

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 388/TT/2019**

**Coram:**

**Shri P.K. Pujari, Chairperson  
Shri I. S. Jha, Member**

**Date of Order: 28.05.2020**

**In the matter of:**

Determination of transmission tariff for 2014-19 period of 7 (seven)nos. transmission lines belonging to MPPTCL conveying electricity as ISTS lines, for inclusion of these assets in computation of Point of Connection Charges and Losses in accordance with the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations 2014 and Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses), Regulations, 2010.

**And in the matter of:**

Madhya Pradesh Power Transmission Company Limited  
Block No. 2, Shakti Bhawan Rampur,  
Jabalpur-482 008

.....Petitioner

**Versus**

1. Power Grid Corporation of India Limited,  
Saudamini, Plot No.2, Sector- 29,  
Near IFFCO Chowk,  
Gurgaon-122 001.
2. Maharashtra State Electricity Transmission Co. Ltd. (MSETCL),  
4<sup>th</sup> Floor, A wing Prakashganga E-Block,  
Plot No. C-19 BKC Bandra (East),  
Mumbai Maharashtra – 400051.



3. Chhattisgarh State Power Transmission Company Ltd. (CSPTCL),  
SLDC Building, CSEB, Daganiya, Raipur,  
Chhattisgarh – 492013.
4. Rajasthan Rajya Vidhyut Prasaran Nigam Ltd. (RVPN),  
Room No. 223, Vidhyut Bhawan, Janpath,  
Jaipur, Rajasthan-302005.
5. Uttar Pradesh Power Corporation Limited,  
“Shakti Bhawan”, 14 Ashok Marg,  
Lucknow, UP-226001.

.....Respondent

**Parties Present:**

**For Petitioner:** Ms.Poorva Saigal, Advocate, MPPTCL  
Ms.Anushree Barddhan, Advocate, MPPTCL  
Shri Vincent D’souza, MPPTCL

**For Respondent:** None

**ORDER**

The present petition has been filed by the Petitioner, Madhya Pradesh Power Transmission Company Limited (“MPPTCL”) seeking approval of transmission tariff for the MPPTCL owned 7 Nos. of natural inter-State transmission lines connecting Madhya Pradesh to Rajasthan, Maharashtra, Chhattisgarh and Uttar Pradesh, for inclusion in Point of Connection (PoC) transmission charges in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as the 2014 Tariff Regulations).

**Background**

2. The Petitioner, MPPTCL, is a company registered under Companies Act, 1956 for the purpose of undertaking transmission activities in the State of Madhya



Pradesh. MPPTCL has been declared as the State Transmission Utility (STU) by the Government of Madhya Pradesh under Section 39(1) of the Electricity Act, 2003 (hereinafter referred to as "the Act") and is deemed transmission licensee under Section 14 of the Act.

3. The Commission vide order dated 12.5.2017 in Petition No.7/SM/2017 directed the State utilities to file tariff petitions for the ISTS lines connecting two States, along with the certificate from the concerned RPC, for the 2014-19 tariff period as per the 2014 Tariff Regulations. The relevant portion of the order dated 12.5.2017 is extracted hereunder: -

*"7. Further, Statement of Reason (SOR) dated 26.10.2015 of Sharing Regulations (Third Amendment) provides as follows: -*

