

**CENTRAL ELECTRICITY REGULATORY COMMISSION**

**NEW DELHI**

**Petition No. 362/TT/2019**

**Coram:**

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

**Date of Order:15.6.2020**

**In the matter of:**

Determination of transmission tariff for the year 2018-19 in respect of 19 Nos. RRVPNL owned transmission lines/ system connecting with other states and intervening transmission lines incidental to inter-state transmission of electricity for inclusion 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 its subsequent amendment.

**And in the matter of:**

Rajasthan Rajya Vidyut Prasaran Nigam Limited (RRVPNL)  
Vidyut Bhawan, Jyoti Nagar,  
Jaipur-302 005

**.....Petitioner**

**Versus**

1. Power Grid Corporation of India Limited,  
Saudamini, Plot No.2, Sector- 29, Near IFFCO Chowk,  
Gurgaon-122 001.
2. Haryana Vidyut Prasaran Nigam,  
Shakti Bhawan, Sector-6,  
Panchkula, (Haryana) - 134109.
3. Haryana Power Purchase Center (HPPC),



2<sup>nd</sup> Floor, Shakti Bhawan, Sector-6,  
Panchkula, (Haryana) - 134109.

4. M.P. Power Transmission Company Ltd.  
BlockNo.2, Shakti Bhawan, Rampur,  
Jabalpur, (Madhya Pradesh) - 482008.
5. MP Power Management Co. Ltd. (MPPMCL),  
Block No.11, 1<sup>st</sup> Floor, Shakti Bhawan, Rampur,  
Jabalpur, (Madhya Pradesh) – 482008
6. Delhi Transco Ltd,  
Shakti Sadan, Kotla Road,  
New Delhi-110002
7. BSES Yamuna Power Ltd,  
BSES Bhawan, Nehru Place,  
New Delhi.
8. BSES Rajdhani Power Ltd,  
BSES Bhawan, Nehru Place,  
New Delhi
9. North Delhi Power Ltd,  
Power Trading and Load Dispatch Group,  
CENNET Building, Pitampura,  
New Delhi-110034
10. UP Power Transmission Corporation Ltd,  
Shakti Bhawan, 14, Ashok Marg,  
Lucknow-226001
11. UP Power Corporation Ltd,  
Shakti Bhawan, 14, Ashok Marg,  
Lucknow-226001

.....Respondent

**Parties Present:**

**For Petitioner:** Ms. Poorva Saigal, Advocate, RRVPNL  
Ms. Anushree Bardhan, Advocate, RRVPNL  
Shri Hari Mohan Gupta, RRVPNL  
Shri Rajeev Jain, RRVPNL

**For Respondent:** None



## ORDER

The present petition has been filed by the Petitioner, Rajasthan Rajya Vidyut Prasaran Nigam Limited (“RRVPNL”) seeking approval of transmission tariff for the RRVPNL owned 19 Nos. non-ISTS transmission lines connecting with other States and intervening transmission lines incidental to inter-State transmission of electricity 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 “2014 Tariff Regulations”) and Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses), Regulations, 2010 (hereinafter referred to as “2010 Sharing Regulations”).

### **Background**

2. The Petitioner, RRVPNL, is a company registered under Companies Act, 1956 and has been established on 19.7.2000 by Government of Rajasthan under the provisions of the Rajasthan Power Sector Reforms Act, 1999 as the successor company of Rajasthan State Electricity Board (RSEB). Under the provision of the Electricity Act, 2003, RVPN has been declared as State Transmission Utility (STU) by Government of Rajasthan.

### **Submissions of the Petitioner**

3. The Petitioner has submitted that as per the directions of the Commission vide order dated 14.03.2012 in petition No 15/SM/2012, the following inter-State transmission lines/ incidental lines carrying inter-State power have been identified for inclusion in PoC transmission charges computation:



