

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 161/TT/2021**

**Coram:**

**Shri Jishnu Barua, Chairperson  
Shri Arun Goyal, Member  
Shri P. K. Singh, Member**

**Date of Order: 14.03.2024**

**In the matter of:**

Determination of transmission tariff for the year 2019-20 in respect of RVPNL owned transmission lines/system connecting with other States and intervening transmission lines incidental to inter-State transmission of electricity for Inclusion in the POC transmission charges in accordance with the Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2019 and Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2010 and its subsequent amendments.

**And in the matter of:**

Rajasthan Rajya Vidyut Prasaran Nigam Limited,  
Vidyut Bhawan,  
Jyoti Nagar, Jaipur,  
Rajasthan-302005.

**.....Petitioner**

**Vs.**

1. Power Grid Corporation of India Limited,  
"Saudamini", Plot No. 2,  
Sector 29, Gurgaon,  
Haryana-122001.
2. Haryana Vidyut Prasaran Nigam,  
Shakti Bhawan,  
Sector-6, Pachkular,  
Haryana-781001.
3. Haryana Power Purchase Centre,  
2<sup>nd</sup> Floor, Shakti Bhawan,  
Sector-6, Panchkula,  
Haryana-134109.



4. Madhya Pradesh Power Transmission Company Limited,  
Block No.2, Shakti Bhawan,  
Rampur, Jabalpur,  
Madhya Pradesh-482008.
5. Madhya Pradesh Power Management Company Limited,  
Block No.11, 1<sup>st</sup> Floor, Shakti Bhawan,  
Rampur, Jabalpur,  
Madhya Pradesh-482008.
6. Delhi Transco Limited,  
Shakti Sadan, Kotla Road,  
New Delhi-110002.
7. BSES Yamuna Power Limited,  
BSES Bhawan, Nehru Place,  
New Delhi-110019.
8. BSES Rajdhani Power Limited,  
BSES Bhawan, Nehru Place,  
New Delhi-110019.
9. North Delhi Power Limited,  
Power Trading and Load Dispatch Group,  
CENNET Building, Pitampura,  
New Delhi-110034.
10. Uttar Pradesh Power Transmission Corporation Limited,  
Shakti Bhawan, 14,  
Ashok Marg, Lucknow,  
Uttar Pradesh-226001.
11. Uttar Pradesh Power Corporation Limited,  
Shakti Bhawan, 14,  
Ashok Marg, Lucknow,  
Uttar Pradesh-226001.
12. Central Transmission Utility of India Limited,  
Plot No. 2, Near IFFCO Chowk Metro Station,  
Sector-29, Gurugram,  
Haryana-122001.
13. Northern Regional Power Committee,  
18-A, Qutab Institutional Area,  
Shaheed Jeet Singh Marg,  
Katwaria Sarai, New Delhi-110016.



**...Respondents**

**For Petitioner** : Ms. Poorva Saigal, Advocate, RRVPNL  
Shri Ravi Nair, Advocate, RRVPNL

**For Respondents** : Shri Lashit Sharma, CTUIL

**ORDER**

Rajasthan Rajya Vidyut Prasaran Nigam Limited has filed the instant petition for the determination of transmission tariff for the year 2019-20 in respect of the following RRVPNL owned transmission lines (hereinafter referred to as “the transmission assets”), connecting with other States and intervening transmission lines incidental to inter-State transmission of electricity for inclusion in computation of point of connection (PoC) transmission charges in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 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) and its subsequent amendments:

Sl. No.	Name of the line	Length of line in ckt. km	COD	Remarks
1.	132 kV Single Circuit (“S/C”) Sadulpur (Rajgarh)-Hissar Line	78.00	3.10.1959	Natural ISTS (Rajasthan-Haryana)
2.	220 kV S/C Anta-Kota Line	67.00	1.3.1969	Deemed ISTS (Emanating from ISGS)
3.	132 kV S/C AmrapuraThedi-Sirsa Line	80.00	19.12.1970	Natural ISTS (Rajasthan-Haryana)
4.	220 kV S/C MIA (Alwar)-Badarpur Line	131.6	22.11.1975	Natural ISTS (Rajasthan-Delhi)
5.	220 kV S/C Kota (Sakatpura)-Badod (Rajasthan-Madhya Pradesh)	59.624	20.8.1977	Natural ISTS (Rajasthan-MP)
6.	220 kV S/C Khetri-Dadri Line I (Rajasthan-Haryana)	70.91	23.12.1977	Natural ISTS (Rajasthan-Haryana)
7.	220 kV S/C RAPP (B)-Kota Line	42.00	1.9.1977	Deemed ISTS (Emanating from ISGS)
8.	220 kV S/C RAPP (B)-RAPP (A) Line	2.00	1.9.1977	Deemed ISTS



Sl. No.	Name of the line	Length of line in ckt. km	COD	Remarks
				(Emanating from ISGS)
9.	220 kV S/C Agra-Bharatpur Line (Rajasthan-Uttar Pradesh)	48.12	30.12.1982	Natural ISTS (Rajasthan-UP)
10.	220 kV S/C Khetri-Dadri Line II (Rajasthan-Haryana)	77.00	2.3.1985	Natural ISTS (Rajasthan-Haryana)
11.	220 kV S/C Modak-Barod(Bhanpura) (Rajasthan-Madhya Pradesh)	16.5	2.1.1988	Natural ISTS (Rajasthan-MP)
12.	132 kV S/C Khandar- Sheopur line	12.62	5.7.2008	Deemed ISTS (NRPC certified)
13.	220 kV S/C Chirawa-Hissar line (Rajasthan-Haryana)	118.00	27.11.2010	Natural ISTS (Rajasthan-MP)
14.	400 kV S/C Merta – Heerapura Line	178.07	13.7.2004	Natural ISTS (Rajasthan- Haryana)
15.	400 kV D/C Bhilwara-Ajmer Line	160.2	26.1.2018	Deemed ISTS (NRPC certified)
16.	400 kV D/C Chittorgarh-Bhilwara Line	49.551	5.9.2018	Deemed ISTS (NRPC certified)

2. The Petitioner has made the following prayers in the instant petition:

*“1) Approve the Yearly Transmission (YTC) Charges for the Lines covered under this petition, as per para 9&10 above for the year 2019-20.*

*2) Pass other such relief as Hon’ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice.”*

### **Background**

3. The brief facts of the case are as follows:

(a) RRVPNL has filed the present petition as per the Commission’s directions in orders dated 14.3.2012 and 12.5.2017 in Petition Nos. 15/SM/2012 and 7/SM/2017, respectively, directing the State utilities to file tariff petitions for the ISTS lines connecting two States for the 2009-14 and 2014-19 tariff periods.