*15.21 A question arises for consideration is whether to fix a minimum percentage figure to consider a STU line as an ISTS line or not. As per Electricity Act and Tariff Policy, all lines which are incidental to Inter-state flow of power are to be considered as ISTS. In a meshed transmission system, many intra-State transmission lines carry inter-State power and therefore become incidental to inter-State transmission system. However, as Electricity Grid is being operated in a cooperative manner, for a minor fraction of ISTS power, it is expected that STU would not insist on considering its line(s) to be inter-State as on the one hand it will receive payment for its own lines, on the other it has to pay for usage of other States' lines. If a STU puts up a proposal for considering its line as ISTS and it is found that it is being utilized to a large extent by its own drawee nodes, then it would be merely an academic exercise as major part of tariff would be allocated to home State only. So, keeping in view the regulatory process involved in getting a line certified as carrying ISTS power, getting its tariff approved and then adjustment from STU's ARR, it is expected that this claim will be raised judiciously. An interesting situation happened during 2011 when in Eastern and Northern Regions, many lines were submitted to RPCs for approval as ISTS, Southern States realizing that they all are using each other States' line, decided that they will not put up any line for certification by RPC as ISTS. While Commission wants to consider legitimate claims, but this must not result in making process too complex. The RPC may therefore uniformly decide a percentage below which (say 10%) such a line would not be considered as an ISTS. Further, it is intended that for assessment of a particular line being used for carrying Interstate power, technical knowhow and tools will be provided by Secretariat of RPCs and NLDC/ RLDCs shall provide all necessary support to States in this regard.*

8. In view of the above, State utilities whose lines have been certified by respective RPCs to be considered under PoC should also file the tariff petition under the 2014 Tariff Regulations.

### Submissions of the Petitioner

4. The Petitioner has submitted that Commission vide order dated 19.12.2017 in Petition No. 88/TT/2017 has approved Annual Transmission Charges for 11 ISTS lines in terms of the 2014 Tariff Regulations and the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses), Regulations, 2010 (hereinafter referred to as the 2010 Sharing Regulations) for the control period 2014-19. The Petitioner further submitted that recently following 7 lines have also been considered as natural ISTS and approved by WRPC vide letter dated 13.02.2019. Accordingly, after certification by WRPC, the Petitioner has filed the instant petition claiming Annual Transmission Charges of these 7 lines for the control period 2014-19.

S.N.	Name of Line	Connecting States
1	Sheopur-Khandar 132 kV line	MP-Rajasthan
2	Seoni-Pench-I 132 kV D/C line	MP-Maharashtra
3	Seoni-Pench-II 132 kV D/C line	MP-Maharashtra
4	Balaghat-Dongargarh 132 kV S/C line	MP-Chhattisgarh
5	Balaghat-Bhanegaon-Dhamda 132 kV S/C line	MP-Chhattisgarh
6	Morwa-Beena (Rihand) 132 kV S/C line	MP-UP
7	Morwa-Anpara 132 kV line	MP-UP

5. The Petitioner has submitted that the Transmission lines covered under the instant petition are very old which were constructed during different periods. The Petitioner has further submitted that only the line length up to the border of the MP and connecting State has been considered for claiming the Tariff by the Petitioner.



6. The Petitioner has made the following prayer: -

- i. to approve the Yearly Transmission Charges (YTC) amounting to Rs. 7,38,36,000/- (Rs. Seven CroresThirty-EightLacsThirty-Six Thousand only) for the Assets covered under this Petition;*
- ii. to allow the Petitioner to recover the Yearly Transmission Charges (YTC) for the control period FY 2014-15 to FY 2018-19 as mentioned in Para-9, from the beneficiaries through Billing Agency M/s PGCIL, as per the procedure mentioned in the CERC (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010;*
- iii. to approve the reimbursement of expenditure fee, and other expenses in relation to filing of Petition etc. from the beneficiaries in accordance with the Regulation 52 of the 2014 Tariff Regulations.*
- iv. to condone delay / inadvertent omission / errors / short comings if any and permit the Petitioner to add / modify / alter this filing and make further submission as may be required at a later stage.*
- v. to pass such orders, as the Commission may deem fit and proper & necessary in the facts and circumstances of the case to grant relief to the Petitioner.*

7. The Petitioner has submitted that the 7 transmission lines covered under covered under the instant petition, had been commissioned/ capitalized long ago by the then integrated M.P. Electricity Board, when the practice of obtaining Annual Auditor's certificate was not prevalent. Therefore, the details of line-wise assets capitalized, scheme of funding, line-wise loans and equity employed etc. are not available. However, these assets have been included in the asset values transferred under the Transfer Scheme to the Petitioner by the Government of Madhya Pradesh through Opening Balance Sheet dated 12.6.2008 in the position of 31.5.2005 when the Petitioner Company (MPPTCL) started independent functioning.

