

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 512/TT/2019

Coram:

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

Date of Order : 27.01.2021

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 of the 2019-24 period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations 2019 in respect of Combined Asset consisting of Asset-I: 400 kV Transmission Line for Swapping of Kahalgaon #1 bay with Sasaram #1 bay at Biharsharif Sub-station; Asset-II: 400 kV Transmission Line for Swapping of Purnea (1 and 2) Bays with Sasaram bays (3 and 4) at Biharsharif Sub-station; Asset-III: Split Bus arrangement with tie line breaker for 400 kV Biharsharif Sub-station; Asset-IV: Split Bus Arrangement at Durgapur Sub-station and Asset-V: Split Bus Arrangement at Maithon Sub-station assets under Split Bus arrangement for various Sub-stations 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 -BSEB),
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.



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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.

...Respondent(s)

For Petitioner : Shri A.K. Verma, PGCIL
Shri S.S. Raju, 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 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 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) in respect of the following assets (hereinafter referred to as “the transmission assets/ Combined Asset”) under Split Bus arrangement for various Sub-stations in the Eastern Region (hereinafter referred to as “the transmission project”):



Asset-I: 400 kV Transmission Line for Swapping of Kahalgaon #1 bay with Sasaram #1 bay at Biharsharif Sub-station;

Asset-II: 400 kV Transmission Line for Swapping of Purnea (1 and 2) Bays with Sasaram bays (3 and 4) at Biharsharif Sub-station;

Asset-III: Split Bus arrangement with tie line breaker for 400 kV Biharsharif Sub-station;

Asset-IV: Split Bus Arrangement at Durgapur Sub-station; and

Asset-V: Split Bus Arrangement at Maithon Sub-station.

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

“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 & 2019-24.

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 project as whole.

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 the 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 for the transmission project was accorded by the Board of Directors of the Petitioner Company vide Memorandum No. C/CP/Split Bus Arrangements dated 5.4.2013 at an estimated capital cost of ₹13516 lakh which included Interest During Construction (IDC) of ₹514 lakh.

b) The approval of Revised Cost Estimate (RCE) for the instant transmission project was accorded by Board of Directors of the Petitioner Company vide C/CP/RCE-Split Bus Arrangement in the Eastern Region dated 1.2.2016 for ₹14673 lakh including IDC of ₹859 lakh based on June 2015 price level.

c) The system requirements were discussed and agreed in the 11th SCM (Standing Committee Meeting) on Power System Planning in the Eastern Region held on 20.9.2010 and also in the 15th TCC and ERPC Meeting held on 28.9.2010 at Rajarhat, Kolkata.

d) The scope of the instant transmission project is as under:

Transmission Line:

- i. 400 kV transmission line for swapping of Purnea bays (1 and 2) with Sasaram bays (3 and 4) and Kahalgaon#1 bays with Sasaram #1 bay at Biharsharif Sub-station
- ii. 400 kV transmission line for reconfiguration of Biharsharif ckt II and IV from the present position to Stage-II side of Kahalgaon switchyard of NTPC

Sub-station:



i. To carry out splitting arrangements with tie-line breaker for the following 400 kV sub-stations in the Eastern Region:

- Maithon
- Durgapur
- Biharsharif

4. The entire scope of the transmission project has been completed except for the 400 kV Transmission Line for reconfiguration of Biharsharif Ckts.-II and IV. The 400 kV Transmission Line for reconfiguration of Biharsharif Ckts.-II & IV from its present position to Stage-II side of Kahalgaon switchyard of NTPC has not yet been put into commercial operation. The details of the assets covered in the instant transmission project and the petitions in which the tariff was granted are given below:

Srl. No.	Asset Description	Previous Order	Asset nomenclature in previous order	Asset nomenclature in instant order
1	400 kV Transmission Line for Swapping of Kahalgaon #1 bay with Sasaram #1 bay at Biharsharif Sub-station	Order dated 4.2.2019 in Petition No. 49/TT/2018	Asset-I	Asset-I
2	400 kV Transmission Line for Swapping of Purnea (1 and 2) Bays with Sasaram bays (3 and 4) at Biharsharif Sub-station		Asset-II	Asset-II
3	Split Bus arrangement with tie line breaker for 400 kV Biharsharif Sub-station		Asset-III	Asset-III
4	Split Bus arrangement at Durgapur Sub-station.	Order dated 29.4.2016 in Petition No. 136/TT/2015	Asset-I	Asset-IV
5	Split Bus arrangement at Maithon Sub-station.		Asset-II	Asset-V
6	400 kV Transmission Line for reconfiguration of Biharsharif Ckt II and IV from its present position to Stage II side of Kahalgaon Switchyard of NTPC	-	Not covered	Not covered