**Transmission Lines which are natural inter-State transmission lines owned by RRVPNL**

<b>S. No.</b>	<b>Name of line</b>	<b>Rationale for inclusion in the petition</b>
1	220 kV S/C Chirawa-Hissar line (Raj-Har.)	An inter-state line between Rajasthan and Haryana. Certified as Natural Interstate line as per MoM of 43 <sup>rd</sup> NRPC/ 40 <sup>th</sup> TCC meeting letter no. NRPC/comml/209/RPC (43 <sup>rd</sup> )/2019/1066-1113dt. 06.02.2019
2	132 kV S/C Sadulpur(Rajgarh)- Hissar line	
3	132 kV S/C Amrapura - Sirsa line	
4	220 kV S/C Khetri-Dadri Line I (Raj-Haryana)	
5	220 kV S/C Khetri-Dadri Line II (Raj-Haryana)	Khandar- Sheopur line (MP) line is an inter-state line between Rajasthan and Madhya Pradesh. Certified as Natural Interstate line as per MoM of 43 <sup>rd</sup> NRPC/ 40 <sup>th</sup> TCC meeting letter no. NRPC/comml/209/RPC (43 <sup>rd</sup> )/2019/1066-1113dt. 06.02.2019
6	220 kV S/C Kota (Sakatpura)-Badod (Raj-MP)	
7	220 kV S/C Modak-Badod (Raj-MP)	
8	132 kV S/C Khandar- Sheopur line	Alwar-Badarpur line is an atural Inter-State line between Rajasthan and Delhi. Certified as Natural Interstate line as per MoM of 43 <sup>rd</sup> NRPC/ 40 <sup>th</sup> TCC meeting letter no. NRPC/comml/209/RPC (43 <sup>rd</sup> )/2019/1066-1113dt. 06.02.2019
9	220 kV S/C MIA (Alwar) – Badarpur Line	
10	220 kV S/C Agra-Bharatpur Line (Raj-UP)	Bharatpur- Agra line is a natural inter-state line between Rajasthan and Uttar Pradesh. Certified as Natural Interstate line as per MoM of 43 <sup>rd</sup> NRPC/40 <sup>th</sup> TCC meeting letter no. NRPC/comml/209/RPC (43 <sup>rd</sup> )/2019/1066-1113dt. 06.02.2019

**Transmission lines which are certified as ISTS**

<b>S. No.</b>	<b>Name of line</b>	<b>Rationale for inclusion in this petition</b>
1.	220 kV S/C Anta-Kota Line	For evacuation of Power from ISGSas per MoM of 45 <sup>th</sup> NRPC/42 <sup>nd</sup> TCC meeting letter no. NRPC/comml/209/RPC (45 <sup>th</sup> )/2019/7152-7246 dt. 09.07.2019
2.	220 kV S/C RAPP (B)-Kota Line	
3.	220 kV S/C RAPP (B) – RAPP (A) Line	
4.	400 kV S/C Jodhpur -Merta Line -I	Carrying inter-state power & certified by NRPC for 2018-19as per MoM of 43 <sup>rd</sup> NRPC/40 <sup>th</sup> TCC meeting letter no.NRPC/comml/209/RPC (43 <sup>rd</sup> )/2019/1066-1113dt. 06.02.2019
5.	400 kV S/C Jodhpur -Merta Line -II	
6.	400 kV S/C Merta- Ratangarh Line	
7.	400 kV S/C Merta- Heerapura Line	
8.	400 kV D/C Chittorgarh-Bhilwara Line	
9.	400 kV D/C Bhilwara-Ajmer Line	



4. Accordingly, the Petitioner in the instant petition has included the 19 transmission lines as at tables in paragraph 3 above (10 natural ISTS transmission lines and 9 transmission lines that are certified as ISTS) between Rajasthan and States of Haryana, Madhya Pradesh, Delhi and Uttar Pradesh and intervening transmission lines incidental to inter-State transmission.

5. The Petitioner has made the following prayers:-

- i. to approve the Yearly Transmission Charges (YTC) for the Assets covered under this Petition for the year 2018-19;
- ii. to pass such orders, as the Commission deems fit and appropriate under the circumstances of the case and in the interest of justice;

6. Summary of the transmission lines included in this Petition for inclusion in PoC transmission charges for the year 2018-19 (from 1.4.2018 to 31.3.2019) are as under:-