(b) RRVPNL earlier filed Petition No. 213/TT/2013, claiming tariff for 20 ISTS lines. The Commission vide order dated 18.3.2015 awarded YTC from 1.7.2011 to 31.3.2014 for 6 assets and YTC was not allowed for the remaining 14 ISTS



lines, and the Petitioner was directed to approach the NRPC for required certification. The relevant portion of the order dated 18.3.2015 is as follows:

*“14. 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. Further, since the Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2010 came into force with effect from 1st July, 2011, Yearly Transmission Charges (YTC) for these six transmission lines have been calculated for the year 2011-12 (1.7.2011 to 31.3.2012), 2012-13 and 2013-14.”*

(c) The tariff of the 6 ISTS lines for the 2011-14 period was trued-up, vide order dated 9.3.2018 in Petition No. 111/TT/2017, wherein the Commission has observed as follows:

*“9. We have considered the submissions made by RRVPNL and UPPCL. YTC for the period 2011-12 to 2013-14 was already allowed only on the basis of certification by NRPC. We are satisfied with the certification issued by NRPC and there is no ambiguity on this issue. Accordingly, YTC granted for the said period for the six transmission lines owned by RRVPNL is trued up in the instant order.”*

(d) Later, the Petitioner filed Petition No. 26/TT/2017 claiming tariff for Assets 1 to 7 for the 2011-14 period, tariff for which was not granted in Petition No. 213/TT/2013, as it would have led to revision of the PoC charges retrospectively. The relevant portion of the order dated 18.10.2017 is extracted as follows:

*“6. We have considered the submissions made by RRVPNL. RRVPNL has claimed transmission tariff for seven inter-State transmission lines retrospectively for the 2009-14 tariff period. The instant transmission lines are part of the State network and are shared by STU. The State Commission has already granted ARR for the State network for the 2009-14 period which is inclusive of the tariff for the transmission lines covered in the instant petition. As such, RRVPNL has already recovered tariff for these lines. Further, PoC charges for the 2011-14 period have already been processed and recovered. Granting of tariff for these transmission lines afresh by this Commission and*



*inclusion in the PoC charges would lead to revision of the PoC charges retrospectively. Further, it would require revision/adjustment of the ARR already granted by the State Commission for the 2011-14 period. Hence, we are not inclined to allow tariff for these lines retrospectively for the period 2011-14. RRVPNL has already filed the petition claiming tariff for the inter-State transmission lines under its State network for the 2014-19 tariff period under the 2014 Tariff Regulations and will be granted tariff accordingly as per the relevant regulations.”*

(e) The Petitioner, vide Petition No. 112/TT/2017, had prayed for approval of YTC for Assets 1 to 13 for the period 2014-17. Further, RRVPNL had prayed for approval of YTC for the year 2016-17 for Assets 14 to 19 and also for 220 kV D/C Gajner-Bikaner (400 kV GSS) line. The Commission, vide order dated 4.5.2018, approved the tariff in Petition No 112/TT/2017 for Assets 1 to 17. The tariff for the 2014-19 period was not allowed for Assets 18 and 19 in Petition No 112/TT/2017, which were put into commercial operation after 31.3.2014, and RRVPNL was granted liberty to file a fresh petition for determination of YTC of these lines along with the relevant cost data as per the 2014 Tariff Regulations. The relevant portion of the order dated 4.5.2018 is as follows:

*“20. Assets-18 and 19 were put into commercial operation on 29.3.2015 and 25.3.2015 respectively and tariff is not allowed in this order for these assets as per the methodology mentioned above as RRVPNL must have the audited financial data of these transmission lines. RRVPNL is granted liberty to file a fresh petition for determination of YTC of these lines along with the relevant cost data as per the 2014 Tariff Regulations.”*

(f) The Petitioner filed Petition No.215/TT/2017 for approval of tariff for 21 ISTS lines, wherein the Petitioner submitted that the tariff claimed was worked out on the basis of ARR methodology adopted by the Commission in the order dated 18.3.2015 in Petition No. 213/TT/2013. The Petitioner prayed to approve the YTC for 21 ISTS lines as per the procedure adopted by the Commission in the order dated 18.3.2015 in Petition No. 213/TT/2013. The Petitioner claimed



YTC for the 13 natural inter-State lines for 2017-18 and also claimed the YTC for the remaining 8 inter-State transmission lines for 2017-18. The Commission, vide order dated 20.6.2018, approved IWC and O&M Expenses for the transmission assets, which completed 25 years and approved all the components of tariff for the transmission assets which had not completed 25 years of life as per the methodology adopted in case of all the other States. The relevant portion of the order dated 20.6.2018 is as follows:

*“14. The petitioner has not submitted the Audited capital cost certificates for the instant assets. Accordingly, the tariff for the instant 21 ISTS lines is considered in line with the methodology explained in foregoing paragraphs. Assets 2, 3 and 5 to 13 have already completed twenty five years of their useful lives. Therefore, as per above said methodology, only IWC and O & M Expenses of tariff are allowed for the said assets. In case of Assets 1, 4, 14 to 17 and 21, all the components of tariff have been worked out for 2017-18. Assets 18, 19 and 20 were put into commercial operation on 29.3.2015, 25.3.2015 and 13.4.2016 respectively and therefore YTC is been worked out as the petitioner is expected to be in possession of the Audited capital cost and financial data. RRVPNL is directed to file a fresh petition for approval of tariff for Assets 18, 19 and 20 as per the provisions of the 2014 Tariff Regulations along with the required information specified in the Tariff Forms.”*

(g) Subsequently, the Petitioner filed Petition No. 362/TT/2019 for the determination of transmission tariff for 19 transmission assets for the 2018-19 period (1.4.2018 to 31.3.2019) for inclusion in the PoC mechanism. The Commission, vide order dated 15.6.2020 in Petition No. 362/TT/2019, allowed tariff for only 17 transmission assets and disallowed tariff for 400 kV D/C Bhilwara-Ajmer Line) and 400 kV D/C Chittorgarh-Bhilwara Line (Asset-15 and Asset-16 in the present petition and Asset-18 and Asset-19 in Petition No. 362/TT/2019), which were put into commercial operation after 1.4.2014. The relevant portion of the order dated 15.6.2020 is as follows:

*“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.”*

(h) The Petitioner has challenged the Commission’s order dated 15.6.2020 in Petition No. 362/TT/2019 regarding disallowance of tariff for 400 kV D/C Bhilwara-Ajmer Line and 400 kV D/C Chittorgarh-Bhilwara Line before the APTEL being Appeal No. 455 of 2022. The matter is sub-judice.

(i) The Petitioner has filed the instant petition claiming tariff for the 2019-20 period for 16 transmission lines connecting the Petitioner with other States and intervening transmission lines incidental to inter-State transmission of electricity for inclusion in the computation of PoC transmission charges.

4. The Respondents are distribution licensees, power departments, power utilities and transmission licensees, who are procuring transmission services from the Petitioner, mainly beneficiaries of the Northern Region.

5. The Petitioner has served the amended petition on the Respondents. Madhya Pradesh Power Management Company Limited (MPPCL), Respondent No. 5, and Central Transmission Utility of India Limited (CTUIL), Respondent No. 12, have filed their replies vide affidavit dated 8.10.2021 and 3.10.2022, respectively. No rejoinder





has been filed by the Petitioner.

