

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 259/TT/2013

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri A. K. Singhal, Member**

Date of Hearing : 25.03.2014

Date of Order : 08.06.2015

In the matter of:

Determination of transmission tariff in respect of 400 kV single Circuit Kolaghat-Baripada transmission line (portion owned by WBSETCL) and 220 kV single Circuit Santaldih-Chandil transmission line (portion owned by WBSETCL) for the period 1.4.2011 to 31.3.2014 as per the Central Electricity Regulatory Commission's order dated 14.3.2012 in Petition No.15/Suo-Motu/2012, for inclusion in POC Transmission charges in accordance with Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009.

And in the matter of:

West Bengal State Electricity Transmission Company Limited (WBSETCL)
Block-D, Sector-II
Bidhannagar, Kolkatta- 7000 091

.....**Petitioner**

For petitioner : Shri Ananad Srivastava, Advocate, WBSETCL

For respondent : None

ORDER

The instant petition has been filed by West Bengal State Electricity Transmission Company Limited (WBSETCL) for approval of the annual transmission charges of 400 kV S/C Kolaghat-Baripada transmission line and 220 kV S/C Santaldih-Chandil Transmission line (portion owned by WBSETCL) (hereinafter referred to as "transmission assets") under the Central Electricity



Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter "2009 Tariff Regulations").

2. The Commission vide order dated 14.3.2012 in Petition No. 15/SM/2012 gave the following directions:-

"5.It has come to the notice of the Central Commission that the some of the owners/developers of the inter-State transmission lines of 132 kV and above in North Eastern Region and 220 kV and above in Northern, Eastern, Western and Southern regions as mentioned in the Annexure to this order have approached the Implementing Agency for including their transmission assets in computation of Point of Connection transmission charges and losses under the Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2010 (hereinafter "Sharing Regulations").

6. As a first step towards inclusion of non-ISTS lines in the POC transmission charges, the Commission proposes to include the transmission lines connecting two States, for computation of POC transmission charges and losses. However, for the disbursement of transmission charges, tariff for such assets needs to be approved by the Commission in accordance with the provisions of Sharing Regulations. Accordingly, we direct the owners of these inter-State lines to file appropriate application before the Commission for determination of tariff for facilitating disbursement.

We direct the respondents to ensure that the tariff petitions for determination of tariff is filed by the developers/owners of the transmission line or by State Transmission Utilities where the transmission lines are owned by them in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009, by 20.4.2012."

3. The Commission in its order dated 14.3.2012 in Petition No. 15/SM/2012, identified the following two transmission lines owned by WBSETCL as natural inter-State lines:-

- a) 400 kV S/C Kolaghat-Baripada transmission line (S. No: 1 of ER of order dated 14.3.2012); and
- b) 220 kV S/C Santaldih-Chandil Transmission line (S. No: 4 of ER of order dated 14.3.2012)

4. As per direction of the Commission, the petitioner has filed the instant petition seeking tariff for the financial year 2011-12, 2012-13 and 2013-14 for the above said two transmission lines for inclusion in the PoC charges. The petitioner owns, maintains and operates the above mentioned natural inter-State transmission lines. A LILO of the 400 kV S/C Kolaghat-Baripada transmission line has recently been made at Kharagpur 400 kV Sub-station, which is not yet loaded. Accordingly, instant petition excludes the cost and ARR related to the LILO portion.

5. The petitioner has submitted that as per the documents available with it the 400 kV S/C Kolaghat-Baripada transmission line and 220 kV S/C Santaldih-Chandil transmission line were commissioned and put in service in 1992 and 1987 respectively. The details of these transmission assets are given in the table below:-

S. No.	Name of the Asset	DOCO	No. of Sub-conductors for each circuit	Total line length (under WBSETCL) (Ckt-km)
1	400 kV S/C Kolaghat-Baripada transmission line	16.3.1992	2	128.615
2	220 kV S/C Santaldih-Chandil Transmission line	1.4.1987	1	73.90

6. The Commission directed the petitioner vide letter dated 2.1.2014 to submit the date of loading of LILO of 400 kV S/C Kolaghat- Baripada transmission line at Kharagpur 400 kV Sub-station. In response, the petitioner vide affidavit dated 13.1.2014 has submitted that the said LILO has been loaded on 16.12.2013.