5. The dates of commercial operation of the instant assets along with the time over-run are as under:

Asset	Scheduled date of commercial operation	Actual date of commercial operation	Time over-run	Time over-run condoned
Asset-I	28.6.2014	2.4.2015	9 month 5 days	9 month 5 days
Asset-II		21.7.2016	24 months 23 days	24 months 7 days
Asset-III		15.5.2017	34 months 17 days	NIL
Asset-IV		14.10.2015	15 months 15 days	NIL
Asset-V		17.1.2016	18 months 18 days	NIL

6. The transmission tariff was allowed for Assets-I, II, and III from their respective dates of commercial operation to 31.3.2019 vide order dated 4.2.2019 in Petition No. 49/TT/2018 and for Assets-IV and V from their respective dates of commercial operation to 31.3.2019 vide order dated 29.4.2016 in Petition No. 136/TT/2015. The Annual Fixed Charges (AFC) allowed by the Commission and trued up transmission tariff claimed by the Petitioner for the instant assets are as under:

(₹ in lakh)					
Asset	Particulars	2015-16	2016-17	2017-18	2018-19
Asset-I	AFC approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	526.88	606.29	668.89	709.27
	AFC claimed by the Petitioner based on truing up in the instant petition	534.59	611.38	618.47	610.19
Asset-II	AFC approved vide order dated 4.2.2019 in Petition No. 49/TT/2018		465.02	704.69	733.32
	AFC claimed by the Petitioner based on truing up in the instant petition		471.41	686.02	696.74
Asset-III	AFC approved vide order dated 4.2.2019 in Petition No. 49/TT/2018			201.51	239.06



	AFC claimed by the Petitioner based on truing up in the instant petition			202.72	233.11
Asset-IV	AFC approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	77.45	187.75	204.26	207.03
	AFC claimed by the Petitioner based on truing up in the instant petition	79.31	183.23	190.81	197.01
Asset-V	AFC approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	34.39	185.41	202.37	205.28
	AFC claimed by the Petitioner based on truing up in the instant petition	35.31	180.67	188.21	194.90

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

8. The Petitioner has served the petition on the Respondents and notice regarding filing of this petition has also been published in the newspaper in accordance with Section 64 of the Electricity Act, 2003. No comments/ objections have been received from the general public in response to the aforesaid notice published in the newspaper. A general Notices dated 14.1.2020 directing the beneficiaries/ Respondents to file reply in the matter was also published on Commission's website. None of the Respondents have filed any reply to the petition.

9. The hearing in this matter was held on 19.5.2020 through video conference and the order was reserved.

10. This order is issued considering submissions made by the Petitioner vide affidavits dated 16.10.2019, 12.3.2020, 15.5.2020 and 29.5.2020.

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



Truing Up of Annual Fixed Charges of the 2014-19 Period

12. The details of the trued up transmission charges claimed by the Petitioner for the instant assets are as under:

Asset-I

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	156.01	184.17	193.67	196.72
Interest on Loan	184.32	199.51	186.04	170.63
Return on Equity	174.75	206.20	216.84	220.84
Interest on Working Capital	12.26	13.99	14.16	13.98
O&M Expenses	7.25	7.51	7.76	8.02
Total	534.59	611.38	618.47	610.19

Asset-II

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	139.07	208.57	217.75
Interest on Loan	158.84	217.80	207.79
Return on Equity	155.70	233.51	244.45
Interest on Working Capital	10.28	14.97	15.21
O&M Expenses	7.52	11.17	11.54
Total	471.41	686.02	696.74

Asset-III

(₹ in lakh)

Particulars	2017-18 (pro-rata)	2018-19
Depreciation	24.55	27.96
Interest on Loan	25.99	27.41
Return on Equity	27.50	31.39
Interest on Working Capital	7.70	8.93
O&M Expenses	116.98	137.42
Total	202.72	233.11

