

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 508/TT/2019

Coram:

Shri P.K. Pujari, Chairperson
Shri I. S. Jha, Member
Shri Arun Goyal, Member

Date of Order: 01.02.2021

In the Matter of:

Approval under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations 1999 and truing up of transmission tariff of the 2014-19 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff for the 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2019 for 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station transmission line along with 02 Nos. of 765 kV line Bays at Jharsuguda (Sundergarh) Pooling Station in the Eastern Region.

And in the Matter of:

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

.....**Petitioner**

Versus

1. Bihar State Power (Holding) Company Ltd.,
(Formerly Bihar State Electricity Board),
Vidyut Bhavan, Bailey Road,
Patna-800001.
2. West Bengal State Electricity Distribution Company Ltd.,
Bidyut Bhawan, Bidhan Nagar,
Block DJ, Sector-II, Salt Lake City,
Calcutta-700091.



3. Grid Corporation of Orissa Ltd.,
Shahid Nagar, Bhubaneswar-751007.
4. Jharkhand State Electricity Board,
In front of Main Secretariat,
Doranda, Ranchi-834002.
5. Damodar Valley Corporation,
DVC Tower, Maniktala,
Civic Centre, VIP Road, Calcutta-700054.
6. Power Department,
Government of Sikkim,
Gangtok-737101.
7. NTPC Ltd.,
NTPC Bhawan,
Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi-110003.

...Respondent(s)

For Petitioner: Shri S. S. Raju, PGCIL
Shri A. K. Verma, PGCIL
Shri B. Dash, PGCIL
Shri Abhay Choudhary, PGCIL

For Respondents: None

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited (hereinafter referred to as “the Petitioner”), a deemed transmission licensee, for truing up of tariff from date of commercial operation (COD) to 31.3.2019 under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of tariff for the period from 1.4.2019 to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred



to as “the 2019 Tariff Regulations”) in respect of 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station (PS) transmission line along with 02 Nos. of 765 kV line Bays at Jharsuguda (Sundergarh) PS (hereinafter referred to as “the transmission asset”) under the transmission system associated with Darlipalli TPS in the Eastern Region (hereinafter referred to as “the transmission system”).

2. The Petitioner has made the following prayers:

- “1) Approve the trued up Transmission Tariff for 2014-19 block and transmission tariff for 2019-24 block for the assets covered under this petition, as per para 10.2 and 11.0 above.*
- 2) Approve the Completion cost and additional capitalization incurred during 2014-19.*
- 3) 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 the Commission as provided in Tariff Regulation 2014 and Tariff regulations 2019 as per para 10.2 and 11.0 above for respective block.*
- 4) 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.*
- 5) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.*
- 6) 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 respondents.*
- 7) Allow the petitioner to claimed initial spares.*
- 8) 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 11.6 above.*
- 9) Allow the petitioner to claim the capital spares at the end of tariff block as per actual.*
- 10) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate 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 under:

a. The Investment Approval (IA) for the transmission system was accorded by the Board of Directors of the Petitioner vide letter dated 12.1.2016 at an estimated cost of ₹18704 lakh including Interest during Construction (IDC) of ₹1158 lakh based on August 2015 price level. The transmission system consists of a 765 kV D/C transmission line from generation project to Jharsuguda (Sundergarh) 765/400 kV sub-station of the Petitioner. The transmission scheme was discussed and agreed in the meeting regarding connectivity and long-term access with constituents of ER held on 5.1.2013 and 24th meeting of ERPC held on 27.4.2013. The Indemnification Agreement was signed between NTPC and the Petitioner for Darlipalli STPP (2x800 MW) on 19.2.2014.

b. The scope of work covered under the transmission system is as under:

Transmission line

i. Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh)* Pooling Station 765 kV D/C Line

Sub-station

ii. 02 Nos. of 765 kV Line Bays at Jharsuguda (Sundergarh)* Pooling Station (02 Nos. of 765 kV Bays at Darlipalli switchyard would be under the scope of NTPC)

**Due to non-availability of land at Jharsuguda, the pooling station has been constructed at Sundergarh.*

c. The Commission in order dated 21.11.2017 in Petition No. 70/TT/2017 observed that COD of the 765 kV Sundergarh-NTPC Darlipalli Transmission Line alongwith line bays at Jharsuguda cannot be considered as 26.4.2017 as the line was not put to regular service from the said date because of non-execution of the associated bays at Darlipalli end under the scope of



NTPC. Only Circuit-1 of the transmission line was put to regular service from 7.6.2017 i.e., date on which the associated bay at Darlipalli end was put into commercial operation. Accordingly, COD of the Circuit-1 along with one bay associated with Circuit-1 at Jharsuguda (Sundergarh) was considered as 7.6.2017. However, considering the fact that the Petitioner had completed the scope of work with respect to Circuit-1 along with one bay at Jharsuguda (Sundergarh) by 26.4.2017, IDC and IEDC from 26.4.2017 till 6.6.2017 was to be borne by NTPC. The Commission observed that COD of Circuit-2 along with the associated bay at Jharsuguda (Sundergarh) would be considered only after the commercial operation of associated bay at the Darlipalli STPP end which is under the scope of NTPC. Accordingly, tariff was allowed for Circuit-1 of the 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station transmission line alongwith one 765 kV line Bays at Jharsuguda (Sundergarh) Pooling Station.

d. Aggrieved by the order dated 21.11.2017 in Petition No. 70/TT/2017, the Petitioner filed Review Petition No. 5/RP/2018. The Commission vide order dated 23.4.2019 in Petition No. 5/RP/2018 approved COD of both the circuits of 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) line along with its bays at Jharsuguda (Sundergarh) as 26.4.2017 under second proviso of Regulation 4(3) of the 2014 Tariff Regulations as the associated generation under the scope of NTPC was not ready. Further, regarding the pro-rata restriction in the capital cost of the asset due to reduction in the line length from 37.00 km to 20.54 km, the Commission observed that it would be dealt at the stage of true-up.

e. The transmission asset was scheduled to be put into commercial operation on 11.6.2018 and COD of the transmission asset was approved as 26.4.2017 under proviso (ii) of Regulation 4(3) of the 2014 Tariff Regulations vide order dated 23.4.2019 in Petition No. 5/RP/2018. Thus, there is no time over-run in case of the transmission asset.



f. The Petitioner has claimed the trued-up tariff for the transmission asset for the 2014-19 period as under:

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Annual Fixed Charges (AFC) approved vide order dated 21.11.2017 in Petition No. 70/TT/2017 *	726.96	962.11
AFC claimed by the Petitioner in the instant petition	1688.02	2053.14

* For Circuit-1 of the 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station transmission line alongwith one 765 kV line Bays at Jharsuguda (Sundergarh) Pooling Station

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

5. The Petitioner has served the petition on the Respondents and notice of this petition has been published in newspapers in accordance with Section 64 of the Electricity Act, 2003. General Notice dated 14.1.2020 directing the beneficiaries/ Respondents to file reply in the matter was also posted on the Commission's website. 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 Bihar State Power (Holding) Company Ltd.(BSPHCL), Respondent No.1, vide affidavit dated 2.9.2020 has raised issues of capital cost as on COD, Interest During Construction, computation of Initial Spares, Additional Capital Expenditure (ACE) grossing up of RoE, filing fees, security expenses and the effect of CGST. The Petitioner vide affidavit dated 17.9.2020, has filed a rejoinder to the reply of BSPHCL. The issues raised by BSPHCL and the clarifications given by the Petitioner are considered in the relevant portions of this order.