Asset No.	Name of Transmission Lines	Line Length in KM	COD
1	132 KV S/C Sadulpur (Rajgarh)- Hissar	78.00	3.10.1959
2	220 KV S/C Anta-Kota	67.00	1.3.1969
3	132 KV S/C Amrapura-Sirsa Line	80.00	19.12.1970
4	220 KV S/C Alwar-Badarpur Line	131.60	22.11.1975
5	220 KV S/C Kota (Sakatpura)- Badod Line (Raj-MP)	59.62	20.8.1977
6	220 KV S/C Khetri-Dadri Line I (Raj-Haryana)	70.91	23.12.1977
7	220 kV S/C RAPP(B)-Kota	42.00	1.9.1977
8	220 KV S/C RAPP(B)-RAPP(A)	2.00	1.9.1977
9	220 KV S/C Agra-Bharatpur Line (Raj-UP)	48.12	30.12.1982
10	220 KV S/C Khetri-Dadri Line II (Raj-Haryana)	77.00	2.3.1985
11	220 KV S/C Modak-Badod Line (Raj-MP)	16.50	2.1.1988
12	400 kV S/C Jodhpur – Merta Line-I	106.86	15.9.2004
13	400 kV S/C Merta – Heerapura Line	178.07	13.7.2004
14	132 KV S/C Khandrar-Sheopur Line	12.62	5.7.2008
15	400 kV S/C Merta – Ratangarh Line	172.50	9.5.2008
16	220 KV S/C Chirawa- Hissar Line	118.00	27.11.2010
17	400 kV S/C Jodhpur – Merta Line-II	107.48	27.10.2012
18	400 kV D/C Bhilwara-Ajmer Line	160.20	26.1.2018
19	400 kV D/C Chittorgarh-Bhilwara Line	49.55	5.9.2018*

\*Originally claimed 10.8.2018. Subsequently, modified vide affidavit dated 15.5.2020.



7. The Petitioner has submitted that it has adopted the same methodology as followed in order dated 20.6.2018 in Petition No.215/TT/2017, while granting tariff for ISTS connecting Rajasthan with other States and owned by Rajasthan Rajya Vidyut Prasaran Nigam Limited. The Petitioner further submitted that the useful life of the transmission lines has been 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 claimed as per the existing Tariff Regulations. For assets put into commercial operation on or after 1.4.2014, tariff has been requested to be allowed on the basis of the audited financial capital cost.

8. During the hearing held on 17.12.2019, the Commission observed that Asset-18 and Asset-19 were put into commercial operation in 2018 and the Petitioner was directed to submit the following information:-

- a) SCM/RPC approval.
- b) Detailed reasons for construction of the Assets-18 and 19 as inter-State transmission lines.

9. In response, the Petitioner vide affidavit dated 7.1.2020 has submitted as under: -

- a) The two transmission lines i.e. 400 kV D/C Bhilwara-Ajmer Line (Asset-18) and 400 KV D/C Chittorgarh - Bhilwara Line (Asset-19) have been approved by the Board of Directors/ Whole Time directors of RRVPL and were constructed by RRVPL for system strengthening of intra-State transmission network. Accordingly, the two lines were envisaged for the intra-State use within the State of Rajasthan.
- b) Inter-State transmission system has been defined under Section 2(36) of the Electricity Act, 2003 as under: -



*"2(36) inter-State transmission system includes-*

*(i)..... any system for the conveyance of electricity by means of main transmission line from the territory of one State to another state;*

*(ii)..... the conveyance of electricity across the territory of any intervening State as well as conveyance within the State which is incidental to such inter-State transmission of electricity;*

*(iii).....the transmission of electricity within the territory of a State on a system built, owned, operated, maintained or controlled by a Central Transmission Utility;"*

- c) However, post commissioning of the said two lines, it was ascertained that incidental inter-State power was also flowing on the said Lines. In this regard, Para 2.1.3 of Annexure 1 to the 2010 Sharing Regulations provides as under:

*"Certification of non-/STS 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 WebNet 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."*

- d) Thus, the Petitioner did not of its own accord, set up new ISTS lines. The two lines were to be constructed in order to strengthen the intra-State System. It is on account of the incidental ISTS power flow that the said lines have been deemed to be ISTS lines.

10. MPPMCL (Respondent No. 5), has submitted the following reply vide affidavit dated 19.12.2019:-

- a) Following transmission lines of the Petitioner are connected to MP transmission system:-



- (i) Asset-5: 220 KV S/C Kota (Sakatpura)-Badod line (COD:20.8.1977)
  - (ii) Asset-11: 220 KV S/C Madak-Badod line (COD: 2.1.1988)
  - (iii) Asset-14: 132 KV S/C Khandar-Sheopur line (COD: 5.7.2008)
- b) Asset-5 has already completed more than 35 years of useful life and, therefore, tariff calculation is in line with 2014 Tariff Regulations.
- c) Asset-11 has completed about 30 years which is less than that of 35 years as allowed in 2014 Tariff Regulations. Therefore, the Commission may allow the transmission charges according to the 2014 Tariff Regulations.
- d) Asset-14 has not attained the useful life as per the 2014 Tariff Regulations, i.e. 35 years. Therefore, the calculation of transmission charges is in line with the 2014 Tariff Regulations.