8. The Petitioner has worked out the tariff for the instant 7 transmission lines based on the methodology adopted by the Commission while determining the POC



charges vide its Order dated 19.12.2017 in Petition No. 88/TT/2017. The component-wise details are as under:

S. N.	Asset	Length of line in MP (in km)	Capital Cost * (₹ in lakh)	Date of work completion / capitalization
1	<b>Asset-1:</b> Sheopur-Khandar 132 kV line	35.03	379.42	1.5.1991
2	<b>Asset-2:</b> Seoni-Pench-I 132 kV D/C line	30.15	653.13	17.4.1986
3	<b>Asset-3:</b> Seoni-Pench-II 132 kV D/C line	30.15	653.13	8.9.1986
4	<b>Asset-4:</b> Balaghat-Dongargarh 132 kV S/C line	75.09	813.33	14.5.1975
5	<b>Asset-5:</b> Balaghat-Bhanegaon-Dhamda 132 kV S/C line	33.78	365.88	14.5.1975
6	<b>Asset-6:</b> Morwa-Beena (Rihand) 132 kV S/C line	8.82	95.51	1.12.1973
7	<b>Asset-7:</b> Morwa-Anpara 132 kV line	8.82	95.51	1.12.1973

\*Capital Cost of line has been reworked out as per methodology adopted by CERC in its Order dated 19.12.2017 in Petition No. 88/TT/2017 2017 and order dated 12.6.2019 under Review Petition No. 11/RP/2018 in Petition No. 88/TT/2017. Yearly Transmission Charges (YTC) for 7 Nos. lines are calculated as per the component of tariff in line with the CERC (Terms & Condition of tariff) Regulations, 2014 and where the life of the transmission line is more than or equal to 25 years as on 01.4.2014, only O&M and Interest on Working Capital have been claimed.

9. The Commission vide ROP of the hearing dated 17.12.2019 directed the Petitioner to submit the following information:

- Power flow details of the instant transmission lines during the period 2014-15 to 2018-19 period.
- Though as per RPC certificate, no power was flowing through Assets-1 and Asset-7 during last 5 years, the reasons for claiming tariff for the said assets.

10. In response, the Petitioner, vide affidavit dated 6.1.2020, has submitted the following:

- There has been no power flow in respect of Morwa-Anpara 132 KV line (Asset-7). However, it has been kept as standby line as per the grid requirement and is being maintained in order to ensure power flow whenever need arises.

b) The power flow in Morwa-Beena (Rihand) 132 kV Transmission Line (Asset-6) has been recorded till July 2017.

c) In respect of Sheopur-Khandar 132 kV transmission line (Asset-1), this line is also being maintained as per grid standards so as to enable power flow in case it is required. Details of power flow for the period 2014-15 to 2018-19 in Asset-1 are as under:

Year	From		To		Power Flow
	Date	Time	Date	Time	
2014-15	25.5.2014	01:55 hrs	25.5.2014	13:50 hrs	44 Mwh
2015-16	14.3.2015	23:15 hrs	15.3.2015	18:25 hrs	4.0 Mwh
2016-17	4.8.2015	14:10 hrs	6.8.2015	20:00 hrs	604 Mwh
2017-18	-	-	-	-	Nil
2018-19	-	-	-	-	Nil

11. The Petition was heard on 13.2.2020 and the Commission reserved the order in the Petition. Also, the Commission vide ROP of hearing dated 13.2.2020 directed the Petitioner to submit the following information:

- a) The purpose and need for maintaining the 132 KV Sheopur-Khandarpur line (Asset-1), 132 kV Morwa-Beena (Rihand) line (Asset-6) and 132 kV Morwa-Anpara line (Asset-7) when there is no power flow.
- b) The lines are between two States. Is there any power supply agreement between the two States?
- c) The lines are between two States and 50% is being maintained by the Petitioner and 50% by the other State. Is there any agreement between the States to maintain these lines and keep as standby in good condition?