6. The hearing in this matter was held on 24.8.2020 through video conference and the order was reserved.

7. This order is issued considering the submissions made in petition dated 25.9.2019, submissions of the Petitioner *vide* affidavit dated 29.5.2020, BSPHCL's reply filed *vide* affidavit dated 2.9.2020 and the Petitioner's rejoinder *vide* affidavit dated 17.9.2020.

8. Having heard the representatives of the Petitioner and having perused the material on record, we proceed to dispose of the petition.

TRUING UP OF ANNUAL FIXED CHARGES OF THE 2014-19 PERIOD

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

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Depreciation	466.64	589.38
Interest on Loan	464.82	538.47
Return on Equity	519.68	658.54
Interest on Working Capital	41.21	49.50
O&M Expenses	195.67	217.25
Total	1688.02	2053.14

10. The details of the Interest on Working Capital (IWC) claimed by the Petitioner in respect of the transmission asset is as under:

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
O&M Expenses	17.52	18.10
Maintenance Spares	31.54	32.59
Receivables	302.33	342.19



Particulars	2017-18 (Pro-rata 340 days)	2018-19
Total Working Capital	351.39	392.88
Rate of Interest (%)	12.60	12.60
Interest on Working Capital	41.21	49.50

Capital Cost

11. The Petitioner has claimed the following capital cost as on COD and ACE during 2014-19 tariff period:

(₹ in lakh)				
FR AppORTIONED cost	Capital cost on COD	ACE from COD to 31.3.2018	ACE from 1.4.2018 to 31.3.2019	Total capital cost as on 31.3.2019
18704	8054.28	2853.26	405.24	11312.78

12. The Commission vide order dated 21.11.2017 in Petition No. 70/TT/2017 had restricted the capital cost of the transmission asset. The relevant extract of the order dated 21.11.2017 is reproduced below:

“19. We have considered the submission of the petitioner regarding capital cost. It is observed that the investment approval was for line length of 37 km but the actual line length is reduced to 20.54 km. The approved apportioned cost of the instant asset is ₹18704.00 lakh which is inclusive of ₹16234.65 lakh and ₹2469.35 lakh of transmission line and sub-station cost respectively. Thus, the apportioned approved cost of 37 km of transmission line is ₹16234.65 lakh. Accordingly, the apportioned approved cost for 20.54 km of transmission line works out to ₹9012.43 lakh on pro-rata basis. Against this, the petitioner has incurred ₹9961.50 lakh on construction of transmission line as per Auditor certificate dated 22.6.2017. Accordingly, there is cost over-run of ₹949.07 lakh in construction of 20.54 km of transmission line. The petitioner has not explained this increase in the cost of the transmission line. Accordingly, the cost of 20.54 km of the instant transmission line is restricted to ₹9012.43 lakh. The capital cost allowed for the instant transmission will be reviewed at the time of truing up on submission of the reasons for increase in the cost of per km cost of the instant transmission line.

20. The capital cost of Circuit-I is considered as 50% of the claimed capital cost of the said line for the purpose of computation of tariff. Since separate capital cost for one circuit is not available, the petitioner is directed to submit the actual details at the time of truing up.”

13. The Petitioner had filed Petition No. 5/RP/2018 against order dated 21.11.2017 wherein the Commission vide order dated 23.4.2019 observed that the capital cost



allowed for the transmission asset will be reviewed at the time of truing up. The relevant extract of the order dated 23.4.2019 in Review Petition No. 5/RP/2018 is reproduced below:

“22. In the impugned order, the Commission has observed that the capital cost allowed for the instant transmission assets will be reviewed at the time of truing up on submission of the reasons for increase in per km cost of the instant transmission line. Therefore, we are not inclined to interfere with the capital cost of the instant asset at this stage, as the same would be dealt at the stage of true up.”

14. BSPHCL has submitted that no document has been furnished by the Petitioner to substantiate the increase in price and the duration in which such price rise had happened especially since the Investment Approval in the present case is of 12.1.2016 and COD is of 26.4.2017. BSPHCL has further submitted that in contrast to the claim of having incurred ₹9961.50 lakh on construction of transmission line, in the instant petition the actual cost of transmission line has been claimed to be ₹10078.47 lakh upto 31.3.2020. The FR cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts/general practice. BSPHCL submitted that the Petitioner has not substantiated its claim under controllable or uncontrollable factor as per Regulation 12 of the 2014 Tariff Regulations.

15. BSPHCL submitted that the Commission in its order dated 21.11.2017 in the Petition No. 70/TT/2017 directed the Petitioner to submit all the details justifying its claim which includes link-wise details of IDC and IEDC of the existing assets and link-wise IDC and IEDC details of new/second asset and segregated details of initial spares. BSPHCL has further submitted that the cost escalation may not be allowed.



16. In response, the Petitioner has submitted that the Commission in its order dated 21.11.2017 in the Petition No. 70/TT/2017 had allowed tariff for only one circuit from 7.6.2017 whereas in review order dated 23.4.2019 in Petition No. 5/RP/2018, the Commission allowed the tariff for both the circuits considering COD as 26.4.2017. Therefore, after the approval of tariff for both the circuits, there is no requirement to submit the details of IDC and IEDC and spares circuit-wise.

17. The Petitioner has submitted that initially the line route was optimized primarily for avoiding forest area to the maximum possible extent and taking into consideration geographical terrain and other standard parameters like avoidance of mining areas, villages, etc. In line with the above optimization, the Petitioner reduced the line length to 20.54 km from 37 km (as per FR). Accordingly, while finalizing the line route, higher number of angle towers were encountered due to more power line crossings in addition to turns/ alignments for avoidance of forest/village areas. This has resulted in upward variation of tower quantities i.e. actual quantity 3927.44 MT for line length of 20.541 km against proportionate quantity as per FR 3119.66 MT (apportioned quantity of 6520 MT for line length of 37.00 km i.e. $6520/37 \times 20.541$). The Petitioner has provided details of major changes in types of tower quantities as under:

Tower Type	Apportioned Qty. (Nos.)	Actual Qty. (Nos.)	Variation
	(w.r.t. 20.541 km)	(w.r.t. 20.541 km)	
DA	38	23	-15
DB	4	7	3
DC	5	8	3
DD	10	23	13
Total	57	61	4



18. The Petitioner has submitted that there was substantial change in number of angle towers apart from increase in total number of towers as per apportioned quantity and the same had significant impact on total tonnage of tower material. There is wide gap in tower weights between suspension and angle towers. Also, because of the change in type of towers, the requirements of corresponding hardware fittings and accessories, insulators, etc. also changed leading to pro-rata increase in cost of the transmission line. There was also increase in per MT rate of steel from ₹0.71 lakh/MT to ₹0.80 lakh/MT and increase in the rate of conductor from ₹2.38 lakh/km to ₹2.63 lakh/km. Accordingly, the pro-rata cost increased under this head.

19. The Petitioner has submitted that the total cost of tower material has increased by ₹927 lakh due to increase in quantity of tower materials and increase in rate of tower material from that of FR estimate (₹574 lakh increase on account of increased quantity while ₹353 lakh increase due to change in cost per MT). Further, there was change in cost due to increase in conductor rate to the extent ₹185 lakh from the awarded rate. Thus, there is total increase of around ₹1112 lakh from the FR cost. The actual cost of transmission line as per Auditor Certificate dated 25.7.2019 is ₹10078.47 lakh against derived proportionate cost of ₹9012.43 lakh, which resulted in a cost over-run of ₹1066.04 lakh.