11. The Petitioner has not submitted any rejoinder to the reply of MPPMCL.

12. During the hearing dated 13.2.2020, learned counsel for the Petitioner submitted that instant petition is filed for determination of tariff of 19 non-ISTS transmission lines carrying inter-State power out of which two of the lines were put into commercial operation after 1.4.2014 which were envisaged to be intra-State lines, however, are carrying inter-State power. Accordingly, vide ROP of hearing dated 13.2.2020, the Petitioner was directed to submit the documents giving the basic purpose of planning these lines and the details from where the power is being transferred and the place of destination along with the following information:-

- (i) Investment Approval of the project covering the assets covered under the instant petition.
- (ii) Statement showing computation of Interest During Construction (IDC) containing date of drawl of loans used during construction period, rate of interest, date of payment of last interest before COD.





(iii) Auditor certificate indicating hard cost, Interest During Construction (IDC) and Incidental Expenditure During Construction (IEDC) as well as element wise capital cost as on COD and additional capital expenditure.

(iv) Complete set of Tariff Forms in line with Auditor's certificates.

13. In response, the Petitioner, vide affidavit dated 15.5.2020 has submitted the following:-

a) The construction of two transmission lines i.e. 400 kV D/C Bhilwara-Ajmer line (Asset-18) and 400 kV D/C Chittorgarh-Bhilwara line (Asset-19) has been approved by the Board of Directors/ Whole Time Directors of RRVPNL and were constructed by RRVPNL for system strengthening of the intra-State transmission network within the state of Rajasthan itself. The SE (Operation), NRPC, New Delhi, vide letter dated 4.3.2020, forwarded the details of studies carried out by them indicating the percentage share of load of Rajasthan in the power flowing through 400 kV D/C Bhilwara-Ajmer line (Asset-18) and 400 kV D/C Chittorgarh-Bhilwara line (Asset-19) for Q2 and Q4 of FY 2018–19.

Name of transmission line	Intra State Drawl (% share)	
400 kV D/C Bhilwara-Chittorgarh line	37.6788 (Q2)	35.451 (Q4)
400 kV D/C Bhilwara-Ajmer line	36.4221 (Q2)	36.8896 (Q4)

b) It is evident that the percentage share of inter-State power flow is 62% (Q2) and 64% (Q4) for 400 kV D/C Bhilwara-Chittorgarh line (Asset-19) and percentage share of inter-State power flow for 400 kV D/C Bhilwara-Ajmer line (Asset-18) is 64% (Q2) and 63% (Q4). As per the methodology prescribed by the Commission for qualification as ISTS, the average utilisation by other States should be more than 50%. Thus, both the lines meet the criteria for being declared as ISTS lines.

c) The 400 kV D/C Bhilwara-Ajmer line (Asset-18) and 400 kV D/C Chittorgarh-Bhilwara line (Asset-19) were initially included in investment plan – petition



number RERC 214/10 in financial year 2010–11. The above petition was approved by the Rajasthan Electricity Regulatory Commission (RERC) vide the order dated 29.12.2010. The Petitioner has submitted copy of the relevant pages of the order of RERC.

- d) Earlier, the COD (10.8.2018) of second circuit of 400 kV D/C Chittorgarh-Bhilwara was taken as COD of line. However, the first circuit of this line achieved COD later i.e. on 5.9.2018. Therefore, the COD of 400 kV D/C Chittorgarh-Bhilwara line (Asset-19) may be considered as 5.9.2018 instead of 10.8.2018.
- e) The statement indicating the computation of Interest During Construction (IDC) including the date of drawl of loans used during construction period, rate of interest, date of payment of last interest before COD for both the lines, has been enclosed. These lines are part of scheme no. 3533 for power evacuation of Banswara Super Critical TPS. Loan calculations are for scheme as loan has been taken against scheme. The detailed calculation for weighted average of interest is also appended.
- f) The Auditor's Certificate indicating the hard cast, Interest During Construction (IDC) and Incidental Expenditure During Construction (IEDC) as well as element wise capital cost as on COD and additional capital expenditure for 400 KV D/C Bhilwara–Ajmer line and 400 KV D/C Chittorgarh–Bhilwara line has been submitted.
- g) The complete set of tariff forms (Form nos. 1, 2, 3, 4, 5, 6, 8, 9A, 9C, 9E, 10, 10A, 11) for 400 kV D/C Bhilwara-Ajmer line and for 400 kV D/C Chittorgarh-Bhilwara line has been submitted, in line with Auditor's Certificates. The tariff calculation has been changed as per audited accounts. The tariff claimed for 400 kV D/C Bhilwara-Ajmer line (Asset-18) have been revised from ₹3280.28 lakh to ₹4079.92 lakh and the tariff claimed for 400 kV D/C Chittorgarh-Bhilwara line (Asset-19) has been revised from ₹995.63 lakh to ₹876.78 lakh.