12. In response, the Petitioner, vide affidavit dated 17.3.2020, has submitted the following:

- a) The lines mentioned in the instant petition are very old lines for evacuation of power from the inter-State projects. In order to decide the apportionment of power between the concerning States, there have been a



series of discussions and meetings at the State Government level and representatives from the Government of India. Accordingly, the Petitioner has made arrangements to evacuate power of MP's share from Rihand Hydel Project situated in UP. The transmission lines i.e. 132 kV Morwa-Beena (Rihand) (Asset-6) and 132 kV Morwa-Anpara (Asset-7) were meant to draw power of MP's share from the State of Uttar Pradesh. The Asset -1 i.e. 132 kV Sheopur-Khandar line was also meant to draw power of MP's share from the common projects of MP and Rajasthan constructed by the then Chambal Control Board.

b) MP's share in the aforesaid Inter State Projects between Madhya Pradesh and Uttar Pradesh as well as Madhya Pradesh and Rajasthan is still in force and power is being scheduled by the respective Load Dispatch Centres.

c) With the passage of the time, a strong upstream transmission system has been developed which enabled the scheduling of power at State periphery. Since, these lines are links between Northern and Western Region, they are being maintained in good condition.

13. The Petitioner has submitted that the Petitioner reserves the right to amend/ make re-submissions and to change the above stated tariff calculation methodology, as adopted in the present Petition, subject to the outcome of the Appeal (DFR No. 2217/2019 dated 23.7.2019) filed by the Petitioner before the APTEL against the Commission's Order dated 19.12.2017 in Petition No. 88/TT/2017 read with Order dated 12.06.2019 in Review Petition No. 11/RP/2018.

14. The Petitioner has served a copy of the petition upon the respondents and notice of this tariff petition 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. No reply to the petition has been filed by any Respondent in the matter.

15. This order has been issued after considering the main petition dated 30.8.2019 and Petitioner's affidavits dated 6.1.2020 and 17.3.2020.

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

### **Analysis and Decision**

17. We have considered the submission of the Petitioner. The STU lines used for carrying inter-State power can be considered for inclusion in the PoC charges only if it is certified by RPC in terms of para 2.1.3 of the Annexure-I to Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2010, which is extracted hereinafter:-

*“The line-wise YTC of the entire network shall be provided by the Transmission Licensees. In case a line is likely to be commissioned during the Application Period, the data in respect of the same, along with the anticipated COD will be provided by the CTU/ Transmission Licensee to the Implementing Agency.*

*For the determination of the transmission charges based on Hybrid Methodology applicable in the next Application Period, all the above data shall be provided to the Implementing Agency as per the timelines specified by the Implementing Agency.*

*Overall charges to be allocated among nodes shall be computed by adopting the YTC of transmission assets of the ISTS licensees, deemed ISTS licensees and owners of the non-ISTS lines which have been certified by the respective Regional Power Committee (RPC) for carrying inter-State power. The Yearly Transmission Charge, computed for assets at each voltage level and conductor configuration in accordance with the provisions of these regulations shall be calculated for each ISTS transmission licensee based on indicative cost provided by the Central Transmission Utility for different voltage levels and conductor configuration. The YTC for the RPC certified non-ISTS lines which carry inter-State power shall be approved by the Appropriate Commission. In case line-wise tariff for the RPC certified non-ISTS lines has not been specified by the Appropriate Commission, the tariff as computed for the relevant voltage level and conductor configuration shall be used. The methodology for computation of tariff of individual asset shall be similar to the methodology adopted for the ISTS transmission licensees and shall be based on ARR of the STU as approved by the respective State Commission. Certification of non-ISTS lines*



