CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

<u>Petition No. 89/GT/2023</u>

Coram:
Shri Jishnu Barua, Chairperson
Shri Ramesh Babu V., Member

Date of Order: 7th February, 2025

In the matter of:

Petition for truing-up of tariff for the period 2014-19 and for determination of tariff for the period 2019-24 in respect of Dadri Loni Road 400 KV D/C dedicated Transmission Line associated with National Capital Thermal Power Station, Dadri-II (980 MW).

And

In the matter of:

NTPC Limited
NTPC Bhawan, Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi - 110003) …**Petitioner**

Vs

1. Uttar Pradesh Power Corporation Limited
Shakti Bhawan, 14, Ashok Marg,
Lucknow - 226001

2. Tata Power Delhi Distribution Limited
Grid Sub-station, Hudson Road,
Kingsway Camp, Delhi -110009

3. BSES Rajdhani Power Limited
BSES Bhawan, Nehru Place,
New Delhi - 110019

4. BSES Yamuna Power Limited
Shakti Kiran Building, Karkardooma,
Delhi - 110092 …**Respondents**

Parties Present:

1. Ms. Shikha Ohri, Advocate, NTPC
2. Shri Parimal Piyush, NTPC
3. Shri Abhinash Dash, NTPC

<u>ORDER</u>

This Petition has been filed by the Petitioner for truing-up of the tariff of Dadri

Loni Road 400 KV D/C Transmission Line (in short, "transmission line") associated with NCTPS Dadri Stage-II (980 MW) generating station for the period 2014-19, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short, "the 2014 Tariff Regulations") and the determination of tariff of the transmission line, for the period 2019-24 in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (in short "the 2019 Tariff Regulations").

2. Petition No. 190/GT/2020 was filed by the Petitioner for revision of tariff for the period 2014-19 and Petition No. 2/GT/2021 for determination of tariff for the period 2019-24 in respect of NCTPS Dadri-II (980 MW) generating station including its associated Dadri Loni 400 KV D/C dedicated Transmission Line and the Commission vide its order dated 21.5.2022 (in Petition No. 190/GT/2020) and order dated 1.6.2022 in Petition No. 2/GT/2021, revised the tariff for the period 2014-19 and determined the same for the period 2019-24 in respect of NCTPS Dadri-II generating station. However, the Commission vide paragraph 8 of the order dated 21.5.2022 noted as under:

*"**<u>Transmission Line</u>***

"8. We notice, that the Commission, while determining the capital cost of the 400 kV D/C Dadri-Loni Road Transmission line had, vide order dated 2.5.2017 in Petition No. 324/GT/2014, directed the Petitioner to submit detailed justification for time overrun in a chronological order, along with the auditor's certificate of the capital cost incurred as on actual COD, indicating the actual payments made on cash basis, and the balance payments to be made, etc., at the time of truing up of tariff. The relevant portion of the order dated 2.5.2017 is extracted below:

> *"35. Thus from the above submissions of petitioner, we have the correspondence details regarding RoW issues in various districts of U.P from 9.4.2012 to 10.6.2014. This indicates that due to such RoW issues, it could be possible that the ckt-1 and ckt-2 of the 400 kV D/C Dadri-Loni road transmission line are commissioned on 2.8.2014 and 8.9.2014, respectively. Accordingly, the entire time over-run ckt-1 and ckt-2 of 400 kV D/C Dadri-Loni road transmission line is provisionally condoned and accordingly IDC and IEDC for the delay are allowed to be capitalized. However, the petitioner is directed to provide the detailed justification for time over-run in chronological order at the time of truing up.*
>
> *36. As discussed above, the petitioner vide its affidavit dated 14.9.2016 has submitted Auditor's Certificate as on COD for the asset. However, the petitioner is directed to submit the*

Auditor's Certificate as on COD along with the details of IDC and IEDC on cash basis at the time of truing up. As discussed above, we have condoned the entire time over-run in case of the instant transmission line."

9. Though the Petitioner, vide affidavit dated 3.1.2020, has submitted the tariff filing formats for truing-up of tariff of the transmission line for the 2014-19 tariff period, it has not furnished the detailed justification for time over-run and the auditor's certificate as on COD along with details of IDC and IEDC on cash basis. In the absence of aforesaid details, it is difficult to prudently undertake the determination of capital cost as on COD of the said transmission line. In view of this, we are not inclined to revise the tariff of the said transmission line, determined by order dated 2.5.2017 in Petition No.324/GT/2014 for the 2014-19 tariff period. It is noticed that the Petitioner vide affidavit dated 24.1.2020, has also filed petition for determination of tariff of the said transmission line for the 2019-24 tariff period. Since the capital cost of the transmission line as on 31.3.2019, is not being revised by this order, for the reasons as stated above, the capital cost and transmission tariff for the 2019-24 tariff period is also not being determined. The Petitioner is, however, granted liberty to approach the Commission with a separate tariff petition for revision of tariff for the 2014-19 tariff period and for determination of tariff for 2019-24 tariff period in respect of the said transmission line, in terms of the relevant tariff regulations. Needless to say, since the transmission line form part of the generating station, the tariff for the same, shall be treated as part of the generation tariff, in terms of the Commission's order dated 20.4.2015 as referred to in paragraph 3 above.

10. We therefore proceed for truing-up of tariff of the generating station for the 2014-19 tariff period, as stated in the subsequent paragraphs…"

3. Also, the Commission vide paragraph 3 of the order dated 1.6.2022 in Petition No 2/GT/2021 has noted as under:

"In compliance to the directions of the Commission vide order dated 20.4.2015 in Petition No 377/TT/2014, the Petitioner revised Petition No. 324/GT/2014, by incorporating its claim for tariff of the transmission line (from 2.8.2014 to 31.3.2019) in accordance with the provisions of the 2014 Tariff Regulations. Accordingly, the Commission vide its order dated 2.5.2017 in Petition No. 324/GT/2014 approved the capital cost and annual fixed charges of the generating station and the transmission line for the 2014-19 tariff period. Thereafter, in Petition No.190/GT/2020 filed by the Petitioner for truing-up of tariff of the generating station and transmission line for the 2014-19 tariff period, the Commission vide its order dated 21.5.2022, while truing-up the tariff of the generating station for the 2014-19 tariff period, granted liberty to the Petitioner to approach the Commission with a separate tariff petition for truing-up of tariff for the 2014-19 tariff period and for determination of tariff for 2019-24 tariff period in respect of the said transmission line, in terms of the relevant tariff regulations"

4. Accordingly, in compliance with the above direction, the present petition has been filed by the Petitioner vide affidavit dated 8.9.2022 for revision of tariff of the transmission line for the period 2014-19 and determination of tariff for the period 2019-24 along with the additional inputs/ clarifications. Accordingly, the capital cost and the annual fixed charges claimed by the Petitioner for the period 2014-

19 are as under:

Capital cost claimed

(a) Period 2014-19

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Opening capital cost	5126.66	10583.53	10743.77	11097.77	11097.77	11097.77
Add: additional capital expenditure	0.00	160.24	200.95	257.58	1.18	0.09
Closing capital cost	**5126.66**	**10743.77**	**10944.72**	**11202.30**	**11203.48**	**11203.57**
Average capital cost	5126.66	10663.65	10844.24	11073.51	11202.89	11203.52

(b) Period 2019-24

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	11203.57	11203.57	11203.57	11203.57	11203.57
Add: additional capital expenditure	0.00	0.00	0.00	0.00	0.00
Closing capital cost	**11203.57**	**11203.57**	**11203.57**	**11203.57**	**11203.57**
Average capital cost	11203.57	11203.57	11203.57	11203.57	11203.57

Annual fixed charges claimed

(a) Period 2014-19

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Depreciation	270.69	563.04	572.58	584.68	591.51	591.55
Interest on Loan	341.43	695.19	648.96	598.74	529.78	479.59
Return on Equity	301.61	627.36	641.08	654.63	662.28	664.06
Interest on Working Capital	23.11	45.48	45.03	44.53	43.35	42.31
O&M Expenses	37.67	37.67	38.95	40.23	41.56	42.95
Total	**974.51**	**1968.75**	**1946.59**	**1922.81**	**1868.48**	**1820.46**

(b) Period 2019-24

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	591.55	591.55	591.55	591.55	591.55
Interest on Loan	434.10	386.03	329.96	273.63	216.77
Return on Equity	631.26	631.26	631.26	631.26	631.26
Interest on Working Capital	27.03	26.38	25.61	24.84	24.06
O&M Expenses	46.94	48.60	50.30	52.06	53.87
Total	**1730.89**	**1683.82**	**1628.68**	**1573.33**	**1517.50**

5. The Petition was heard on 30.10.2023, and the Commission, after directing the Petitioner to file certain additional information, adjourned the matter. In compliance with the directions of the Commission, the Petitioner filed the additional information vide affidavit dated 13.2.2024 after serving a copy to the Respondents. The Petitioner was thereafter heard on 11.7.2024, and the Commission, after hearing the learned counsel for the Petitioner, reserved its order. None of the Respondents have filed replies in the matter. Accordingly, based on the submissions and the documents on record, we proceed to examine the claim of the Petitioner, as discussed in the subsequent paragraphs.