14. The Petitioner has served a copy of the petition upon the respondents and notice of this tariff application has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the notices published by the Petitioner under Section 64 of the Electricity Act, 2003. Respondent No.5 (MPPMCL) has filed reply to the petition vide affidavit dated 19.12.2019 in the matter (at paragraph 10 of this Order).

15. The Petition was heard on 13.2.2020 and the Commission reserved the order in the Petition.

16. This order has been issued after considering the main petition dated 11.9.2019, Petitioner's affidavits dated 7.1.2020 and 15.5.2020 and MPPMCL's affidavit dated 19.12.2019.

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

### **Analysis and Decision**

18. We have considered the submissions of the Petitioner and Respondent. As per the direction of Commission in order dated 14.3.2012 in Petition No. 15/SM/2012, the petitioner had filed Petition No. 213/TT/2013 for claiming tariff for 2009-14 Tariff Period in respect of 20 transmission lines as per the following details:-

<b>Sl.No.</b>	<b>Name of Line</b>	<b>Rationale for including in the instant petition</b>
Inter-state lines owned by RVPN (As per section 2(36) (i) of the Act)		
1	220 kV S/C MIA (Alwar)-Badarpur line	Rajasthan-Delhi



2	220 kV S/C Agra-Bharatpur line	Rajasthan-Uttar Pradesh
3	220 kV S/C Kota (Sakatpura)-Badod line	Rajasthan-Madhya Pradesh
4	220 kV S/C Modak-Badod line	Rajasthan-Madhya Pradesh
5	220 kV S/C Khetri –Dadri line-I	Rajasthan-Haryana
6	220 kV S/C Khetri –Dadri line-II	Rajasthan-Haryana
7	220 kV S/C Chirawa-Hisar Line	Rajasthan-Haryana
<b>Sl.No.</b>	<b>Name of Line</b>	<b>Rationale for including in the instant petition</b>
<b>Lines used for evacuation of power from ISGS (As per section 2(36) (ii) of the Act)</b>		
8	220 kV S/C Anta-Dhara line	For evacuating Anta GTPS
9	220 kV S/C RAPP (B)-Sakatpura line	For evacuating RAPP-B power
10	220 kV S/C RAPP (A)- RAPP (B) line F	For evacuating RAPP-B power
11	220 kV S/C RAPP (A)-Debri line	For evacuating RAPP-B power
12	220 kV D/C RAPP (A)-Sakatpura line	For evacuating RAPP-B power
<b>Incidental lines carrying inter-state lines (As per section 2(36) (ii) of the Act)</b>		
13	400 kV S/C Jodhpur-Merta line-I	RVPN intervening system interconnecting Kankroli (PG)–Jodhpur (RVPN) 400 kV carrying inter-state power.
14	400 kV S/C Jodhpur-Merta line-I	RVPN intervening system interconnecting Kankroli (PG) –Jodhpur (RVPN) 400 kV carrying inter-state power.
15	400 kV Merta-Ratangarh line	RVPN intervening system interconnecting Kota (PG)-Merta (RVPN) carrying inter-state power
16	400 kV Merta-Heerapura line	RVPN intervening system interconnecting Kota (PG)-Merta (RVPN) carrying interstate power
17	220 kV S/C Bhiwadi (PG)-Bhiwadi(RVPN) line	RVPN intervening system interconnecting Bhiwadi (PG)-Bhiwadi (RVPN) carrying interstate power.
18	220 kV S/C Bhiwadi (PG)-Khushkedaline-I	RVPN intervening system interconnecting Kota (PG)-Khushkhera (RVPN) carrying interstate power.
19	220 kV S/C Bhiwadi (PG)-Khushkeda line-II	RVPN intervening system interconnecting Kota (PG)-Khushkhera (RVPN) carrying interstate power
20	220 kV S/C Bhiwadi (PG)-Neemrana line	RVPN intervening system interconnecting Kota (PG)-Neemrana (RVPN) carrying interstate power