Asset-IV

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	5.39	14.25	15.74	16.70
Interest on Loan	6.40	16.10	15.95	15.38
Return on Equity	6.04	15.96	17.62	18.75
Interest on Working Capital	3.61	8.18	8.48	8.76
O&M Expenses	57.87	128.74	133.02	137.42
Total	79.31	183.23	190.81	197.01



Asset-V

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation	2.49	13.62	15.12	16.17
Interest on Loan	2.91	14.93	14.72	14.44
Return on Equity	2.78	15.26	16.92	18.16
Interest on Working Capital	1.60	8.12	8.43	8.71
O&M Expenses	25.53	128.74	133.02	137.42
Total	35.31	180.67	188.21	194.90

13. The details of the trued up Interest on Working Capital (IWC) claimed by the Petitioner for the instant assets are as under:

Asset-I

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O&M Expenses	0.61	0.63	0.65	0.67
Maintenance Spares	1.09	1.13	1.16	1.20
Receivables	89.35	101.90	103.08	101.70
Total Working Capital	91.05	103.66	104.89	103.57
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on Working Capital	12.26	13.99	14.16	13.98

Asset-II

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
O&M Expenses	0.90	0.93	0.96
Maintenance Spares	1.62	1.68	1.73
Receivables	112.90	114.34	116.12
Total Working Capital	115.42	116.95	118.81
Rate of Interest (%)	12.80	12.80	12.80
Interest on Working Capital	10.28	14.97	15.21

Asset-III

(₹ in lakh)

Particulars	2017-18 (pro-rata)	2018-19
O&M Expenses	11.09	11.45
Maintenance Spares	19.95	20.61
Receivables	38.42	38.85
Total Working Capital	69.46	70.91
Rate of Interest (%)	12.60	12.60
Interest on Working Capital	7.70	8.93

Asset-IV

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(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O&M Expenses	10.38	10.73	11.09	11.45
Maintenance Spares	18.69	19.31	19.95	20.61
Receivables	28.46	30.54	31.80	32.84
Total Working Capital	57.53	60.58	62.84	64.90
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on Working Capital	3.61	8.18	8.48	8.76

Asset-V

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
O&M Expenses	10.38	10.73	11.09	11.45
Maintenance Spares	18.69	19.31	19.95	20.61
Receivables	28.72	30.11	31.37	32.49
Total Working Capital	57.79	60.15	62.41	64.55
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on Working Capital	1.60	8.12	8.43	8.71

Capital Cost

14. The Commission vide order dated 4.2.2019 in Petition No. 49/TT/2018 and order dated 29.4.2016 in Petition No. 136/TT/2015 allowed the capital cost and the projected Additional Capital Expenditure (ACE) during the period from COD to 31.3.2019 as under:

(₹ in lakh)

Assets	Apportioned Approved Capital Cost	Admitted Capital Cost as on 1.4.2014	Projected ACE 2014-19	Total Capital Cost as on 31.3.2019
Asset-I	4252.94	2529.02*	1721.13	4250.15
Asset-II	4439.83	3645.47**	772.78	4418.25
Asset-III	726.18	513.65 [#]	83.02	596.67
Asset-IV	512.29	176.42 [@]	195.63	372.05
Asset-V	512.29	205.21 [^]	157.61	362.82

* Cost allowed after deduction IDC of ₹0.51 lakh and Initial Spares of ₹30.60 lakh to be discharged during 2017-18.

** Cost allowed after deduction IDC and IEDC of ₹18.71 lakh on account time over-run not condoned and Initial Spares of ₹29.40 lakh to be discharged during 2017-18.

[#] Cost allowed after deduction IDC and IEDC of ₹81.07 lakh on account time over-run not condoned and Initial Spares to be discharged of ₹14.51 lakh during 2018-19.



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@ Cost allowed after deduction IDC and IEDC of ₹19.96 lakh on account time over-run not condoned and Initial Spares disallowed of ₹16.41 lakh.

^ Cost allowed after deduction IDC and IEDC of ₹36.22 lakh on account time over-run not condoned and Initial Spares disallowed of ₹15.51 lakh.