carrying inter-State power, which were not approved by the RPCs on the date of notification of the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2009, shall be done on the basis of load flow studies. For this purpose, STU shall put up proposal to the respective RPC Secretariat for approval. RPC Secretariat, in consultation with RLDC, using Web Net Software would examine the proposal. The results of the load flow studies and participation factor indicating flow of Inter State power on these lines shall be used to compute the percentage of usage of these lines as inter State transmission. The software in the considered scenario will give percentage of usage of these lines by home State and other than home State. For testing the usage, tariff of similar ISTS line may be used. The tariff of the line will also be allocated by software to the home State and other than home State. Based on percentage usage of ISTS in base case, RPC will approve whether the particular State line is being used as ISTS or not. Concerned STU will submit asset-wise tariff. If asset wise tariff is not available, STU will file petition before the Commission for approval of tariff of such lines. The tariff in respect of these lines shall be computed based on Approved ARR and it shall be allocated to lines of different voltage levels and configurations on the basis of methodology which is being done for ISTS lines.”

18. The WRPC, vide letter dated 13.2.2019, has certified the following 7 transmission lines of the Petitioner that are included in the instant petition, as natural ISTS lines:

<b>S.N.</b>	<b>Name of Asset</b>
1	<b>Asset-1:</b> Sheopur-Khandar 132 kV line
2	<b>Asset-2:</b> Seoni-Pench-I 132 kV D/C line
3	<b>Asset-3:</b> Seoni-Pench-II 132 kV D/C line
4	<b>Asset-4:</b> Balaghat-Dongargarh 132 kV S/C line
5	<b>Asset-5:</b> Balaghat-Bhanegaon-Dhamda 132 kV S/C line
6	<b>Asset-6:</b> Morwa-Beena (Rihand) 132 kV S/C line
7	<b>Asset-7:</b> Morwa-Anpara 132 kV line

19. The Petitioner has submitted following details in respect of the 7 natural ISTS lines covered under the instant petition:

<b>Asset</b>	<b>Name of the line</b>	<b>COD</b>	<b>Line Length claimed by Petitioner (in Ckt-KM)</b>	<b>Line Length (in KM)</b>
Asset-1	Sheopur-Khandar 132 kV line	1.5.1991	35.03	35.03
Asset-2	Seoni-Pench-I 132 kV D/C line	17.4.1986	60.30	30.15
Asset-3	Seoni-Pench-II 132 kV D/C line	8.9.1986	60.30	30.15
Asset-4	Balaghat-Dongargarh 132 kV S/C line	14.5.1975	75.09	75.09
Asset-5	Balaghat-Bhanegaon-Dhamda 132 kV S/C line	14.5.1975	33.78	33.78
Asset-6	Morwa-Beena (Rihand) 132 kV S/C line	1.12.1973	8.82	8.82
Asset-7	Morwa-Anpara 132 kV line	1.12.1973	8.82	8.82

Note: Wherever ckt-km of D/C line has been given by the Petitioner, half of the same is considered for KMs of line length.

20. WRPC has also certified that in case of lines at Sl. No. 1 (Asset-1) and Sl. No. 7 (Asset-7), no power flow has been recorded during last 5 years. In case of line at Sl. No. 6 (Asset-6), no power flow has been recorded from January, 2018 to September, 2018 and last recorded power flow data was 14 MW on 4.7.2017

21. As Regards Asset-1 and Asset-7, even though WRPC has approved these assets as natural ISTS lines, we note that there was no power flow in Asset-7 and only about 44 MWh, 4 MWh and 604 MWh power was flowing through Asset-1 in FY 2014-15, 2015-16 and 2016-17, respectively and there was no power flow during 2017-18 and 2018-19. Therefore, we are not inclined to grant tariff for Asset-1 and Asset-7.