19. The Commission vide order dated 18.3.2015 in petition No 213/TT/2013 held as under:-

*“15. The certificate of NRPC is available in terms of the above Regulation in respect of six transmission lines which were included in the Commission’s order dated 14.3.2012. Since the certification is not available for the 14 transmission lines, we direct the petitioner to approach NRPC for the required certification of these lines for inclusion in the PoC Charges. Accordingly, only the six transmission lines are being considered in this petition for grant of annual transmission charges.”*



20. Accordingly the Commission granted tariff for the following six transmission lines for 2009-14 period:-

Sl. No	Name of the line
1	220kV S/C MIA (Alwar) – Badarpur Line
2	220kV S/C Agra-Bharatpur Line(Raj-UP)
3	220kV S/C Kota (Sakatpura)-Badod (RajMP)
4	220kV S/C Modak-Badod (Raj-MP)
5	220kV S/C Khetri-Dadri Line I (Raj-Haryana)
6	220kV S/C Khetri-Dadri Line II (Raj-Haryana)

21. Subsequently, the Petitioner filed petition no. 111/TT/2017 for truing of tariff for 2009-14 period for the above six transmission lines and the Commission vide order dated 9.3.2018 has trued up the tariff for 2009-14 period.

22. The Petitioner filed petition no. 112/TT/2017 for determination of tariff for FY 2014-15, FY 2015-16 and FY 2016-17 and the Commission vide order dated 4.5.2018 approved the tariff for the following transmission lines:-

Sl. No.	Name of the line	COD
1	Asset-1: 220 kV S/C Chirawa-Hissar line (Rajasthan-Haryana)	27.11.2010
2	Asset-2: 132 kV S/C Sadulpur (Rajgarh) - Hissar line	3.10.1959
3	Asset-3: 132 kV S/C AmrapuraThedi- Sirsa line	19.12.1970
4	Asset-4: 132 kV S/C Khandar-Sheopur line	5.7.2008
5	Asset-5: 220 kV S/C AntaKota Line	1.3.1969
6	Asset-6: 220 kV SC RAPP (B)-Kota Line	1.9.1977
7	Asset-7: 220 kV S/C RAPP (B) – RAPP (A) Line	1.9.1977
8.	Asset-8: 220 kV S/C MIA (Alwar)-Badarpur Line	22.11.1975
9	Asset-9: 220 kV S/C Agra-Bharatpur Line (Rajasthan-Uttar Pradesh)	30.12.1982
10	Asset-10: 220 kV S/C Kota (Sakatpura)-Badod (Rajasthan-Madhya Pradesh)	20.8.1977
11	Asset-11: 220 kV S/C ModakBadod (Rajasthan-Madhya Pradesh)	2.1.1998
12	Asset-12: 220 kV S/C Khetri-Dadri Line I (Rajasthan-Haryana)	23.12.1977
13	Asset-13: 220 kV S/C Khetri-Dadri Line II (Rajasthan-Haryana)	2.3.1985
14	Asset-14: 400 kV S/C Jodhpur -Merta Line-I	15.9.2004
15	Asset-15: 400 kV S/C Jodhpur -Merta Line-II	27.10.2012
16	Asset-16: 400 kV S/C Merta-Ratangarh Line	9.5.2008
17	Asset-17: 400 kV S/C Merta-Heerapura Line	13.7.2004
18	Asset-18: 220 kV D/C Aau-Baithwasia Line	29.3.2015
19	Asset-19: 220 kV D/C Baithwasia- Bhawad Line	25.3.2015



20	Asset-20: 220 kV D/C Gajner -Bikaner (400 kV GSS) Line	22.1.2013
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23. The Commission has approved the tariff of the above-mentioned twenty Assets (20) assets based on the RPC certificates dated 8.6.2016 and 9.11.2016.

24. The Petitioner, in the instant petition, has claimed the tariff for the FY 2018-19 for following transmission lines:-