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

15. The instant assets were scheduled to be put into commercial operation on 28.6.2014 and all the assets achieved commercial operation after the scheduled date. The time over-run in case of Assets-I and II was partly condoned and the time over-run in case of Assets-III, IV and V was not condoned. The Petitioner has claimed IDC for the instant assets and has submitted the statement showing IDC claim, discharge of IDC liability as on date of commercial operation and thereafter as under:

(₹ in lakh)

Asset	IDC as per Auditor Certificate	IDC discharged upto COD	IDC discharged			
			2015-16	2016-17	2017-18	2018-19
Asset-I	155.93	91.97	63.96	0	0	0
Asset-II	407.88	319.52		83.86	4.50	0
Asset-III	48.48	24.54			23.94	0
Asset-IV	12.81	7.24	5.32	0.25	0	0
Asset-V	17.28	10.84	0.44	6.00	0	0

16. The Petitioner has submitted the IDC computation statement which contains name of the loan, drawl date, loan amount, interest rate and interest claimed. The IDC is worked out based on the details given in the IDC statement. Further, the loan amount as on the date of commercial operation has been mentioned in Form 6 and 9C. On scrutiny of the documents, certain discrepancies have been noticed such as mismatch in loan amount between IDC statement and in Forms 6 and 9C. The allowable IDC is worked out based on the information available on record and relying on loan amount as per tariff Form 9C. The IDC claimed and considered as on the date



of commercial operation and summary of discharge of IDC liability up to the date of commercial operation and thereafter for the purpose of tariff determination is as under:

(₹ in lakh)

Asset	IDC as per Auditor Certificate (A)	IDC disallowed due to time over-run not condoned (B)	IDC disallowed due to computational difference (C)	IDC allowed in the instant order (D=A-B-C)
Asset-I	155.93	0.00	0.24	155.69
Asset-II	407.88	17.36	0.00	390.52
Asset-III	48.48	48.48	0.00	0.00
Asset-IV	12.81	12.81	0.00	0.00
Asset-V	17.28	17.28	0.00	0.00

17. The IDC considered as on the date of commercial operation and the statement of IDC discharge for the purpose of tariff determination is as under:

(₹ in lakh)

Asset	IDC allowed in the instant order	IDC discharged upto COD	IDC discharged		Total IDC
			2015-16	2016-17	
Asset-I	155.69	91.45	64.24	-	155.69
Asset-II	390.52	319.29	-	71.23	390.52
Asset-III	0.00	0.00	-	-	0.00
Asset-IV	0.00	0.00	-	-	0.00
Asset-V	0.00	0.00	-	-	0.00

18. The Petitioner has also claimed IEDC for the instant assets as per the tabulation given below. The Petitioner has submitted that the actual IEDC for Asset-IV and Asset-V is ₹2.7 lakh and ₹4.36 lakh respectively. However, in Petition No. 136/TT/2015, the Petitioner had inadvertently claimed IEDC of ₹8.12 lakh and ₹18.98 lakh for Asset-IV and Asset-V respectively. The amount of ₹8.12 lakh and ₹18.98 lakh for Asset-IV and Asset-V respectively, was considered in order dated 29.4.2016 and



adjusted amount of IEDC was disallowed for the period of time over-run not condoned. The Petitioner has claimed IEDC as on COD which is within the percentage of hard cost as indicated in the abstract cost estimate. Further, the Petitioner has submitted that the entire IEDC claimed in the Auditor Certificates is on cash basis and is paid up to the COD of the assets. The details of IEDC claimed by the Petitioner for the purpose of tariff calculation are as under:

(₹ in lakh)

Asset	IEDC claimed as per Auditor Certificate	IEDC considered as on COD	IEDC discharged up to COD
Asset-I	11.78	11.78	11.78
Asset-II	106.25	106.25	106.25
Asset-III	46.74	46.74	46.74
Asset-IV	2.70	2.70	2.70
Asset-V	4.36	4.36	4.36

19. The IEDC considered as on COD for the purpose of tariff determination after deducting the IEDC disallowed for the period of time over-run not condoned is as under:

(₹ in lakh)

Asset	IEDC claimed as per Auditor Certificate	IEDC disallowed due to time over-run not condoned	IEDC considered as on COD
Asset-I	11.78	0.00	11.78
Asset-II	106.25	1.41	104.84
Asset-III	46.74	32.59	14.15
Asset-IV	2.70	2.66	0.04
Asset-V	4.36	3.39	0.97