22. Accordingly, following 5 assets have been considered for determination of transmission charges:

Asset	Name of the line	Line Length in MP considered (in KM)	COD
Asset-2	Seoni-Pench-I 132 kV D/C line	30.15	17.4.1986
Asset-3	Seoni-Pench-II 132 kV D/C line	30.15	8.9.1986
Asset-4	Balaghat-Dongargarh 132 kV S/C line	75.09	14.5.1975
Asset-5	Balaghat-Bhanegaon-Dhamda 132 kV S/C line	33.78	14.5.1975
Asset-6	Morwa-Beena (Rihand) 132 kV S/C line	8.82	1.12.1973

23. Similar issue was considered by the Commission in the order dated 5.2.2020 in Petition No. 10/TT/2019 wherein the transmission charges in respect of natural ISTS lines were determined on the basis of methodology already adopted by the Commission. The relevant portion of the said order is extracted as under:

*“22. Similar issue was considered by the Commission in its order dated 22.6.2018 in Petition No. 155/TT/2017 wherein the transmission charges in respect of natural ISTS lines were determined on the basis of methodology already adopted by the Commission. The relevant portion of the said order is extracted as under: -*

*“9 Some of the State Utilities have filed similar petitions claiming tariff of Inter-State transmission lines connecting two States for the 2014-19 tariff periods as per the directions of the Commission. The information submitted by the State Utilities is incomplete and inconsistent. Further, some of the lines were more than 25 years old and the States were not having the details of the capital cost etc. To overcome these difficulties, the Commission evolved a methodology for allowing transmission charges for such transmission lines connecting two States in orders dated 19.12.2017 in Petition Nos. 88/TT/2017, 173/TT/2016 and 168/TT/2016 filed by Madhya Pradesh Power Transmission Corporation Limited, Maharashtra State Electricity Regulatory Commission and Uttar Pradesh Power Transmission Corporation Limited respectively. The Commission adopted the same methodology in order dated 4.5.2018 in Petition No.112/TT/2017, while granting tariff for ISTS connecting Rajasthan with other States and owned by Rajasthan Rajya Vidyut Prasaran Limited. The Commission derived the benchmark cost on the basis of the transmission lines owned by PGCIL. The useful life of the transmission line was considered as 25 years and for lines more than or equal to 25 years, only O & M Expenses and Interest on Working Capital (IWC) is decided to be allowed as per the existing Tariff Regulations. For assets put into commercial operation on or after 1.4.2014, tariff is decided to be allowed on the basis of the audited financial capital cost. The relevant portion of the order dated 4.5.2018 is extracted hereunder: -*



13. It is observed that the information submitted by the Petitioner States for computation of transmission charges for the deemed ISTS lines are not uniform, thereby causing divergence in working out the tariff. In some cases, the data related to funding and depreciation was not available and in some cases the assets have already completed, or nearing, their useful life. In most of the petitions, the states have expressed their inability to furnish the audited capital cost of transmission lines as the lines are old. As a result, tariff workings for old assets are ending in skewed results. It is further observed that the YTC figures emerging out by the existing ARR methodology are on the higher side. Considering these facts, we have conceptualized a modified methodology for determining the tariff of the inter-State transmission lines. The methodology is broadly based on the following: -

(a) PGCIL's Annual Report data has been used as the reference data; based on which, year wise benchmark cost has been derived.

(b) Useful life of Transmission Line has been considered as 25 years. Thus, if life is more than or equal to 25 years as on 1.4.2014, only O & M Expenses and Interest on Working Capital (IWC) shall be allowed as per the existing Tariff Regulations, in lieu of complete tariff.

(c) It is expected that the States do have the audited financial data of recently commissioned (i.e. on or after 1.4.2014) lines.