Date of Commercial Operation (COD)

6. The Petitioner has claimed the COD of the transmission line as under:

Assets	COD
Transmission line, Ckt-1	2.8.2014
Transmission line, Ckt-2	8.9.2014

7. The Commission vide order dated 2.5.2017 in Petition No. 324/GT/2014 approved the COD of Ckt-1 and Ckt-2 of the transmission line as 2.8.2014 and 8.9.2014, respectively. The CODs were approved on the basis of the RLDC certificate issued by WRLDC, POSOCO for Ckt-1 and Ckt-2 of the transmission line in accordance with the Regulation 5(2) of the 2014 Tariff Regulations, indicating the completion of the successful trial operation. Accordingly, the COD of the Ckt-1 and Ckt-2 of 400 kV D/C dedicated transmission line has been considered as approved vide order dated 2.5.2017 in Petition No. 324/GT/2014, and the tariff is worked out from COD to 31.3.2019.

Capital cost of the transmission line as on COD

8. The details of the apportioned approved cost as per FR, capital cost as on the date of commercial operation and actual additional capital expenditure incurred in the

period 2014-19 and projected for the period 2019-24 for the present assets as submitted by the Petitioner are as under:

(Rs. in lakh)

Approved apportioned cost as per FR: Rs.4735.20 lakh
Revised Apportioned Cost as per RCE: Rs.11142.00 lakh
(including consultancy charges of Rs.1001.00 lakh and IDC of Rs.2261.00 lakh (based on first Quarter 2016 price level))

Capital Cost up to COD 2.8.2014 (COD of ckt 1)	Additional Capital Expenditure 2014-15 (From 2.8.2014 to 7.9.2014)	Capital Cost up to COD 8.9.2014 (COD of ckt 2)	Additional capital expenditure					**Total Cost**
			2014-15 (From 8.9.2014 to 31.3.2015)	**2015-16**	**2016-17**	**2017-18**	**2018-19**	
5126.66	0.00	10583.53	160.24	200.95	257.58	1.18	0.09	11203.57

(Rs. in lakh)

Capital cost as on 1.4.2019	**Additional capital expenditure**				**Total cost**
	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
11203.57	-	-	-	-	11203.57

9. Regulations 9 and 10 of the 2014 Tariff Regulations provide as under:

> ***"9. Capital Cost:*** *(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.*
>
> *(2) The Capital Cost of a new project shall include the following:*
>
> a) *the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
> b) *Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan* in the event of the actual *equity less than 30% of the funds deployed;*
> c) *Increase in cost in contract packages as approved by the Commission;*
> d) *Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;*
> e) *Capitalized Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;*
> f) *expenditure on account of additional capitalization and de-capitalization determined in accordance with Regulation 14 of these regulations;*
> g) *adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and*
> h) *adjustment of any revenue earned by the transmission licensee by using the assets before COD.*
>
> xxx
>
> (6) *The following shall be excluded or removed from the capital cost of the existing and new project:*
>
> a) *The assets forming part of the project, but not in use;*
> b) *Decapitalization of Asset;*
> c) *In case of hydro generating station, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State government by following a two-stage transparent process of bidding; and*

d) *the proportionate cost of land which is being used for generating power from generating station based on renewable energy:*

Provided that any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment shall be excluded from the Capital Cost for the purpose of computation of interest on loan, return on equity and depreciation;

10. *Prudence Check of Capital Expenditure:* *The following principles shall be adopted for prudence check of capital cost of the existing or new projects:*

(1) In case of the thermal generating station and the transmission system, prudence check of capital cost may be carried out taking into consideration the benchmark norms specified/to be specified by the Commission from time to time:

Provided that in cases where benchmark norms have not been specified, prudence check may include scrutiny of the capital expenditure, financing plan, interest during construction, incidental expenditure during construction for its reasonableness, use of efficient technology, cost over-run and time over-run, competitive bidding for procurement and such other matters as may be considered appropriate by the Commission for determination of tariff:"

10. During the proceeding in Petition No. 324/GT/2014, the Petitioner was directed to submit the Auditor's certificate for the capital cost incurred as on the actual COD of the transmission line, indicating the actual payment made on a cash basis, and the balance payments to be made. In response, the Petitioner, vide its affidavit dated 14.9.2016, had submitted the Auditor's certificate for the capital cost incurred as on actual COD for the said transmission line on a cash basis. Accordingly, vide order dated 2.5.2017 in Petition No. 324/GT/2014, the Commission had approved the capital cost incurred for the subject assets as under:

(Rs. in lakh)

	Capital cost considered before adjustment of IDC/IEDC & initial spares as on COD
Ckt-1 of the transmission line as on COD (2.8.2014)	5126.66
Ckt-1 and 2 of the transmission line as on COD of ckt-2 (8.9.2014)	10583.53

11. As quoted in para 2 above, the Commission vide para 9 of its order dated 21.5.2022 in Petition No. 190/GT/2020 had observed that since the transmission line forms part of the generating station, the tariff for the same shall be treated as part of the generation tariff, in terms of the Commission's order dated 20.4.2015. Accordingly, the Petitioner filed the present Petition and has submitted the audited figures of capital

cost, including IDC incurred as on the actual COD of the transmission line, along with the details of IEDC. The Petitioner has also furnished a copy of the Auditor's certificate as submitted in Petition No. 324/GT/2014.

12. It is observed that the capital cost as on the COD (based on the Auditor certificate) is within the approved RCE, and therefore, the capital cost, as on COD of the present asset, as approved vide order dated 2.5.2017 in Petition No. 324/GT/2014 is considered. Accordingly, the details of the capital cost approved for Ckt-1 and Ckt-2 of the transmission line as on the COD, are as under:

(Rs. in lakh)

	capital cost considered before adjustment of IDC/IEDC & initial spares as on COD
Ckt-1 of the transmission line as on COD (2.8.2014)	5126.66
Ckt-1 and 2 of the transmission line as on COD of ckt-2 (8.9.2014)	10583.53

Cost overrun

13. The investment approval to the 44.00 km of the 400 kV transmission line associated with Stage-II of the generating station was approved in an agreement signed between PGCIL and the Petitioner on 12.6.2009 for Rs.4735.20 lakh (including IDC and consultancy charges) based on the 4th quarter 2008 price level. Subsequently, as the line length was increased from 44.00 km to 54.18 km, the Revised Cost Estimate (RCE) for the transmission line was approved in an agreement signed between PGCIL and the Petitioner on 27.8.2010 for an estimated cost of Rs.5830.80 lakh (including IDC and consultancy charges). Further, the RCE for the said transmission line was estimated as Rs.11142.00 lakh, in the 439th meeting of the Board of Directors of the Petitioner's company held on 28.10.2016, which included the Consultancy charges of Rs.1001.00 lakh and IDC of Rs.2261.00 lakh (based on the first quarter 2016 price level).