Initial Spares

20. 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 the cut-off date, subject to the following ceiling norms:

“(d) Transmission System



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

21. The Initial Spares as claimed by the Petitioner are as under:

Assets	Plant and Machinery Cost (A) (₹ in lakh)	Initial Spares as per Auditor Certificate (B) (₹ in lakh)	Ceiling Limit (%) (C)	Initial Spares worked out as per Norms and claimed by the Petitioner (₹ in lakh)
				D = [(A-B)*C / (100-C)]
For Transmission Line				
Asset-I	3558.04	30.60	1	35.63
Asset-II	3747.11	29.40	1	37.55
Total	7305.15	60.00	1	73.18
For Sub-station (Brownfield)				
Asset-III	628.18	25.12	6	38.49
Asset-IV	364.76	32.90	6*	21.18
Asset-V	383.9	32.90	6*	22.40
Total	1376.84	90.92	6	82.08

*The Petitioner has submitted that Assets-IV and V are brownfield sub-stations and as per the regulations, the ceiling norms for spares is 6% (brownfield sub-station) but in order dated 29.4.2016 in Petition No. 136/TT/2015 it was inadvertently considered as 4% in place of 6%.

22. The Petitioner has further submitted that the Initial Spares claimed for the Sub-stations is ₹90.92 lakh against which the Initial Spares worked out is ₹82.08 lakh. Accordingly, the excess Initial Spares of ₹8.84 lakh is reduced from the capital cost of Asset-V as per actual discharge.

23. We have considered the submissions of Petitioner. APTEL in its judgement dated 14.9.2019 in Appeal No. 74 of 2017 observed that the Commission, for the purpose of prudence check, may restrict the Initial Spares to the cost of the individual asset and later at the time of truing up allow Initial Spares as per the ceiling limits on



the overall project cost. The relevant portion of the said judgement is extracted here under:-

“18.13. We do not agree with this methodology of restricting initial spares asset / element wise as adopted by the Central Commission. The Central Commission to have a prudence check on the initial spares, being restricted based on the individual asset wise cost initially, but subsequently ought to have allowed as per the ceiling limits on the overall project cost basis during the true- up.”

24. In the instant case, out of the six assets covered in the instant transmission project, five assets have been put into commercial operation during the 2014-19 period. The remaining asset, 400 kV Transmission Line for reconfiguration of Biharsharif Ckts-II and IV from its present position to Stage-II side of Kahalgaon Switchyard of NTPC, has not yet been executed and is also not a part of the instant petition. Since the entire scope of the transmission line is not completed, Initial Spares are allowed as per the norms specified in the 2014 Tariff Regulations. As per the 2014 Tariff Regulations, the allowable ceiling limit for Initial Spares for the brown field sub-station and transmission line are 6% and 1% respectively. Based on the information available on record, the Initial Spares for the instant assets are allowed as per respective percentage of the Plant and Machinery Cost as on the cut-off date on individual basis since the project is not complete. The excess Initial Spares' claim in respect of Asset-IV and Asset-V is adjusted in the Initial Spares' claim of the respective assets. The Initial Spares allowed for the instant assets are as under:

Asset	Plant and Machinery Cost as on cut-off date (A) (₹ in lakh)	Initial Spares claimed as per Auditor Certificate (B) (₹ in lakh)	Ceiling Limit (%) (C)	Initial Spares Worked out as per Norms (₹ in lakh)	Excess Claim E=B-D (₹ in lakh)	Initial Spares Allowed (₹ in lakh)
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				$D = [(A-B) \times C / (100-C)]$		
For Transmission Line						
Asset-I	3558.04	30.60	1	35.63	-	30.60
Asset-II	3747.11	29.40	1	37.55	-	29.40
For Sub-station (Brownfield)						
Asset-III	628.18	25.12	6	38.49	-	25.12
Asset-IV	383.90	32.90	6	22.40	10.50	22.40
Asset-V	364.76	32.90	6	21.18	11.72	21.18

25. The Petitioner has submitted that the Initial Spares have been included in the capital cost as on COD in the respective years and it is based on actual cash outflow. The Petitioner has also submitted the break-up of the discharge of Initial Spares. The Petitioner has submitted that the Initial Spares discharged upto COD have been included in capital cost as on COD in the Auditor Certificates and those discharged after COD are included in the respective year's ACE in the Auditor Certificates, i.e., expenditure on Initial Spares is included in the Auditor Certificates as per cash outflow. We have considered the submissions of the Petitioner and have confirmed the addition of undischarged Initial Spares as ACE, in respective years of discharge as per the Initial Spare discharge statement submitted by the Petitioner.