Asset	Name of Transmission Lines	Line Length in kM	COD
Asset 1	132 KV S/C Sadulpur (Rajgarh)- Hissar	78	3.10.1959
Asset 2	220 KV S/C Anta-Kota	67	1.3.1969
Asset 3	132 KV S/C Amrapura-Sirsa Line	80	19.12.1970
Asset 4	220 KV S/C Alwar-Badarpur Line	131.6	22.11.1975
Asset 5	220 KV S/C Kota(Sakatpura)- Badod Line (Raj-MP)	59.62	20.8.1977
Asset 6	220 KV S/C Khetri-Dadri Line I (Raj-Haryana)	70.91	23.12.1977
Asset 7	220 kV S/C RAPP(B)-Kota	42	1.9.1977
Asset 8	220 KV S/C RAPP(B)-RAPP(A)	2	1.9.1977
Asset 9	220 KV S/C Agra-BharatpurLine (Raj-UP)	48.12	30.12.1982
Asset 10	220 KV S/C Khetri-Dadri Line II (Raj-Haryana)	77	2.3.1985
Asset 11	220 KV S/C Modak-Badod Line (Raj-MP)	16.5	2.1.1988
Asset 12	400 kV S/C Jodhpur – Merta Line-I	106.86	15.9.2004
Asset 13	400 kV S/C Merta – Heerapura Line	178.07	13.7.2004
Asset 14	132 KV S/C Khandrar-Sheopur Line	12.62	5.7.2008
Asset 15	400 kV S/C Merta – Ratangarh Line	172.5	9.5.2008
Asset 16	220 KV S/C Chirawa- Hissar Line	118	27.11.2010
Asset 17	400 kV S/C Jodhpur – Merta Line-II	107.48	27.10.2012
Asset 18	400 kV D/C Bhilwara-Ajmer Line	160.27	26.1.2018
Asset 19	400 kV D/C Chittorgarh-Bhilwara Line	49.551	5.9.2018

25. The Petitioner has claimed tariff for 19 assets of which Asset-18 (400 kV D/C Bhilwara-Ajmer Line) and Asset-19 (400 kV D/C Chittorgarh-Bhilwara) have achieved commercial operation on 26.1.2018 and 5.9.2018 respectively. The Petitioner has submitted that Asset-18 and Asset-19 were constructed to strengthen the intra-State system of Rajasthan. The Petitioner itself has submitted that the Asset-18 and Asset-



19 is for the purpose of the system strengthening of existing State transmission system. Therefore, the Petitioner is required to approach the respective State Electricity Regulatory Commission for determination of the tariff for the Asset-18 and Asset-19.

26. The Petitioner in petition No 213/TT/2013 initially claimed tariff for twenty (20) transmission lines but the Commission allowed tariff for only six (6) transmission lines based on the RPC certificate. The Commission had given liberty to Petitioner only for remaining fourteen (14) transmission lines for RPC approval for determination of Tariff. Accordingly, the Petitioner obtained RPC approval and the Commission vide order dated 4.5.2018 in petition No 112/TT/2017 approved the tariff for remaining Assets.

27. The Commission vide order dated 14.3.2012 in petition No. 15/SM/2012 has held as under:-

*“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.”*

28. The Commission vide order dated 5.9.2018 in petition No. 7/SM/2017 held as under:-

*“ 2. Since the tariff period 2014-19 is drawing a close in the next seven months and the State Utilities as mentioned above have not filed the tariff petitions, the present petition was listed for hearing and for further directions on 21.8.2018. However, none of the State Utilities appeared on the schedule date of hearing. We direct the above utilities to file the tariff petitions within two months in respect of the transmission lines connecting two States which are within their purview in terms of the 2014 Tariff Regulations.”*

29. In the instant case, we note that the Petitioner has implemented the Asset-18 and Asset-19 as per directions of Rajasthan Electricity Regulatory Commission (RERC). The Petitioner has neither approached this Commission for regulatory approval nor such approval has been granted for construction of these two assets. Further, the Petitioner has approached RPC/SCM after commissioning of the Assets for certification as ISTS transmission lines for inclusion in PoC.

30. In view of the above discussion, we observe that the Commission has not directed the Petitioner to approach this Commission to claim tariff in respect of Asset-18 and Asset-19. In order dated 18.3.2015 in Petition no. 213/TT/2013, due to non-availability of pre-requisite certification, the Petitioner was directed to approach NRPC for the required certification for 14 lines only (after granting tariff for six lines out of twenty lines proposed by the Petitioner) for inclusion in the PoC Charges. Therefore, tariff for Asset-18 and Asset-19 is not granted in the instant petition and the petitioner may approach RERC for determination of tariff.