14. The Petitioner has claimed the capital cost of Rs.10583.53 lakh, as on 8.9.2014 and Rs.11203.57 lakh as on 31.3.2019, which is higher in comparison to the revised RCE of Rs.11142.00 lakh. It is noted that as per Form-2, the Petitioner has claimed a tariff for 53.284 km of line length. In this regard, the Petitioner vide ROP of the hearing dated 30.10.2023, was directed to provide a complete justification for the increase in the cost, and in response, the Petitioner vide affidavit dated 13.2.2024, submitted that the Commission allowed the capital cost of Rs.10583.53 lakh, on a cash basis, as on the COD of the transmission asset vide its order dated 2.5.2017 in Petition No. 324/GT/2014. The Petitioner has submitted that the additional capitalization claimed in the present petition includes the adjustments and the balance payments made to PGCIL (the main contractor for the transmission line) for the expenses incurred under the original scope of the project, and these expenditures are inclusive of the price variations, insurance claims, tree compensation, B-guard installation and tower erection costs, etc., The Petitioner has also submitted that the additional capital expenditure claimed for the period 2014-19 on a cash basis, excluding discharge of liabilities as claimed in the petition, is Rs.294.34 lakh only (which is well within the approved cost). However, considering the discharge of liabilities of Rs.325.70 lakh corresponding to the earlier approved work/cost, there is a minor increase in the completion cost by Rs.61.57 lakh (i.e., only 0.55% of the approved capital cost). The Petitioner has further submitted that considering the adjustments with respect to adherence to project scope and the expenditure incurred/ discharge of liabilities pertaining to the approved work/cost, the capital cost claimed by the Petitioner may be approved.

15. The matter has been considered. It was observed in Petition No. 324/GT/2014 that the project cost of Rs.10583.53 lakh claimed by the Petitioner as on the COD,

exceeded the approved cost of Rs.8837.33 lakh, and the Petitioner was directed to submit the approved RCE for the present asset. In response, the Petitioner vide affidavit dated 3.11.2016 submitted that RCE of the said transmission line, which was approved by the Board of Directors of the Petitioner's company in the 439th meeting held on 28.10.2016 at an estimated cost of Rs.11142.00 lakh, included consultancy charges of Rs.1001.00 lakh and IDC of Rs.2261.00 lakh (based on first quarter 2016 price level).

16. Though the capital cost claimed as on the COD of the present asset (Rs.10583.53 lakh), is within the approved cost of Rs.11142.00 lakh, there is no cost overrun as on the COD of the present asset. However, the cost as on 31.3.2019, including the additional capital expenditure claimed in respect of the said transmission asset, is beyond the RCE approved cost by Rs.61.57 lakh. Further, considering the un-discharged liabilities of Rs.80.66 lakh as on 31.3.2019, the increase in the completion cost works out to Rs.142.23 lakh (i.e., 1.28% of the approved capital cost). Hence, there is a cost overrun in the case of the present asset when compared with the cost incurred as on 31.3.2019, and the Petitioner has failed to justify the said increase with supporting documents. In view of this, the admissible capital cost (including the additional capital expenditure allowed for the period 2014-19) as on 31.3.2019 is restricted to Rs.11142.00 lakh and the cost overrun of Rs.61.57 lakh, along with un-discharged liabilities of Rs.80.66 lakh, as on 31.3.2019 is **not allowed** for the purpose of tariff. Accordingly, the capital cost of Rs.11142.00 lakh as on 31.3.2019 is approved as under:

(Rs. in lakh)

Asset	COD	Cost as per FR	Revised Cost Estimate as per RCE	Capital cost approved as on31.3.2019
Transmission Line	8.9.2014	4735.20	11142.00	11142.00 *

** Corresponding admissible undischarged liability is nil.*

Time overrun as on COD of the transmission line and the reasons for delay

17. The Commission, vide its order dated 2.5.2017 in Petition No. 324/GT/2014, had directed the Petitioner to submit a detailed justification for the time overrun in chronological order at the time of truing up of tariff. In response, the Petitioner vide affidavit dated 19.8.2016 submitted that the scheduled date of completion of works in accordance with the DTL letter dated 23.4.2013 and as agreed in the agreement dated 12.6.2009 signed between the Petitioner and PGCIL for 44.00 km line length, was 24 months from the date of signing of the agreement. The Petitioner has clarified that due to the non-availability of a corridor between Ghaziabad and Muradnagar at NH-58, PGCIL, vide its letter dated 27.8.2010, revised the line length to 54.18 km, and the Petitioner signed a supplementary agreement dated 21.3.2011 with PGCIL. The Petitioner has further submitted that considering the time schedule of 24 months from the date of signing of the supplementary agreement for completion of the works, the scheduled completion date was 21.3.2013, and the copy of relevant documents in this regard has been furnished by the Petitioner. The Petitioner has added that Ckt-1 and Ckt-2 of the transmission line were put under commercial operation as detailed below:

<table>
<tr><th>Asset Name</th><th>SCOD</th><th>Actual COD</th><th>Delay in months</th></tr>
<tr><td>Transmission line, Ckt-1</td><td rowspan="2">21.3.2013</td><td>2.8.2014</td><td>16 months and 12 days</td></tr>
<tr><td>Transmission line, Ckt-2</td><td>8.9.2014</td><td>17 months and 18 days</td></tr>
</table>

18. The Petitioner has submitted that the delay in the execution of the transmission line was mainly due to severe Right of way (ROW) issues, which were beyond the control of the Petitioner. It has also been submitted that the transmission line passes through three districts of the State of Uttar Pradesh viz., Gautam Budh Nagar (GB Nagar), Hapur and Ghaziabad (Gzb), with an extremely variable terrain consisting of Agricultural land, Forest land, Canals, National Highways, Railway crossings, Airport,

HV Transmission lines, and Residential Townships. The Petitioner has also submitted that even after revising the original path, there were multiple issues faced by it during the construction of the said line in the above-mentioned areas. It has further submitted that the issues were being monitored, all efforts were made to clear the obstructions as soon as possible, and the issues were taken up simultaneously with the affected parties in coordination with the concerned administrative authorities. Accordingly, the Petitioner has stated that some of the issues especially the NOCs required for the Forest Clearance (Ganga Canal Forest Area; Crossing at Two Locations), NH-24 Crossing, NH-58 crossing, Railway crossing (Gzb-Meerut), Railway crossing (Gzb-Hapur), PTCC, IGAI Airport, Hindon Airforce, UP Irrigation Upper Ganga crossing at Meerut and Bulandshahar Division, were taken up with the concerned authorities. It has been stated that the most challenging issues faced during construction were the RoW problems at multiple locations along the path of the transmission line, which started as soon as the survey was being undertaken and the land owners were approached for land acquisition. The Petitioner has stated that the problem of ROW persisted due to the unwilling land owners at different locations, which prolonged the duration for the completion of the transmission line with respect to their scheduled timelines. The Petitioner has summarized the main ROW issues faced by it at the different locations during the construction of the transmission line as under:

Sr. No.	Area affected due to ROW Issue	Location	Reasons and duration of the ROW issue
1	Village, Patadi, Rasulpur, Jaitwarpur Majra, Chak Sidhi Pur Majra, Chauna Majra, Piyavali, Distt. Gautam Budh Nagar,	Around 23 Tower Locations (AP-R-1/0 – AP-R-7/0, 1A/0- 1C/1, 1D/0, 1E/0, 1/), 1/1, 1/2, 1/3,2/0, 2/1, 2/1A,2/2, 2/3) were affected due to ROW Issue in these Villages. Local Residents of these	The landowners in these areas were vehemently opposing the erection works of the transmission line, demanding higher compensation, resulting in a continuous disruption of this work. Discussions and negotiations were constantly held by the Petitioner with the landowners, with assistance from the local administration, to thwart any law and order problem, and re-engineering was also done in some areas to accommodate the demands of the local

Sr. No.	Area affected due to ROW Issue	Location	Reasons and duration of the ROW issue
		villages objected to the Tx Line Passing through their land.	people to resolve the ROW issues. The matter of the ROW issue was taken up by the Petitioner at various levels of the district and the State administration, as well as the MOP, GOI. In this regard, copy of the letters dated 4.11.2009, 12.8.2011, 15.11.2011, 09.4.2012, 9.5.2012, 8.12.2012, 26.12.2012, 27.12.2012, 15.5.2013, 5.6.2013, 22.5.2013, 14.9.2013, 31.12.2013, 17.4.2014 addressed to the District Administration, GB Nagar (U.P.) and letters to the Commissioner, Meerut Division and the SSP Police dated 15.5.2013, 24.4.2014 & 29.4.2014 regarding assistance for undertaking foundation works in the affected locations due to disturbance by land owners was attached with the Petition. In addition to the various official meetings, letters dated 2.8.2013, 18.6.2013, 30.4.2014, and 1.5.2014 were written to the Chief Secretary of the State of U.P. for taking suitable action to resolve the ROW issues. The communications regarding the issues have been submitted by the Petitioner. The ROW issues were resolved with the intervention of State administration, and finally, the route was cleared fully in July 2014, after which the Tower and stringing activity was completed for Ckt-1 and Ckt 2, respectively. The duration of the delay due to ROW issues faced in this area was about 3 years and 4 months. (March'11 to July'14). The Petitioner has accordingly pointed out that the matter was beyond the control of the Petitioner and therefore, the delay due to the ROW issues may be condoned.
2	Village Dehra Distt Hapur	Village Dehra - 13 Nos of Towers (3/0 upto 9/0) were affected.	Since the market value of the land in this area was quite high, the landowners were vehemently opposing the erection works of the transmission line in this area since the beginning of construction resulting in continuous disruption of the work in this area. Discussions and negotiations were constantly held by the Petitioner with the landowners, along with assistance from the local administration, to thwart any law and order problems to resolve the ROW issues. The ROW issue was taken up by the Petitioner at various levels of the district and State administration as well, in addition to the continuous negotiations held with the