7. No comments or suggestions have been received from the general public in response to the notice published by the petitioner under Section 64 of the Electricity Act, 2003 (the Act).

Capital cost

8. The capital cost of the assets covered in this petition as given by the petitioner in Form-1A is given below:-

(₹ in lakh)		
S. No.	Name of the Asset	Capital Cost
1	400 kV S/C Kolaghat-Baripada transmission line	1223.00
2	220 kV S/C Santaldih-Chandil Transmission line	231.76

9. The annual transmission charges claimed by the petitioner for the transmission assets are as summarized below:-

(₹ in lakh)

S. No.	Name of the Asset	2011-12	2012-13	2013-14
1	YTC for 400 kV S/C Kolaghat-Baripada transmission line	182.59	182.82	183.18
2	YTC for 220 kV S/C Santaldih-Chandil Transmission line	48.00	48.37	48.74
Total		230.59	231.19	231.92

10. The matter was heard on 25.3.2014 and the petitioner was directed to submit the capital cost of the assets (if available) certified by an Auditor, the funding pattern of the assets, repayment schedule and the interest rate of loans, cumulative depreciation against the assets as on 31.3.2012, details of the ARR approved by the State Commission for the 2009-14 period and the details of the O&M Expenses. The Commission further directed CTU to provide latest available indicative cost for the type of lines.

11. The petitioner, vide affidavit dated 16.5.2014, has submitted as under:-

(a) The capital costs of 400 kV Kolaghat- Baripada S/C Transmission Line (WBSETCL portion) and 220 kV STPS- Chandil S/C Line (WBSETCL portion) are ₹1223 lakh and ₹231.76 lakh respectively. These lines were installed a long back and Auditor Certificate is not available.

(b) The 400 kV Kolaghat- Baripada S/C transmission line is funded 100% by ISTL Loan Central Scheme on re-imburement basis. The 220 kV STPS-Chandil S/C Line is a 100% equity project of ₹ 23,176,452. The details of loans availed for 400 kV Kolaghat- Baripada S/C transmission line is as follows:-

(Amount in ₹)	
Particular (Loan order Nos.)	Amount
042-Power/II dated. 2.2.93	7,140,700
189-Power/II dated 21.5.93	4,600,000
119-Power/II dated. 24.2.95	27,865,000
286-Power/II dated 10.5.95	30,694,000
310-Power/II dated 12.6.98	17,000,000
202-Power/II dated 30.4.99	17,000,000
459-Power/II dated 3.11.99	18,000,000
Total	122,299,700

(c) The loan(s) were received by the erstwhile West Bengal State Electricity Board (WBSEB) from Centrally Sponsored Scheme I.S.T.L. Even though the loans were disbursed between 1993 and 1999, no repayments were made till 31.3.2007. Under the Electricity Reform & Transfer Scheme, 2007 (the Transfer Scheme), above loan liability has been assigned to WBSETCL and according to the said Transfer scheme, WBSETCL has to pay interest at a rate of 8.5% p.a and repay the amount in 25 annual

installments with a moratorium period of 1 year, which the petitioner is paying.

(d) The cumulative depreciation claimed for the assets as on 31.3.2012 are as follows:-

Details	(₹ in lakh)	
	KTPP-Baripada	STPS-Chandil
Date of Commissioning	16.3.1992	1.4.1987
No of years upto 31.3.2009	17 years	22 years
Balance useful life	18 years	13 years
Depreciable Value (90% of asset cost)	1100.70	208.58
Cumulative Depreciation upto 31.3.2012	600.75	143.89
Depreciation per year {17(4&5) of 2009 Tariff Reg.}	33.21	6.42

(e) West Bengal Electricity Regulatory Commission (WBERC) allows the tariff of transmission utility as a whole and therefore, voltage wise separate tariff for the transmission lines is not available. The ARR approved by the WBERC for the instant transmission lines as per affidavit dated 16.12.2014 is as follows:-

	(₹ in lakh)
2009-10	67,284.35
2010-11	69205.51
2011-12	72,591.51
2012-13	83757.38
2013-14	96182.54

(f) No norms for O&M Expenses have been fixed by WBERC. Actual audited O&M Expenses for the Company as a whole is submitted in the absence of the voltage wise details. The details are as given overleaf:-

(₹ in lakh)

Years	Actual audited O&M expenses
2009-10	1692.33
2010-11	3079.81
2011-12	2849.39
2012-13	3175.57
2013-14(Provisional unaudited)	3809.08

The Commission has directed the CTU to submit the latest available indicative cost for the type of lines. CTU has not filed its reply till date.