31. Accordingly, transmission charges of the following 17 transmission lines have been considered for inclusion under PoC methodology as per the 2010 Sharing Regulations:-

<b>Asset</b>	<b>Name of Transmission Line</b>	<b>Line length considered (in KM)</b>	<b>Date of commercial operation</b>
Asset 1	132 KV S/C Sadulpur (Rajgarh)-Hissar	78.00	3.10.1959
Asset 2	220 KV S/C Anta-Kota	67.00	1.3.1969
Asset 3	132 KV S/C Amrapura-Sirsa Line	80.00	19.12.1970
Asset 4	220 KV S/C Alwar-Badarpur Line	131.6	22.11.1975
Asset 5	220 KV S/C Kota(Sakatpura)-	59.624	20.8.1977





Asset	Name of Transmission Line	Line length considered (in KM)	Date of commercial operation
	Badod Line (Raj-MP)		
Asset 6	220 KV S/C Khetri-Dadri Line I (Raj-Haryana)	70.91	23.12.1977
Asset 7	220 kV S/C RAPP(B)-Kota	42.00	1.9.1977
Asset 8	220 KV S/C RAPP(B)-RAPP(A)	2.00	1.9.1977
Asset 9	220 KV S/C Agra-BharatpurLine (Raj-UP)	48.12	30.12.1982
Asset 10	220 KV S/C Khetri-Dadri Line II (Raj-Haryana)	77.00	2.3.1985
Asset 11	220 KV S/C Modak-Badod Line (Raj-MP)	16.50	2.1.1988
Asset 12	400 kV S/C Jodhpur – Merta Line-I	106.86	15.9.2004
Asset 13	400 kV S/C Merta – Heerapura Line	178.07	13.7.2004
Asset 14	132 KV S/C Khandrar-Sheopur Line	12.62	5.7.2008
Asset 15	400 kV S/C Merta – Ratangarh Line	172.50	9.5.2008
Asset 16	220 KV S/C Chirawa- Hissar Line	118.00	27.11.2010
Asset 17	400 kV S/C Jodhpur – Merta Line-II	107.48	27.10.2012

32. The Commission in its order dated 5.2.2020 in Petition No. 10/TT/2019 has adopted a methodology for the transmission charges in respect of natural/ deemed ISTS lines. 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 immediate 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 immediate 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."

33. The same methodology is being adopted for calculating the tariff in respect of 17 assets (mentioned in paragraph 31 above) considered under the instant petition as well. Out of these 17 assets, Asset-1 to Asset-11 have already completed more than twenty five years as on 1.4.2018. Therefore, as per the above methodology, only "Interest on Working Capital" and "O & M Expenses" components of tariff shall be allowable for these 11 assets. For remaining 6 assets viz. Asset-12 to Asset-17, that have not completed have not completed 25 years as on 1.4.2014, in line with the aforesaid methodology, all tariff components are being allowed.

### Transmission Charges

34. Accordingly, the transmission charges allowed for the instant assets for the year 2018-19 areas under:-

Particulars	(₹ in lakh)				
	Asset-1 2018-19	Asset-2 2018-19	Asset-3 2018-19	Asset-4 2018-19	Asset-5 2018-19
Interest on Working Capital	1.99	1.71	2.04	3.35	1.52
O & M Expenses	35.96	30.89	36.88	60.67	27.48
<b>Total</b>	<b>37.94</b>	<b>32.59</b>	<b>38.92</b>	<b>64.02</b>	<b>29.00</b>



Particulars	Asset-6	Asset-7	Asset-8	Asset-9	Asset-10
	2018-19	2018-19	2018-19	2018-19	2018-19
Interest on Working Capital	1.81	1.07	0.05	1.23	1.96
O & M Expenses	32.69	19.36	0.92	22.18	35.50
<b>Total</b>	<b>34.50</b>	<b>20.43</b>	<b>0.97</b>	<b>23.41</b>	<b>37.46</b>

Particulars	Asset-11	Asset-12	Asset-13	Asset-14	Asset-15
	2018-19	2018-19	2018-19	2018-19	2018-19
Depreciation	0.00	59.56	99.25	9.82	432.99
Interest on Loan	0.00	0.00	0.00	2.81	123.80
Return on Equity	0.00	135.16	225.25	8.65	381.33
Interest on Working Capital	0.42	7.20	12.00	0.81	25.99
O & M Expenses	7.61	49.26	82.09	5.82	79.52
<b>Total</b>	<b>8.03</b>	<b>251.19</b>	<b>418.57</b>	<b>27.91</b>	<b>1043.64</b>

Particulars	Asset-16	Asset-17
	2018-19	2018-19
Depreciation	117.22	372.67
Interest on Loan	51.35	219.99
Return on Equity	103.23	328.21
Interest on Working Capital	9.26	23.93
O & M Expenses	54.40	49.55
<b>Total</b>	<b>335.46</b>	<b>994.35</b>

### Filing Fee and Publication Expenses

35. 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

36. 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.

37. This order disposes of Petition No. 362/TT/2019.

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

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