6. MPPMCL has made the following submissions in its reply:

- a) The Petitioner's 220 kV S/C Kota (Sakatpura)-Badod line (Rajasthan-Madhya Pradesh), 220 kV S/C Madak-Badod line (Rajasthan-Madhya Pradesh) and 132 kV S/C Khandrar-Sheopur Line are connected to the MPPMCL transmission system.
- b) The Commission, vide order dated 15.6.2020 in Petition No. 362/TT/2019, derived the benchmark cost on the basis of transmission lines owned by PGCIL. In the said order, the useful life of transmission line was considered as 25 years and for lines more than or equal to 25 years, only Operation and Maintenance Expenses ("O&M Expenses") and Interest on Working Capital (IWC) were decided to be allowed as per existing Tariff Regulations.
- c) 220 kV S/C Kota (Sakatpura)-Badod line (Rajasthan-Madhya Pradesh) and 220 kV S/C Modak-Barod line (Rajasthan-Madhya Pradesh) have already elapsed more than 25 years of useful life of transmission line and the tariff claimed by the Petitioner is in line with the new methodology adopted by the Commission as per the 2019 Tariff Regulations.
- d) 132 kV S/C Khandrar-Sheopur line has not attained its useful life and the tariff claimed by the Petitioner is in order with the 2019 Tariff Regulations.

7. The Commission, vide RoP dated 26.7.2022, directed the Petitioner to implead Central Transmission Utility of India Limited (CTUIL) and Northern Regional Power



Committee (NRPC) as Respondents and to file the revised “Memo of Parties” and the Petitioner complied with the said directions, vide affidavit dated 17.8.2022.

8. As per the directions of the Commission in RoP dated 26.7.2022, CTUIL, vide affidavit dated 3.10.2022, has submitted that the matter regarding certification of non-ISTS lines for inclusion in PoC Charges was discussed in the 43<sup>rd</sup> NRPC Meeting dated 30.10.2018, wherein it was discussed that the transmission lines, which are natural inter-State lines need not to be certified as ISTS. CTUIL has submitted that the Anta-Kota 220 kV S/C line, RAPP (B)-Kota 220 kV S/C line and RAPP (B)-RAPP (A) 220 kV S/C lines are used for evacuating power from Anta GTPS and RAPP B. CTUIL has further submitted that the matter regarding the Petitioner’s owned lines connected directly to ISGS for certification of ISTS was discussed in the 45<sup>th</sup> NRPC meeting dated 8.6.2019, wherein it was agreed to consider the above-mentioned lines of the Petitioner as ISTS lines as these lines are emanating from ISGS and had already been certified by RPC before notification of the 2010 Tariff Regulations. Further, CTUIL has submitted that Bhilwara-Ajmer 400 kV D/C line, Merta-Heerapura 400 kV S/C line and Chittorgarh-Bhilwara 400 kV D/C line were certified as ISTS lines in 48<sup>th</sup> NRPC meeting dated 2.9.2020.

9. Taking into consideration the APTEL’s judgment dated 14.11.2022 in Appeal No. 267 of 2018, wherein APTEL *inter alia* observed that the useful life of the deemed ISTS lines shall be the same as for the ISTS lines specified in the 2014 Tariff Regulations, the Commission, vide RoP dated 9.1.2023, directed the Petitioner to file the amended petition in Petition No. 161/TT/2021 in light of the APTEL’s judgement. As per the directions of the Commission, the Petitioner has filed the amended petition, vide

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affidavit dated 28.2.2023. The gist of the submissions made by the Petitioner in the amended petition are as follows:

(a) The transmission charges for the following 16 transmission lines may be granted for the 2019-20 tariff period for inclusion in the PoC transmission charges:

Sl. No.	Name of the line	Voltage level	Length of line in Ckt km	COD
1.	132 kV S/C Sadulpur (Rajgarh)-Hissar line	132 kV	78.00	3.10.1959
2.	220 kV S/C Anta-Kota line	220 kV	67.00	1.3.1969
3.	132 kV S/C Amrapura Thedi-Sirsa line	132 kV	80.00	19.12.1970
4.	220 kV S/C MIA (Alwar)-Badarpur line	220 kV	131.6	22.11.1975
5.	220 kV S/C Kota (Sakatpura)-Badod (Rajasthan-Madhya Pradesh)	220 kV	59.624	20.8.1977
6.	220 kV S/C Khetri-Dadri line I (Rajasthan-Haryana)	220 kV	70.91	23.12.1977
7.	220 kV SC RAPP (B)-Kota line	220 kV	42.00	1.9.1977
8.	220 kV S/C RAPP (B)-RAPP (A) line	220 kV	2.00	1.9.1977
9.	220 kV S/C Agra-Bharatpur line (Rajasthan-Uttar Pradesh)	220 kV	48.12	30.12.1982
10.	220 kV S/C Khetri-Dadri line II (Rajasthan-Haryana)	220 kV	77.00	2.3.1985
11.	220 kV S/C Modak-Barod(Bhanpura) (Rajasthan-Madhya Pradesh)	220 kV	16.5	2.1.1988
12.	132 kV S/C Khandar- Sheopur line	132 kV	12.62	5.7.2008
13.	220 kV S/C Chirawa-Hissar line (Rajasthan-Haryana)	220 kV	118.00	27.11.2010
14.	400 kV S/C Merta-Heerapura line	400 kV	178.07	13.7.2004
15.	400 kV D/C Bhilwara-Ajmer line	400 kV	160.2	26.1.2018
16.	400 kV D/C Chittorgarh-Bhilwara line	400 kV	49.551	5.9.2018

(b) The Rajasthan Electricity Regulatory Commission (RERC) has not determined asset-wise transmission tariff. The transmission lines at serial numbers 2, 7, 8, 14, 15 and 16 in the above table are non-ISTS lines owned by



RRVPL, carrying inter-State power and same have been certified by NRPC for 2019-20 as per minutes of meetings dated 9.7.2019 of 45<sup>th</sup> NRPC and 42<sup>nd</sup> TCC meetings and minutes of meetings dated 20.11.2020 of 48<sup>th</sup> NRPC and 45<sup>th</sup> TCC meetings for inclusion in the PoC transmission charges.

(c) The procedure adopted by the Commission in the order dated 18.3.2015 in Petition No. 213/TT/2013, i.e. ARR methodology and as per Regulation 7(1)(n) of the 2010 Sharing Regulations, has been adopted for calculating and claiming the transmission charges for the instant transmission lines. Approval is sought for the transmission charges as per the procedure adopted by the Commission in the order dated 18.3.2015.