20. The Petitioner further submitted that the FR estimated completion cost of transmission projects was prepared on the basis of the previous bids. However, the actual procurement is made through a transparent process of open competitive bidding, wherein bids are placed by interested suppliers and contractors and the lowest bidder who matches the requirements of the bid is selected and subsequently



awarded the contract(s). Therefore, it is not necessary that the actual contract(s) are awarded on the projected costs. Due to such uncontrollable reasons, the Petitioner undertakes to prepare a revised and final cost estimate to arrive at the actual spending. Further, the Petitioner prayed to allow the following capital cost:

(₹ in lakh)				
FR Apportioned cost	Estimated cost on COD (on accrual basis)	ACE from COD 31.3.2018 (on accrual basis)	from to ACE from 1.4.2018 to 31.3.2019 (on accrual basis)	Total capital cost as on 31.3.2019 (on accrual basis)
18704	8054.28	2853.26	405.24	11312.78

21. We have considered the submissions made by the Petitioner and BSPHCL. The FR cost of the transmission line of 37 km is ₹18704 lakh. However, the estimated completion cost is ₹11312.78 lakh. Thus, there is reduction in cost of the line by ₹7391.22 lakh and it is due to reduction in line length from 37 km to 20.54 km. The capital cost of the transmission asset as on 31.3.2019, including ACE, is within the apportioned approved capital cost. However, it is observed that the reduction in capital cost is not in proportion to the reduction in the length of the transmission line and there is increase in per km cost of the transmission line. The Petitioner has attributed this increase in per km capital cost of the transmission line to the increase in tower material quantity and actual rate of tower parts and conductor. In our view, this increase in cost is not attributable to the Petitioner. Therefore, tariff in respect of the transmission asset is allowed considering the capital cost claimed by the Petitioner in the instant petition.



Interest During Construction (IDC) and Incidental Expenditure During Construction (IEDC)

22. The Petitioner has claimed IDC of ₹107.46 lakh for the transmission asset and has submitted Auditor Certificate dated 25.7.2019 in support of the same. BSPHCL has submitted that as per Regulation 11(A)(1) of the 2014 Tariff Regulations, IDC is computed corresponding to the loan from the date of infusion of debt fund, and after taking into account the prudent phasing of funds upto SCOD. Hence, no accrual IDC discharged can be claimed for 2017-18 and 2018-19. In response, the Petitioner has submitted that accrued IDC as on COD was not considered while calculating the tariff as the same was undischarged up to COD. The accrued IDC has been taken out of the expenditure as on COD and added in ACE when it has been discharged.

23. We have considered the submissions made by the Petitioner and BSPHCL. It has been observed that there is mismatch in loan amount considered as on COD for IDC computation and that submitted in Form 9C and Form 6. Therefore, the loan amount as on COD submitted in Form 9C has been considered to compute IDC.

24. The details of IDC claimed and allowed in respect of transmission asset are as under:

(₹ in lakh)					
IDC claimed as per Auditor Certificate dated 2.8.2019 (A)	IDC disallowed due to computational difference (B)	Accrual IDC allowed (C=A-B)	IDC allowed on cash basis as on COD (D)	Un-discharged IDC liability as on COD (E=C-D)	Discharge of IDC liability allowed as ACE for 2017-18
107.46	0.26	107.20	39.80	67.40	67.40



25. The Petitioner has claimed IEDC of ₹89.62 lakh and submitted Auditor's Certificate in support of the same. The claim of the Petitioner is within the percentage on Hard Cost indicated in the Abstract Cost Estimate. Accordingly, it is allowed.

Initial Spares

26. Regulation 13(d) of the 2014 Tariff Regulations provides that Initial Spares shall be capitalized as a percentage of plant and machinery cost up to cut-off date, subject to the following ceiling norms:

*“(d) Transmission System
Transmission line: 1.00%
Transmission sub-station (Green Field): 4.00%
Transmission sub-station (Brown Field): 6.00%
GIS Sub-station: 5.00%”*

27. The Petitioner, vide Auditor Certificate dated 25.7.2019, has claimed total Initial Spares of ₹148.00 lakh in the instant petition. The Petitioner has also submitted that the transmission sub-station is a brownfield.

28. BSPHCL has submitted that in the order dated 21.11.2017 in Petition No. 70/TT/2017, the ceiling specified for the greenfield sub-station was considered but in the instant petition, the ceiling specified for brownfield sub-station has been claimed by the Petitioner. BSPHCL has submitted that a transmission project consists of two parts, transmission line and sub-station. The sub-station works may further comprise of a mix of greenfield sub-station and/or brownfield sub-stations. The transmission project is segregated into distinct assets which are put into commercial operation progressively in stages while the investment approval is taken for overall project. Greenfield describes a completely new project that has to be executed from scratch,



while a brownfield project is one that has been worked on by others. BSPHCL submitted that the Petitioner may be directed to submit the segregated details of initial spares of the transmission asset and the initial spares may be limited to the ceiling specified in Regulation 13 of the 2014 Tariff Regulations.

29. In response, the Petitioner has submitted that the bays of the transmission asset are in Sundergarh Sub-station extension and it is a brownfield sub-station.

30. We have considered the submission made by the Petitioner and BSPHCL. The Commission in its order dated 21.11.2017 in Petition No. 70/TT/2017 has considered the sub-station as greenfield. The initial spares claimed by the Petitioner are as per the norms specified in Regulation 13 of the 2014 Tariff Regulations. Accordingly, initial spares are allowed as under considering the sub-station as greenfield sub-station:

(₹ in lakh)

Particulars	Plant and Machinery cost excluding IDC, IEDC, land cost and cost of civil works	Initial Spares claimed as per Auditor Certificate	Ceiling Limit (%)	Initial Spares computed as per norms	Initial Spares allowed
	A	B	C	$D=(A-B)*C/(100-C)$	
Sub-station (Greenfield)	1340.84	52.00	4.00	53.70	52.00
Transmission Line	9901.51	96.00	1.00	99.05	96.00
Total	11242.35	148.00		181.31	148.00

Capital Cost as on COD

31. The capital cost of the transmission asset has been calculated in accordance with Regulation 9(2) of the 2014 Tariff Regulations. The Commission vide order dated 21.11.2017 in Petition No. 70/TT/2017 had approved the transmission tariff for the 2014-19 period for the Circuit-1 considering the capital cost as under:



(₹ in lakh)

Capital Cost claimed as on COD (A)	Proportionate ACE(B)	Un-discharged IDC (C)	Capital Cost allowed as on COD (D) = (A+B-C)
4026.82	137.05	33.83	4130.04

32. The details of the capital cost as on COD now approved after adjustment of IDC for the transmission asset is as under:

(₹ in lakh)

Capital Cost claimed as on COD (A)	Disallowed IDC due to computational difference (B)	Un-discharged IDC (C)	Capital Cost allowed as on COD (D = (A-B-C))
8054.28	0.26	67.40	7986.62

Additional Capital Expenditure (ACE)

33. The details of ACE claimed by the Petitioner in respect of the transmission asset are as under:

(₹ in lakh)

Particulars	Regulation	2017-18	2018-19
Discharge of liabilities on hard cost	Regulation 14(1)(i)	2853.26	405.24
Discharge of IDC Liability	Regulation 14(1)(i)	67.57	0.09
Total ACE		2920.83	405.33

34. BSPHCL has submitted that ACE for 2017-18 and 2018-19 does not qualify as expenses due to uncontrollable factors. Further, no details of ACE as per the Regulation 14(1) of the 2014 Tariff Regulations have been provided by the Petitioner.

35. In response, the Petitioner submitted that it has submitted the details of ACE in respective Form 7 of all the assets covered in the instant petition. Further, the Petitioner submitted that ACE claimed for 2017-18 and 2018-19 is within the cut-off



date covered under Regulation 14(1)(i) of the 2014 Tariff Regulations and beyond cut-off date under Regulation 14(3)(v) of the 2014 Tariff Regulations.