12. The O&M Expenses claimed by the petitioner for the instant transmissions lines are as follows:-

(₹ in lakh)

S. No.	Name of the Asset	2011-12	2012-13	2013-14
1	400 kV S/C Kolaghat-Baripada transmission line	51.45	54.40	57.49
2	220 kV S/C Santaldih-Chandil Transmission line	14.78	15.67	16.55

13. The details of the instant assets are as under:-

S. No.	Name of the Asset	No. of conductors	Line length (km)
1	400 kV S/C Kolaghat-Baripada transmission line	2	128.615
2	220 kV S/C Santaldih-Chandil Transmission line	1	73.90

14. Clause (g) of Regulation 19 of the 2009 Tariff Regulations specifies norms for O&M Expenses for transmission system based on type of sub-stations and the transmission line. Norms specified in respect of O&M Expenses for assets covered in the instant petition are as given overleaf:-

Element	2011-12	2012-13	2013-14
S/C twin conductor, T/L (₹ in lakh/ km)	0.4	0.423	0.447
S/C single conductor T/L (₹ in lakh/ km)	0.2	0.212	0.224

15. As per the norms specified in the 2009 Tariff Regulations, allowable O&M Expenses for the assets covered in the petition are as under:-

(₹ in lakh)

Elements	2011-12	2012-13	2013-14
128.615 km S/C twin conductor T/L	51.45	54.40	57.49
73.90 km S/C single conductor, T/L	14.78	15.67	16.55
Total O&M Expenses	66.23	70.07	74.04

16. The petitioner vide letter dated 17.11.2014 was directed to submit the details of length of transmission lines of various configuration in the State system. In response, the petitioner vide affidavit dated 16.12.2014 has submitted the following details:-

S. No	Transmission lines details	Length (circuit km.)				
		2009-10	2010-11	2011-12	2012-13	2013-14
1	400 kV D/C twin moose	787.000	787.000	787.000	787.000	787.000
2	400 kV S/C	759.000	759.000	759.000	767.100	857.700
3	220 kV D/C	1739.200	1739.200	1739.200	1739.200	1812.400
4	220 kV S/C	693.200	697.000	697.000	777.800	1029.400
5	132 kV D/C	3589.416	3589.416	3759.916	3813.716	3884.516
6	132 kV S/C	2840.577	2840.577	2862.377	3068.477	3084.277
7	66 kV D/C	75.000	75.000	75.000	75.000	75.000
8	66 kV S/C	346.080	346.080	346.080	346.080	346.080
	Total	10829.473	10833.273	11025.573	11374.373	11876.373

Procedure for calculating YTC for the instant transmission lines:-

17. The Commission vide its order dated 18.3.2015 in the Petition No. 213/TT/2013, has adopted a methodology for calculation of YTC of STU lines

based on STUs transmission system configuration and ARR approved by the State Commission. As various STUs have submitted that several of these lines are quite old and their capital cost is not available, it has been decided by the Commission to adopt a uniform methodology for all STUs and tariff shall be determined based on system configuration and ARR. Accordingly, the indicative cost of lines of various configurations owned and operated by PGCIL has been considered for the purpose of computation of capital cost. Indicative cost of 400 kV D/C Quad Moose transmission line has been taken as base and indicative cost of lines with configurations other than 400 kV D/C Quad Moose have been made equivalent to indicative cost of 400 kV D/C Quad Moose.

For example – the indicative cost of 400 kV D/C Quad Moose is ₹202 lakh/km (cost/ckt km=₹101 lakh) and of 765 kV S/C is ₹159.25 lakh/km. Therefore, the ratio of indicative cost of ckt km of 400 kV D/C Quad Moose and indicative cost of ckt km of 765 kV S/C is 0.63 (i.e.101/159.25) and so on for other configurations.