(d) The indicative cost of lines of various configurations owned and operated by the PGCIL are as follows:

**For FY 2019-20**

Sl. No.	Line type	Cost (₹ lakh/km)	Cost per circuit	Coefficient	Ratio w.r.t. 400 kV D/C Quad Moose
(a)	(b)	(c)	(d)	(e)	(f)
1.	500 kV HVDC	121.00	121.00	a	0.81
2.	800 kV HVDC	246.00	246.00	b	0.40
3.	765 kV D/C	349.00	174.50	c	0.56
4.	765 kV S/C	156.00	156.00	d	0.63
5.	400 kV D/C	115.00	57.50	e	1.71
6.	400 kV D/C Twin-HTLS	133.00	66.50	f	1.48
7.	400 kV D/C Quad Moose	197.00	98.50	g	1.00
8.	400 kV S/C	65.00	65.00	h	1.52
9.	220 kV D/C	49.00	24.50	i	4.02
10.	220 kV S/C	37.00	37.00	j	2.66
11.	132 kV D/C	33.00	16.50	k	5.97
12.	132 kV S/C	18.00	18.00	l	5.47



(e) On the basis of the line-length, the total ARR approved by RERC for 2019-20 is ₹2321.42 crore. The calculation of the same is as follows:

S. No.	Assets	For entire System of RRVPNL		
		Line length (ckt. km)	YTC (Per ckt. km)	YTC in ₹
1	765 kV S/C	425.50	2625186.66	1117016923.34
2	400 kV S/C	6565.44	1093827.77	7181460623.92
3	220 kV S/C	15270.99	622640.43	9508335711.31
4	132 kV S/C	17851.69	302906.15	5407386741.43
		<b>Total</b>		<b>23214200000.00</b>

(f) The transmission charges are claimed considering the per ckt-km for 400 kV S/C, 220 kV S/C and 132 kV S/C lines as follows:

Lines	Year	2019-20
400 kV S/C	YTC per ckt km	1093827.77
220 kV S/C	YTC per ckt km	622640.43
132 kV S/C	YTC per ckt km	302906.15

(g) The transmission charges are claimed for the natural ISTS and pre-approved ISTS lines on the basis of ARR methodology as follows:

Sl. No.	Name of transmission lines	Line length in km	YTC for 2019-20* (in ₹)
1	132 kV S/C Sadulpur (Rajgarh)-Hissar line	78	23626680
2	220 kV S/C Anta-Kota line	67	41716909
3	132 kV S/C Amrapura-Sirsa line	80	24232492
4	220 kV S/C MIA (Alwar)-Badarpur line	131.6	81939480
5	220 kV S/C Kota (Sakatpura)-Badod (Rajasthan-Madhya Pradesh)	59.624	37124313
6	220 kV S/C Khetri-Dadri line I (Rajasthan-Haryana)	70.91	44151433
7	220 kV SC RAPP (B)-Kota line	42	26150898
8	220 kV S/C RAPP (B) – RAPP (A) line	2	1245281
9	220 kV S/C Agra-Bharatpur line (Rajasthan-Uttar Pradesh)	48.12	29961457
10	220 kV S/C Khetri-Dadri line II (Rajasthan-Haryana)	77	47943313
11	220 kV S/C Modak-Barod (Bhanpura) (Rajasthan-Madhya Pradesh)	16.50	10273567
12	132 kV S/C Khandar-Sheopur line	12.62	3822676
13	220 kV S/C Chirawa-Hissar line (Rajasthan-Haryana)	118	73471570
		<b>TOTAL</b>	<b>445660069.00</b>

\* On the basis of true up ARR



(h) The following transmission charges are claimed for 400 kV S/C Merta-Heerapura line, 400 kV D/C Bhilwara-Ajmer line and 400 kV D/C Chittorgarh-Bhilwara line as per ARR methodology:

Sl. No.	Name of transmission lines	Line length in km	YTC in ₹
			2019-20
1	400 kV S/C Merta-Heerapura line	178.07	194777912
2	400 kV D/C Bhilwara-Ajmer line	160.20	175231209
3	400 kV D/C Chittorgarh-Bhilwara line	49.55	54200260
		<b>TOTAL</b>	<b>424209381</b>

*For line at Serial No. 2 and 3 of above table are D/C lines but in ARR, line length has taken as ckt-km. Hence in calculation, length of lines has been multiplied by two with actual length of D/C line.*

(i) The Petitioner has claimed ₹869869450 YTC for the 16 numbers of transmission lines as per the ARR methodology.

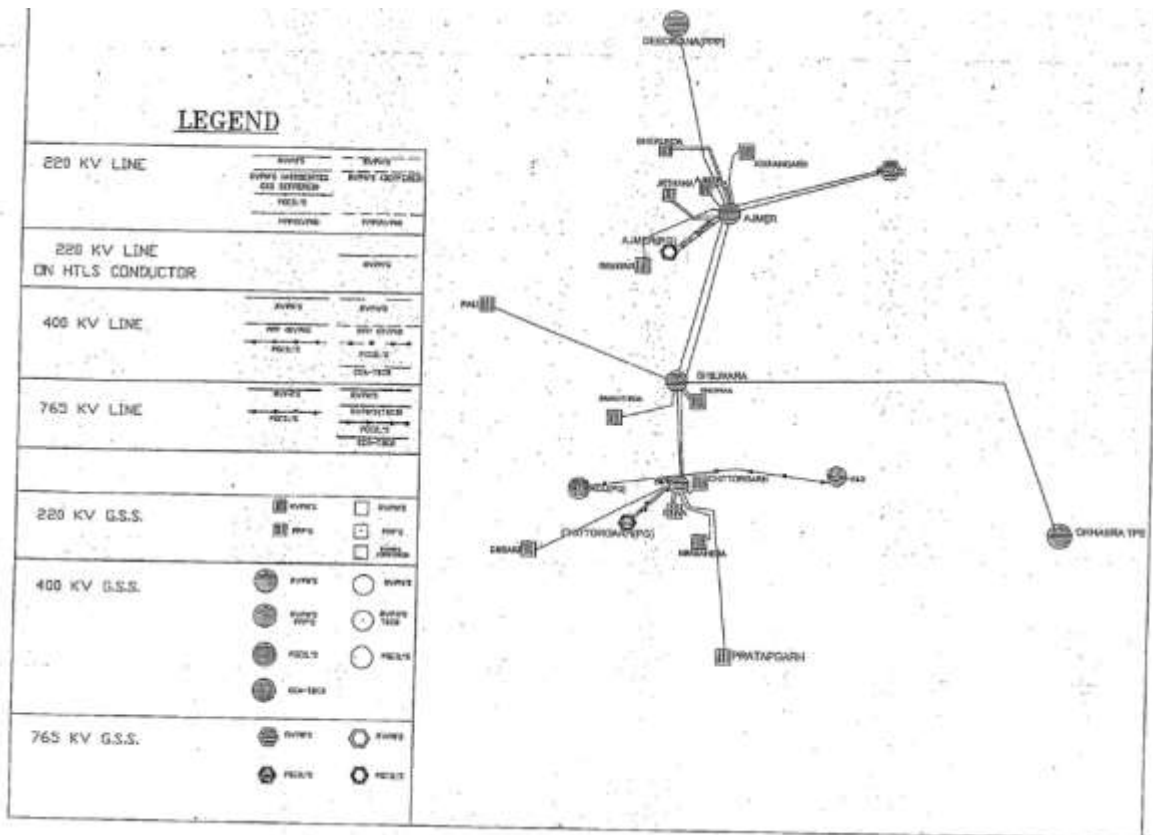
10. The Petitioner, vide affidavit 17.8.2022, has submitted that Asset-15 and Asset-16 were planned as a part of the power evacuation system of Banswara SCTPS (Super Critical Thermal Power Station) (2x660 MW) but there is a delay in its commercial operation. In the 184<sup>th</sup> meeting held on 12.7.2010, the Board of Directors (BODs) of the Petitioner accorded approval for the advancement of construction and completion of 400 kV GSS Chhitorgarh along with 400 kV D/C Chhitorgarh–Bhilwara line for further dispersal of power generated from TPS (Chhabra Thermal Power Station) (4x250 MW) and that of combined generation from Kalisindh TPS (2x600 MW), Chhabra SCTPS (2x660 MW) and Kawai SCTPS (2x660 MW). Subsequently, in the 208<sup>th</sup> meeting held on 25.6.2012, BoDs granted the approval for the advancement of construction and completion of 400 kV D/C Bhilwara-Ajmer line for further dispersal of power generated from Chhabra, Kawai and Kalisindh. Also, the 765 kV GSS Chhitorgarh was planned in the 32<sup>nd</sup> Standing Committee Meeting held on 31.8.2013. 400 kV D/C Chhitorgarh-Bhilwara-Ajmer line was approved much before the 765 kV