36. The Commission vide order dated 21.11.2017 in Petition No. 70/TT/2017 had allowed ACE of ₹969.14 lakh and ₹50.01 lakh for 2017-18 and 2018-19 respectively towards undischarged liabilities for Circuit-1. Against this, the Petitioner has claimed ACE of ₹2920.83 lakh and ₹405.33 lakh during 2017-18 and 2018-19 respectively, as undischarged liabilities for works executed within the cut-off date for the transmission asset under Regulation 14(1)(i) of the 2014 Tariff Regulations.

37. We have considered the submissions of the Petitioner and BSPHCL. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) of the 2014 Tariff Regulations, as it is towards balance and retention payments. The un-discharged IDC liability as on COD, has been allowed as ACE during the year of its discharge. ACE allowed from COD to 31.3.2019 in respect of the transmission asset is as under:

(₹ in lakh)			
Particulars	Regulation	2017-18	2018-19
Discharge of Liabilities on hard cost	Regulation 14(1)(i)	2853.26	405.24
Discharge of IDC Liability	Regulation 14(1)(i)	67.40	0.00
Total ACE allowed		2920.66	405.24

38. Accordingly, the capital cost of the transmission asset considered for the 2014-19 tariff period is as under:

(₹ in lakh)				
FR Apportioned Approved Capital Cost	Admitted Capital cost as on COD	ACE		Total Capital cost as on 31.3.2019
		2017-18	2018-19	
18704.00	7986.62	2920.66	405.24	11312.52



Debt-Equity ratio

39. The Petitioner has claimed debt-equity ratio of 70:30 as on the date of commercial operation. 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 as on the date of commercial operation and as on 31.3.2019 of the transmission asset considered for the purpose of computation of tariff for the 2014-19 period is as under:-

Funding	Capital Cost as on COD (₹ in lakh)	(%)	ACE (₹ in lakh)	(%)	Capital Cost as on 31.3.2019 (₹ in lakh)	(%)
Debt	5590.63	70.00	2328.13	70.00	7918.76	70.00
Equity	2395.99	30.00	997.77	30.00	3393.75	30.00
Total	7986.62	100.00	3325.90	100.00	11312.52	100.00

Interest on Loan (IoL)

40. The Petitioner has claimed the weighted average rate of IoL, based on its actual loan portfolio and rate of interest. Accordingly, IoL has been calculated based on actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations. IoL worked out and allowed in this order is as under:

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Interest on Loan		
Gross Normative Loan	5590.63	7635.09
Cumulative Repayments up to Previous Year	0.00	466.08
Net Loan-Opening	5590.63	7169.01
Additions	2044.46	283.67
Repayment during the year	466.08	588.27
Net Loan-Closing	7169.01	6864.41
Average Loan	6379.82	7016.71
Weighted Average Rate of Interest on Loan (%)	7.82	7.67



Interest on Loan	465.32	538.55
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41. The details of IoL approved vide earlier order dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1, claimed by the Petitioner in the instant petition and trued up in respect of transmission assets is shown in the table as under:

Particular	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Approved vide order dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1	202.44	257.62
Claimed by the Petitioner in the instant petition	464.82	538.47
Allowed after true-up in this order	465.32	538.55

Return on Equity (RoE)

42. The Petitioner has claimed RoE for the transmission asset 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 following effective tax rates for the 2014-19 period:

Year	Claimed effective tax (in %)	Grossed up RoE (Base Rate/1-t) (in %)
2014-15	21.018	19.625
2015-16	21.382	19.716
2016-17	21.338	19.705
2017-18	21.337	19.704
2018-19	21.549	19.758

43. BSPHCL has submitted that in Regulation 25(3) of the 2014 Tariff Regulations, penalty, if any, arising on account of delay in deposit or short deposit of tax amount cannot be permitted to be claimed and the actual tax paid has to be duly adjusted for any refund of tax including interest received from the income tax authorities. The



instant petition is silent on whether the tax and interest paid by the Petitioner is indeed after such adjustment and exclusive of the impermissible claims. BSPHCL has further submitted that the grossed up rate of return on equity has to be trued up every financial year based on actual tax paid as stated in Regulations 25(3) of the 2014 Tariff Regulations and, hence, truing up of grossed up rate of return on equity ought to be done accordingly. The regulation also does not contemplate claim of differential tariff on this account directly from the beneficiaries.

44. In response, the Petitioner vide affidavit dated 17.9.2020 has submitted that effective rates of tax considered for 2014-15 and 2015-16 are based on Assessment Orders issued by Income Tax authorities for the purpose of grossing up of RoE rate. The effective rate of tax considered for 2016-17 and 2017-18 are based on the Income-tax returns filed for the purpose of grossing up of ROE rate of the respective years. Further, for 2018-19, effective tax rate is calculated based on the applicable MAT rate (i.e. MAT 18.50% + surcharge 12.00% + cess 4%) for the purpose of grossing up of RoE rate. The Petitioner has also submitted copies of the Income Tax Assessment Orders for 2014-15 to 2016-17. The Petitioner has also submitted that the grossed-up ROE (in %) and effective tax rate for tariff block 2014-19 has already been determined by the Commission. Further, the Petitioner has requested to allow differential tariff on account of the trued up ROE based on effective tax rate allowed and income-tax assessment/re-assessment from 2014-15 to 2018-19 on receipt of the respective Assessment Orders, directly from the beneficiaries, on year to year basis as provided in the 2014 Tariff Regulations.



45. Further, BSPHCL has submitted that COD of the transmission asset being 26.4.2017, prayer for recovery of deferred tax liability is infructuous in view of the Regulation 49 of the 2014 Regulations and Regulation 67 of the 2019 Regulations. In response, the Petitioner has submitted that the asset is executed after 1.4.2014 and, hence, recovery of deferred tax liability is not applicable in this case.

46. We have considered the submissions of the Petitioner and BSPHCL. As regards the Petitioner's prayer for recovering the increase in tariff due to increase in the trued up ROE based on reassessed income tax orders directly from the beneficiaries, the same will be considered at the time of truing up of the 2019-24 tariff period and it cannot be recovered by the Petitioner from the beneficiaries. 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. The relevant portion of the order dated 27.4.2020 is as under:

"26. We are conscious that the entities covered under MAT regime are paying Income Tax as per MAT rate notified for respective financial year under IT Act, 1961, which is levied on the book profit of the entity computed as per the Section 115JB of the IT Act, 1961. The Section 115JB(2) defines book profit as net profit in the statement of Profit & Loss prepared in accordance with Schedule-III of the Companies Act, 2013, subject to some additions and deductions as mentioned in the IT Act, 1961. Since the Petitioner has been paying income tax on income computed under Section 115JB of the IT Act, 1961 as per the MAT rates of the respective financial year, the notified MAT rate for respective financial year shall be considered as effective tax rate for the purpose of grossing up of RoE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations. Interest imposed on any additional income tax demand as per the Assessment Order of the Income Tax authorities shall be considered on actual payment. However, penalty (for default on the part of the Assessee) if any imposed shall not be taken into account for the purpose of grossing up of rate of return on equity. 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 transmission customers/ DICs as the case may be on year to year basis.