#### **Tariff Methodology**

14. As per the petitions filed by the states, their ISTS lines generally have the configuration of 132 kV, 220 kV or 400 kV. In the absence of an established tariff data base, in order to develop this methodology Annual Reports of PGCIL from 1989-90 to 2013-14 have been referred to. The Annual Reports depict, inter alia, the information pertaining to year wise total length of transmission lines in ckt-km and corresponding Gross Block. This pan-India data represents all the five transmission regions and is a composite mix of parameters like terrains, wind-zones, tower and conductor type etc. +/- 500 kV HVDC and 765 kV and above voltage level AC lines too have come up in between and the data also includes those lines. Voltage level- wise data as on 30<sup>th</sup> April 2017, obtained from PGCIL indicates that the percentage of 220 kV, 132 kV and 66 kV Transmission Line taken together makes it around 8.3% of the total line length owned by PGCIL. Further, 132 kV Transmission Lines were established in NER prior to 1990, and Transmission Lines of 220 kV voltage levels were last commissioned in around the year 2004 in NR. Majority of the transmission lines consist of 400 kV which corresponds to 66% of the total transmission line lengths. Thus, the 400 kV and lesser voltage levels account for approximately 75% of the transmission lines. Assuming the above referred spread of voltage wise percentages for earlier years too, it can be said that the year wise average Transmission Line cost figures derived from PGCIL data, when further reduced by 25%, fairly represent the average transmission line capital cost corresponding to a 400 kV S/C line.



Considering 400 kV S/C transmission line cost as reference cost, analysis of PGCIL's indicative cost data (P/L Feb 2017) suggests the following: -

	<b>Reference cost of 400 kV S/C TL</b>	<b>₹ X lakh/km</b>
1.	400 kV D/C TL	1.39 X
2.	220 kV D/C TL	0.57 X
3.	220 kV S/C TL	0.36 X
4.	132 kV D/C TL	0.43 X
5.	132 kV S/C TL	0.31 X

15. Therefore, for arriving at the costs of transmission lines of other voltage levels and circuit configurations, the average transmission line cost data shall be multiplied by the factors illustrated in the above table. Lower voltage levels can be treated as part of 132 kV. The above table contemplates Twin Moose conductor which is widely used in State transmission lines.

16. Based on respective year end data, average transmission line length during the year has been worked out. Difference between a particular year's average transmission line length figures and that for the immediately preceding year provides us the transmission line length added during that year. Average gross block corresponding to transmission lines has been divided by the average transmission line length to arrive at the Average Cost of transmission line (in ` lakh per ckt-km) during the year. Thus, considering the year of COD of a State's ISTS line and its ckt-km, its cost would be worked out by relating it to PGCIL's transmission line cost during that year. Although the Commission has relied on PGCIL's Annual Reports, there are certain deviations in the cost data worked out. The year 1989-90 was the year of incorporation for PGCIL, and the transmission assets of NTPC, NHPC, NEEPCO etc. were taken over by PGCIL by mid-1991-92. Thus, as the base data for these years was not available, the corresponding average cost of transmission line could not be worked out. The average cost from 1992-93 onwards up to 2013- 14 shows an increasing trend at a CAGR of 5.17%. Therefore, for the years 1989-90, 1990-91 and 1991-92, the average cost of transmission line has been back derived considering the 1992-93 average cost. Similarly, abnormal dip/spikes in the transmission line cost for the years 1996-97, 2001-02 and 2004-05 has been corrected by considering the average values of the transmission line costs in the immediately preceding and succeeding years.

17. While calculating tariff, the following has been considered: -

(i) Useful life of the transmission line shall be deemed to be 25 years.

(ii) Prevailing depreciation rates as per the 2014 Tariff Regulations shall be considered uniformly for all the previous tariff periods so as to do away with the Advance Against Depreciation which was in vogue during earlier tariff periods. Notwithstanding the depreciation considered as recovered earlier, for the purpose of these tariff calculations, remaining depreciable value shall be spread over the remaining useful life of the transmission line, where the elapsed life is more than or equal to 12 years.



(iii) Normative Debt-Equity ratio shall be 70:30.

(iv) Normative loan repayment during a year shall be deemed to be equal to the depreciation allowed for that year.