GSS Chhitorgarh planned by PGCIL. Accordingly, planning studies for the 400 kV D/C Chhitorgarh-Bhilwara-Ajmer line did not consider the same for inter-State power. The Petitioner has filed Form-12A and Form-12B with respect to Asset-15 and Form-12B with respect to Asset-16 and submitted the power flow details of Asset-15 and Asset-16 from the COD, along with loan details and the total capitalized Interest During Construction (“IDC”) up to COD. The Petitioner has submitted that other details cannot be provided as the loan was taken by the Petitioner from Rural Electrification Corporation on the Power evacuation scheme for Banswara SCTPS power evacuation, and the same is not a project specific loan. The loan was availed on a floating rate of interest and the interest incurred thereon is payable on a quarterly basis. IDC was calculated on the basis of total expenditure incurred on these projects, which were constructed on a turnkey basis and no Initial Spares were considered. Hence, data for Form-13 for these two assets may be considered as nil.

11. The Petitioner, vide affidavit dated 13.12.2022, has submitted the single-line diagram of Asset-15 (400 kV D/C Chittorgarh-Bhilwara Transmission line) and Asset-16 (400 kV D/C Bhilwara-Ajmer line), which is as follows:





12. Hearing in this matter was held on 30.8.2023 and the order was reserved. However, the order could not be issued before Shri I. S. Jha, former Member, demitted the office. Therefore, the matter was heard again on 6.2.2024 and the order was reserved.

13. This order is issued considering the submissions made by the Petitioner in the original petition and amended petition, the Petitioner's subsequent affidavits dated 31.3.2022, 17.8.2022, 13.12.2022, and MPPMCL's and CTUIL's reply filed vide affidavit dated 8.10.2021 and 3.10.2022, respectively.

14. Having heard the learned counsel of the Petitioner and the representative of the Respondent and having perused the material on record, we proceed to dispose of the petition.





## **DETERMINATION OF ANNUAL FIXED CHARGES FOR THE 2019-20 PERIOD**

15. As stated above, the Petitioner has filed the instant petition claiming tariff for the 2019-20 period for 16 transmission lines connecting the Petitioner with other States and intervening transmission lines incidental to inter-State transmission of electricity for inclusion in the computation of PoC transmission charges.

16. The Commission, as stated above, disallowed tariff for 400 kV D/C Bhilwara-Ajmer Line and 400 kV D/C Chittorgarh-Bhilwara Line (Asset-15 and Asset-16 in the present petition and Asset-18 and Asset-19 in Petition No.362/TT/2019) vide order dated 15.6.2020 in Petition No. 362/TT/2019. We have considered the submissions made by the Petitioner in respect of Asset-15 and Asset-16 in the amended petition also. The Petitioner has filed an Appeal No. 455 of 2022 against the Commission's order dated 15.6.2020 before the APTEL and the matter is sub-judice. As we have already disallowed tariff for 400 kV D/C Bhilwara-Ajmer Line and 400 kV D/C Chittorgarh-Bhilwara Line, i.e. Asset-15 and Asset-16 of this petition, we are not inclined to grant tariff for the said two transmission lines. Accordingly, the tariff is granted for only 14 transmission lines owned by the Petitioner for the 2019-20 tariff period in the instant petition.

17. The details of the transmission lines considered for the grant of tariff for the 2019-20 period in the instant petition are as follows:

<b>Assets</b>	<b>Name of Transmission Lines</b>	<b>Line Length (in km)</b>	<b>COD</b>	<b>Remarks</b>
Asset-1	132 kV S/C Sadulpur (Rajgarh)- Hissar	78.00	3.10.1959	Natural ISTS (Rajasthan-Haryana)
Asset-2	220 kV S/C Anta-Kota	67.00	1.3.1969	Deemed ISTS (emanating from ISGS)



Assets	Name of Transmission Lines	Line Length (in km)	COD	Remarks
Asset-3	132 kV S/C Amrapura-Sirsa Line	80.00	19.12.1970	Natural ISTS (Rajasthan-Haryana)
Asset-4	220 kV S/C Alwar-Badarpur Line	131.60	22.11.1975	Natural ISTS (Rajasthan-Delhi)
Asset-5	220 kV S/C Kota (Sakatpura)-Badod Line	59.624	20.8.1977	Natural ISTS (Rajasthan-MP)
Asset-6	220 kV S/C Khetri-Dadri Line I	70.91	23.12.1977	Natural ISTS (Rajasthan-Haryana)
Asset-7	220 kV S/C RAPP(B)-Kota	42.00	1.9.1977	Deemed ISTS (emanating from ISGS)
Asset-8	220 kV S/C RAPP(B)-RAPP(A)	2.00	1.9.1977	Deemed ISTS (emanating from ISGS)
Asset-9	220 kV S/C Agra-Bharatpur Line	48.12	30.12.1982	Natural ISTS (Rajasthan-UP)
Asset-10	220 kV S/C Khetri-Dadri Line II	77.00	2.3.1985	Natural ISTS (Rajasthan-Haryana)
Asset-11	220 kV S/C Modak-Badod Line	16.50	2.1.1988	Natural ISTS (Rajasthan-MP)
Asset-12	400 kV S/C Merta-Heerapura Line	178.07	13.7.2004	Deemed ISTS (NRPC certified)
Asset-13	132 kV S/C Khandar-Sheopur Line	12.62	5.7.2008	Natural ISTS (Rajasthan-MP)
Asset-14	220 kV S/C Chirawa-Hissar Line	118.00	27.11.2010	Natural ISTS (Rajasthan-Haryana)

18. Out of the 14 transmission lines, 10 are natural ISTS, while 4 were certified as ISTS lines by NRPC in its 48<sup>th</sup> meeting dated 2.9.2020.