27. Accordingly, following effective tax rates based on notified MAT rates are considered for the purpose of grossing up of rate of return on equity:



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

”

47. The same MAT rates as considered in order dated 27.4.2020 in Petition No. 274/TT2019 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 it is as under:

Year	Notified MAT rates (inclusive of surcharge & cess) (in %)	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

48. The Petitioner has claimed RoE for the 2014-19 period after grossing up RoE of 15.50% with Effective Tax rates (based on MAT rates) each year. RoE is trued up on the basis of the MAT rate applicable for the respective years and is allowed as under:

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Return on Equity		
Opening Equity	2395.99	3272.18
Additions	876.20	121.57
Closing Equity	3272.18	3393.75
Average Equity	2834.08	3332.97
Return on Equity (Base Rate) (%)	15.500	15.500
MAT Rate for respective year (%)	21.342	21.549



Rate of Return on Equity (%)	19.705	19.758
Return on Equity	520.22	658.51

49. Accordingly, details of RoE approved vide order dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1, claimed by the Petitioner in the instant petition and trued up in respect of transmission asset shown in the table below:

Particular	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Approved vide order dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1	221.64	301.46
Claimed by the Petitioner in the instant petition	519.68	658.54
Allowed after true-up in this order	520.22	658.51

Depreciation

50. The Petitioner's claim towards depreciation in this petition was found to be higher than the depreciation allowed for the transmission asset in order dated 21.11.2017 in Petition No. 70/TT/2017. The Petitioner has neither given any justification for claiming higher depreciation than that allowed earlier in order dated 21.11.2017 nor made any specific prayer for allowing higher depreciation in this petition. Similar issue had come up in Petition No. 19/TT/2020 wherein the Commission vide order dated 9.5.2020 decided as under:

"31. We have considered the submissions of the Petitioner. The instant assets were put into commercial operation during the 2009-14 period and the tariff from the respective CODs to 31.3.2014 was allowed vide orders dated 30.8.2012 and 9.5.2013 in Petition No.343/2010 and Petition No. 147/TT/2011 respectively. Further, the tariff of the 2009-14 period was trued up and tariff for the 2014-19 period was allowed vide order dated 25.2.2016 in Petition No.10/TT/2015. The Petitioner did not claim any capital expenditure towards "IT Equipment" in the above said three petitions where tariff for the instant assets for the 2009-14 period was allowed, tariff of the 2009-14 period was trued up and tariff for 2014-19 period was allowed even though there was a clear provision in the 2009 Tariff Regulations and 2014 Tariff Regulations providing depreciation @15% for IT Equipment. Having failed to make a claim as per the 2009 Tariff Regulations(the period during which COD of assets was achieved), the Petitioner has now, at the time of truing up of the tariff allowed for the 2014-19 period has apportioned a part of the capital expenditure to "IT Equipment". The Petitioner has adopted similar methodology not only



in this but in some of the other petitions listed along with the instant petition on 26.2.2020. It is observed that the Petitioner has for the first time apportioned a part of the capital expenditure towards IT Equipment and has claimed depreciation under the head "IT Equipment" @15% at the time of truing up of the tariff of 2014-19 period. Regulation 8(1) of the 2014 Tariff Regulations provides for truing up of the capital expenditure including the additional capital expenditure, incurred up to 31.3.2019, admitted by the Commission after prudence check. We are of the view that scope of truing up exercise is restricted to truing up of the capital expenditure already admitted and apportionment or reapportionment of the capital expenditure cannot be allowed at the time of truing up. Therefore, we are not inclined to consider the Petitioner's prayer for apportionment of capital expenditure towards IT Equipment and allowing depreciation @ 15% from 1.4.2014 onwards. Accordingly, the depreciation @ 5.28% has been considered for IT Equipment as part of the sub-station up to 31.3.2019 while truing up the capital expenditure for the 2014-19 period. During the 2019-24 tariff period, the IT Equipment has been considered separately and depreciation has been allowed @ 15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 read with Sr. No. (p) of the Appendix-I (Depreciation Schedule) of the 2019 Tariff Regulations."

51. In line with above order of the Commission, the depreciation @5.28% has been considered for IT Equipment as part of the sub-station up to 31.3.2019 while truing up the capital expenditure for the 2014-19 period. In the 2019-24 tariff period, the IT Equipment has been considered separately and depreciation has been allowed @15% for the balance depreciable value of IT Equipment in accordance with Regulation 33 read of the 2019 Tariff Regulations. The Gross Block during the tariff period 2014-19 has been depreciated at Weighted Average Rate of Depreciation (WAROD) (as placed in Annexure-I). WAROD has been worked out after taking into account the depreciation rates of asset as prescribed in the 2014 Tariff Regulations and the trued-up depreciation allowed for the transmission asset is as under:

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Depreciation		
Opening Gross Block	7986.62	10907.28
Additional Capitalisation	2920.66	405.24
Closing Gross Block	10907.28	11312.52
Average Gross Block	9446.95	11109.90



Weighted Average Rate of Depreciation (%)	5.30	5.29
Balance useful life of the asset	34	34
Elapsed life at the beginning of the year	0	0
Aggregate Depreciable Value	8502.25	9998.91
Combined depreciation during the year	466.08	588.27
Aggregate Cumulative Depreciation	466.08	1054.35
Remaining Aggregate Depreciable Value	8036.17	8944.56

52. Accordingly, the details of depreciation approved vide order dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1, claimed by the Petitioner in the instant petition and trued up in this order is shown as under:-

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Approved vide order dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1	198.97	270.65
Claimed by the Petitioner in the instant petition	466.64	589.38
Allowed after true-up in this order	466.08	588.27

Operation & Maintenance Expenses (O&M Expenses)

53. The detail of O&M Expenses claimed by the Petitioner for the transmission asset is as under:

Particulars	2017-18 (Pro-rata 340 days)	2018-19
765kV:Jharsuguda D/C line bays		
No. of bays	2	2
Norms (₹ lakh/Bay)	93.11	96.2
Transmission line: Darlipalli-Jharsuguda		
D/C Bundled (4 or more sub-conductors) (km)	20.54	20.54
Norms (₹ lakh/km)	1.171	1.21
Total O&M expense (₹ in lakh)	195.67	217.25

54. Regulation 29(3) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. Norms specified in respect of the elements covered in the transmission asset are as under:



Particulars	2017-18	2018-19
Sub-station		
765 kV		
Norms (₹ lakh/Bay)	93.11	96.2
Transmission line		
D/C Bundled (4 or more sun c)		
Norms (₹ lakh/km)	1.171	1.21

55. We have considered the submission of the Petitioner. The O&M Expenses allowed for the transmission asset as per the norms specified in the 2014 Tariff Regulations are as under:

Particulars	2017-18 (Pro-rata 340 days)	2018-19
765 kV: Jharsuguda D/C line bays		
No. of bays	2	2
Norms (₹ lakh/Bay)	93.11	96.2
Transmission line: Darlipalli-Jharsuguda		
D/C Bundled (4 or more sub-conductors) (km)	20.54	20.54
Norms (₹ lakh/km)	1.171	1.21
Total O&M expense (₹ in lakh)	195.87	217.25

56. Accordingly, the details of the O&M Expenses approved vide dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1, claimed by the Petitioner in the instant petition and trued up in respect of transmission asset in the instant order are as under:

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Approved vide order dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1	85.84	108.62
Claimed by the Petitioner in the instant petition	195.67	217.25
Allowed after true-up in this order	195.87	217.25



Interest on Working Capital (IWC)

57. IWC in respect of the transmission asset has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and allowed as under:

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
O&M Expenses	17.52	18.10
Maintenance Spares	31.54	32.59
Receivables	302.15	342.01
Total Working Capital	351.21	392.70
Rate of Interest (%)	12.60	12.60
Interest on Working Capital	41.22	49.48

58. Accordingly, the details of IWC approved vide earlier order, IWC claimed by the Petitioner in the instant petition and as trued up in respect of transmission asset is shown in the following table :