Sr. No.	Area affected due to ROW Issue	Location	Reasons and duration of the ROW issue
			local landowners. Letters dated 3.2.2012, 20.3.2012, 9.4.2012, 5.5.2012, 3.7.2012, 24.4.2013, 7.9.2013, 14.9.2013 & 21.7.2014 written to the District Administration, Hapur (U.P.) for their intervention to resolve the severe ROW issues, has been submitted. Further, there were stringing issues due to the line passing over the forest area (Upper Ganga canal near Dehra Jhal). In this regard, forest clearance was sought from the district forest administration, and meetings were held with the forest officials for expediting the clearance. The matter of forest clearance was also taken up by the Delhi Govt. by letters addressed to Hapur forest officials. In addition to the official meetings to resolve the matter, letters dated 2.8.2013, 18.6.2013, 30.4.2014, and 1.5.2014 were also written to the Chief Secretary, State of U.P, for intervention and for instruction to the concerned officials to resolve the issues. The ROW issues were resolved in July 2014, after which the tower and stringing activity was completed for ckt-1 and ckt-2, respectively. The duration of delay due to the ROW issue faced in this area is about 3 years & 4 months. (March'11 to July'14). The Petitioner has submitted that the ROW issues were beyond its control and, therefore, the delay due to this, may be condoned.
3	Near Ghaziabad Hapur Railway Line; Lakhan, Tehsil Dhaulana	One Tower Location (16B/0)	The landowner was vehemently opposing the erection works of the transmission line resulting in continuous disruption of the work. At location 16B/0 near the Ghaziabad Hapur Railway line, 3 legs of the tower were constructed. However, for undertaking the construction of the 4th leg, the landowner did not allow the work due to which the progress of the tower work (16B/0) was held up. Despite continuous discussions and negotiations with the landowner, the landowner refused to allow the work for almost 3 years. Moreover, other landowners in the vicinity also started obstructing the stringing work in the area, falling into their land. The matter of ROW issues was simultaneously taken up by the Petitioner at various levels of the district and the State administration. In this regard,

Sr. No.	Area affected due to ROW Issue	Location	Reasons and duration of the ROW issue
			letters dated 3.2.2012, 20.3.2012, 9.4.2012, 5.5.2012, 3.7.2012, 24.4.2013, 7.9.2013, 17.4.2014 written to the District Administration, Hapur (U.P.) for their intervention and assistance have been submitted with the Petition. The ROW issues were finally resolved with the help of the District Administration and State Police and the route in the area was cleared in 2014. Since the matter was beyond the control of the Petitioner, the delay due to the ROW issues may be condoned.
4	NH-58 and Railway Line Crossing	5 Tower Locations (17/0, 24/4, 24A/0, 25/0,26/0)	Tower foundations between NH-58 and Railway line (Near SRM University) Tehsil Modinagar District Ghaziabad were delayed due to severe resistance to the erection works of the transmission line in the area since the beginning of the construction as the market value of the land in this area was quite high. Discussions and negotiations were held with landowners along with assistance from local administration to thwart any law and order problem to resolve the ROW issues. The matter of the ROW issue was taken up by the Petitioner at various levels of the district and the State administration in addition to the continuous negotiations being held with the local landowners. In this regard, letters dated 4.11.2009, 31.11.2011, 22.3.2011, 3.7.2013, 9.9.2013, and 21.3.2014 written to the District Administration, Ghaziabad (U.P.), for their intervention have been submitted. In addition to the official meetings, letters dated 2.8.2013, 18.6.2013, 30.4.2014, and 1.5.2014 written to the Chief Secretary, State of U. P, for intervention and assistance have also been submitted. The ROW issues were finally resolved with the help of the District Administration and the route was cleared in 2014. Since the matter was beyond the control of the Petitioner, the delay due to ROW issues may be condoned.
5	NH-58 Crossing	Two Tower Locations (26/0, 27/0)	
6	M/s Lloyd Housing Pvt Ltd. (Latter Army Welfare Housing Organization) & Nastauli Village	Seven Tower Locations (50/0, 50/1, 50/2, 51/0, 51/1,52/0, 52/1) were affected Tower Location No. 51/1),	As per the original survey, one Tower location no. 51/1 was falling in the land of M/s Lloyd Housing Pvt. Ltd, which was opposed by them (later transferred to the Army Welfare Housing Organization) and they requested the Petitioner to shift the tower location. The survey was done well before the transfer of land. In this regard

Sr. No.	Area affected due to ROW Issue	Location	Reasons and duration of the ROW issue
			representations/letters dated 23.2.2010 and 26.6.2012 addressed by M/s Llyod Housing Pvt. Ltd. to MOP, GOI are attached. After the directions of the MOP, GOI, an alternate path was explored. During the revised survey, there was fierce resistance from the local villagers whose land was under the revised route. They had represented for not changing the original route. After various rounds of discussions and negotiations, the original route was adopted, and tower no 51/1 was constructed accordingly. Further, higher compensation was also demanded by the Army Welfare Housing Organization related to Tower 51/1. Meanwhile, the adjacent towers lying in Nastauli Village also faced obstruction from the local villagers. The matter was taken up with the District administration in the official meetings and through letters dated 22.12.2011, 24.4.2012, 30.7.2013, and 14.9.2013 for intervention. The copy of communications has been submitted. The route at the location along with adjacent towers, was finally cleared, and the tower work, including the stringing activity, was completed in August 2014. The matter was beyond the control of the Petitioner, and therefore, the delay due to ROW issues may be condoned.
7	U.P Awas Vikas Parishad	Two Tower Locations (52/2, 53/0) were falling within land of UP Awas Vikas Parishad Township,	Two tower locations were falling within the land of UP Awas Vikas Parishad, and there was severe objection to the erection of towers in the land proposed for the township. They were demanding a change in the route of the line through their township. After various rounds of discussions and negotiations, the problem was finally resolved with the realignment of transmission towers and lines. In this regard, communications were made vide letters dated 21.5.2011, 13.9.2011, 31.10.2011, 6.2.2012, 11.6.2012, 10.10.2012, 1.8.2013, 10.9.2013 are enclosed. A copy of the communications has been submitted. The tower construction, along with the stringing work, was completed in June 2014. The Petitioner submitted that the matter was beyond the

Sr. No.	Area affected due to ROW Issue	Location	Reasons and duration of the ROW issue
			control of the Petitioner and, therefore, the delay due to RoW issues may be condoned.
8	Harsh Vihar S/S of DTL	Relocation of Two No. of D-6 Single Circuit Towers at Termination end at Harsh Vihar S/s of DTL	Due to the ROW issue and fierce opposition from the landowners outside the Harsh Vihar substation, i.e., at the termination end, it was decided to change the scheme by rerouting the line and relocating both the towers inside the boundary of the sub-station, instead of outside as per the original scheme. Discussions and negotiations were held with the landowners along with the local administration and re-engineering was done for the re-submission of drawing and re-routing of line, which was completed in March 2014. This resulted in a delay in the project. The relevant communications, including schematics/ drawings, have been submitted**.** As the ROW issues were beyond the control of the Petitioner, the delay may be condoned.

19. In addition, the Petitioner has submitted that the transmission line was originally scheduled to be completed within 24 months, for which the construction works of the transmission line were carried out parallelly at multiple locations along the path of the transmission line. The Petitioner also submitted that the majority of the tower construction and stringing works were completed as per its schedule in those areas where there was no obstruction. However, due to the issues mentioned above, the balance works were delayed in spite of all the efforts and assistance from the UP State administration. The Petitioner has further submitted that all the above-mentioned issues were simultaneous, and the Petitioner was parallelly making efforts to clear each area for the timely completion of the works. The Petitioner has added that given the circumstances and the ROW issues faced by it during the construction of the line, the delay could have been much higher; however, due to the assiduous efforts of the Petitioner in coordination with PGCIL, DTL, the UP administration/Police as well as MOP GOI, the work and commissioning of the transmission line was completed with a

minimum possible delay of around 16 months. Accordingly, the Petitioner has prayed that the Commission may consider the above facts and condone the total delay due to the ROW issues faced by it as stated above.

20. The matter has been considered. The Commission, in line with the methodology adopted in the order dated 2.5.2017 in Petition No. 324/GT/2014, has considered the scheduled COD as 21.3.2013. As submitted in Form-2, it is observed that the Petitioner has claimed a tariff for 53.284 km of line length. The Ckt-1 and Ckt-2 of the transmission line were put under commercial operation as under:

Asset Name	SCOD	Actual COD	Delay in months
Transmission line, Ckt-1	21.3.2013	2.8.2014	16 months and12 days
Transmission line, Ckt-2		8.9.2014	17 months and18 days

21. It is observed that the Petitioner has submitted that the delay in the execution of the transmission line is mainly due to severe ROW issues, as the said 54.18 km transmission line passes through the three districts of the State of UP namely Gautam Buddh Nagar, Hapur, and Ghaziabad. The Petitioner has also submitted that since the market value of the land in this area is quite high, the landowners were vehemently opposing the erection works of the transmission line, resulting in a continuous disruption of the works and, therefore, the matter of ROW issues, was taken up by the Petitioner at the various levels of the district administration. In this regard, the Petitioner has also submitted a copy of letters sent to the various officials of the District Administration seeking assistance for undertaking the foundation works in the affected locations due to disturbance by the landowners. The Petitioner has also furnished a copy of the letters submitted to the District Magistrate of Panchsheel Nagar, Meerut division, Gautam Budh Nagar, for assistance due to disturbances by the land owners; a copy of the letter dated 23.4.2013 submitted by DTL to the District Magistrates of Ghaziabad, Hapur, and Gautam Budh Nagar requesting for resolving the ROW issues;

copy of a letter dated 18.6.2013 submitted to the Chief Secretary, Govt. of UP, for assistance in resolving the ROW issues and a copy of letter dated 10.6.2014 submitted by MOP, GOI to the District Magistrate, Meerut, requesting for resolving the ROW problems along with the forest clearance, for completion of the line.

22. . It is observed that due to such ROW issues, the implementation of Ckt-1 and Ckt-2 of the transmission line got delayed, and the present asset could only be commissioned on 2.8.2014 and 8.9.2014, respectively. It is noticed that the reasons detailed by the Petitioner are beyond the reasonable control of the Petitioner as the resolution of severe ROW issues that emerged during the implementation of the project required the involvement of the District Administration authorities, and due to the severity of the ROW issues, the matter had to be escalated to the Ministry of Power. We note that the Petitioner has also taken steps to mitigate the delay by coordinating with various authorities, having discussions and negotiations with the landowners etc., In our view, the delay on account of the aforesaid issues cannot be attributable to the Petitioner. Accordingly, the entire time over-run for Ckt-1 and Ckt-2 of the transmission line is condoned and the IDC and IEDC for the said delay are allowed.

IDC and IEDC

23. The Petitioner has furnished an Auditor certificate in respect of the IDC claim for Rs.1130.35 lakh and Rs.2260.71 lakh respectively, as on the COD of Ckt-1 and Ckt-2 of the transmission line. The Petitioner has submitted that the cumulative IEDC up to the COD of Ckt-2 of the transmission line is Rs.225.62 lakh. Since the entire time overrun in the case of the transmission line has been condoned, the IDC and IEDC claimed by the Petitioner are approved for the purpose of tariff. Accordingly, the capital cost amounting to Rs.5216.66 lakh and Rs.10583.53 lakh is allowed for the purpose of

tariff as on the COD of Ckt-1 and Ckt-2 of the transmission line, respectively.

Additional capital expenditure for the period 2014-19

24. Regulation 14 (3) of the 2014 Tariff Regulations provides as under:

"14.(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;
(ii) Change in law or compliance of any existing law;
(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;
(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;
(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;
(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;
(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal / lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;
(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and
(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:
Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought

after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014:
Provided further that any capital expenditure other than that of the nature specified above in (i) to
(iv) in case of coal/ lignite-based station shall be met out of compensation allowance:
Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation."

25. The Petitioner claimed the additional capital expenditure of Rs.160.24 lakh in 2014-15, Rs.200.95 lakh in 2015-16, Rs.257.58 lakh in 2016-17, Rs.1.18 lakh in 2017-18 and Rs.0.09 lakh in 2018-19, towards the balance and retention payments under clauses 1(ii) and 3(vi) of Regulation 14 of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that such amounts are in the nature of the balance payments made to PGCIL for onward payments to the sub-agency executing the works. The Petitioner also submitted that this also includes price variations, insurance claims, tree compensation, B-guard installation, tower erection costs, etc., towards the execution of the Project. The Petitioner has further submitted that the additional capital expenditure claimed is on a cash basis, and after excluding the discharges of liabilities claimed (Rs.325.70 lakh) in the additional capital expenditure, the net additional capital expenditure works out to Rs.294.34 lakh only (and within the approved cost). The Petitioner has clarified that there is a minor increase in the completion cost by Rs.61.57 lakh (i.e., only 0.5% of the approved cost) and has prayed to approve the same.

26. The matter has been considered. The Petitioner, in compliance with the directions of the Commission in the order dated 2.5.2017 in Petition No. 324/GT/2014, has submitted an Auditor's certificate towards the additional capital expenditure claimed for the period 2014-19. Clauses 1(ii) and 3(iv) of Regulation 14 of the 2014 Tariff Regulations provides as follows:

"(1) The capital expenditure in respect of the new project or an existing project incurred

or projected to be incurred, on the following counts within the original scope of work, after the date of commercial operation and up to the cut-off date may be admitted by the Commission, subject to prudence check:
...
(ii) Works deferred for execution;
...
(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and
…
(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:
…..
(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such undischarged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;
...
(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and"

27. It is observed that the additional expenditure claimed is mainly on account of the balance and retention payments to be made to the project implementation agency i.e., PGCIL, for onward payments to the sub-agency executing the works, which includes price variations, insurance claims, tree compensation, B-Guard installation, and tower erection costs, etc. towards execution of the Project. It is observed that the net additional capital expenditure claimed on a cash basis, after excluding the discharges of liabilities claimed (Rs.325.70 lakh) in the additional capital expenditure, is Rs. 294.34 lakh. As noted above, the capital cost allowed as on 31.3.2019 has been restricted till the approved capital cost of Rs.11142.00 lakh. Accordingly, the additional capital expenditure considered for the period 2014-19 is as under:

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	**2014-15 (8.9.2014 to 31.3.2015)**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Additional capital expenditure	0.00	160.24	134.10	137.19	(-) 137.19	0.00

(before discharges)						
Add: Discharges	0.00	0.00	66.85	120.39	138.37	0.09
Net additional capital expenditure	**0.00**	**160.24**	**200.95**	**257.58**	**1.18**	**0.09**
Less: Cost overrun not condoned	0.00	0.00	0.00	60.30	1.18	0.09
Net additional capital expenditure allowed	**0.00**	**160.24**	**200.95**	**197.28**	**0.00**	**0.00**

28. In view of the above, the capital cost allowed is as under:

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	**2014-15 (8.9.2014 to 31.3.2015)**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening capital cost	5126.66	10583.53	10743.77	10944.72	11142.00	11142.00
Add: Additional capital expenditure	0.00	160.24	200.95	197.28	0.00	0.00
Closing capital cost	**5126.66**	**10743.77**	**10944.72**	**11142.00**	**11142.00**	*** 11142.00**
Average capital cost	5126.66	10663.65	10844.24	11043.36	11142.00	11142.00

** Corresponding admissible un-discharged liabilities as on 31.3.2019 is 'nil'.*

Debt-Equity Ratio

29. Regulation 19 of the 2014 Tariff Regulations provides as under:

"(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:
Provided that:
(i) where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
(ii) the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
(iii) any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt-equtiy ratio.
Explanation - The *premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.*
(2) The generating Company or the transmission licensee shall submit the resolution f the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilisation made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.
(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.
(4) In case of generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, but where debt:equity

ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall approve the debt:equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.
(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation."

30. The Petitioner has considered the debt-equity ratio as 70:30 for the period 2014-19 in terms of the above regulations, and the same has been considered for the purpose of tariff. The details of the debt-equity as on the COD and the additional capital expenditure, considered for the purpose of tariff are as under:

(Rs. in lakh)

	Capital cost as on 2.8.2014 (COD of Ckt-1)		**Capital cost as on 8.9.2014 (COD of Ckt-2)**		**Additional capitalization during the period 2014-19**		**Capital cost as on 31.3.2019**	
	Amount	**(%)**	**Amount**	**(%)**	**Amount**	**(%)**	**Amount**	**(%)**
Debt	3588.66	70.00%	7408.47	70.00%	390.93	70.00%	7799.40	70.00%
Equity	1538.00	30.00%	3175.06	30.00%	167.54	30.00%	3342.60	30.00%
Total	**5126.66**	**100.00%**	**10583.53**	**100.00%**	**558.47**	**100.00%**	**11142.00**	**100.00%**

Return on Equity

31. Regulation 24 of the 2014 Tariff Regulations provides as under:

***"**24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.*
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:
Provided that:
i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:
ii). the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:
iii). additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:
iv). the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:
vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers."

32. Regulation 25 of the 2014 Tariff Regulations provides as under:

"Tax on Return on Equity
(1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non-generation or non-transmission business, as the case may be) shall not be considered for the calculation of "effective tax rate".
(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:
Rate of pre-tax return on equity = Base rate / (1-t)
Where "t" is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non- transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess."

33. The Petitioner has claimed tariff considering the rate of Return on Equity (ROE) of 19.6105% in 2014-15, 19.706% in 2015-18 and 19.757% in 2018-19. The Petitioner has arrived at these rates after grossing up the base rate of ROE of 15.50% with the MAT rate of 20.961% in 2014-15, 21.342% in 2015-18, and 21.549% in 2018-19. However, after rectifying the rounding off errors, the rate of ROE considered for the purpose of tariff, works out to 19.610% for 2014-15, 19.705% for 2015-18, and 19.758% for 2018-19. Accordingly, ROE has been worked out and allowed as under:

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	**2014-15 (8.9.2014 to 31.3.2015)**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Normative Equity-Opening	1538.00	3175.06	3223.13	3283.42	3342.60	3342.60
Addition of Equity due to additional capital expenditure	0.00	48.07	60.29	59.18	0.00	0.00

	2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Normative Equity-Closing	1538.00	3223.13	3283.42	3342.60	3342.60	3342.60
Average Normative Equity	1538.00	3199.10	3253.27	3313.01	3342.60	3342.60
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%	15.50%
Effective Tax Rate for respective years	20.961%	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-Tax)	19.610%	19.610%	19.705%	19.705%	19.705%	19.758%
Return on equity (Pre-tax) - (annualized)	**301.60**	**627.34**	**641.06**	**652.83**	**658.66**	**660.43**
Return on equity (Pre-tax) - (pro-rata)	**30.57**	**352.34**	**641.06**	**652.83**	**658.66**	**660.43**

Interest on Loan

34. Regulation 26 of the 2014 Tariff Regulations provides as under:

*"**26. Interest on loan capital:** (1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.*
(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.
(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a prorata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalization of such asset.
(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.
(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:
Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.
(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.
(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such refinancing.
(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:
Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan."

35. The gross normative loan of Rs.5126.66 lakh and Rs.10583.53 lakh have been considered as on the COD of Ckt-1 and Ckt-2, respectively. The depreciation allowed during the respective years for the period 2014-19 has been considered as the repayment of the normative loan. The Weighted Average Rate of Interest (WAROI), as claimed by the Petitioner, has been retained. The necessary calculation of interest on loan is as under:

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	**2014-15 (8.9.2014 to 31.3.2015)**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross opening loan (A)	3588.66	7408.47	7520.64	7661.30	7799.40	7799.40
Cumulative repayment of loan upto previous year (B)	0.00	27.44	343.67	916.24	1499.33	2087.63
Net Loan Opening (C = A-B)	3588.66	7381.03	7176.97	6745.06	6300.07	5711.77
Addition due to additional capital expenditure (D)	0.00	112.17	140.67	138.10	0.00	0.00
Repayment of loan during the year (E)	27.44	316.23	572.58	583.09	588.30	588.30
Net Loan Closing (F = C+D-E)	3561.22	7176.97	6745.06	6300.07	5711.77	5123.47
Average Loan [G = (C+F)/2]	3574.94	7279.00	6961.02	6522.56	6005.92	5417.62
WAROI (H)	9.5506%	9.5506%	9.3228%	9.1511%	8.7635%	8.7930%
Interest on Loan (I = GxH) (annualized)	**341.43**	**695.19**	**648.96**	**596.89**	**526.33**	**476.37**
Interest on Loan (I = GxH) (pro-rata)	**34.61**	**390.45**	**648.96**	**596.89**	**526.33**	**476.37**

<u>Depreciation for the period 2014-19</u>

36. Regulation 27 of the 2014 Tariff Regulations provides as under:

"27. Depreciation: *(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication* *system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.*

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in ***Appendix-II*** *to these regulations for the assets of the generating station and transmission system:*

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.

(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services."

37. The Petitioner has claimed depreciation considering the Weighted Average Rate of Depreciation (WAROD) of 5.28% for the period 2014-19, and the same is in order and allowed for the purpose of tariff. Accordingly, depreciation is worked out and

allowed as under:

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Average capital cost (A)	5126.66	10663.65	10844.24	11043.36	11142.00	11142.00
WAROD (B)	5.28%	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciable value (C = A x 90%)	4613.99	9597.29	9759.82	9939.02	10027.80	10027.80
Remaining depreciable value (D = C – 'G' of preceding period)	4613.99	9569.85	9416.15	9022.78	8528.47	7940.17
Depreciation during the year – annualized (E = A x B)	**270.69**	**563.04**	**572.58**	**583.09**	**588.30**	**588.30**
Depreciation during the year – pro-rata (F)	**27.44**	**316.23**	**572.58**	**583.09**	**588.30**	**588.30**
Cumulative depreciation, at the end of the year (G = F + 'G' of preceding period)	27.44	343.67	916.24	1499.33	2087.63	2675.93

O&M expenses

38. The Petitioner has computed the normative O&M expenses as per sub-clause (a) of clause 3 of Regulation 29 of the 2014 Tariff Regulations. The Petitioner has considered the line length as 53.284 km for working out the said O&M expenses. Accordingly, the O&M expenses claimed by the Petitioner are as under:

(Rs. in lakh)

2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
37.67	37.67	38.95	40.23	41.56	42.95

39. It is observed that the Petitioner commissioned the Ckt-1 of the transmission line on 2.8.2014 and Ckt-2 of the transmission line on 8.9.2014. The O&M expenses from 2.8.2014 to 7.9.2015 are allowed under S/C, and from 8.9.2014 the O&M expenses are allowed for the D/C transmission line. The Petitioner's entitlement for the O&M expenses is worked out as under:

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Line Length in km	53.284	53.284	53.284	53.284	53.284	53.284
Single Circuit (Twin & Triple Conductor)	0.404	0.404	0.418	0.432	0.446	0.461
Norms for Double Circuit (Twin and Triple Conductors)	0.707	0.707	0.731	0.755	0.78	0.806
O&M Expenses (annualized)	**21.53**	**37.67**	**38.95**	**40.23**	**41.56**	**42.95**
O&M Expenses (pro-rata)	**2.18**	**21.16**	**38.95**	**40.23**	**41.56**	**42.95**

<u>Interest on Working Capital</u>

40. Interest on working capital is worked out as per Regulation 28 of the 2014 Tariff Regulations and is allowed as under:

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Working Capital for O&M Expenses (O&M Expenses for one month)	1.79	3.14	3.25	3.35	3.46	3.58
Working Capital for Maintenance Spares (15% of O&M Expenses)	3.23	5.65	5.84	6.03	6.23	6.44
Working Capital for Receivables (Equivalent to 2 months of annual transmission charges)	159.58	328.12	324.43	319.57	309.66	301.69
Total Working Capital	**164.60**	**336.91**	**333.52**	**328.96**	**319.36**	**311.71**
Rate of Interest (%)	13.50%	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital (annualized)	**22.22**	**45.48**	**45.02**	**44.41**	**43.11**	**42.08**
Interest on Working Capital (pro-rata)	**2.25**	**25.55**	**45.02**	**44.41**	**43.11**	**42.08**

<u>Annual Transmission Charges for the period 2014-19</u>

41. Accordingly, the Transmission Charges approved and allowed for the period 2014-19 is summarized below:

(Rs. in lakh)

	2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
Depreciation	270.69	563.04	572.58	583.09	588.30	588.30
Interest on Loan	341.43	695.19	648.96	596.89	526.33	476.37
Return on Equity	301.60	627.34	641.06	652.83	658.66	660.43
Interest on Working Capital	22.22	45.48	45.02	44.41	43.11	42.08
O&M Expenses	21.53	37.67	38.95	40.23	41.56	42.95
Total (annualized)	**957.47**	**1968.73**	**1946.57**	**1917.44**	**1857.96**	**1810.13**
Total (pro-rata)	**97.06**	**1105.72**	**1946.57**	**1917.44**	**1857.96**	**1810.13**

Determination of the Annual Transmission Charges for the period 2019-24

42. The Petitioner has submitted the tariff filing forms for the transmission line and has claimed the following transmission charges for the period 2019-24:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	591.55	591.55	591.55	591.55	591.55
Interest on Loan	434.10	386.03	329.96	273.63	216.77
Return on Equity	631.26	631.26	631.26	631.26	631.26
Interest on working capital	27.03	26.38	25.61	24.84	24.06
O&M expenses	46.94	48.60	50.30	52.06	53.87
Total	**1730.89**	**1683.82**	**1628.68**	**1573.33**	**1517.50**

Capital cost for the period 2019-24

43. Regulation 19(3) of the 2019 Tariff Regulations provides as under:

"19. Capital Cost:

(1)xxx
xxx
(3) The Capital cost of an existing project shall include the following:

(a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;
(b) Additional Capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;
(c) Capital expenditure on account of renovation and modernization as admitted by this Commission in accordance with these regulations;
(d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;
(e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and
(f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT)

scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries."

44. In line with Regulation 19(3) of the 2019 Tariff Regulations, the capital cost of Rs.11142.00 lakh, admitted by the Commission as on 31.3.2019 for the transmission asset, has been retained as on 1.4.2019.

Additional capital expenditure for the period 2019-24

45. The Petitioner has not claimed any additional capital expenditure for the transmission line for the period 2019-24.

Capital cost allowed for the period 2019-24

46. In view of the above the capital cost allowed for the period 2019-24 is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	11142.00	11142.00	11142.00	11142.00	11142.00
Add: Additional capital expenditure	0.00	0.00	0.00	0.00	0.00
Closing capital cost	**11142.00**	**11142.00**	**11142.00**	**11142.00**	**11142.00**
Average capital cost	11142.00	11142.00	11142.00	11142.00	11142.00

** Corresponding admissible un-discharged liabilities as on 31.3.2024 is 'nil'.*

Debt Equity Ratio

47. Regulation 18 of the 2019 Tariff Regulations provides as follows:

"18. Debt-Equity Ratio: (1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:
Provided that:
i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.

Explanation.-*The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.*

(2) The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority

in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.
(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered: Provided that in case of a generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30%shall not be taken into account for tariff computation;
Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.
(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.
(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.
(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation."

48. The details of the debt-equity considered is as under:

(Rs. in lakh)

	Capital cost as on 1.4.2019		**Additional capitalization during the period 2019-24**		**Capital cost as on 31.3.2024**	
	Amount	**(%)**	**Amount**	**(%)**	**Amount**	**(%)**
Debt	7799.40	70.00%	0.00	70.00%	7799.40	70.00%
Equity	3342.60	30.00%	0.00	30.00%	3342.60	30.00%
Total	**11142.00**	**100.00%**	**0.00**	**100.00%**	**11142.00**	**100.00%**

Return on Equity

49. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provides as under:

"30. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run-of-river generating station with pondage:
Provided that return on equity in respect of Additional Capitalization after cutoff date beyond the original scope excluding Additional Capitalization due to Change in Law, shall be computed at the weighted average rate of interest on actual loan portfolio of the

generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%.

Provided further that:

i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;

ii. in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

iii. in case of a thermal generating station, with effect from 1.4.2020:

a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%: Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.

(3) The return on equity in respect of additional capitalization on account of emission control system shall be computed at the base rate of one year marginal cost of lending rate (MCLR) of the State Bank of India as on 1st April of the year in which the date of operation (ODe) occurs plus 350 basis point, subject to ceiling of 14%;

31. Tax on Return on Equity:(1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax paid on income from other businesses including deferred tax liability (i.e. income from business other than business of generation or transmission, as the case may be) shall be excluded for the calculation of effective tax rate.

(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where "t" is the effective tax rate in accordance with clause (1) of this Regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non- transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess.

Illustration-

(i)In case of a generating company or a transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess:

Rate of return on equity = 15.50/(1-0.2155) = 19.758%

(ii) In case of a generating company or a transmission licensee paying normal corporate tax including surcharge and cess:

(a) Estimated Gross Income from generation or transmission business for FY 2019-20 is

Rs 1,000 crore;
(b) Estimated Advance Tax for the year on above is Rs 240 crore;
(c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore = 24%;
(d) Rate of return on equity = 15.50/ (1-0.24) = 20.395%.
(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee, as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on year to year basis."

50. The Petitioner has claimed ROE considering the base rate of 15.50% and the effective tax rate of 17.472% for the period 2019-24, and the same has been considered for the purpose of tariff. Accordingly, ROE has been worked out and allowed as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Normative Equity-Opening	3342.60	3342.60	3342.60	3342.60	3342.60
Addition of Equity due to additional capital expenditure	0.00	0.00	0.00	0.00	0.00
Normative Equity-Closing	3342.60	3342.60	3342.60	3342.60	3342.60
Average Normative Equity	3342.60	3342.60	3342.60	3342.60	3342.60
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Effective Tax Rate for respective years	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre-Tax)	18.782%	18.782%	18.782%	18.782%	18.782%
Return on Equity (Pre-tax) - (annualized)	**627.81**	**627.81**	**627.81**	**627.81**	**627.81**

Interest on Loan

51. Regulation 32 of the 2019 Tariff Regulations provides as follows:

"32. Interest on loan capital: (1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.
(2)The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.
(3)The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalization of asset, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de- capitalisation of such asset.

(4)Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.
(5)The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized: Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered;
Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.
(5a) The rate of interest on loan for installation of emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered.
(6)The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.
(7)The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing".

52. The gross normative loan, cumulative repayment, and net opening normative loan amounting to Rs.7799.40 lakh, Rs.2675.93 lakh, and Rs.5123.47 lakh, respectively, as approved as on 31.3.2019, has been retained as on 1.4.2019. Further, the WAROI, as claimed by the Petitioner for the period 2019-24, has been retained for the purpose of tariff, subject to truing. Accordingly, the interest on loan for the period 2019-24 has been worked out as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Gross opening loan (A)	7799.40	7799.40	7799.40	7799.40	7799.40
Cumulative repayment of loan upto previous year (B)	2675.93	3264.23	3852.52	4440.82	5029.12
Net Loan Opening (C = A-B)	5123.47	4535.17	3946.88	3358.58	2770.28
Addition due to additional capital expenditure (D)	0.00	0.00	0.00	0.00	0.00
Repayment of loan during the year (E)	588.30	588.30	588.30	588.30	588.30
Net Loan Closing (F = C+D-E)	**4535.17**	**3946.88**	**3358.58**	**2770.28**	**2181.98**
Average Loan [G = (C+F)/2]	4,829.32	4,241.02	3,652.73	3,064.43	2,476.13
WAROI (H)	8.9271%	9.0380%	8.9671%	8.8608%	8.6826%
Interest on Loan (I = GxH)	**431.12**	**383.30**	**327.54**	**271.53**	**214.99**

Depreciation

53. Regulation 33 of the 2019 Tariff Regulations provides as under:

*“**33. Depreciation:** (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:*

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the Asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of a transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the Asset-for part of the year, depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

Provided that the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

Provided further that in case of hydro generating stations, the salvage value shall be as provided in the agreement, if any, signed by the developers with the State Government for development of the generating station

Provided also that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or the extended life.

(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-I to these regulations for the Asset-of the generating station and transmission system: Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the asset

(6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.

(7) The generating company or the transmission licensee, as the case may be, shall submit the details of proposed capital expenditure five years before the completion of useful life of the project along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure.

(8) In case of de-capitalization of asset in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the de-capitalized asset during its useful services.

(9) Where the emission control system is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control system are the same, depreciation of the generating station or unit thereof including the emission control

system shall be computed in accordance with Clauses (1) to (8) of this Regulation.
(10) Depreciation of the emission control system of an existing or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on straight line method, with salvage value of 10%, over a period of
a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or
b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or
c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life."

54. The Petitioner has claimed depreciation considering the weighted average rate of depreciation (WAROD) of 5.28% for the period 2019-24. The same is in order and is allowed for the purpose of tariff. Depreciation has been worked out as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Average capital cost (A)	11142.00	11142.00	11142.00	11142.00	11142.00
WAROD (B)	5.28%	5.28%	5.28%	5.28%	5.28%
Depreciable value (C = A x 90%)	10027.80	10027.80	10027.80	10027.80	10027.80
Remaining depreciable value (D = C – 'F' of the preceding period)	7351.87	6763.57	6175.28	5586.98	4998.68
Depreciation during the year (E = A x B)	**588.30**	**588.30**	**588.30**	**588.30**	**588.30**
Cumulative depreciation, at the end of the year (F = E + 'F' of preceding period)	3264.23	3852.52	4440.82	5029.12	5617.42

O&M Expenses

55. The Petitioner has claimed the following O&M expenses:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Line Length in km.	53.284	53.284	53.284	53.284	53.284
Norms for Double Circuit (Twin and Triple Conductors)	0.881	0.912	0.944	0.977	1.011
O&M Expenses	**46.94**	**48.60**	**50.30**	**52.06**	**53.87**

56. Regulation 35(3)(a) of the 2019 Tariff Regulations provides as under:

"35 (3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the combined transmission system:

	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (Rs. lakh per bay)					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (Rs. lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (Rs. lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.26	0.27	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	2,563	2,653	2,746	2,842	2,942

Provided that the O&M expenses for the GIS bays shall be allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays;
Provided further that:
i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;

ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;
iii. the O&M expenses of ±500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);
iv. the O&M expenses of ±800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme;
v. the O&M expenses of ±800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ±800 kV, Bishwanath-Agra HVDC bi-pole scheme; and
vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years
(b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.
(c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:
Provided that the transmission licensee shall submit the assessment of the security requirement and estimated security expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification."

57. The O&M expenses for the transmission line approved in terms of Regulation 35(3)(a) of the 2019 Tariff Regulations is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Line Length in km.	53.284	53.284	53.284	53.284	53.284
Norms for Double Circuit (Twin and Triple Conductors)	0.881	0.912	0.944	0.977	1.011
O&M Expenses	**46.94**	**48.60**	**50.30**	**52.06**	**53.87**

Interest on Working Capital

58. Regulation 34(1)(c), Regulation 34(3), Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations provides as under:

*"34. **Interest on Working Capital:** (1) The working capital shall cover: ……*
(c) For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Transmission System:
(i) Receivables equivalent to 45 days of annual fixed cost;
(ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and
(iii) Operation and maintenance expenses, including security expenses for one month.
***(3)** Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019 - 24 in which the generating station or a unit thereof or the transmission*

system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:
Provided that in case of truing-up, the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.
(4) *Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency."*
*"**3. Definitions.** - In these regulations, unless the context otherwise requires:-*
(7)'Bank Rate' *means the one year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points;"*

59. The Petitioner has claimed the interest on working capital, considering the rate of interest on working capital of 12.05% for the period 2019-24. However, in line with the Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital is considered as 12.05% (i.e., 1-year SBI MCLR of 8.55% as on 1.4.2019 + 350 bps) for 2019-20, 11.25% (i.e., 1 year SBI MCLR of 7.75% as on 01.04.2020 + 350 bps) for the year 2020-21, 10.50% (i.e., 1 year SBI MCLR of 7.00% as on 01.04.2021 + 350 bps) for the year 2021-22, 10.50% (i.e., 1 year SBI MCLR of 7.00% as on 01.04.2022 + 350 bps) for the year 2022-23 and 12.00% (i.e., 1 year SBI MCLR of 8.50% as on 01.04.2023 + 350 bps) for the year 2023-24. Accordingly, interest on working capital has been computed and allowed as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Working Capital for O&M expenses (O&M Expenses for one month)	3.91	4.05	4.19	4.34	4.49
Working Capital for Maintenance Spares (15% of O&M expenses)	7.04	7.29	7.55	7.81	8.08
Working Capital for Receivables (equivalent to 45 days of annual transmission charges)	211.60	206.20	199.25	192.47	185.50
Total Working Capital	**222.55**	**217.53**	**210.98**	**204.62**	**198.07**
Rate of Interest	12.05%	11.25%	10.50%	10.50%	12.00%
Interest on working capital	**26.82**	**24.47**	**22.15**	**21.49**	**23.77**

<u>Annual Transmission Charges for the period 2019-24</u>

60. Accordingly, the transmission charges, approved for the period 2019-24 is summarized below:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	588.30	588.30	588.30	588.30	588.30
Interest on Loan	431.12	383.30	327.54	271.53	214.99
Return on Equity	627.81	627.81	627.81	627.81	627.81
O&M Expenses	26.82	24.47	22.15	21.49	23.77
Interest on Working Capital	46.94	48.60	50.30	52.06	53.87
Total	**1720.98**	**1672.48**	**1616.10**	**1561.18**	**1508.74**

Sharing of Transmission Charges

61. The relevant clauses on transmission as per the PPA signed between the Petitioner and DTL is as under:

> *"3.0 TRANSMISSION / WHEELING OF POWER*
> *3.1 Power shall be made available by the NTPC at the Busbars of the Station and it shall be the obligation and responsibility of DTL to make the required arrangement for evacuation of power from such delivery points of the NTPC.*
> *3.2 DTL shall coordinate with the appropriate authorities/agencies including Powergrid or any Transmission Licensee or other Licensees for power evacuation from the above delivery point."*

62. Also, the relevant clauses of the Supplementary PPA signed between the Petitioner and the Delhi Discoms are as under:

> *"iv) Tariff for this transmission line shall be separately determined by CERC or any other competent authority under the Electricity Act 2003 based on the project cost of the transmission system. The entire charges for this dedicated line shall be borne by the distribution companies of Delhi and these shall be apportioned to them in the ratio of their respective shares from the allocation of the State of Delhi from the National Capital Thermal Power Station, Dadri Stage-II (980 MW). Further, losses in the transmission line shall also be to the account of distribution companies of Delhi.*
> *v) All other terms and conditions contained in the PPA dated 5th June, 2008 signed between NTPC and BRPL shall be applicable mutatis-mutandis to this Supplementary Agreement."*

63. Hence, based on the PPA signed between Petitioner and the Delhi Discoms, the entire transmission charges and losses of the transmission line shall be from the Discoms of Delhi viz., BRPL, BYPL, and TPDDL. Further, since the transmission line is considered a part of the generating station, the recovery of annual fixed charges is allowed based on the availability of the generating station, and no additional incentive shall be allowed based on the actual availability of the transmission system separately.

Summary

64. The summary of the transmission tariff approved in this order is as under:

a) The trued-up annual transmission charges (on a pro-rata basis) approved for the transmission line for the period 2014-19 are as under:

(Rs. in lakh)

2014-15 (2.8.2014 to 7.9.2014)	2014-15 (8.9.2014 to 31.3.2015)	2015-16	2016-17	2017-18	2018-19
97.06	1105.72	1946.57	1917.44	1857.96	1810.13

b) The annual transmission charges approved in respect of the transmission line for the period 2019-24 are as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1720.98	1672.48	1616.10	1561.18	1508.74

65. Petition No. 89/GT/2023 is disposed of in terms of the above.

Sd/-
(Ramesh Babu V.)
Member

Sd/-
(Jishnu Barua)
Chairperson