19. The Commission, in the order dated 20.6.2018 in Petition No. 215/TT/2017, while approving tariff for the transmission lines connecting two states/deemed ISTS lines owned by the Petitioner for the year 2017-18, adopted the methodology followed in case of other States, where the useful life of the transmission lines is considered as 25 years. The relevant portion of the order dated 20.6.2018 is as follows:

*“13. 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, Funding, 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 30th 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.”

20. This methodology of allowing tariff for the deemed ISTS lines, considering their useful life as 25 years has been set aside by the APTEL, vide judgment dated 14.11.2022 in Appeal No. 267 of 2018 and batch matters, filed by the Petitioner and MPPTCL. Further, APTEL, in the said judgment, has observed that the useful life of the deemed ISTS lines shall be the same as for the ISTS lines specified in the 2014 Tariff Regulations. The relevant portion of APTEL's judgment dated 14.11.2022 is as follows:

*“10. During the hearing, the Appellants had submitted that the only issue which they are challenging is the consideration of useful life of the said deemed ISTS lines as 25 years for the purpose of computing the Transmission Charges under POC mechanism as against the 35 years of useful life as prescribed in the Tariff Regulations, 2014 and the earlier notified regulations for the ISTS lines owned by the ISTS licensees, this having resulted into a curtailment of useful life which have not completed even their 35 years of service as on 01.04.2014 and the tariff is restricted to O&M expenses and IWC only.”*



*“30. Accordingly, as observed above, it is opined that the decision of the Central Commission for considering the useful life of the State owned Deemed ISTS lines as 25 years is not correct. The useful life of the subject transmission lines shall be the same as for the ISTS lines as specified in the Tariff Regulations 2014 and the Sharing Regulations, 2010 which is 35 years.”*

21. In view of the above, we have considered the useful life of the transmission lines as 35 years. Accordingly, we have modified the methodology adopted by us earlier for approving the transmission charges for the transmission lines connecting two states/deemed ISTS lines considering the useful life of the transmission lines as 35 years. For determination of the transmission charges of the assets which have not completed their 35 years of service as on 1.4.2014, the capital cost of the transmission lines is derived from 1979-80 onward till 31.3.2014. As per the earlier methodology, the capital cost has been approved by the Commission from 1989-90 onward till 31.3.2014. Further, in the earlier methodology, due to the unavailability of base data for 1989-90, 1990-91 and 1991-92, the average cost of transmission lines has been back derived considering the average cost from 1992-93 onwards up to 2013-14 at a Compound Annual Growth Rate (CAGR) of 5.17%. The methodology for deriving the average cost of transmission lines for 1989-90, 1990-91 and 1991-92 has been extrapolated backwards to derive the average cost of transmission lines for 1979-80 to 1988-89. Accordingly, the average capital cost of transmission lines for 1979-80, 1980-81, 1981-82, 1982-83, 1983-84, 1984-85, 1985-86, 1986-87, 1987-88 and 1988-89 has been back derived by applying the Compound Annual Growth Rate (CAGR) factor of 5.17%. The capital cost of the transmission lines, which have not completed 35 years, is worked out as per the said methodology.





22. The life of the 14 transmission lines, for which transmission tariff is being allowed in the instant petition, as on 31.3.2019 is as follows:

<b>Assets</b>	<b>Name of transmission lines</b>	<b>Line length (in km)</b>	<b>COD</b>	<b>Life of the asset as on 31.3.2019</b>
Asset-1	132 kV S/C Sadulpur (Rajgarh)-Hissar	78	3.10.1959	59 years 5 months 28 days
Asset-2	220 kV S/C Anta-Kota	67	1.3.1969	50 years 8 months 29 days
Asset-3	132 kV S/C Amrapura-Sirsa Line	80	19.12.1970	48 years 11 months 11 days
Asset-4	220 kV S/C Alwar-Badarpur Line	131.6	22.11.1975	44 years 0 months 8 days
Asset-5	220 kV S/C Kota (Sakatpura)-Badod Line	59.624	20.8.1977	42 years 3 months 10 days
Asset-6	220 kV S/C Khetri-Dadri Line I	70.91	23.12.1977	41 years 11 months 7 days
Asset-7	220 kV S/C RAPP(B)-Kota	42	1.9.1977	42 years 2 months 29 days
Asset-8	220 kV S/C RAPP(B)-RAPP(A)	2	1.9.1977	42 years 2 months 29 days
Asset-9	220 kV S/C Agra-Bharatpur Line	48.12	30.12.1982	36 years 11 months 0 days
Asset-10	220 kV S/C Khetri-Dadri Line II	77	2.3.1985	34 years 8 months 28 days
Asset-11	220 kV S/C Modak-Badod Line	16.5	2.1.1988	31 years 10 months 28 days
Asset-12	400 kV S/C Merta-Heerapura Line	178.07	13.7.2004	15 years 4 months 17 days
Asset-13	132 kV S/C Khandar-Sheopur Line	12.62	5.7.2008	11 years 0 months 25 days
Asset-14	220 kV S/C Chirawa-Hissar Line	118	27.11.2010	9 years 0 months 3 days

23. From the above, it is observed that Asset-1, Asset-2, Asset-3, Asset-4, Asset-5, Asset-6, Asset-7, Asset-8 and Asset-9 have already completed useful life of 35 years. Accordingly, only IWC and O&M Expenses is allowable for Asset-1, Asset-2, Asset-3, Asset-4, Asset-5, Asset-6, Asset-7, Asset-8 and Asset-9.



24. Asset-10 will complete its useful life of 35 years as on 2.3.2020. Therefore, all the elements, except 'Interest on Loan', are allowed for Asset-10 from 1.4.2019 to 1.3.2020. Thereafter, only IWC and O&M Expenses have been allowed from 2.3.2020 to 31.3.2020 for Asset-10. Asset-11 and 12 have already completed 12 years of their useful life as on 01.04.2019; the IOL for these assets is not allowed. The Asset-11, Asset-12, Asset-13 and Asset-14 would complete the useful life of 35 years after 31.3.2019 and, accordingly, the tariff is worked out as per the methodology for determining the tariff of inter-State transmission lines.

25. As stated above, only O&M Expenses and IWC are allowed for Assets-1 to 9. Accordingly, the tariffs approved for Assets-1 to 9 are as follows.