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Approved vide order dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1	18.07	23.77
Claimed by the Petitioner in the instant petition	41.21	49.50
Allowed after true-up in this order	41.22	49.48

Approved Annual Fixed Charges for the 2014-19 Tariff Period

59. Accordingly, the trued up annual fixed charges allowed for the transmission asset for the 2014-19 tariff period are as under:

Particulars/ Asset	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Depreciation	466.08	588.27
Interest on Loan	465.32	538.55
Return on Equity	520.22	658.51



Particulars/ Asset	2017-18 (Pro-rata 340 days)	2018-19
Interest on Working Capital	41.22	49.48
O&M Expenses	195.87	217.25
Total	1688.71	2052.06

60. Accordingly, the annual transmission charges approved vide order dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1, claimed by the Petitioner for the transmission asset in the instant petition and approved after truing up in respect of transmission asset is shown in the table below:

Particulars	(₹ in lakh)	
	2017-18 (Pro-rata 340 days)	2018-19
Approved vide order dated 21.11.2017 in Petition No. 70/TT/2017 for Circuit-1	726.96	962.11
Claimed by the Petitioner in the instant petition	1688.02	2053.14
Allowed after true-up in this order	1688.71	2052.06

DETERMINATION OF ANNUAL FIXED CHARGES FOR THE 2019-24 TARIFF PERIOD

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	603.42	606.76	606.76	606.76	606.34
Interest on Loan	511.43	466.83	421.87	377.14	328.62
Return on Equity	674.31	678.06	678.06	678.06	678.06
Interest on Working Capital	32.15	31.84	31.35	30.87	30.26
O&M Expenses	120.34	124.47	128.71	133.14	137.69
Total	1941.65	1907.96	1866.75	1825.97	1780.97

62. The details of IWC claimed by the Petitioner in respect of the transmission asset for the 2019-24 tariff period is as under:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
O & M Expenses	10.03	10.37	10.73	11.10	11.47



(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Maintenance Spares	18.05	18.67	19.31	19.97	20.65
Receivables	238.73	235.23	230.15	225.12	218.97
Total Working Capital	266.81	264.27	260.19	256.19	251.09
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	32.15	31.84	31.35	30.87	30.26

Capital Costas on 1.4.2019

63. Regulation 19 of the 2019 Tariff Regulations provides as under:

“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 renovation and modernisation as admitted by this Commission in accordance with these regulations;*
 - (d) *Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
 - (e) *Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and*
 - (f) *Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*
- (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 de-capitalised 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.”*

64. The capital cost of ₹11312.78 lakh has been claimed by the Petitioner against which the Commission has worked out and allowed ₹11312.52 lakh as on 31.3.2019 and the same has been considered as the opening capital cost as on 1.4.2019 for determination of tariff in accordance with Regulation 19 of the 2019 Tariff Regulations.

Additional Capital Expenditure (ACE)

65. Regulation 24 of the 2019 Tariff Regulations provides as under:

“24. Additional Capitalisation within the original scope and upto the cut-off date

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

- (a) *Undischarged liabilities recognized to be payable at a future date;*
- (b) *Works deferred for execution;*
- (c) *Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;*
- (d) *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;*
- (e) *Change in law or compliance of any existing law; and*
- (f) *Force Majeure events:*

Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.

(2) *The generating company or the transmission licensee, as the case may be shall submit the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution.”*



66. The Petitioner has claimed ACE of ₹126.65 lakh for the 2019-24 period under Regulation 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations on account of undischarged liability towards final payment for works executed and for works deferred for execution within cut-off date.

67. BSPHCL has submitted that the Petitioner has not submitted any details of ACE as per Regulation 24(2) of the 2019 Tariff Regulations. Further, no details have been provided for ACE claim after the cut-off date. In response, the Petitioner submitted that there is no ACE claimed beyond cut-off date in the instant petition.

68. We have considered the submissions made by the Petitioner and BSPHCL. ACE claimed by the Petitioner is allowed under Regulation 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations, as it is towards undischarged liabilities recognised to be payable at a future date and balance work deferred for execution. The total capital expenditure as on 31.3.2024 is within the apportioned approved cost of ₹18704.00 lakh. Accordingly, ACE during 2019-20 and the capital cost as on 31.3.2024 considered for the transmission asset considered are as under:

(₹ in lakh)			
FR Apportioned Approved Cost	Capital Cost admitted as on 1.4.2019	ACE for	Capital cost as on 31.3.2024
		2019-20	
18704.00	11312.52	126.65	11439.17

Debt-Equity ratio

69. Regulation 18 of the 2019 Tariff Regulations provides as under:

“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.”



70. The details of the debt-equity considered for the purpose of computation of tariff for the 2019-24 tariff period is as under:

Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	%	ACE 2019-24 (₹ in lakh)	%	Capital Cost as on 31.3.2024(₹ in lakh)	%
Debt	7918.76	70.00	88.65	70.00	8007.42	70.00
Equity	3393.75	30.00	37.99	30.00	3431.75	30.00
Total	11312.52	100.00	126.65	100.00	11439.17	100.00

Return on Equity (RoE)

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

“30. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating station, transmission system including communication system and run-of-river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run-of-river generating station with pondage:

Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system

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.”

“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.”

72. The Petitioner has submitted that MAT rate is applicable to the Petitioner's Company and the MAT rate applicable during the 2019-20 has been considered for the purpose of ROE, which shall be trued up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. However, in the instant petition, the Petitioner has claimed ROE on the basis of MAT rate of 21.55% whereas the Petitioner in Petition no. 244/TT/2019 viz. has claimed ROE based on the MAT rate of 17.472% on account of taxation laws (Amendment) ordinance 2019 published in the Gazette dated 20.9.2019. Accordingly, based on the submissions made by the Petitioner in Petition No. 244/TT/2019, ROE has been allowed for the transmission assets considering the applicable MAT rate of 17.472% as under:-

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	3393.75	3431.75	3431.75	3431.75	3431.75
Additions	38.00	0.00	0.00	0.00	0.00
Closing Equity	3431.75	3431.75	3431.75	3431.75	3431.75
Average Equity	3412.75	3431.75	3431.75	3431.75	3431.75
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50	15.50
MAT Rate for respective year (%)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (%)	18.782	18.782	18.782	18.782	18.782
Return on Equity	640.97	644.53	644.53	644.53	644.53

Interest on Loan (IoL)

73. Regulation 32 of the 2019 Tariff Regulations provides as under:

“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.

(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.”

74. BSPHCL has requested to compute the interest on loan as per Regulation 32 of the 2019 Tariff Regulations. BSPHCL has further submitted that nothing in the 2019 Tariff Regulations permit the change in interest rate due to floating rate of interest applicable, if any, to be adjusted/ claimed over the tariff block of 5 years directly from/with the beneficiaries. In response, the Petitioner has submitted that the weighted average rate of IoL has been considered on the basis of rate prevailing as on 1.4.2019.



75. We have considered the submissions of the Petitioner and BSPHCL. BSPHCL has submitted that the 2019 Tariff Regulations do not provide for change in interest rate and to claim the same from the beneficiaries directly and IoL may be approved as per Regulation 32 of the 2019 Tariff Regulations. 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. The floating rate of interest, if any, shall be considered at the time of truing up. IoL is allowed in accordance with Regulation 32 of the 2019 Tariff Regulations and it is as follows:

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	7918.76	8007.42	8007.42	8007.42	8007.42
Cumulative Repayments upto Previous Year	1054.35	1657.76	2264.52	2871.27	3478.03
Net Loan-Opening	6864.41	6349.66	5742.90	5136.14	4529.39
Additions	88.66	0.00	0.00	0.00	0.00
Repayment during the year	603.41	606.76	606.76	606.76	606.76
Net Loan-Closing	6349.66	5742.90	5136.14	4529.39	3922.63
Average Loan	6607.03	6046.28	5439.52	4832.76	4226.01
Weighted Average Rate of Interest on Loan (%)	7.74	7.72	7.75	7.80	7.77
Interest on Loan	511.55	466.95	421.98	377.25	328.72

Depreciation

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

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

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



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

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

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

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

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

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

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

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-I** to these regulations for the 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.”