(v) Rate of Interest on normative loan shall be the weighted average rate of interest as derived on the basis of PGCIL "s Balance Sheet.

(vi) In order to avoid complexity, grossing up of rate of Return on Equity with tax rate is being dispensed with.

(vii) Bank rate as defined in 2014 Tariff Regulations, 2014 as on 1.4.2014 shall be applied for calculating the rate of interest on working capital on normative basis.

(viii) O&M Expenses as per the 2014 Tariff Regulations shall be considered.

(ix) Where the life of transmission line is more than or equal to 25 years as on 1.4.2014, only O & M Expenses and IWC shall be allowed in lieu of complete tariff.

18. Thus, in effect, this is a normative tariff working methodology which shall be applied in those cases where the audited capital cost information is not available."

24. The same methodology is being adopted for calculating the tariff in respect of 5 assets (mentioned in Para. 22 above) considered under the instant petition as well. All these 5 assets have already completed twenty five years of life as on 1.4.2014. Therefore, as per the above methodology, only "Interest on Working Capital" and "O & M Expenses" components of tariff shall be allowable.

### Transmission Charges

25. Accordingly, the transmission charges allowed for the instant assets are as under:

Particulars	Asset-2: Seoni-Pench-I 132 kV D/C line				
	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital	1.18	1.22	1.26	1.30	1.34
O & M Expenses	21.32	22.04	22.76	23.52	24.30
<b>Total</b>	<b>22.49</b>	<b>23.26</b>	<b>24.02</b>	<b>24.82</b>	<b>25.64</b>



Particulars	Asset-3: Seoni-Pench-II 132 kV D/C line				
	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital	1.18	1.22	1.26	1.30	1.34
O & M Expenses	21.32	22.04	22.76	23.52	24.30
<b>Total</b>	<b>22.49</b>	<b>23.26</b>	<b>24.02</b>	<b>24.82</b>	<b>25.64</b>

Particulars	Asset-4: Balaghat-Dongargarh 132 kV S/C line				
	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital	1.68	1.73	1.79	1.85	1.91
O & M Expenses	30.34	31.39	32.44	33.49	34.62
<b>Total</b>	<b>32.01</b>	<b>33.12</b>	<b>34.23</b>	<b>35.34</b>	<b>36.53</b>

Particulars	Asset-5: Balaghat-Bhanegaon-Dhamda 132 kV S/C line				
	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital	0.75	0.78	0.81	0.83	0.86
O & M Expenses	13.65	14.12	14.59	15.07	15.57
<b>Total</b>	<b>14.40</b>	<b>14.90</b>	<b>15.40</b>	<b>15.90</b>	<b>16.43</b>

(₹ in lakh)

Particulars	Asset-6: Morwa-Beena (Rihand) 132 kV S/C line				
	2014-15	2015-16	2016-17	2017-18	2018-19
Interest on Working Capital	0.20	0.20	0.21	0.22	0.22
O & M Expenses	3.56	3.69	3.81	3.93	4.07
<b>Total</b>	<b>3.76</b>	<b>3.89</b>	<b>4.02</b>	<b>4.15</b>	<b>4.29</b>

### Filing Fee and Publication Expenses

26. The petitioner has sought reimbursement of expenditure by beneficiaries towards petition fee, and other expenses in relation to filing of Petition. 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.





## **Sharing of Transmission Charges**

27. The transmission charges of the natural ISTS lines considered in the Petition shall be recovered on monthly basis in accordance with Regulation 43 of Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2014 and shall be shared by the beneficiaries and long term transmission customers in accordance with Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 as amended from time to time. Further, the transmission charges allowed in this order shall be adjusted against the ARR approved by the State Commission.

28. This order disposes of Petition No. 388/TT/2019.

**Sd/-**  
**(I.S. Jha)**  
**Member**

**Sd/-**  
**(P. K. Pujari)**  
**Chairperson**