**Operation & Maintenance Expenses (“O&M Expenses”)**

26. The O&M Expenses claimed by the Petitioner for Assets-1 to 9 are as follows:

<b>Assets</b>	<b>Name of transmission lines</b>	<b>Line length (in km)</b>	<b>2019-20 (₹ in lakh)</b>
Asset-1	132 kV S/C Sadulpur (Rajgarh)-Hissar	78	39.23
Asset-2	220 KV S/C Anta-Kota	67	33.70
Asset-3	132 kV S/C Amrapura-Sirsa Line	80	40.24
Asset-4	220 KV S/C Alwar-Badarpur Line	131.6	66.19
Asset-5	220 kV S/C Kota (Sakatpura)-Badod Line	59.624	29.99
Asset-6	220 kV S/C Khetri-Dadri Line I	70.91	35.67
Asset-7	220 kV S/C RAPP(B)-Kota	42	21.13
Asset-8	220 kV S/C RAPP(B)-RAPP(A)	2	1.01
Asset-9	220 kV S/C Agra-Bharatpur Line	48.12	24.20

27. We have considered the Petitioner’s claim. The O&M Expenses approved for Asset-1 to Asset-9 for the 2019-20 period as per Regulation 35(3)(a) of the 2019 Tariff Regulations are as follows:

<b>(₹ in lakh)</b>	
<b>Assets</b>	<b>2019-20</b>
Asset-1	39.23
Asset-2	33.70





Asset-3	40.24
Asset-4	66.19
Asset-5	29.99
Asset-6	35.67
Asset-7	21.13
Asset-8	1.01
Asset-9	24.20

### **Interest on Working Capital (“IWC”)**

28. The IWC is approved for Assets-1 to Asset-9 for the 2019-20 period in accordance with Regulation 34(1)(c), Regulation 34(3), Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations. The components of the working capital and interest allowed thereon for the transmission assets for the 2019-20 period are as follows:

Particulars		(₹ in lakh)				
		Asset-1 2019-20	Asset-2 2019-20	Asset-3 2019-20	Asset-4 2019-20	Asset-5 2019-20
A	Working Capital for O&M Expenses (O&M Expenses for one month)	3.27	2.81	3.35	5.52	2.50
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	5.88	5.06	6.04	9.93	4.50
C	Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/annual transmission charges)	5.03	4.32	5.16	8.49	3.85
<b>D</b>	<b>Total Working Capital (A+B+C+D)</b>	<b>14.19</b>	<b>12.19</b>	<b>14.55</b>	<b>23.94</b>	<b>10.85</b>
E	Rate of Interest of working capital (in %)	12.05	12.05	12.05	12.05	12.05
<b>F</b>	<b>Interest of working capital (D*E)</b>	<b>1.71</b>	<b>1.47</b>	<b>1.75</b>	<b>2.88</b>	<b>1.31</b>

Particulars		(₹ in lakh)			
		Asset-6 2019-20	Asset-7 2019-20	Asset-8 2019-20	Asset-9 2019-20
A	Working Capital for O&M Expenses (O&M Expenses for one month)	2.97	1.76	0.08	2.02
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	5.35	3.17	0.15	3.63
C	Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/annual transmission charges)	4.58	2.71	0.13	3.11
<b>D</b>	<b>Total Working Capital (A+B+C+D)</b>	<b>12.90</b>	<b>7.64</b>	<b>0.37</b>	<b>8.75</b>
E	Rate of Interest of working capital (in %)	12.05	12.05	12.05	12.05
<b>F</b>	<b>Interest of working capital (D*E)</b>	<b>1.55</b>	<b>0.92</b>	<b>0.04</b>	<b>1.05</b>



29. Accordingly, the annual transmission charges for Assets-1 to Asset-9 for the 2019-20 period are as follows:

(₹ in lakh)

Particulars	Asset-1	Asset-2	Asset-3	Asset-4	Asset-5
	2019-20	2019-20	2019-20	2019-20	2019-20
Depreciation	0.00	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	1.71	1.47	1.75	2.88	1.31
O & M Expenses	39.23	33.70	40.24	66.19	29.99
<b>Total</b>	<b>40.94</b>	<b>35.17</b>	<b>41.99</b>	<b>69.07</b>	<b>31.30</b>

(₹ in lakh)

Particulars	Asset-6	Asset-7	Asset-8	Asset-9
	2019-20	2019-20	2019-20	2019-20
Depreciation	0.00	0.00	0.00	0.00
Interest on Loan	0.00	0.00	0.00	0.00
Return on Equity	0.00	0.00	0.00	0.00
Interest on Working Capital	1.55	0.92	0.04	1.05
O & M Expenses	35.67	21.13	1.01	24.20
<b>Total</b>	<b>37.22</b>	<b>22.05</b>	<b>1.05</b>	<b>25.25</b>

### **DETERMINATION OF TARIFF FOR ASSETS-10 TO ASSETS-14 FOR 2019-20**

#### **Capital Cost**

30. The capital cost of Asset-10 to Asset-14 has been derived taking into consideration the length and configurations of the transmission line, the year of COD and the rationalized cost of the year. Accordingly, the capital cost derived for Asset-10 to Asset-14 are as follows:

(₹ in lakh)

Assets	Name of Transmission Lines	Capital cost considered as on COD
Asset-10	220 kV S/C Khetri-Dadri Line II	578.22
Asset-11	220 kV S/C Modak-Badod Line	144.13
Asset-12	400 kV S/C Merta-Heerapura Line	4844.08
Asset-13	132 kV S/C Khandar-Sheopur Line	106.42
Asset-14	220 kV S/C Chirawa-Hissar Line	2220.07



## Depreciation

31. The depreciation allowed for Asset-10 to Asset-14 for the 2019-20 period is as follows:

Particulars		(₹ in lakh)		
		Asset-10		Asset-11
		2019-20 (pro-rata for 336 days)	2019-20 (pro-rata for 30 days)	2019-20
A	Opening Gross Block	578.22	-	144.13
B	ACE	0.00	-	0.00
C	Closing Gross Block (A+B)	578.22	-	144.13
D	Average Gross Block (A+C)/2	578.22	-	144.13
E	Depreciable Value	520.40	-	129.72
F	Weighted average rate of Depreciation (WAROD) (in %)	5.28	-	5.28
G	Remaining life at the beginning of the year (Year)	1	-	4
H	Lapsed life at the beginning of the year (Year)	34	-	31
<b>K</b>	<b>Depreciation during the year (D*F)</b>	<b>6.70</b>	-	<b>1.67</b>
M	Cumulative Depreciation at the end of the year	520.40	-	124.71
N	Remaining depreciable value at the end of the year	0.00	-	5.01

Particulars		(₹ in lakh)		
		Asset-12	Asset-13	Asset-14
A	Opening Gross Block	4844.08	106.42	2220.07
B	ACE	0.00	0.00	0.00
C	Closing Gross Block (A+B)	4844.08	106.42	2220.07
D	Average Gross Block (A+C)/2	4844.08	106.42	2220.07
E	Depreciable Value	4359.67	95.78	1998.06
F	Weighted average rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28
G	Remaining life at the beginning of the year (Year)	21	25	27
H	Lapsed life at the beginning of the year (Year)	14	10	8
<b>K</b>	<b>Depreciation during the year (D*F)</b>	<b>56.11</b>	<b>5.62</b>	<b>117.22</b>
M	Cumulative Depreciation at the end of the year	3237.53	61.81	1054.98
N	Remaining depreciable value at the end of the year	1122.14	33.97	943.09