77. The IT equipment has been considered as a part of the Gross Block and depreciated using weighted average rate of depreciation (WAROD) (as placed in Annexure-II). WAROD has been worked out after taking into account the depreciation rates of IT and non-IT assets as prescribed in the 2019 Tariff Regulations. The salvage value of IT equipment has been considered nil, i.e. IT asset has been considered as 100 per cent depreciable. The calculation of WAROD for the 2019-24 period is placed in Annexure-II. 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 details are given in Annexure-II. The depreciation allowed for the transmission asset is as under:

(₹ in lakh)

Particular	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	11312.52	11439.17	11439.17	11439.17	11439.17
Addition during the year 2019-24 due to projected Additional Capitalisation	126.65	0.00	0.00	0.00	0.00
Closing Gross Block	11439.17	11439.17	11439.17	11439.17	11439.17
Average Gross Block	11375.84	11439.17	11439.17	11439.17	11439.17
Weighted average rate of Depreciation (WAROD) (%)	5.30	5.30	5.30	5.30	5.30
Balance useful life at the beginning of the year	33	32	31	30	29
Elapsed Life	1	2	3	4	5
Aggregate Depreciable Value	10239.39	10296.39	10296.39	10296.39	10296.39
Combined depreciation during the year	603.41	606.76	606.76	606.76	606.76
Aggregate Cumulative Depreciation	1657.76	2264.52	2871.27	3478.03	4084.79
Remaining Aggregated Depreciable Value	8581.63	8031.87	7425.11	6818.36	6211.60



Operation & Maintenance Expenses (O&M Expenses)

78. Regulation 35(3) and (4) of the 2019 Tariff Regulations provides that:

“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
<i>Norms for sub-station Bays (₹ Lakh per bay)</i>					
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
<i>Norms for Transformers (₹ Lakh per MVA)</i>					
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
<i>Norms for AC and HVDC lines (₹ Lakh per km)</i>					
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
<i>Norms for HVDC stations</i>					
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 years.*

(b) The total allowable operation and maintenance expenses for the transmission system shall be calculated by multiplying the number of sub-station bays, transformer capacity of the transformer (in MVA) and km of line length with the applicable norms for the operation and maintenance expenses per bay, per MVA and per km respectively.

(c) The Security Expenses and Capital Spares for transmission system shall be allowed separately after prudence check:



Provided that the transmission licensee shall submit the assessment of the security requirement and estimated security expenses, the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification.

(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.”*

79. The O&M Expenses claimed by the Petitioner for the transmission asset for the 2019-24 tariff period are as under:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
765 kV: Jharsuguda D/C line bays					
No. of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	45.01	46.6	48.23	49.93	51.68
Transmission line: Darlipalli-Jharsuguda					
D/C Bundled (4 or more sub-conductors) (km)	20.54	20.54	20.54	20.54	20.54
Norms (₹ lakh/km)	1.322	1.368	1.416	1.466	1.517
PLCC					
Cost (₹ lakh)	158.499	158.499	158.499	158.499	158.499
Norms (₹ lakh)	2% of original capital cost				
Total O&M expense (₹ in lakh)	120.34	124.47	128.71	133.14	137.69

80. BSPHCL has requested to compute the O&M Expenses in accordance with Regulation 35(3)(a) of the 2019 Tariff Regulations.

81. We have considered the submission of the Petitioner and BSPHCL. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the sub-station in the 2014 Tariff Regulations and the 2019 Tariff Regulations and the norms for sub-station have



been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No.126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even though PLCC is a communication system. Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed. The relevant portions of the order dated 24.1.2021 in Petition No.126/TT/2020 are extracted hereunder:

“103. Thus, although PLCC equipment is a communication system, it has been considered as a part of sub-station, as it is used both for protection and communication. Therefore, we are of the considered view that rightly, it was not considered for separate O&M Expenses while framing norms of O&M for 2019-24 tariff period. While specifying norms for bays and transformers, O&M Expenses for PLCC have been included within norms for O&M Expenses for sub-station. Norms of O&M Expenses @2% of the capital cost in terms of Regulation 35(4) of the 2019 Tariff Regulations have been specified for communication system such as PMU, RMU, OPGW etc. and not for PLCC equipment.”

“105. In our view, granting of O&M Expenses for PLCC equipment @2% of its capital cost under Regulation 35(4) of the 2014 Tariff Regulations under the communication system head would tantamount to granting O&M Expenses twice for PLCC equipment as PLCC equipment has already been considered as part of the sub-station. Therefore, the Petitioner's prayer for grant of O&M Expenses for the PLCC equipment @2% of its capital cost under Regulation 35(4) of the 2014 Tariff Regulations is rejected.

106. The principle adopted in this petition that PLCC is part of sub-station and accordingly no separate O&M Expenses is admissible for PLCC equipment in the 2019-24 tariff period under Regulation 35(4) of the 2019 Tariff Regulations shall be applicable in case of all petitions where similar claim is made by the Petitioner. As already mentioned, the Commission, however, on the basis of the claim made by the Petitioner has inadvertently allowed O&M Expenses for PLCC equipment @2% of its original project cost, which is applicable for other “communication system”, for 2019-24 period in 31 petitions given in Annexure-3 of this order. Therefore, the decision in this order shall also be applicable to all the petitions given in Annexure-3. Therefore, PGCIL is directed to bring this decision to the notice of all the stakeholders in the 31 petitions given in Annexure-3 and also make revised claim of O&M Expenses for PLCC as part of the sub-station at the time of truing up of the tariff allowed for 2019-24 period in respective petitions.”

Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed.



82. The O&M Expenses allowed as per the norms specified in the 2019 Tariff Regulations out for the assets covered in the instant petition are as under:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
765 kV: Jharsuguda D/C line bays					
No. of bays	2	2	2	2	2
Norms (₹ lakh/Bay)	45.01	46.6	48.23	49.93	51.68
Transmission line: Darlipalli-Jharsuguda					
D/C Bundled (4 or more sub-conductors) (km)	20.54	20.54	20.54	20.54	20.54
Norms (₹ lakh/km)	1.322	1.368	1.416	1.466	1.517
Total O&M expense (₹ in lakh)	117.17	121.30	125.54	129.97	134.52

Interest on Working Capital (IWC)

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

“34. Interest on Working Capital: (1) The working capital shall cover:

(a) For Coal-based/lignite-fired thermal generating stations:

- (i) Cost of coal or lignite and limestone towards stock, if applicable, for 10 days for pit-head generating stations and 20 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;
- (ii) Advance payment for 30 days towards cost of coal or lignite and limestone for generation corresponding to the normative annual plant availability factor;
- (iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;
- (iv) Maintenance spares @ 20% of operation and maintenance expenses including water charges and security expenses;
- (v) Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on the normative annual plant availability factor; and
- (vi) Operation and maintenance expenses, including water charges and security expenses, for one month.

(b) For Open-cycle Gas Turbine/Combined Cycle thermal generating stations:

- (i) Fuel cost for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;
- (ii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor, and in case of use of more than one liquid fuel, cost of main



liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;

(iii) Maintenance spares @ 30% of operation and maintenance expenses including water charges and security expenses;

(iv) Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel; and

(v) Operation and maintenance expenses, including water charges and security expenses, for one month.