The yearly break up is given hereunder:-

For FY 2011-12:

(₹ in lakh)				
Type (a)	Cost (b)	Cost /Circuit (c)	Coefficient (d)	Ratio w.r.t. d (e)
765 KV D/C	315.25	157.625 (A)	a=D/A	0.64
765 KV S/C	159.25	159.25 (B)	b=D/B	0.63
400 KV D/C Twin Moose	109.50	54.75 (C)	c=D/C	1.84
400 KV D/C Quad. Moose	202.00	101 (D)	d=D/D	1.00
400 KV S/C Twin Moose	74.25	74.25 (E)	e=D/E	1.36
220 KV D/C	59.50	29.75 (F)	f=D/F	3.39
220 KV S/C	37.00	37.00 (G)	g=D/G	2.73
132 KV D/C	46.75	23.375 (H)	h=D/H	4.32
132 KV S/C	28.50	28.50 (I)	i=D/I	3.54

For FY 2012-13:

(₹ in lakh)

Type	Cost (₹ in lakh)	Cost /Circuit	Coefficient	Ratio w.r.t. d
(a)	(b)	(c)	(d)	(e)
765 KV D/C	357.00	178.5	a	0.63
765 KV S/C	179.20	179.20	b	0.63
400 KV D/C Twin Moose	122.60	61.3	c	1.83
400 KV D/C Quad. Moose	224.80	112.4	d	1.00
400 KV S/C Twin Moose	84.20	84.20	e	1.33
220 KV D/C	67.80	33.9	f	3.32
220 KV S/C	41.40	41.40	g	2.71
132 KV D/C	53.00	26.5	h	4.24
132 KV S/C	32.40	32.40	i	3.47

For FY 2013-14:

(₹ in lakh)

Type	Cost (₹ in lakh)	Cost (₹ in lakh) /Circuit	Coefficient	Ratio w.r.t. d
(a)	(b)	(c)	(d)	(e)
765 kV D/C	412.00	206	a	0.56
765 kV S/C	179.80	179.80	b	0.65
400 kV D/C Twin Moose	130.40	65.2	c	1.78
400 kV D/C Quad Moose	232.60	116.3	d	1.00
400 kV S/C Twin Moose	87.00	87.00	e	1.34
220 kV D/C	61.40	30.7	f	3.79
220 kV S/C	37.80	37.80	g	3.08
132 kV D/C	48.40	24.2	h	4.81
132 kV S/C	30.00	30.00	i	3.88

18. After getting ratio with respect to 400 kV D/C Quad Moose, YTC per ckt. km of 400 kV D/C Quad Moose transmission line has been calculated as given overleaf:-

ARR for FY.....in ₹

$$\left\{ \begin{array}{l} \text{YTC per ckt km} \\ \text{400 kV D/C} \\ \text{Quad Moose} \end{array} \right\} = \text{-----} \left(\begin{array}{l} \text{Length of 765 kV DC/a} + \text{Length of 765 kV SC/b} + \text{Length} \\ \text{of 400 kV DC QM/c} + \text{Length of 400 kV DC TM /d} \\ + \text{Length of 400 kV SC TM /e} + \text{Length of 220 kV} \\ \text{DC /f} + \text{Length of 220 kV SC /g} + \text{Length of 132} \\ \text{kV DC /h} + \text{Length of 132 kV SC /i} \end{array} \right)$$

*value of a, b, c, d, e, f, g, h & i are as given in para17 and length in ckt km as given in para16 above of this order.

DC-Double Circuit, SC-Single Circuit, QM-Quad Moose, TM-Twin Moose, TS-Triple Snowbird

19. We have not carried out any due diligence of the tariff of these lines (for consideration of PoC calculations) as the jurisdiction to determine the tariff of the lines owned by STU rests with the State Regulatory Commission. We have considered the ARR of the STU as approved by the State Regulatory Commission and have adopted the methodology as discussed in paras 17 and 18 of this order for the purpose of calculation of PoC charges and apportionment of transmission lines and charges to the transmission system of different configurations of the STU. This methodology shall be adopted uniformly for the lines owned by other STUs used for inter-State transmission of power duly certified by respective RPCs for the purpose of inclusion in the PoC mechanism.