## Interest on Loan ("IoL")



32. The IoL allowed for Asset-13 and Asset-14 for the 2019-20 period is as follows:

		(₹ in lakh)	
Particulars		Asset-13 2019-20	Asset-14 2019-20
A	Gross Normative Loan	74.50	1554.05
B	Cumulative Repayments upto Previous Year	56.19	937.76
C	Net Loan-Opening (A-B)	18.31	616.29
D	Addition due to ACE	0.00	0.00
E	Repayment during the year	5.62	117.22
F	Net Loan-Closing (C+D-E)	12.69	499.07
G	Average Loan (C+F)/2	15.50	557.68
H	Weighted Average Rate of Interest on Loan (in %)	8.8800	8.8800
I	<b>Interest on Loan (G*H)</b>	<b>1.38</b>	<b>49.52</b>

**Return on Equity (“RoE”)**

33. The RoE allowed for Asset-10 to Asset-14 for the 2019-20 period is as follows

		(₹ in lakh)		
Particulars		Asset-10		Asset-11
		2019-20 (pro-rata for 336 days)	2019-20 (pro-rata for 30 days)	2019-20
A	Opening Equity	173.47	-	43.24
B	Additions due to ACE	-	-	-
C	Closing Equity (A+B)	-	-	-
D	Average Equity (A+C)/2	173.47	-	43.24
E	Return on Equity (Base Rate) (in %)	-	-	-
F	MAT Rate for respective year (in %)	-	-	-
G	Rate of Return on Equity (in %)	15.50	-	15.50
H	<b>Return on Equity (D*G)</b>	<b>24.68</b>	-	<b>6.70</b>

		(₹ in lakh)		
Particulars		Asset-12	Asset-13	Asset-14
		2019-20	2019-20	2019-20
A	Opening Equity	1453.22	31.93	666.02
B	Additions due to ACE	-	-	-
C	Closing Equity (A+B)	-	-	-
D	Average Equity (A+C)/2	1453.22	31.93	666.02
E	Return on Equity (Base Rate) (in %)	-	-	-
F	MAT Rate for respective year (in %)	-	-	-
G	Rate of Return on Equity (in %)	15.50	15.50	15.50
H	<b>Return on Equity (D*G)</b>	<b>225.25</b>	<b>4.95</b>	<b>103.23</b>

**Operation & Maintenance Expenses (“O&M Expenses”)**



34. The O&M Expenses claimed by the Petitioner for Assets-10 to 14 for the 2019-20 period are as follows:

Assets	Name of Transmission Lines	Line length (in km)	2019-20 (₹ in lakh)
Asset-10	220 kV S/C Khetri-Dadri Line II	77	38.73
Asset-11	220 kV S/C Modak-Badod Line	16.5	8.30
Asset-12	400 kV S/C Merta-Heerapura Line	178.07	89.57
Asset-13	132 kV S/C Khandar-Sheopur Line	12.62	6.35
Asset-14	220 kV S/C Chirawa-Hissar Line	118	59.35

35. The O&M Expenses approved for Assets-10 to 14 for the 2019-20 period as per the norms specified under Regulation 35(3)(a) of the 2019 Tariff regulations are as follows:

(₹ in lakh)	
Assets	2019-20
Asset-10	38.73
Asset-11	8.30
Asset-12	89.57
Asset-13	6.35
Asset-14	59.35

### **Interest on Working Capital (“IWC”)**

36. The IWC is approved for Assets-10 to 14 for the 2019-20 period in accordance with Regulation 34(1)(c), Regulation 34(3), Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations. The components of the working capital and interest allowed thereon for the transmission assets for the 2019-20 period are as follows:

Particulars		(₹ in lakh)		
		Asset-10		Asset-11
		2019-20 (pro-rata for 336 days)	2019-20 (pro-rata for 30 days)	2019-20
A	Working Capital for O&M Expenses (O&M Expenses for one month)	3.23	3.23	0.69
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	5.81	5.81	1.25
C	Working Capital for Receivables	9.24	4.97	2.11



	(Equivalent to 45 days of annual fixed cost/annual transmission charges)			
<b>D</b>	<b>Total Working Capital (A+B+C+D)</b>	18.27	14.01	4.05
<b>E</b>	Rate of Interest of working capital (in %)	12.05	12.05	12.05
<b>F</b>	<b>Interest of working capital (D*E)</b>	<b>2.02</b>	<b>0.14</b>	<b>0.49</b>

(₹ in lakh)

Particulars		Asset-12	Asset-13	Asset-14
		2019-20	2019-20	2019-20
A	Working Capital for O&M Expenses (O&M Expenses for one month)	7.46	0.53	4.95
B	Working Capital for Maintenance Spares (15% of O&M Expenses)	13.44	0.95	8.90
C	Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/annual transmission charges)	46.61	2.31	41.31
<b>D</b>	<b>Total Working Capital (A+B+C+D)</b>	<b>67.51</b>	<b>3.79</b>	<b>55.16</b>
<b>E</b>	Rate of Interest of working capital (in %)	12.05	12.05	12.05
<b>F</b>	<b>Interest of working capital (D*E)</b>	<b>8.13</b>	<b>0.46</b>	<b>6.65</b>

### Annual Fixed Charges

37. The transmission charges approved for Asset-10 to Asset-14 for the 2019-20 period are as follows:

(₹ in lakh)

Particulars	Asset-10		Total [(a)+(b)]	Asset-11
	2019-20 (pro-rata for 336 days)	2019-20 (pro-rata for 30 days)	2019-20	2019-20
Depreciation	6.70	0.00	6.70	1.67
Interest on Loan	0.00	0.00	0.00	0.00
Return on Equity	24.68	0.00	24.68	6.70
O&M Expenses	35.56	3.17	38.73	8.30
Interest on Working Capital	2.02	0.14	2.16	0.49
<b>Total</b>	<b>68.96</b>	<b>3.31</b>	<b>72.27</b>	<b>17.16</b>

(₹ in lakh)

Particulars	Asset-12	Asset-13	Asset-14
	2019-20	2019-20	2019-20
Depreciation	56.11	5.62	117.22
Interest on Loan	0.00	1.38	49.52
Return on Equity	225.25	4.95	103.23
O&M Expenses	89.57	6.35	59.35
Interest on Working Capital	8.13	0.46	6.65
<b>Total</b>	<b>379.06</b>	<b>18.75</b>	<b>335.97</b>



### **Sharing of Transmission Charges**

38. We hereby direct that the transmission charges approved in this order in the aforesaid manner shall be recovered on a monthly basis in accordance with Regulation 57 of the 2019 Tariff Regulations and shall be shared by the beneficiaries and long-term transmission customers in the Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010. Further, the transmission charges allowed in this order shall be adjusted against the ARR approved by the RERC.

39. The availability of transmission lines covered in the instant tariff order shall be certified by RPCs for the purpose of claiming incentive.

40. This order disposes of Petition No. 161/TT/2021 in terms of the above discussions and findings.

**sd/-  
(P.K. Singh)  
Member**

**sd/-  
(Arun Goyal)  
Member**

**sd/-  
(Jishnu Barua)  
Chairperson**