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

(i) Receivables equivalent to 45 days of annual fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and

(iii) Operation and maintenance expenses, including security expenses for one month.

(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this Regulation shall be based on the landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined:

Provided that in case of new generating station, the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) and gross calorific value of the fuel as per actual weighted average for three months, as used for infirm power, preceding date of commercial operation for which tariff is to be determined.

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

Provided that in case of truing-up, the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.

(4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency.”

“3. Definitions. - In these regulations, unless the context otherwise requires:-

‘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;”



84. The Petitioner has submitted that it has computed IWC for the 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%.

85. 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). The components of the working capital and interest thereon allowed are as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	9.76	10.11	10.46	10.83	11.21
Maintenance Spares	17.58	18.19	18.83	19.50	20.18
Receivables	234.17	230.38	225.30	220.28	214.20
Total Working Capital	261.51	258.68	254.60	250.61	245.59
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
Interest on Working Capital	31.51	29.10	28.64	28.19	27.63

Annual Fixed Charges of the 2019-24 Tariff Period

86. The transmission charges allowed for the transmission asset for the 2019-24 tariff period are as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	603.41	606.76	606.76	606.76	606.76
Interest on Loan	511.55	466.95	421.98	377.25	328.72
Return on Equity	640.97	644.53	644.53	644.53	644.53
Interest on Working Capital	31.51	29.10	28.64	28.19	27.63
O & M Expenses	117.17	121.30	125.54	129.97	134.52
Total	1904.61	1868.64	1827.46	1786.71	1742.15



Filing Fee and the Publication Expenses

87. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses. BSPHCL has submitted that grant of filing fee and expenses incurred are the discretion of the Commission and need not necessarily be allowed in all cases. In response, the Petitioner has submitted that it has requested for reimbursement of expenditure by the beneficiaries towards petition filing fee and publication expense, in terms of Regulation 70(1) of the 2019 Tariff Regulations.

88. We have considered the submission of the Petitioner and BSPHCL. 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.

Licence Fee & RLDC Fees and Charges

89. 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.

Security Expenses

90. BSPHCL has submitted that only relief admissible under Regulation 35 (3)(c) may be considered. In response, the Petitioner has submitted that security expenses for the transmission asset are not claimed in the instant petition and it would file a separate petition for claiming the overall security expenses and the consequential IWC. The Petitioner has requested to consider the actual security expenses incurred during 2018-19 for claiming estimated security expenses for 2019-20 which shall be



subject to true up at the end of the year based on the actuals. The Petitioner has submitted that similar petition for security expenses for 2020-21, 2021-22, 2022-23 and 2023-24 shall be filed on a yearly basis on the basis of the actual expenses of previous year subject to true up at the end of the year on actual expenses. The Petitioner has submitted that the difference, if any, between the estimated security expenses and actual security expenses as per the audited accounts may be allowed to be recovered from the beneficiaries on a yearly basis.

91. We have considered the submissions of the Petitioner and BSPHCL. We are of the view that the Petitioner should claim security expenses for all the transmission asset in one petition. It is observed that the Petitioner has already filed the Petition No.260/MP/2020 claiming consolidated security expenses on projected basis for the 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19. Therefore, security expenses will be dealt with in Petition No. 260/MP/2020 in accordance with the applicable provisions of the 2019 Tariff Regulations.

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 & 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. BSPHCL has submitted that such claim is premature.



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

Capital Spares

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

Sharing of Transmission Charges

95. The Commission vide order dated 23.4.2019 in Review Petition No.5/RP/2018 in Petition No. 70/TT/2017 has held as under:

"19.As per the Indemnification Agreement dated 19.2.2014, NTPC has obligations to pay the transmission charges of the instant assets till the declaration of commercial operation of its 1st generating unit. After declaration of COD of the 1st generating unit of NTPC, the transmission charges of the instant assets shall be in accordance with Regulation 43 of the 2014 Tariff Regulations and shall be shared by the beneficiaries and long term transmission customers in terms of the 2010 Sharing Regulations."

96. In view of the above, the transmission charges from 26.4.2017 to COD of the 1st generating unit of NTPC shall be borne by NTPC. Thereafter, the billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010 or the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2020, as applicable, as provided in Regulation 43 of the 2014 Tariff Regulations for the 2014-19 tariff period and Regulation 57 of the 2019 Tariff Regulations for the 2019-24 tariff period.



97. To summarise, the trued-up Annual Fixed Charges allowed for the transmission asset for the 2014-19 tariff period are as under:

(₹ in lakh)		
Particulars	2017-18 (Pro-rata 340 days)	2018-19
Annual Fixed Charges	1688.71	2052.06

The Annual Fixed Charges allowed for the transmission asset for the 2019-24 tariff period in this order are as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Annual Fixed Charges	1904.61	1868.64	1827.46	1786.71	1742.15

98. This order disposes of Petition No. 508/TT/2019.

**Sd/
(Arun Goyal)
Member**

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

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



Annexure-I

2014-19 Capital Expenditure	Admitted Capital Cost as on 26.4.2017	Additional Capitalisation		Capital Cost as on 31.3.2019	Rate of Depreciation as per Regulations	Depreciations as per Regulations	
		2017-18	2018-19			2017-18	2018-19
Land - Freehold	0.00	0.00	0.00	0.00	0.00%	0.00	0.00
Land - Leasehold	0.00	0.00	0.00	0.00	3.34%	0.00	0.00
Building Civil Works & Colony	0.00	0.00	0.00	0.00	3.34%	0.00	0.00
Transmission Line	7171.34	2436.95	346.24	9954.54	5.28%	442.98	516.46
Sub Station	666.68	462.44	59.00	1188.12	5.28%	47.41	61.18
PLCC	137.34	21.16	0.00	158.50	6.33%	9.36	10.03
IT Equipment (Incl. Software)	11.26	0.10	0.00	11.36	5.28%	0.60	0.60
Total	7986.62	2920.66	405.24	11312.52		500.35	588.27
Average Gross Block						9446.95	11109.90
Weighted Average Rate of Depreciation						5.30%	5.29%



Annexure-II

2019-24 Capital Expenditure	Admitted Capital Cost as on 1.4.2019	Projected Additional Capitalisation					Capital Cost as on 31.3.2024	Rate of Depreciation as per Regulations	Annual Depreciations as per Regulations					
		2019-20	2020-21	2021-22	2022-23	2023-24			2019-20	2020-21	2021-22	2022-23	2023-24	
Land - Freehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	0.00	0.00	0.00	0.00	0.00	
Land - Leasehold	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00	
Building Civil Works & Colony	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.34%	0.00	0.00	0.00	0.00	0.00	
Transmission Line	9,954.54	123.71	0.00	0.00	0.00	0.00	10,078.25	5.28%	528.87	532.13	532.13	532.13	532.13	
Sub Station	1,188.12	2.94	0.00	0.00	0.00	0.00	1,191.06	5.28%	62.81	62.89	62.89	62.89	62.89	
PLCC	158.50	0.00	0.00	0.00	0.00	0.00	158.50	6.33%	10.03	10.03	10.03	10.03	10.03	
IT Equipment (Incl. Software)	11.36	0.00	0.00	0.00	0.00	0.00	11.36	15.00%	1.70	1.70	1.70	1.70	1.70	
Total	11,312.52	126.65	0.00	0.00	0.00	0.00	11,439.17		603.41	606.76	606.76	606.76	606.76	
									Average Gross Block	11375.8	11,439.17	11,439.17	11,439.17	11,439.17
									Weighted Average Rate of Depreciation	5.30%	5.30%	5.30%	5.30%	5.30%

