, the interest on working capital is summarized as under:-

(₹ in lakh)

Particulars	Asset-A	
	2017-18 (pro-rata)	2018-19
Maintenance Spares	202.81	209.56
O & M expenses	112.67	116.42
Receivables	3544.01	3696.80
Total	3,859.49	4,022.78
Interest	293.11	506.87

(₹ in lakh)

Particulars	Asset-B		
	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	77.95	80.55	81.72
O & M expenses	43.30	44.75	45.40
Receivables	925.20	968.20	979.72
Total	1046.45	1093.50	1106.84
Interest	33.03	139.97	141.68



Annual Transmission charges

62. In view of the above, the annual transmission charges being allowed for the instant assets are summarized hereunder:-

(₹ in lakh)

Particulars	Asset-A	
	2017-18 (pro-rata)	2018-19
Depreciation	3650.18	6453.14
Interest on Loan	3976.99	6608.51
Return on Equity	4081.50	7215.20
Interest on Working Capital	293.11	506.87
O&M Expenses	814.93	1397.07
Total	12816.70	22180.79

(₹ in lakh)

Particulars	Asset-B		
	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	373.83	1608.66	1667.66
Interest on Loan	416.50	1727.87	1657.91
Return on Equity	417.30	1795.71	1866.31
Interest on Working Capital	33.03	139.97	141.68
O&M Expenses	128.13	537.00	544.79
Total	1368.79	5809.21	5878.34

Filing fee and the publication expenses

63. 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

64. The petitioner has requested 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 licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

Service Tax

65. The petitioner has sought to recover Service Tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We have considered the submission of the petitioner. Service tax is not levied on transmission. Further, service tax is subsumed by GST and hence petitioners prayer is infructuous.

Goods and Services Tax

66. 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 petitioners prayer is premature

Sharing of Transmission Charges

67. The transmission charges shall be recovered on monthly basis in accordance with Regulation 43 of the 2014 Tariff Regulations and shall be shared by the beneficiaries and long term transmission customers in Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses)



Regulations, 2010 as amended from time to time.

68. This order disposes of Petition No. 191/TT/2017.

Sd/-

(Dr. M. K. Iyer)
Member

Sd/-

(A. K. Singhal)
Member

Sd/-

(P. K. Pujari)
Chairperson