20. Accordingly, on the basis of the line length in ckt. km and the ARR approved by the State Commission for the years 2009-10, 2010-11, 2011-12, 2012-13 and 2013-14 and POC cost data for the respective years, YTC for the instant transmission assets for the period 1.7.2011 to 31.3.2012 and for the years 2012-13 and 2013-14 have been calculated as given below:-

For year 2011-12:

21. Total ARR approved by the State Commission for 2011-12 is ₹72,591,51

(Amount in ₹)

S. No	Asset	For entire system (WBSETCL)		
		Line Length (Ckt. km)	YTC (Per ckt. km)	YTC
1	400 kV D/C (QM)	787.00	18,56,892	14613,74,050
2	400 kV S/C	759.00	13,65,091	10361,04,402
3	220 kV D/C	1,739.20	5,46,955	9512,65,578
4	220 kV S/C	697	6,80,247	4741,32,567
5	132 kV D/C	3759.92	4,29,751	16158,27,693
6	132 kV S/C	3283.46	5,23,974	17204,47,713
				72591,52,006

For year 2012-13:

22. Total ARR approved by the State Commission for 2012-13 is ₹83757,38,000.00

(Amount in ₹)

S. No	Asset	For entire system (WBSETCL)		
		Line Length (Ckt. km)	YTC (Per ckt. km)	YTC
1	400 kV D/C (QM)	787	20,54,034	16165,25,230
2	400 kV S/C	767.1	15,38,698	11803,35,632
3	220 kV D/C	1,739.20	6,19,499	10774,33,981
4	220 kV S/C	777.8	7,56,557	5884,50,212
5	132 kV D/C	3813.716	4,84,269	18468,67,192
6	132 kV S/C	3489.557	5,92,088	20661,25,751
				83757,38,000.00

For year 2013-14:

23. Total ARR approved by the State Commission for 2013-14 is ₹9,61,82,54,000.00 as detailed overleaf:-

(Amount in ₹)

S. No	Asset	For entire system (WBSETCL)		
		Line Length (Ckt. km)	YTC (per ckt. km)	YTC
1	400 kV D/C QM)	787.00	24,32,453	19143,40,615
2	400 kV S/C	857.70	18,19,633	15606,99,996
3	220 kV D/C	1,812.40	6,42,100	11637,43,305
4	220 kV S/C	1029.4	7,90,599	8138,43,183
5	132 kV D/C	3884.52	5,06,151	19661,53,833
6	132 kV S/C	3505.36	6,27,459	21994,73,065
				96182,54,000

YTC for the instant transmission lines:-

24. YTC per ckt.km for (i) 400 kV S/C Kolaghat-Baripada transmission line and, (ii) 220 kV S/C Santaldih-Chandil Transmission line of WBSETCL is as given below:-

(Amount in ₹)

Line name	2011-12	2012-13	2013-14
400 kV S/C Kolaghat-Baripada transmission line	13,65,091	15,38,698	18,19,633
220 kV S/C Santaldih-Chandil Transmission line	6,80,247	7,56,557	7,90,599

25. YTC of two transmission lines calculated on the methodology discussed above are as given below:-

(Amount in ₹)

S. No.	Line name	Length (ckt km)	2011-12 *	2012-13	2013-14
1	400 kV S/C Kolaghat-Baripada transmission line	128.615	1316,78,427	1978,99,710	2340,32,214
2	220 kV S/C Santaldih-Chandil Transmission line	73.90	377,02,722	5,59,09,579	5,84,25,307
Total			1693,81,149	25,38,09,289	29,24,57,521

*YTC for 9 months has been taken as per Sharing Regulations, 2010 which came into force from 1.7.2011.

26. The annual transmission charges allowed for the instant assets shall be considered in the YTC as per the Sharing Regulations and shall be adjusted against the ARR of the petitioner approved by WBERC.

27. This order disposes of Petition No. 259/TT/2013.

sd/-
(A. K. Singhal)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson