

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 710/TT/2020

Coram:

**Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri P.K. Singh, Member**

Date of order: 10.01.2022

In the matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 for truing up of transmission tariff of the 2009-14 and 2014-19 tariff periods under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff for the 2019-24 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of Combined Asset consisting of **Asset-1:** 765 kV S/C Moga – Bhiwani Transmission Line; **Asset-2:** 765 kV S/C Jatikalan – Bhiwani Transmission Line associated with 765 kV system; **Asset-3:** LILO of both circuits of 400 kV D/C Bamnauli – Mundka/Bawana at Jatikalan 765/400 kV Sub-station; **Asset-4:** Agra – Jatikalan 765 kV S/C Transmission Line; and **Asset-5:** Agra – Meerut 765 kV S/C Transmission Line under “765 kV System for Central Part of Northern Grid Part-I in Northern Region”.

And in the matter of:

Power Grid Corporation of India Limited,
SAUDAMINI, Plot No-2,
Sector-29, Gurgaon-122 001 (Haryana).

.....Petitioner

Vs

1. Himachal Pradesh State Electricity Board,
Vidyut Bhawan, Kumar House Complex Building II,
Shimla – 171004
2. Haryana Power Purchase Centre, 2nd Floor,
Shakti Bhawan, Sector-6,
Panchkula – 134109



3. Punjab State Power Corporation Limited,
Thermal Shed Tia
Near 22 Phatak
Patiala – 147001
4. Power Development Department,
Janipura Grid Station,
Jammu (Tawi) – 180007
5. Uttar Pradesh Power Corporation Ltd.
10th Floor, Shakti Bhawan Extn.
14, Ashok Marg, Lucknow – 226001
6. Delhi Transco Limited,
Shakti Sadan
Kotla Road (near ITO), New Delhi
7. Chandigarh Electricity Department
UT-Chandigarh, Div-11, Opposite, Transport Nagar,
Industrial Area Phase- I
Sector-9, Chandigarh
8. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road
Dehradun
9. 132 kV, GSS RVPNL Sub-station Building,
Caligiri Road, Malviya Nagar,
Jaipur – 302017 (Rajasthan)
10. Ajmer Vidyut Vitran Nigam Limited,
132 kV, GSS RVPNL Sub-station Building,
Caligiri Road, Malviya Nagar,
Jaipur – 302017 (Rajasthan)
11. Jodhpur Vidyut Vitran Nigam Limited,
132 kV, GSS RVPNL Sub-station Building,
Caligiri Road, Malviya Nagar,
Jaipur – 302017 (Rajasthan)
12. Jaipur Vidyut Vitran Nigam Limited,
132 kV, GSS RVPNL Sub-station Building,
Caligiri Road, Malviya Nagar,
Jaipur – 302017 (Rajasthan)
13. Northern Central Railway
Allahabad



14. BSES Yamuna Power Limited (Delhi Discom),
B Block, Shakti Kiran Bldg. (Near Karkadooma Court)
Karkadooma, 2nd Floor,
Delhi – 110092
15. BSES Rajdhani Power Limited (Delhi Discom),
Bus Terminal, Nehru Place
BSES Bhawan, Behind Nehru Place,
New Delhi – 110019
16. Tata Power Delhi Distribution Limited,
33 kV Sub-station Building
Hudson Lane
Kingsway Camp
North Delhi – 110009
17. New Delhi Municipal Council,
Palika Kendra, Sansad Marg
New Delhi- 110002.

...Respondent(s)

For Petitioner: Shri S. S. Raju, PGCIL
Shri D.K. Biswal, PGCIL
Shri V.P. Rastogi, PGCIL
Shri Amit Yadav, PGCIL

For Respondents: Shri Brijesh Kumar Saxena, Advocate, UPPCL

ORDER

The Petitioner, Power Grid Corporation of India Limited, a deemed transmission licensee, has filed the instant petition for truing up of transmission tariff of the tariff period from COD to 31.3.2014 and from 1.4.2014 to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and determination of tariff for the 2019-24 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of the following transmission assets associated with “765 kV



System for Central Part of Northern Grid Part-I in Northern Region” (hereinafter referred to as “the transmission project”):

Asset-1: 765 kV S/C Moga – Bhiwani Transmission Line;

Asset-2: 765 kV S/C Jatikalan – Bhiwani Transmission Line associated with 765 kV system;

Asset-3: LILO of both circuits of 400 kV D/C Bamnauli – Mundka/Bawana at Jatikalan 765/400 kV Sub-station;

Asset-4: Agra – Jatikalan 765 kV S/C Transmission Line; and

Asset-5: Agra – Meerut 765 kV S/C Transmission Line.

2. The Petitioner has made the following prayers in this Petition:

- “1) Approve the trued up Transmission Tariff for 2009-14 block and 2014-2019 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 10, 11 and 12 above.*
- 2) Allow the petitioner to recover the shortfall or refund the excess Annual Fixed Charges, on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before Hon’ble Commission as provided in Tariff Regulation 2009, Tariff Regulation 2014 and Tariff regulations 2019 as per para 10, 11 and 12 above for respective block.*
- 3) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.*
- 4) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the beneficiaries in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.*
- 5) Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the beneficiaries.*
- 6) Allow the petitioner to file a separate petition before Hon’ble Commission for claiming the overall security expenses and consequential IOWC on that security expenses as mentioned at para 12.11 above.*
- 7) Allow the petitioner to claim the capital spares at the end of tariff block as per actual.*
- 8) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the beneficiaries, if GST on transmission is withdrawn from negative list at any time in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be*



recovered from the beneficiaries.

and pass such other relief as Hon'ble Commission deems fit and appropriate under the circumstances of the case and in the interest of justice"

Background

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

a) The Investment Approval (IA) of the transmission project was accorded by the Board of Directors (BOD) of the Petitioner company *vide* Memorandum dated 20.9.2009 at an estimated cost of ₹134732 lakh, which included IDC of ₹10270 lakh. The Revised Cost Estimate (RCE) was accorded by the BOD of the Petitioner company *vide* Memorandum dated 22.7.2016 at an estimated cost of ₹133453 lakh, including IDC of ₹15790 lakh based on February 2016 price level.

b) The scope of the work as per I.A. is as follows:

- (i) Agra-Meerut 765 kV S/C line
- (ii) Agra-Jatikalán 765 kV S/C line
- (iii) Jatikalán-Bhiwani-Moga 765 kV S/C line
- (iv) LILÓ of both circuits of Mundka/Bawana-Bamnóuli 400 kV D/C line at Jatikalán

c) The complete scope of the work as per IA is covered in the instant petition.

d) The transmission tariff for the 2009-14 period was trued up and the transmission tariff for the 2014-19 tariff period was determined in respect of Asset-1 and Asset-2 (combined for the 2014-19 tariff period as Asset-A) *vide* order dated 19.2.2016 in Petition No. 559/TT/2014. The trued-up transmission tariff for the 2009-14 period and the transmission tariff for the 2014-19 tariff period in respect of Asset-3, Asset-4 and Asset-5 (combined for the 2014-19 tariff period as Asset-B) was allowed *vide* order dated 23.5.2016 in Petition No. 313/TT/2015.

e) Accordingly, Asset-1 and Asset-2 have been combined as on 1.4.2014 and have been collectively referred to as "Asset-A" for the 2014-19 tariff period. Asset-3, Asset-4 and Asset-5 have been combined as on 1.4.2014 and have



been collectively referred to as "Asset-B" for the 2014-19 tariff period. Asset-A and Asset-B have been combined as on 1.4.2019 and have been collectively referred to as "Combined Asset" for the 2019-24 tariff period.

f) The details of the dates of commercial operation of the assets covered in the instant petition are as follows:

Asset nomenclature in the instant petition		Previous CERC Order	Asset nomenclature in Previous Orders		SCOD	COD
2009-14 period	2014-19 period		2009-14 period	2014-19 period		
Asset-1	Asset A	order dated 19.2.2016 in Petition No. 559/TT/2014	Asset-I	N/A	1.3.2012	1.6.2012
Asset-2			Asset-II			1.10.2012
Asset-3	Asset B	order dated 23.5.2016 in Petition No. 313/TT/2015	Asset-I	N/A		1.10.2012
Asset-4			Asset-II			1.5.2013
Asset-5			Asset-III			1.6.2013

g) The time over-run in commissioning of Asset-1 and Asset-2 was condoned by the Commission *vide* order dated 3.7.2014 in Petition No. 82/2012 and the time over-run in commissioning of Asset-3, Asset-4 and Asset-5 was condoned by the Commission *vide* order dated 9.1.2015 in Petition No. 99/TT/2012.

h) The Petitioner has claimed the trued-up transmission tariff as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Allowed <i>vide</i> order dated 19.2.2016 in Petition No. 559/TT/2014	8196.18	7998.61	7775.83	7552.94	7330.14
Claimed by the Petitioner in the instant petition	8193.76	8084.97	7945.32	7722.28	7502.49
Asset B					
Allowed <i>vide</i> order dated 23.5.2016 in Petition No. 313/TT/2015	13813.93	13523.91	13224.83	12849.84	12475.85
Claimed by the Petitioner in the instant petition	14638.56	14301.03	13944.99	13564.11	13200.66

i) During the truing up of transmission tariff of the 2009-14 tariff period, the Commission *vide* order dated 23.5.2016 in Petition No. 313/TT/2015 had restricted the capital cost of Asset-3 and Asset-4 to the approved apportioned



cost as per FR as the Petitioner could not submit RCE within the stipulated time. The Petitioner filed Review Petition No. 31/RP/2017 in Petition No. 313/TT/2015 wherein it sought the modification of the capital cost of Asset-3 and Asset-4 stating that after the issue of order dated 23.5.2016, its BOD approved RCE on 22.7.2016 and the completion cost of Asset-3 and Asset-4 is within the apportioned approved cost as per RCE. The Commission *vide* order dated 28.9.2017 disposed of the said Review Petition and granted liberty to the Petitioner to approach the Commission with RCE and cost variation details along with the petition for truing up of tariff for the 2014-19 tariff period. Accordingly, the Petitioner has now filed for revision of trued-up transmission tariff for Asset-3 and Asset-4 for the 2009-14 period based on modified capital costs as per RCE.

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

5. The Petitioner has served the petition on the Respondents and notice of this petition has been published in the newspaper in accordance with Section 64 of the Electricity Act, 2003. No comments/ objections have been received from the general public in response to the aforesaid notice published in the newspaper by the Petitioner. Reply to the petition has been filed by Uttar Pradesh Power Corporation Limited (UPPCL), Respondent No. 5, *vide* affidavit dated 14.7.2021 which has raised the issues of revision of trued-up transmission tariff for Asset-3 and Asset-4 for the 2009-14 period, filing of combined petition for truing up of transmission tariff for the 2009-14 and 2014-19 periods and determination of transmission tariff for the 2014-19 tariff periods, change in the total capital cost in the RCE, splitting up of the transmission project into various elements, non-disclosure of bid details, over-estimation of capital cost for the transmission project, time over-run, cost over-run and ACE incurred after the cut-off date. The Petitioner has filed its rejoinder to the issues



raised by UPPCL vide affidavit dated 4.8.2021. The issues raised by UPPCL and the clarifications given by the Petitioner are dealt in the relevant portions of this order.

6. We have considered the submissions made by UPPCL and the clarifications thereto submitted by the Petitioner with regard to preliminary issues like splitting of assets under a project, filing separate tariff petitions for separate tariff periods and Revised Cost Estimates. Regulation 3(21) and Regulation 3(46) of the 2014 Tariff Regulations define 'element' and 'project' as follows:

*"(21) '**Element**' in respect of a transmission system shall mean an asset which has been distinctively defined under the scope of the project in the Investment Approval;"*

*"(46) '**Project**' means a generating station or a transmission system including communication system, as the case may be, and in case of a hydro generating station includes all components of generating facility such as dam, intake water conductor system, power generating station and generating units of the scheme, as apportioned to power generation and in case of thermal generating stations does not include mining if it is a pit head project and dedicated captive coal mine;"*

7. Regulation 6 of the 2014 Tariff Regulations provides as follows:

"6. Tariff determination

(1) Tariff in respect of a generating station may be determined for the whole of the generating station or stage or generating unit or block thereof, and tariff in respect of a transmission system may be determined for the whole of the transmission system or transmission line or sub-station or communication system forming part of transmission system:

Provided that:

(i) where all the generating units of a stage of a generating station or all elements of a transmission system have been declared under commercial operation prior to 1.4.2014, the generating company or the transmission licensee, as the case may be, shall file consolidated petition in respect of the entire generating station or transmissions system for the purpose of determination of tariff for the period 2014-15 to 2018-19:

(ii) in case of commercial operation of the generating station or transmission system including communication system on or after 1.4.2014, the generating company or transmission licensee shall file a consolidated petition combining all the units of the generating station or file appropriate petition for transmission elements of the transmission system which are likely to be commissioned during next six months from the date of application:

(iii) the tariff of the existing communication system forming part of transmission system shall be as per the methodology followed by the Commission prior to 1.4.2014.



(2) For the purpose of determination of tariff, the capital cost of a project may be broken up into stages, blocks, units, transmission lines and sub-stations, forming part of the project, if required: Provided that where break-up of the capital cost of the project for different stages or units or blocks and for transmission lines or sub-stations is not available and in case of on-going projects, the common facilities shall be apportioned on the basis of the installed capacity of the units, line length and number of bays:

Provided further that in relation to multi-purpose hydro schemes, with irrigation, flood control and power components, the capital cost chargeable to the power component of the scheme only shall be considered for determination of tariff.

(3) Where an existing transmission project has been granted licence under section 14 of the Act read with Regulation 6(c) of the Central Electricity Regulatory Commission (Terms and Conditions of grant of Transmission Licence for inter-State Transmission of electricity and related matters) Regulations, 2009, the tariff of such project shall be applicable from the date of grant of transmission licence or from the date as indicated in the transmission licence, as the case may be. In such cases, the applicant shall file petition as per Annexure-I, clearly demarcating the assets which form the part of regulated business of generation and transmission, the value of such assets, source of funding etc. duly certified by an auditor.

(4) In case of multi-purpose hydro generation scheme with irrigation, flood control and power components, the capital cost chargeable to the power component of the scheme only shall be considered for determination of tariff.

(5) Where only a part of the generation capacity of a generating station is tied up for supplying power to the beneficiaries through long term power purchase agreement and the balance part of the generation capacity have not been tied up for supplying power to the beneficiaries, the tariff of the generating station shall be determined with reference to the capital cost of the entire project, but the tariff so determined shall be applicable corresponding to the capacity contracted for supply to the beneficiaries.

8. Regulation 7 of the 2014 Tariff Regulations provides as follows:

“7. Application for determination of tariff: (1) The generating company may make an application for determination of tariff for new generating station or unit thereof in accordance with the Procedure Regulations, in respect of the generating station or generating units thereof within 180 days of the anticipated date of commercial operation.

(2) The transmission licensee may make an application for determination of tariff for new transmission system including communication system or element thereof as the case may be in accordance with the Procedure Regulations, in respect of the transmission system or elements thereof anticipated to be commissioned within 180 days from the date of filing of the petition.

(3) In case of an existing generating station or transmission system including communication system or element thereof, the application shall be made not later than 180 days from the date of notification of these regulations based on admitted capital cost including any additional capital expenditure already admitted up to 31.3.2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014-15 to 2018-19.

(4) The generating company or the transmission licensee, as the case may be, shall make an application as per Annexure-I of these regulations, for determination of tariff



based on capital expenditure incurred duly certified by the auditors or projected to be incurred up to the date of commercial operation and additional capital expenditure incurred duly certified by the auditors or projected to be incurred during the tariff period of the generating station or the transmission system as the case may be: Provided that the petition shall contain details of underlying assumptions for the projected capital cost and additional capital expenditure, wherever applicable.

(5) If the petition is inadequate in any respect as required under Annexure-I of these regulations, the application shall be returned to the generating company or transmission licensee as the case may be, for resubmission of the petition within one month after rectifying the deficiencies as may be pointed out by the staff of the Commission.

(6) If the information furnished in the petition is in accordance with the regulations and is adequate for carrying out prudence check of the claims made, the Commission shall consider the suggestions and objections, if any, received from the respondents within one month from the date of filing of the petition and any other person including the consumers or consumer associations. The Commission shall issue the tariff order after hearing the petitioner, the respondents and any other person specifically permitted by the Commission.

(7) In case of the new projects, the generating company or the transmission licensee, as the case may be, may be allowed tariff by the Commission based on the projected capital expenditure from the anticipated COD in accordance with Regulation 6 of these regulations:

Provided that :

(i) the Commission may grant tariff upto 90% of the annual fixed charges claimed in respect of the transmission system or element thereof based on the management certificate regarding the capital cost for the purpose of inclusion in the POC charges in accordance with the CERC (Sharing of Inter State Transmission charges and losses), Regulation, 2010 as amended from time to time:

(ii) if the date of commercial operation is delayed beyond 180 days from the date of issue of tariff order in terms of clause (6) of this regulation, the tariff granted shall be deemed to have been withdrawn and the generating company or the transmission licensee shall be required to file a fresh application for determination of tariff after the date of commercial operation of the project:

(iii) where the capital cost considered in tariff by the Commission on the basis of projected capital cost as on COD or the projected additional capital expenditure exceeds the actual capital cost incurred on year to year basis by more than 5%, the generating company or the transmission licensee shall refund to the beneficiaries or the long term transmission customers /DICs as the case may be, the excess tariff recovered corresponding to excess capital cost, as approved by the Commission alongwith interest at 1.20 times of the bank rate as prevalent on 1st April of respective year:

(iv) where the capital cost considered in tariff by the Commission on the basis of projected capital cost as on COD or the projected additional capital expenditure falls short of the actual capital cost incurred on year to year basis by more than 5%, the generating company or the transmission licensee shall be entitled to recover from the beneficiaries or the long term transmission customers /DICs as the case may be, the shortfall in tariff corresponding to reduction in capital cost, as approved by the



Commission alongwith interest at 0.80 times of bank rate as prevalent on 1st April of respective year.

(8) In case of the existing projects, the generating company or the transmission licensee, as the case may be, may be allowed tariff by the Commission based on the admitted capital cost as on 1.4.2014 and projected additional capital expenditure for the respective years of the tariff period 2014-15 to 2018-19 in accordance with the Regulation 6: Provided that: (i) the generating company or the transmission licensee, as the case may be, shall continue to bill the beneficiaries or the transmission customers / DICs at the tariff approved by the Commission and applicable as on 31.3.2014 for the period starting from 1.4.2014 till approval of tariff by the Commission in accordance with these regulations: (ii) where the capital cost considered in tariff by the Commission on the basis of projected capital cost as on COD or the projected additional capital expenditure submitted by the generating company or the transmission licensee, as the case may be, exceeds the actual capital cost incurred on year to year basis by more than 5%, the generating company or the transmission licensee shall refund to the beneficiaries or the long term transmission customers /DICs as the case may be, the excess tariff recovered corresponding to excess capital cost, as approved by the Commission alongwith interest at 1.20 times of the bank rate as prevalent on April 1 of respective year: (iii) where the capital cost considered in tariff by the Commission on the basis of projected capital cost as on COD or the projected additional capital expenditure submitted by the generating company or the transmission licensee, as the case may be, falls short of the actual capital cost incurred on year to year basis by more than 5%, the generating company or the transmission licensee shall be entitled to recover from the beneficiaries or the long term transmission customers /DICs as the case may be, the shortfall in tariff corresponding to reduction in capital cost, as approved by the Commission alongwith interest at 0.80 times of bank rate as prevalent on April 1 of respective year.

9. In view of the above, we have considered the petition and allowed transmission tariff for the distinguishable assets as per the 2014 Tariff Regulations/ the 2019 Tariff Regulations (where applicable) from their actual date of commercial operation. Similarly, the Commission considers and allows tariff on a consolidated tariff petition as per the 2014 Tariff Regulations/ the 2019 Tariff Regulations (where applicable) in respect of asset(s)/ project(s) after due prudence check of the required essential documents submitted by the Petitioner.

10. This order is issued considering the submissions made by the Petitioner *vide* affidavits dated 13.1.2020, 12.2.2021 and 2.7.2021, UPPCL's reply filed *vide* affidavit dated 14.7.2021 and the Petitioner's rejoinder to the reply of UPPCL filed *vide* affidavit dated 4.8.2021.



11. The hearing in this matter was held on 6.7.2021 through video conference and the Commission reserved the order. Having heard the representatives of the Petitioner and having perused the materials on record, we proceed to dispose of the petition.

Truing up of Annual Fixed Charges for 2009-14 Period

12. During the truing up of transmission tariff for the 2009-14 period, the Commission *vide* order dated 23.5.2016 in Petition No. 313/TT/2015 had restricted the capital cost of Asset-3 and Asset-4 to the approved apportioned cost as per FR as the Petitioner could not submit RCE by the time the order in the petition was issued. The Petitioner filed Review Petition No. 31/RP/2017 in Petition No.313/TT/2015 wherein it sought modification of the capital cost of Asset-3 and Asset-4 stating that after the issue of order dated 23.5.2016, its BOD approved RCE on 22.7.2016 and the completion cost of Asset-3 and Asset-4 is within the approved apportioned cost as per RCE. The Commission *vide* order dated 28.9.2017 disposed of the Review Petition No. 31/RP/2017 and held that the capital cost of the said assets will be considered for revision at the time of truing up of the 2014-19 tariff on the basis RCE approved apportioned cost subject to prudence check and after taking into account the justification for the increase in the capital cost. The Petitioner has, therefore, filed for revision of trued-up transmission tariff for Asset-3 and Asset-4 for the 2009-14 period based on modified capital costs.

13. UPPCL has submitted that after the completion of the 2014-19 tariff period, true up of transmission tariff for the 2009-14 period cannot be sought due to the repeal of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”). Further,



the Petitioner has filed the instant petition with significant delay and only on 13.1.2020 after the Commission passed the order dated 28.9.2017 in Review Petition No. 31/RP/2017. UPPCL has, therefore, prayed that the petition for truing up of transmission tariff for the 2009-14 period may not be considered.

14. The Petitioner, in response to the submission of UPPCL, has submitted that the transmission tariff for the 2009-14 period is claimed in line with the Commission's order dated 28.9.2017 in Review Petition No.31/RP/2017.

15. The Petitioner has further submitted that the Tariff Regulations specified by the Commission for different tariff periods do not provide for any "Repeal and Savings" regulations/ provisions and, thus, the notification of Tariff Regulations for a new tariff period does not automatically repeal previous Tariff Regulations as contended by the Respondent, but these regulations remain in vogue for determination of tariff whenever required for applicable tariff periods.

16. We have considered the submissions of the Petitioner and UPPCL. The Commission, vide order dated 28.9.2017 in Review Petition No.31/RP/2017, decided as under:

"3. We have considered the submissions of PGCIL. The apportioned cost of Asset-1 in Petition No. 562/TT/2014 and of Assets I and II in Petition No.313/TT/2015 was restricted approved apportioned cost in the FR. With the approval of RCE in both the transmission schemes, the completion cost of the above said assets is within the RCE approved apportioned cost. In the RCE, the expenditure legitimately incurred is included after the payments are settled by PGCIL. Therefore, needs to be considered to recover the actual cost incurred in tariff since the beneficiaries have enjoyed the benefits of the said assets. Accordingly, we are of the view that the capital cost allowed for Asset-1 in Petition No. 562/TT/2014 and Assets I and II in Petition No.313/TT/2015 are required to be revised so that PGCIL is able to recover its cost.

5. The capital cost of the assets covered in the instant petition will be considered for revision at the time of truing up of the 2014-19 tariff on the basis RCE approved apportioned cost subject to prudence check and after taking into account the justification for the increase in the capital cost."



17. There is no provision for revising tariff once the same has been trued-up in terms of the 2009 Tariff Regulations but, as the Commission allowed the Petitioner to approach the Commission with RCE and cost variation details along with the petition for truing up of tariff for the 2014-19 tariff period, the revised capital cost for Asset-3 and Asset-4 shall be considered based on the apportioned approved cost as per RCE from 1.4.2014 onwards while truing up the transmission tariff for the 2014-19 tariff period.

Truing up of Annual Fixed Charges for 2014-19 Tariff Period

18. The details of the trued-up transmission charges claimed by the Petitioner in respect of the transmission assets are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Depreciation	2504.56	2536.00	2563.93	2565.91	2565.91
Interest on Loan	2488.34	2294.76	2093.11	1862.76	1632.08
Return on Equity	2792.72	2840.76	2870.58	2872.80	2880.52
O&M Expenses	216.95	224.47	231.63	239.51	247.38
Interest on Working Capital	191.19	188.98	186.07	181.30	176.60
Total	8193.76	8084.97	7945.32	7722.28	7502.49
Asset B					
Depreciation	4382.28	4397.89	4415.75	4431.27	4439.37
Interest on Loan	4704.72	4306.31	3909.21	3491.69	3093.82
Return on Equity	4883.01	4924.14	4944.14	4961.52	4983.70
O&M Expenses	328.83	340.20	351.07	363.00	374.94
Interest on Working Capital	339.72	332.49	324.82	316.63	308.83
Total	14638.56	14301.03	13944.99	13564.11	13200.66

19. The details of the trued-up Interest on Working Capital (IWC) claimed by the Petitioner in respect of the transmission assets are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
WC for O&M Expenses (O&M Expenses for 1 month)	18.08	18.71	19.30	19.96	20.62



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
WC for Maintenance Spares (15% of O&M Expenses)	32.54	33.67	34.74	35.93	37.11
WC for Receivables (Equivalent to 2 months of annual fixed cost)	1365.63	1347.50	1324.22	1287.05	1250.42
Total Working Capital	1416.25	1399.88	1378.26	1342.94	1308.15
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	191.19	188.98	186.07	181.30	176.60
Asset B					
WC for O&M Expenses (O&M Expenses for 1 month)	27.40	28.35	29.26	30.25	31.25
WC for Maintenance Spares (15% of O&M Expenses)	49.32	51.03	52.66	54.45	56.24
WC for Receivables (Equivalent to 2 months of annual fixed cost)	2439.76	2383.51	2324.17	2260.68	2200.11
Total Working Capital	2516.48	2462.89	2406.09	2345.38	2287.60
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	339.72	332.49	324.82	316.63	308.83

20. UPPCL has submitted that the original investment approval and RCE approval specify SCOD of the transmission project but do not stipulate splitting of the transmission project into different sets of elements with distinct commissioning dates for such elements. All elements of the transmission project have been put into commercial operation at different dates and based on such dates, the Petitioner has decided COD for Asset-A and Asset-B and the transmission project thereof. UPPCL has, therefore, submitted that the Petitioner has to provide an explanation in this regard. UPPCL has requested that the tariff for the entire transmission project may be determined in the true up petition and the revenue earned in past may be adjusted. In respect of the bidding process for the transmission project, UPPCL has submitted that the Petitioner invites bids for the complete scope of work on an overall basis and the completion cost of the transmission project is discovered on an overall basis and such cost must be the basis for determination of tariff. Further, UPPCL has submitted that



the Petitioner has not disclosed the details of bids invited for construction of the transmission project, such as date of bid invitation, price quoted by the successful bidder, date of LOA, completion time as per the contract, price escalation formula agreed with the bidder and date of start of work. These details must be considered for determination of tariff and UPPCL has requested that the Petitioner be directed to provide this information.

21. The Petitioner, in response to the submission of UPPCL, has submitted that it implements transmission schemes based on recommendations of CEA/ RPC/ Standing Committee/ National Committee on Transmission etc. Therefore, the size of the scheme, its configuration etc. are beyond the Petitioner's control. A transmission scheme executed by the Petitioner consists of various assets like transmission lines, new sub-station, sub-station bays and equipment like ICTs, Reactors, STATCOMs etc. All infrastructure projects particularly linear projects such as transmission projects are inherently prone to delays due to factors beyond the control of the developers viz., project specific conditions such as terrain, project location, land issues, Right of Way (RoW) constraints (including urbanization, river/ highway/ railway line crossings, crossing of other transmission lines, forest area). Because of geographical spread of the transmission system, simultaneous commissioning of all assets of a transmission system is very difficult. Further, time required for commissioning of a transmission line and sub-station equipment are different. Therefore, by inherent nature of transmission projects, individual components of a transmission system are usually commissioned in phases. The Petitioner has further submitted that Regulation 4(2) of the 2009 Tariff Regulations provides the flexibility to transmission licensees to break up the capital cost of a transmission project into transmission lines or substations forming part of the



transmission project for the purpose of determination of tariff. In respect of UPPCL's submissions regarding the bidding process for the transmission project, the Petitioner has submitted that based on the nature of work, multiple packages are awarded by the Petitioner for given scope of work. Depending upon factors such as nature of work i.e. supply, erection, 'civil', 'consultancy' packages, on shore, off shore contracts and quantum of work i.e. line length, green field/brown field sub-station and supply items such as tower package, conductor package, insulator packages etc., multiple packages are awarded for given scope of work. It is done for the purpose of competitiveness, efficiency, availability of prospective bidders, project execution schedule, combination/ clubbing of equipment/ services that can be advantageously engineered and independence with regard to the work content and clear-cut terminal points for interfacing. Therefore, the reference bids/contracts vary from item to item. In the instant case, multiple packages were awarded, not a single bid/package as claimed by the Respondent. Details regarding award of work, date of award, contractor details etc. of have already been submitted in Form-5 in Petition No. 199/TT/2012 and 82/2012 i.e., PoC petitions for the 2009-14 period. These packages under a transmission project are awarded to the lowest evaluated and responsive bidder, based on competitive bidding. Thus, the award prices represent the lowest prices available at the time of bidding of various packages.

22. We have considered the submissions of UPPCL and the Petitioner. The Commission considers allowing the transmission tariff only after prudence check and taking into consideration all aspects of the matter as per applicable regulations (relevant portion of 2014 Tariff Regulations as regards splitting of transmission assets is quoted at paragraphs 6, 7 and 8 of this order).



Capital Cost as on 1.4.2014

23. The Commission *vide* order dated 19.2.2016 in Petition No. 559/TT/2014 allowed capital cost as on 1.4.2014 for Asset-A and *vide* order dated 23.5.2016 in Petition No. 313/TT/2015 allowed capital cost as on 1.4.2014 for Asset-B. The details of the capital cost as allowed by the Commission in the aforesaid orders and the capital cost claimed by the Petitioner in the instant petition are as follows:

(₹ in lakh)

Particulars	Apportioned approved cost as per FR	Apportioned approved cost as per RCE	Capital Cost allowed as on 1.4.2014 (order dated 19.2.2016 in Petition No. 559/TT/2014 and order dated 23.5.2016 in Petition No. 313/TT/2015)	Capital Cost (as on 1.4.2014 claimed in the instant petition)
Asset A				
Asset-1	40136.59	36512.00	35698.42	35698.42
Asset-2	13341.88	12110.00	11632.06	11632.06
Total (Asset A)	53478.47	48622.00	47330.48	47330.48
Asset B				
Asset-3	1904.70	2329.00	1904.70	2185.00
Asset-4	35511.57	40550.00	35511.57	40009.06
Asset-5	43837.99	41952.00	40699.19	40699.20
Total (Asset B)	81254.26	84831.00	78115.46	82893.26

24. In terms of order dated 28.9.2017 in Review Petition No. 31/RP/2017, the Petitioner has submitted the following justification for cost over-run in Asset-3 and Asset-4:

- a) **Justification for cost over-run in Asset-3:** The line length, type of various towers and foundations in DPR were estimated based on walk-over/ preliminary survey. Further, as more villages/ habitats and forest stretches were encountered in the line route, the line had to be diverted to avoid RoW issues as well as minimizing affected forest area, thereby resulting in increase in the length of the line and the quantity of tower-steel, hardware fittings, concreting,



reinforcement etc. The line length of approx. 5 km considered in FR increased to 13 km during actual implementation in order to avoid forest stretch and due to change in location of Jhatikara sub-station. Corresponding increase in number of towers, conductors and other accessories including PV have resulted in increase of actual cost which is around 20% higher than the FR approved apportioned cost.

b) **Justification for cost over-run in Asset-3:** The line length, type of various towers and foundations in the DPR were estimated based on walk-over/ preliminary survey and based on identified land for new Sub-station. Further, due to more villages/ habitats and forest stretches being encountered in the line route, change in location of NH-8 crossing and change in sub-station location, the line had to be diverted that resulted in increase in the length of the line and the consequent increase in quantity of tower-steel, hardware fittings, concreting, reinforcement etc. Actual sub-station location is about 7 to 8 km farther from the previously finalized location which ultimately led to an increase in line length from 240 km to 252 km.

25. The Petitioner has further submitted that compensation towards crop and PTCC have been paid as per actuals depending upon the type of crop and the rates provided by the concerned Tehsildar. The actual compensation paid was around ₹14.5 crore against ₹3.65 crore estimated in the DPR, leading to further escalation of cost.

26. UPPCL has made the following submissions in respect of the capital cost of the transmission project:

a) **Approval of the transmission project:** The Petitioner has not provided the copy of the original IA. While there is no major change in the capital cost as per RCE, the period of commissioning has been extended by 1 year which will have an impact on time and cost over-run. Since all the elements of the transmission project were commissioned by 16.1.2013 and the Petitioner was aware of the exact cost of construction of the transmission project on the date of



approval of RCE, the Petitioner must explain the reason for deviation of actual capital cost from apportioned approved cost as per RCE.

b) **Capital cost of the transmission project:** The capital cost of the transmission project was approved in original investment approval as well as the RCE approval for the complete scope of work by considering all elements together. These approvals do not stipulate distinct cost of each element constituting the transmission project. However, the Petitioner has split the transmission project into various assets/ sub-assets and has allocated capital cost among these assets without the approval of any competent authority.

c) **Over-estimation of capital cost:** The reduction in capital cost approved in RCE compared to the original approved capital cost is ₹45.09 crore as on 31.3.2014 and ₹15.22 crore as on 31.3.2019. Necessity of RCE approval is questionable as the estimated completion cost of the transmission project has reduced as per RCE approval. The Petitioner must provide an explanation on the following aspects:

- a. The process of determination of the original cost estimate approved by the BOD.
- b. The reason for splitting the scope of work into various assets/sub-assets and whether the same was approved by the BOD.
- c. The process of allocation of capital cost to each of the assets after approval and whether the same was approved by the BOD.
- d. The process of allocating the quoted bid price into various assets.
- e. Date of invitation of bids and the quoted price by the successful bidder.
- f. Whether the quoted price was up to COD or cut-off date.
- g. The project completion time agreed with the bidder in the contract signed with the executing agency.
- h. The price escalation formula, if any, agreed with the bidder during the start of work.

d) **Time over-run and cost over-run:** Considering the delay in the commissioning of the transmission project, the time over-run and cost over-run may be revaluated in this petition and the escalation in price paid by the



Petitioner over and above the bid price may be considered as cost over-run due to delayed execution of the project. Accordingly, IDC and IEDC for the period of delay may not be allowed.

27. The Petitioner, in response to the submission of UPPCL, has made the following submissions:

- a) **Approval of the transmission project:** The copy of RCE approval has already been submitted along with the instant petition. Further, the approved composite figure is derived by compilation of individual cost of elements under the transmission project. An abstract of cost of the transmission project is provided in the RCE approval. The individual apportionment capital cost is arrived at based on the actual quantity of various items under the element and by apportioning common package costs considered in RCE. Accordingly, the apportionment of RCE for the transmission assets have been submitted in the reply to the Technical Validation (TV) letter. Further, the justification for cost over-run in Asset-3 and Asset-4 has already been provided in the instant petition.
- b) **Capital cost of the transmission project:** The justification for the concerns raised by UPPCL have already been submitted in the instant petition. Further, the copy of the original IA has already been submitted in earlier petitions and have been submitted again in the rejoinder to the submissions of UPPCL.
- c) **Over-estimation of capital cost:** Once the main packages of a transmission project are awarded, the RCE of the transmission project is worked out taking into consideration the anticipated price variation. Whenever there are variations with reference to the original estimate, the reason for variations and the basis of revised estimate is indicated. While working out the revised cost estimate, the cost of site packages and the expenditure incurred for land acquisition and other related works are also considered. Accordingly, the RCE is reviewed when the actual expenditure incurred is approximately 50% of the approved cost estimate of the transmission project (FR cost). Further, RCE is reviewed again six months prior to the anticipated completion of the project. Therefore, final RCE is prepared based on actual expenditure already incurred as well as expenditure to be incurred for completion of the transmission project. Further, the cost estimates are prepared based on schedule of rates. The



schedule of rates is prepared based on the average of unit rates of three latest bids/ LOAs/ raw material prices in order to achieve the cost efficiency by estimating the capital cost of the transmission project. Subsequently, the award for execution of the project is placed after following the transparent process of tendering, bid evaluation and award of work to lowest technical and commercially responsive bid. The Petitioner follows a robust and time-tested system of preparing cost estimates before obtaining the IA. After obtaining the IA, the award letters are provided to the executing agencies on the basis of the tendering process as per the best industry practices and due diligence is undertaken including justification of bid prices vis-à-vis estimated cost before providing the awards. Further, cost control measures are taken during execution of the project and only under unavoidable situations caused by the actual soil/ terrain conditions, crossing requirements (river, power line, railway line, forest stretches and any other compelling technical reason), the cost may undergo changes.

d) **Time over-run and cost over-run:** The tariff has been claimed only on the actual expenditure incurred towards the work as per the 2009 Tariff Regulations and the same has been also audited by the auditor. The combined cost of the transmission assets as well as the cost for all individual elements are within the RCE cost. Therefore, there is no cost over-run with respect to the approved cost as on 31.3.2024.

28. We have considered the submissions of UPPCL and the Petitioner. The estimated completion cost of Asset-3 and Asset-4 is ₹2185.00 lakh and ₹40009.06 lakh as against the RCE approved cost of ₹2329 lakh and ₹40550.00 lakh. Since the estimated completion cost of Asset-3 and 4 is within RCE cost, the revised capital cost for Asset-3 and Asset-4 shall be considered based on the apportioned approved cost as per RCE from 1.4.2014 onwards while truing up the transmission tariff for the 2014-19 tariff period.



29. The details of capital cost approved for the 2009-14 period *vide* order dated 23.5.2016 in Petition No. 313/TT/2015 for Asset-3 and Asset-4 and the capital cost now claimed in the instant petition after considering the approved apportioned cost as per RCE are as follows:

(₹ in lakh)

Particulars	Apportioned cost as per RCE	Capital Cost (as on COD)	ACE		Capital Cost (as on 31.3.2014)
			2012-13	2013-14	
Asset-3					
Approved vide order dated 23.5.2016 in Petition No. 313/TT/2015	2329	1904.70	0.00	0.00	1904.70
Claimed by the Petitioner in the instant petition		2034.55	63.38	87.07	2185.00
Asset-4					
Approved vide order dated 23.5.2016 in Petition No. 313/TT/2015	40550	35511.57		0.00	35511.57
Claimed by the Petitioner in the instant petition		38854.65		1154.41	40009.06

30. The capital cost claimed for Asset-3 and Asset-4 for the 2009-14 period have been verified from the Auditor Certificates. Therefore, the capital cost for Asset-B as on 1.4.2014 has been determined as follows:

(₹ in lakh)

Particulars	Apportioned approved cost as per RCE	Capital Cost allowed (as on 1.4.2014 <i>vide</i> order dated 23.5.2016 in Petition No. 313/TT/2015)	Capital Cost now allowed (as on 1.4.2014)
Asset-3	2329.00	1904.70	2185.00
Asset-4	40550.00	35511.57	40009.06
Asset-5	41952.00	40699.19	40699.19
Total (Asset B)	84831.00	78115.46	82893.25

31. The Commission has allowed the capital cost as on 1.4.2014 in accordance with Regulation 9(3) of the 2014 Tariff Regulations. Accordingly, the details of capital cost as on 1.4.2014 now approved is as follows:



(₹ in lakh)

Particulars	Apportioned approved cost as per RCE	Capital Cost allowed (as on 1.4.2014)
Asset A	48622.00	47330.48
Asset B	84831.00	82893.25

Effective Date of Commercial Operation (E-COD)

32. The Petitioner has claimed that E-COD of Asset-A and Asset-B work out to be 1.7.2012 and 11.5.2013 respectively. Based on the trued-up admitted capital cost as on 31.3.2014 and actual COD of all the transmission assets, E-COD for Asset-A and Asset-B have been worked out as follows:

Particulars	Capital Cost (as on 31.3.2014) (₹ in lakh)	COD	Number of days from last COD	Weightage of Cost (in %)	Weighted days	Effective COD (latest COD – weighted days)
Asset A						
Asset-1	35698.42	1.6.2012	122	75.42	92.02	30.6.2012
Asset-2	11632.06	1.10.2012	0	24.58	0.00	
Total	47330.48			100.00	92.02	
Asset B						
Asset-3	1904.70	1.10.2012	243	2.44	5.93	11.5.2013
Asset-4	35511.57	1.5.2013	31	45.46	14.09	
Asset-5	40699.19	1.6.2013	0	52.10	0.00	
Total	78115.46			100.00	20.02	

33. E-COD is used to determine the elapsed life of Asset-A and Asset-B which work out as 1 (one) year and 0 (zero) year respectively as on 1.4.2014 (i.e., the number of completed years as on 1.4.2014 from E-COD).

Useful Life of the Assets

34. The life as defined in Regulation 27 of the 2014 Tariff Regulations has been considered for determination of Weighted Average Life. As Asset-A and Asset-B are



only comprised of one asset type i.e., transmission line, the useful life of Asset-A and Asset-B has been considered as 35 years.

35. Useful life as on 1.4.2014 as determined above is applicable prospectively (i.e., for 2014-19 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required to be done. As discussed above, Effective COD of Asset-A and Asset-B work out to 30.6.2012 and 11.5.2013 respectively and the elapsed life of Asset A and Asset B work out as 1 (one) year and 0 (zero) year respectively as on 1.4.2014 (i.e., the number of completed years as on 1.4.2014 from Effective COD). Accordingly, useful life has been used to determine the remaining useful life as on 31.3.2014 for Asset-A and Asset-B as 34 years and 35 years respectively.

Initial Spares

36. The transmission assets were put into commercial operation in the 2009-14 tariff period. The Regulation 8(iv) of the 2009 Tariff Regulations provides that Initial Spares shall be capitalised as a percentage of the admitted capital expenditure incurred within the original scope of the project up to the cut-off date, subject to the following ceiling norms:

“(iv) Transmission system

(a) Transmission line - 0.75%

(b) Transmission Sub-station - 2.5%

(c) Series Compensation devices and HVDC Station - 3.5%

(d) Gas Insulated Sub-station (GIS) - 3.5%”

37. The Petitioner has not claimed any Initial Spares for Asset-B. The initial spares claimed by the petitioner for Asset-A is within ceiling of 0.75% towards transmission line and the Initial Spares allowed for Asset-A as per percentage specified in the 2009 Tariff Regulations are as follows:



Particulars	Capital Cost up to cut-off date (A) (₹ in lakh)	Initial Spares claimed (B) (₹ in lakh)	Ceiling limit (in %) (C)	Initial Spares worked out	Excess Initial Spares	Initial Spares allowed (₹ in lakh)
				$D = [(A-B)*C / (100-C)]$ (₹ in lakh)	$E = D-B$ (₹ in lakh)	
Transmission line						
Asset-1	35698.42	256.57	0.75	267.82	Nil	256.57
Asset-2	11840.67	72.63		88.93		72.63
Total (Asset A)	47539.09	329.20		356.75		329.20

Additional Capital Expenditure (ACE)

38. The Commission *vide* order dated 19.2.2016 in Petition No. 559/TT/2014 for Asset-A and *vide* order dated 23.5.2016 in Petition No. 313/TT/2015 for Asset-B had allowed ACE for the 2014-19 tariff period as follows:

Asset	Apportioned approved cost as per FR	Capital Cost admitted (as on 1.4.2014)	ACE admitted					Capital Cost admitted (as on 31.3.2019)
			2014-15	2015-16	2016-17	2017-18	2018-19	
Asset A	53478.47	47330.48	259.19	0.00	0.00	0.00	0.00	47589.67
Asset B	81254.26	78115.46	37.88	824.89	0.00	0.00	0.00	78978.23

39. The Petitioner has claimed the following ACE based on actual expenditure:

Asset	Apportioned approved cost as per RCE	Capital Cost claimed (as on 1.4.2014)	ACE claimed					Capital Cost claimed (as on 31.3.2019)
			2014-15	2015-16	2016-17	2017-18	2018-19	
Asset A	48622.00	47330.48	208.61	982.56	75.15	0.00	0.00	48596.80
Asset B	84831.00	82893.26	209.12	382.07	294.43	293.43	13.37	84085.68

40. The Petitioner has submitted that ACE incurred during the 2014-19 period within the cut-off date is on account of undischarged liabilities recognized to be payable at a future date under Regulation 14(1)(i) of the 2014 Tariff Regulations and ACE incurred after the cut-off date is on account of undischarged liabilities after the cut-off date for works executed prior to the cut-off date under Regulation 14(3)(v) of the 2014 Tariff Regulations.



41. We have considered the submissions of the petitioner. ACE claimed by the petitioner is allowed under Regulation 14(1)(i) of the 2014 Tariff Regulations (undischarged liabilities within cut-off date) and Regulation 14(3)(v) of the 2014 Tariff Regulations (undischarged liabilities beyond cut-off date). ACE allowed for the 2014-19 period is as follows:

(₹ in lakh)

Asset	Apportioned approved cost as per RCE	Capital Cost allowed (as on 1.4.2014)	ACE allowed					Capital Cost allowed (as on 31.3.2019)
			2014-15	2015-16	2016-17	2017-18	2018-19	
Asset A	48622.00	47330.48	208.61	982.56	75.15	0.00	0.00	48596.80
Asset B	84831.00	82893.25	209.11	382.07	294.43	293.43	13.37	84085.66

Debt-Equity ratio

42. The Petitioner has claimed debt-equity ratio of 70:30 as on 1.4.2014 for the transmission assets. Debt-Equity ratio of 70:30 is considered as provided under Regulation 19 of the 2014 Tariff Regulations. The details of the debt and equity considered as on 1.4.2014 and as on 31.3.2019 for the purpose of tariff for the 2014-19 tariff period are as follows:

Funding	Capital Cost (as on 1.4.2014) (₹ in lakh)	(in %)	ACE in 2014-19 (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2019) (₹ in lakh)	(in %)
Asset A						
Debt	33131.35	70.00	886.42	70.00	34017.77	70.00
Equity	14199.13	30.00	379.90	30.00	14579.03	30.00
Total	47330.48	100.00	1266.32	100.00	48596.80	100.00
Asset B						
Debt	58025.28	70.00	834.69	70.00	58859.96	70.00
Equity	24867.98	30.00	357.72	30.00	25225.70	30.00
Total	82893.25	100.00	1192.41	100.00	84085.66	100.00

Depreciation

43. The Gross Block during the 2014-19 tariff period has been depreciated at the rate of 5.28% as the transmission assets are comprised of only one asset type i.e.,



transmission line. The rate of depreciation has been considered after taking into account the depreciation rates of asset as prescribed in the 2014 Tariff Regulations. The trued-up depreciation allowed for the transmission assets is as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Opening Gross Block	47330.48	47539.09	48521.65	48596.80	48596.80
ACE	208.61	982.56	75.15	0.00	0.00
Closing Gross Block	47539.09	48521.65	48596.80	48596.80	48596.80
Average Gross Block	47434.79	48030.37	48559.23	48596.80	48596.80
Rate of Depreciation (in %)	5.28	5.28	5.28	5.28	5.28
Balance useful life of the asset	34	33	32	31	30
Elapsed life at the beginning of the year	1	2	3	4	5
Depreciable Value	42691.31	43227.33	43703.30	43737.12	43737.12
Depreciation during the year	2504.56	2536.00	2563.93	2565.91	2565.91
Cumulative Depreciation at the end of the year	6821.01	9357.01	11920.94	14486.85	17052.76
Remaining Depreciable Value at the end of the year	35870.30	33870.32	31782.37	29250.27	26684.36
Asset B					
Opening Gross Block	82893.25	83102.36	83484.43	83778.86	84072.29
ACE	209.11	382.07	294.43	293.43	13.37
Closing Gross Block	83102.36	83484.43	83778.86	84072.29	84085.66
Average Gross Block	82997.81	83293.40	83631.65	83925.58	84078.98
Rate of Depreciation (in %)	5.28	5.28	5.28	5.28	5.28
Balance useful life of the asset	35	34	33	32	31
Elapsed life at the beginning of the year	0	1	2	3	4
Depreciable Value	74698.02	74964.06	75268.48	75533.02	75671.08
Depreciation during the year	4382.28	4397.89	4415.75	4431.27	4439.37
Cumulative Depreciation at the end of the year	8018.40	12416.30	16832.05	21263.32	25702.69
Remaining Depreciable Value at the end of the year	66679.62	62547.76	58436.43	54269.70	49968.39

44. The details of depreciation allowed *vide* order dated 19.2.2016 in Petition No. 559/TT/2014 in respect of Asset-A and order dated 23.5.2016 in Petition No. 313/TT/2015 in respect of Asset-B, depreciation claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Allowed vide order dated 19.2.2016 in Petition No. 559/TT/2014	2505.89	2512.73	2512.73	2512.73	2512.73
Claimed by the Petitioner in the instant petition	2504.56	2536.00	2563.93	2565.91	2565.91
Approved after true-up in this order	2504.56	2536.00	2563.93	2565.91	2565.91
Asset B					
Allowed vide order dated 23.5.2016 in Petition No. 313/TT/2015	4125.50	4148.27	4170.05	4170.05	4170.05
Claimed by the Petitioner in the instant petition	4382.28	4397.89	4415.75	4431.27	4439.37
Approved after true-up in this order	4382.28	4397.89	4415.75	4431.27	4439.37

Interest on Loan (IoL)

45. The Petitioner has claimed the weighted average rate of IoL based on its actual loan portfolio and rate of interest. We have considered the submissions of the Petitioner. IoL has been calculated based on actual interest rate submitted by the Petitioner in accordance with Regulation 26 of the 2014 Tariff Regulations. The trued-up IoL allowed in respect of the transmission assets are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Gross Normative Loan	33131.35	33277.38	33965.17	34017.77	34017.77
Cumulative Repayments up to Previous Year	4316.45	6821.01	9357.01	11920.94	14486.85
Net Loan-Opening	28814.90	26456.37	24608.16	22096.84	19530.93
Additions due to ACE	146.03	687.79	52.61	0.00	0.00
Repayment during the year	2504.56	2536.00	2563.93	2565.91	2565.91
Net Loan-Closing	26456.37	24608.16	22096.84	19530.93	16965.01
Average Loan	27635.64	25532.26	23352.50	20813.88	18247.97
Weighted Average Rate of Interest on Loan (in %)	9.0041	8.9877	8.9631	8.9496	8.9439
Interest on Loan	2488.34	2294.76	2093.11	1862.75	1632.07
Asset B					
Gross Normative Loan	58025.28	58171.65	58439.10	58645.20	58850.60
Cumulative Repayments up to	3636.12	8018.40	12416.30	16832.05	21263.32



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Previous Year					
Net Loan-Opening	54389.16	50153.25	46022.81	41813.16	37587.29
Additions due to ACE	146.38	267.45	206.10	205.40	9.36
Repayment during the year	4382.28	4397.89	4415.75	4431.27	4439.37
Net Loan-Closing	50153.25	46022.81	41813.16	37587.29	33157.28
Average Loan	52271.20	48088.03	43917.98	39700.22	35372.28
Weighted Average Rate of Interest on Loan (in %)	9.0658	9.0255	8.9780	8.8792	8.8404
Interest on Loan	4738.78	4340.21	3942.94	3525.05	3127.05

46. The details of IoL allowed *vide* order dated 19.2.2016 in Petition No. 559/TT/2014 in respect of Asset-A and order dated 23.5.2016 in Petition No. 313/TT/2015 in respect of Asset-B, IoL claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Approved <i>vide</i> order dated 19.2.2016 in Petition No. 559/TT/2014	2490.02	2274.68	2049.52	1823.52	1597.61
Claimed by the Petitioner in the instant petition	2488.34	2294.76	2093.11	1862.76	1632.08
Allowed after true-up in this order	2488.34	2294.76	2093.11	1862.75	1632.07
Asset B					
Approved <i>vide</i> order dated 23.5.2016 in Petition No. 313/TT/2015	4441.79	4098.41	3748.81	3369.94	2992.05
Claimed by the Petitioner in the instant petition	4704.72	4306.31	3909.21	3491.69	3093.82
Allowed after true-up in this order	4738.78	4340.21	3942.94	3525.05	3127.05

Return on Equity (RoE)

47. The Petitioner has claimed RoE for the transmission assets in terms of Regulations 24 and 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at MAT rates and has claimed the following effective tax rates for the 2014-19 tariff period:



Year	Claimed effective tax rate (in %)	Grossed-up RoE [Base Rate/(1-t)] (in %)
2014-15	21.018	19.624
2015-16	21.382	19.716
2016-17	21.338	19.705
2017-18	21.337	19.704
2018-19	21.549	19.758

48. The Commission, *vide* order dated 27.4.2020 in Petition No.274/TT/2019, had arrived at the effective tax rate for the Petitioner based on the notified MAT rates as follows:

Year	Notified MAT rates (inclusive of surcharge & cess)	Effective tax (in %)
2014-15	20.961	20.961
2015-16	21.342	21.342
2016-17	21.342	21.342
2017-18	21.342	21.342
2018-19	21.549	21.549

49. The same MAT rates as considered in the above-mentioned order in Petition No. 274/TT/2019 are considered for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 period in terms of the provisions of the 2014 Tariff Regulations and the same are as under:

Year	Notified MAT rates (in %) (inclusive of surcharge & cess)	Base rate of RoE (in %)	Grossed-up RoE [Base Rate/(1-t)] (in %)
2014-15	20.961	15.50	19.610
2015-16	21.342	15.50	19.705
2016-17	21.342	15.50	19.705
2017-18	21.342	15.50	19.705
2018-19	21.549	15.50	19.758

50. The Petitioner has claimed RoE for 2014-19 tariff period after grossing up the RoE @15.50% with Effective Tax rates (based on MAT rates) each year. RoE is trued-up on the basis of MAT rates applicable in the respective years and are allowed for the transmission assets as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Opening Equity	14199.13	14261.71	14556.48	14579.03	14579.03
Additions due to ACE	62.58	294.77	22.55	0.00	0.00
Closing Equity	14261.71	14556.48	14579.03	14579.03	14579.03
Average Equity	14230.42	14409.10	14567.75	14579.03	14579.03
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (in %)	19.610	19.705	19.705	19.705	19.758
Return on Equity	2790.59	2839.31	2870.58	2872.80	2880.52
Asset B					
Opening Equity	24867.98	24930.71	25045.33	25133.66	25221.69
Additions due to ACE	62.73	114.62	88.33	88.03	4.01
Closing Equity	24930.71	25045.33	25133.66	25221.69	25225.70
Average Equity	24899.34	24988.02	25089.49	25177.67	25223.69
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.549
Rate of Return on Equity (in %)	19.610	19.705	19.705	19.705	19.758
Return on Equity	4882.76	4923.89	4943.88	4961.26	4983.70

51. The details of RoE allowed *vide* order dated 19.2.2016 in Petition No. 559/TT/2014 in respect of Asset-A and order dated 23.5.2016 in Petition No. 313/TT/2015 in respect of Asset-B, RoE claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Allowed <i>vide</i> order dated 19.2.2016 in Petition No. 559/TT/2014	2792.07	2799.70	2799.70	2799.70	2799.70
Claimed by the Petitioner in the instant petition	2792.72	2840.76	2870.58	2872.80	2880.52
Approved after true-up in this order	2790.59	2839.31	2870.58	2872.80	2880.52
Asset B					
Allowed <i>vide</i> order dated 23.5.2016 in Petition No.	4596.65	4622.03	4646.29	4646.29	4646.29



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
313/TT/2015					
Claimed by the Petitioner in the instant petition	4883.01	4924.14	4944.14	4961.52	4983.70
Approved after true-up in this order	4882.76	4923.89	4943.88	4961.26	4983.70

Operation & Maintenance Expenses (O&M Expenses)

52. The O&M Expenses claimed by the Petitioner for the transmission assets are as follows:

(₹ in lakh)

O&M Expenses					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A	216.95	224.47	231.63	239.51	247.38
Asset B	328.83	340.20	351.07	363.00	374.94

53. We have considered the submissions of the Petitioner. The O&M Expenses norms specified for the elements covered in the transmission assets under Regulation 29(3) of the 2014 Tariff Regulations are as follows:

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Transmission line (Single Circuit Bundled Conductor with four sub-conductors)					
Norms (₹ lakh/km)	0.606	0.627	0.647	0.669	0.691
Transmission line (Double Circuit Bundled conductor with four or more sub-conductors)					
Norms (₹ lakh/km)	1.062	1.097	1.133	1.171	1.210

54. The O&M Expenses allowed in line with the norms specified in Regulation 29(3) of the 2014 Tariff Regulations are as follows:

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Transmission line (765 kV S/C Moga – Bhiwani line and 765 kV S/C Jatikalan – Bhiwani line)					
S/C Bundled Conductor with four sub-conductors (kms)	358.00	358.00	358.00	358.00	358.00



Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Norms (₹ lakh/km)	0.606	0.627	0.647	0.669	0.691
Total O&M Expenses (₹ in lakh)	216.95	224.47	231.63	239.50	247.38
Asset B					
Transmission line (LILO of both circuits of 400 kV D/C Bamnauli – Mundka/Bawana line at Jatikalan)					
D/C Bundled Conductor with four sub-conductors (kms)	12.91	12.91	12.91	12.91	12.91
Norms (₹ lakh/km)	1.062	1.097	1.133	1.171	1.210
Transmission line (Agra – Jatikalan 765 kV S/C line and Agra – Meerut 765 kV S/C line)					
S/C Bundled Conductor with four sub-conductors (kms)	520.00	520.00	520.00	520.00	520.00
Norms (₹ lakh/km)	0.606	0.627	0.647	0.669	0.691
Total O&M Expenses (₹ in lakh)	328.83	340.20	351.07	363.00	374.94

55. The details of O&M Expenses allowed *vide* order dated 19.2.2016 in Petition No. 559/TT/2014 in respect of Asset-A and order dated 23.5.2016 in Petition No. 313/TT/2015 in respect of Asset-B, O&M Expenses claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Allowed <i>vide</i> order dated 19.2.2016 in Petition No. 559/TT/2014	216.95	224.47	231.63	239.50	247.38
Claimed by the Petitioner in the instant petition	216.95	224.47	231.63	239.51	247.38
Approved after true-up in this order	216.95	224.47	231.63	239.50	247.38
Asset B					
Allowed <i>vide</i> order dated 23.5.2016 in Petition No. 313/TT/2015	328.83	340.20	351.07	363.00	374.94
Claimed by the Petitioner in the instant petition	328.83	340.20	351.07	363.00	374.94
Approved after true-up in this order	328.83	340.20	351.07	363.00	374.94

Interest on Working Capital (IWC)

56. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and are allowed for the transmission assets as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
WC for O&M Expenses (O&M Expenses for 1 month)	18.08	18.71	19.30	19.96	20.61
WC for Maintenance Spares (15% of O&M Expenses)	32.54	33.67	34.74	35.93	37.11
WC for Receivables (Equivalent to 2 months of annual fixed cost)	1365.26	1347.25	1324.22	1287.04	1250.41
Total Working Capital	1415.88	1399.62	1378.26	1342.93	1308.14
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	191.14	188.95	186.07	181.30	176.60
Asset B					
WC for O&M Expenses (O&M Expenses for 1 month)	27.40	28.35	29.26	30.25	31.25
WC for Maintenance Spares (15% of O&M Expenses)	49.32	51.03	52.66	54.45	56.24
WC for Receivables (Equivalent to 2 months of annual fixed cost)	2445.53	2389.24	2329.87	2266.33	2205.77
Total Working Capital	2522.25	2468.62	2411.79	2351.03	2293.26
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	340.50	333.26	325.59	317.39	309.59

57. The details of IWC allowed *vide* order dated 19.2.2016 in Petition No. 559/TT/2014 in respect of Asset-A and order dated 23.5.2016 in Petition No. 313/TT/2015 in respect of Asset-B, IWC claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Allowed <i>vide</i> order dated 19.2.2016 in Petition No. 559/TT/2014	191.25	187.04	182.25	177.49	172.72
Claimed by the Petitioner in the instant petition	191.19	188.98	186.07	181.30	176.60
Approved after true-up in this order	191.14	188.95	186.07	181.30	176.60
Asset B					
Allowed <i>vide</i> order dated 23.5.2016 in Petition No. 313/TT/2015	321.17	315.00	308.62	300.56	292.52
Claimed by the Petitioner in the instant petition	339.72	332.49	324.82	316.63	308.83



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Approved after true-up in this order	340.50	333.26	325.59	317.39	309.59

Approved Annual Fixed Charges for 2014-19 Tariff Period

58. The trued-up Annual Fixed Charges approved for the transmission assets for 2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Depreciation	2504.56	2536.00	2563.93	2565.91	2565.91
Interest on Loan	2488.34	2294.76	2093.11	1862.75	1632.07
Return on Equity	2790.59	2839.31	2870.58	2872.80	2880.52
O&M Expenses	216.95	224.47	231.63	239.50	247.38
Interest on Working Capital	191.14	188.95	186.07	181.30	176.60
Total	8191.57	8083.49	7945.31	7722.25	7502.49
Asset B					
Depreciation	4382.28	4397.89	4415.75	4431.27	4439.37
Interest on Loan	4738.78	4340.21	3942.94	3525.05	3127.05
Return on Equity	4882.76	4923.89	4943.88	4961.26	4983.70
O&M Expenses	328.83	340.20	351.07	363.00	374.94
Interest on Working Capital	340.50	333.26	325.59	317.39	309.59
Total	14673.16	14335.46	13979.23	13597.96	13234.65

59. The details of AFC allowed *vide* order dated 19.2.2016 in Petition No. 559/TT/2014 in respect of Asset-A and order dated 23.5.2016 in Petition No. 313/TT/2015 in respect of Asset-B, AFC claimed by the Petitioner in the instant petition and trued-up in the instant order are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Asset A					
Allowed <i>vide</i> order dated 19.2.2016 in Petition No. 559/TT/2014	8196.18	7998.61	7775.83	7552.94	7330.14
Claimed by the Petitioner in the instant petition	8193.76	8084.97	7945.32	7722.28	7502.49
Approved after true-up in this order	8191.57	8083.49	7945.31	7722.25	7502.49
Asset B					
Allowed <i>vide</i> order dated 23.5.2016	13813.93	13523.91	13224.83	12849.84	12475.85



in Petition No. 313/TT/2015					
Claimed by the Petitioner in the instant petition	14638.56	14301.03	13944.99	13564.11	13200.66
Approved after true-up in this order	14673.16	14335.46	13979.23	13597.96	13234.65

Determination of Annual Fixed Charges for the 2019-24 Tariff Period

60. The Petitioner has combined the transmission assets covered in the transmission project into “Combined Asset” and has filed a consolidated petition claiming tariff for the Combined Asset as a whole for the 2019-24 tariff period as provided in Regulation 8(1) of the 2019 Tariff Regulations.

61. The Petitioner has claimed the following transmission charges for 2019-24 tariff period for the Combined Asset:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	7010.39	7018.83	7022.53	7022.53	7022.53
Interest on Loan	4116.44	3502.60	2882.43	2257.75	1633.16
Return on Equity	7481.20	7490.21	7494.16	7494.16	7494.16
O&M Expenses	679.97	703.38	728.59	753.82	780.81
Interest on Working Capital	309.47	302.30	294.16	285.84	276.89
Total	19597.47	19017.32	18421.87	17814.10	17207.55

62. The details of IWC claimed by the Petitioner for the 2019-24 tariff period in respect of the Combined Asset are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
WC for O&M Expenses (O&M Expenses for 1 month)	56.66	58.62	60.72	62.82	65.07
WC for Maintenance Spares (15% of O&M Expenses)	102.00	105.51	109.29	113.07	117.12
WC for Receivables (Equivalent to 45 days of annual transmission charges)	2409.53	2344.60	2271.19	2196.26	2115.68
Total Working Capital	2568.19	2,508.7₃	2441.20	2372.15	2297.87
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	309.47	302.30	294.16	285.84	276.89



Effective Date of Commercial Operation (E-COD)

63. The Petitioner has claimed that E-COD of the Combined Asset works out to be 16.1.2013. Based on the trued-up admitted capital cost as on 31.3.2019 and actual COD of all the transmission assets, E-COD has been worked out as follows:

Particulars	Capital Cost (as on 31.3.2019) (₹ in lakh)	COD	Number of days from last COD	Weightage of Cost (in %)	Weighted days	Effective COD (latest COD – weighted days)
Asset A	48596.80	30.6.2012	315	36.63	115.37	16.1.2013
Asset B	84085.66	11.5.2013	0	63.37	0.00	
Total	132682.46			100.00	115.37	

64. E-COD is used to determine the elapsed life of the project as a whole which works out as 6 (one) years as on 1.4.2019 (i.e., the number of completed years as on 1.4.2019 from E-COD).

Useful Life of the Assets

65. The life as defined in Regulation 33 of the 2019 Tariff Regulations has been considered for determination of useful life. As the Combined Asset is only comprised of one asset type i.e., transmission line, the useful life of the Combined Asset has been considered as 35 years.

66. Useful life as on 1.4.2019 as determined above is applicable prospectively (i.e., for 2019-24 tariff period onwards) and no retrospective adjustment of depreciation in previous tariff period is required to be done. As discussed above, Effective COD of the Combined Asset is 16.1.2013 and the elapsed life of the project as a whole works out to 6 years as on 1.4.2019 (i.e., the number of completed years as on 1.4.2019 from Effective COD). Accordingly, useful life has been used to determine the remaining useful life as on 31.3.2019 to be 29 years.



Capital Cost

67. Regulation 19 of the 2019 Tariff Regulations provides as follows:

“19 Capital Cost: (1) *The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for 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) *Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) *Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) *Capitalised Initial Spares subject to the ceiling rates in accordance with these regulations;*
- (f) *Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) *Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) *Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) *Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) *Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
- (m) *Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
- (n) *Expenditure on account of change in law and force majeure events; and*
- (o) *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.*

(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 ash disposal and utilization including handling and transportation facility;

(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 up to 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.”

(4) The capital cost in case of existing or new hydro generating station shall also include:

(a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and

(b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.

(5) The following shall be excluded from the capital cost of the existing and new projects:

(a) The assets forming part of the project, but not in use, as declared in the tariff petition;

(b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be decapitalised only after its redeployment;

Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.

(c) In case of hydro generating stations, 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 transparent process;

(d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and

(e) 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.”

68. The Petitioner has claimed the capital cost of ₹132682.46 lakh as on 31.3.2019 for the Combined Asset. The same was admitted for the transmission assets as on



31.3.2019. Accordingly, the opening capital cost of ₹132682.46 lakh as on 1.4.2019 of the Combined Asset is considered for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

Additional Capital Expenditure (ACE)

69. Regulation 25 of the 2019 Tariff Regulations provides as follows:

“25. Additional Capitalisation within the original scope and after the cut-off date

(1) The additional capital expenditure incurred or projected to be incurred in respect of an existing project or a new project on the following counts within the original scope of work and after the cut-off date may be admitted by the Commission, subject to prudence check:

- (a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;*
- (b) Change in law or compliance of any existing law;*
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work;*
- (d) Liability for works executed prior to the cut-off date;*
- (e) Force Majeure events;*
- (f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;*
- (g) Raising of ash dyke as a part of ash disposal system.”*

70. The Petitioner has claimed ACE of ₹320.00 lakh for Asset-B (in respect of Asset-4 and Asset-5) for the 2019-24 period under Regulations 25(1)(d) of the 2019 Tariff Regulations on account of undischarged liabilities after the cut-off date for works executed prior to the cut-off date. The details of the same are summarised as follows:

Particulars	ACE Claimed	
	2019-20	2020-21
Asset-4	90.00	140.00
Asset-5	90.00	0.00
Total	180.00	140.00

71. The Petitioner vide affidavit dated 12.2.2021 has submitted the package-wise break-up as follows:



(₹ in lakh)

Vendor Name	2019-20	2020-21
Asset-4		
SPIC SMO and Aster	90.00	140.00
Asset-5		
A2Z	90.00	0.00

72. UPPCL has submitted that ACE incurred after the cut-off date cannot be allowed and the Petitioner must take separate approval for ACE proposed in the 2019-24 tariff period. The Petitioner has submitted that ACE incurred during the 2019-24 period is on account of undischarged liabilities after the cut-off date for works executed prior to the cut-off date under Regulation 25(1)(d) of the 2019 Tariff Regulations.

73. We have considered the submissions of Petitioner and UPPCL. ACE claimed by the Petitioner has been allowed under Regulation 25(1)(d) of the 2019 Tariff Regulations (undischarged liabilities after the cut-off date for works executed prior to the cut-off date). The capital cost allowed as on 31.3.2024 is within the apportioned capital cost for the transmission assets as per RCE and the total capital cost allowed for the Combined Asset as on 31.3.2024 is within the total capital cost as per RCE of ₹133453 lakh. Accordingly, ACE considered for the 2019-24 tariff period and the capital cost as on 31.3.2024 considered for the Combined Asset are as follows:

(₹ in lakh)

Particulars	Capital Cost admitted (as on 1.4.2019)	ACE admitted		Capital Cost admitted (as on 31.3.2024)
		2019-20	2020-21	
Combined Asset	132682.46	180.00	140.00	133002.46

74. Therefore, the capital cost of ₹132682.46 lakh as on 1.4.2019 and ₹133002.46 lakh as on 31.3.2024 has been considered for the purpose of determination of



transmission tariff for the 2019-24 period in accordance with Regulation 19 of the 2019 Tariff Regulations.

Debt-Equity ratio

75. 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.”

76. The debt-equity considered for the purpose of computation of tariff of 2019-24 tariff period in respect of the Combined Asset is as follows:

Funding	Capital Cost (as on 1.4.2019) (₹ in lakh)	(in %)	ACE in 2014-19 (₹ in lakh)	(in %)	Capital Cost (as on 31.3.2024) (₹ in lakh)	(in %)
Debt	92877.74	70.00	224.00	70.00	93101.74	70.00
Equity	39804.72	30.00	96.00	30.00	39900.72	30.00
Total	132682.46	100.00	320.00	100.00	133002.46	100.00

Depreciation

77. Regulation 33 of the 2019 Tariff Regulations provides as follows:

“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 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 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 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.

(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.”

78. The Gross Block during the 2019-24 tariff period has been depreciated at the rate of 5.28% as the Combined Asset is comprised of only one asset type i.e., transmission line. The rate of depreciation has been considered as specified in the 2019 Tariff Regulations. The depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. The depreciation allowed for the Combined Asset is as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	132682.46	132862.46	133002.46	133002.46	133002.46
Addition during the year due to projected ACE	180.00	140.00	0.00	0.00	0.00
Closing Gross Block	132862.46	133002.46	133002.46	133002.46	133002.46
Average Gross Block	132772.46	132932.46	133002.46	133002.46	133002.46
Weighted Average Rate of Depreciation (in %)	5.28	5.28	5.28	5.28	5.28
Balance useful life at the beginning of the year (year)	29	28	27	26	25
Lapsed Life at the beginning	6	7	8	9	10



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
of the year (year)					
Depreciable Value	119495.21	119639.21	119702.21	119702.21	119702.21
Depreciation during the year	7010.39	7018.83	7022.53	7022.53	7022.53
Cumulative depreciation at the end of year	49765.83	56784.67	63807.20	70829.73	77852.26
Remaining Depreciable Value at the end of year	69729.38	62854.55	55895.02	48872.49	41849.96

Interest on Loan (IoL)

79. 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 de-capitalization of assets, 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.”

80. The weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2019. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during the 2019-24 tariff period may be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up. IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed for the Combined Asset for the 2019-24 tariff period is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	92877.74	93003.74	93101.74	93101.74	93101.74
Cumulative Repayments up to Previous Year	42755.45	49765.83	56784.67	63807.20	70829.73
Net Loan-Opening	50122.29	43237.90	36317.07	29294.54	22272.01
Additions due to ACE	126.00	98.00	0.00	0.00	0.00
Repayment during the year	7010.39	7018.83	7022.53	7022.53	7022.53
Net Loan-Closing	43237.90	36317.07	29294.54	22272.01	15249.48
Average Loan	46680.10	39777.49	32805.81	25783.28	18760.75
Weighted Average Rate of Interest on Loan (in %)	8.8893	8.8888	8.8873	8.8852	8.8820
Interest on Loan	4149.56	3535.74	2915.56	2290.90	1666.32

Return on Equity (RoE)

81. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provide as follows:

“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 cut off date beyond the original scope, excluding additional capitalization on 7 account of emission control system, 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:

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$



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:

$$\text{Rate of return on equity} = 15.50 / (1 - 0.2155) = 19.758\%$$

(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.”

82. The Petitioner has submitted that MAT rate is applicable to the Petitioner's company. Accordingly, the MAT rate applicable for 2019-20 has been considered for the purpose of RoE, which will be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed for the Combined Asset is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	39804.72	39858.72	39900.72	39900.72	39900.72



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Additions due to ACE	54.00	42.00	0.00	0.00	0.00
Closing Equity	39858.72	39900.72	39900.72	39900.72	39900.72
Average Equity	39831.72	39879.72	39900.72	39900.72	39900.72
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	7481.19	7490.21	7494.15	7494.15	7494.15

Operation & Maintenance Expenses (O&M Expenses)

83. The O&M expenses claimed by the Petitioner for various elements included in the Combined Asset for 2019-24 tariff period are as follows:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Transmission line (LILO of both circuits of 400 kV D/C Barnauli – Mundka/Bawana line at Jatikalan)					
D/C Bundled Conductor with four sub-conductors (km)	12.91	12.91	12.91	12.91	12.91
Norms (₹ lakh/km)	1.322	1.368	1.416	1.466	1.517
O&M Expenses (₹ in lakh)	17.07	17.66	18.28	18.93	19.58
Transmission lines:					
<ul style="list-style-type: none"> • 765 kV S/C Moga – Bhiwani line • 765 kV S/C Jattikalan – Bhiwani line • Agra – Jatikalan 765 kV S/C line • Agra – Meerut 765 kV S/C line 					
S/C Bundled Conductor with four sub-conductors (km)	878.00	878.00	878.00	878.00	878.00
Norms (₹ lakh/km)	0.755	0.781	0.809	0.837	0.867
O&M Expenses (₹ in lakh)	662.90	685.72	710.31	734.89	761.23
Total O&M Expenses (₹ in lakh)	679.97	703.38	728.59	753.82	780.81

84. Regulation 35(3)(a) and Regulation 33(4) of the 2019 Tariff Regulations provides as follows:

“35 Operation and Maintenance Expenses (3) Transmission system: (a) The following normative operation and maintenance expenses shall be admissible for the transmission system:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (₹ 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 (₹ 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 (₹ 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	0.260	0.270	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



<i>±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)</i>	1,696	1,756	1,817	1,881	1,947
<i>±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)</i>	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 year

(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.



(4) Communication system: *The operation and maintenance expenses for the communication system shall be worked out at 2.0% of the original project cost related to such communication system. The transmission licensee shall submit the actual operation and maintenance expenses for truing up.”*

85. The O&M Expenses have been worked out for the Combined Asset in accordance with Regulation 35(3)(a) of the 2019 Tariff Regulations and the same are as follows:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Transmission line (LILO of both circuits of 400 kV D/C Bamnauli – Mundka/Bawana line at Jattikalan)					
D/C Bundled Conductor with four sub-conductors (km)	12.91	12.91	12.91	12.91	12.91
Norms (₹ lakh/km)	1.322	1.368	1.416	1.466	1.517
O&M Expenses (₹ in lakh)	17.07	17.66	18.28	18.93	19.58
Transmission lines:					
765 kV S/C Moga – Bhiwani line					
765 kV S/C Jattikalan – Bhiwani line					
Agra – Jattikalan 765 kV S/C line					
Agra – Meerut 765 kV S/C line					
S/C Bundled Conductor with four sub-conductors (km)	878.00	878.00	878.00	878.00	878.00
Norms (₹ lakh/km)	0.755	0.781	0.809	0.837	0.867
O&M Expenses (₹ in lakh)	662.89	685.72	710.30	734.89	761.23
Total O&M Expenses (₹ in lakh)	679.96	703.38	728.58	753.81	780.81

* Not claimed any O&M towards PLCC.

Interest on Working Capital (IWC)

86. Regulation 34(1)(c), Regulation 34(3), Regulation 34(4) and Regulation 3(7) of the 2019 Tariff Regulations specify as follows:

“34. Interest on Working Capital

(1)...

(c) For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Transmission System:

- i. Receivables equivalent to 45 days of 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 ...

(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;”

87. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%.

88. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. ROI considered is 12.05% (SBI 1-year MCLR applicable as on 1.4.2019 of 8.55% plus 350 basis points) for 2019-20, whereas ROI for 2020-21 onwards has been considered as 11.25% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-21 and from 2021-22 onwards has been considered as 10.50% (SBI 1-year MCLR applicable as on 1.4.2020 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon for the Combined Asset is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
WC for O&M Expenses (O&M Expenses for 1 month)	56.66	58.61	60.72	62.82	65.07
WC for Maintenance Spares (15% of O&M Expenses)	101.99	105.51	109.29	113.07	117.12
WC for Receivables (Equivalent to 45 days of annual transmission)	2413.65	2346.24	2270.60	2195.81	2115.38



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
charges)					
Total Working Capital	2572.31	2510.36	2440.60	2371.70	2297.57
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	309.96	282.42	256.26	249.03	241.24

Annual Fixed Charges of the 2019-24 Tariff Period

89. The transmission charges allowed in respect of Combined Asset for the 2019-24 tariff period are as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	7010.39	7018.83	7022.53	7022.53	7022.53
Interest on Loan	4149.56	3535.74	2915.56	2290.90	1666.32
Return on Equity	7481.19	7490.21	7494.15	7494.15	7494.15
O&M Expenses	679.96	703.38	728.58	753.81	780.81
Interest on Working Capital	309.96	282.42	256.26	249.03	241.24
Total	19631.06	19030.58	18417.09	17810.43	17205.06

Filing Fee and Publication Expenses

90. The Petitioner has sought reimbursement of fee paid by it for filing the Petition and publication expenses. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present Petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

License Fee and Publication Expenses

91. The Petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 70(4) of the 2019 Tariff Regulations for the 2019-24 tariff period. The Petitioner shall also be entitled for recovery of RLDC fee and charges in accordance with Regulations 70(3) of the 2019 Tariff Regulations for the 2019-24 tariff period.



Goods and Services Tax

92. The Petitioner has submitted that, if GST is levied at any rate and at any point of time in future on Charges of Transmission of Electricity, the same shall be borne and additionally paid by the respondent(s) to the Petitioner and the same shall be charged and billed separately by the Petitioner. Further additional taxes, if any, are to be paid by the Petitioner on account of demand from Government/ Statutory authorities, the same may be allowed to be recovered from the beneficiaries.

93. We have considered the submission of the Petitioner. Since, GST is not levied on transmission service at present we are of the view that Petitioner's prayer is premature.

Security Expenses

94. The Petitioner has submitted that security expenses for the transmission assets are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and consequential IWC.

95. We have considered the submissions of the Petitioner. The Petitioner has claimed consolidated security expenses on projected basis for 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The said petition has already been disposed of by the Commission *vide* order dated 3.8.2021. Therefore, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.



Capital Spares

96. The Petitioner has sought reimbursement of capital spares at the end of tariff period. The Petitioner's claim, if any, shall be dealt with in accordance with the provisions of the 2019 Tariff Regulations.

Sharing of Transmission Charges

97. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems was governed by the provisions of the 2010 Sharing Regulations. However, with effect from 1.11.2020, sharing of transmission charges is governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2020 (in short "the 2020 Sharing Regulations"). Accordingly, the liabilities of the DICs for arrears of the transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and shall be recovered from the concerned DICs through Bill 2 under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection and disbursement of transmission charges for subsequent period shall be recovered in terms of the provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

98. To summarise:

- a. The trued-up Annual Fixed Charges (AFC) approved for the 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
AFC (Asset A)	8191.57	8083.49	7945.31	7722.25	7502.49
AFC (Asset B)	14673.16	14335.46	13979.23	13597.96	13234.65



b. AFC allowed in respect of the Combined Asset for the 2019-24 tariff period in this order are as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
AFC	19631.06	19030.58	18417.09	17810.43	17205.06

99. This order disposes of Petition No. 710/TT/2020 in terms of above discussions and findings.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I.S. Jha)
Member