Capital Cost as on COD

26. The capital cost of the instant assets is calculated in accordance with Regulation 9(3) of the 2014 Tariff Regulations. The details of the capital cost as on COD now trued up and approved after adjustment of IDC, IEDC and Initial Spares are as under:



(₹ in lakh)

Asset	Capital Cost claimed as on COD (Auditor Cert.) (A)	IDC undis-charged as on COD (B)	IDC disallowed due to time over-run not condoned (C)	IDC disallowed due to computational difference (D)	IEDC disallowed due to time-over run not condoned (E)	Excess Initial Spares disallowed (F)	Capital Cost allowed as on COD (G=A-B-C-D-E-F)
Asset-I	2624.09	64.24	0.00	0.24	0.00	0.00	2559.61
Asset-II	3764.63	71.23	17.36	0.00	1.41	0.00	3674.64
Asset-III	609.23	0.00	48.48	0.00	32.59	0.00	528.16
Asset-IV	212.79	0.00	12.81	0.00	2.66	10.50	186.82
Asset-V	256.94	0.00	17.28	0.00	3.39	11.72	224.55

Additional Capital Expenditure (ACE)

27. The Commission vide order dated 4.2.2019 in Petition No. 49/TT/2018 and order dated 29.4.2016 in Petition No. 136/TT/2015 had allowed ACE of ₹2930.17 lakh for the instant assets during 2014-19 tariff period towards balance and retention payments, under Regulation 14(1)(i) of the 2014 Tariff Regulations.

28. As per the Auditor Certificates dated 23.5.2019 and 31.7.2019, the Petitioner in the instant petition has claimed the ACE based on actual expenditure as under:

(₹ in lakh)

Assets	Capital Cost up to COD after adjustment of accrual IDC and disallowances	ACE claimed				Capital Cost as on 31.3.2019
		2015-16	2016-17	2017-18	2018-19	
Asset-I	2560.13	805.62	244.51	115.49	0.00	3725.75
Asset-II	3674.92	0.00	219.72	110.94	236.95	4242.53
Asset-III	528.16	0.00	0.00	1.44	0.00	529.60
Asset-IV	198.25	43.40	56.51	0.00	36.39	334.45
Asset-V	229.79	0.00	56.50	0.00	40.05	326.34



29. Assets-I, II, III, IV and V were put into commercial operation w.e.f. 2.4.2015, 21.7.2016, 15.5.2017, 14.10.2015 and 17.1.2016, respectively. Accordingly, the cut-off date for the Assets-I, II, III, IV and V is considered as 31.3.2018, 31.3.2019, 31.3.2020, 31.3.2018 and 31.3.2019 respectively. The Petitioner has submitted that ACE claimed during 2014-19 period for the instant assets is within the cut-off date except for Asset-IV.

30. The Petitioner has further submitted that ACE incurred for the instant assets is on account of un-discharged liability towards final payment/ withheld payment due to contractual exigencies for the works executed within the cut-off date. ACE for the years 2015-16, 2016-17, 2017-18 and 2018-19 for all the transmission assets has been claimed under Regulation 14(1)(i) of 2014 Tariff Regulations except for Asset-IV for the year 2018-19 which is claimed under Regulation 14(2)(iv) of the 2014 Tariff Regulations.

31. We have considered the submissions made by the Petitioner. ACE for the years 2015-16, 2016-17, 2017-18 and 2018-19 for all the transmission assets, except for Asset-IV for the year 2018-19, has been claimed as balance and retention payments under Regulation 14(1)(i) of the 2014 Tariff Regulations. It is observed that the total ACE claimed is within the ACE allowed vide order dated 4.2.2019 in Petition No. 49/TT/2018 and order dated 29.4.2016 in Petition No. 136/TT/2015. Therefore, the ACE claimed by the Petitioner in the instant petition has been allowed under Regulation 14(1)(i) of the 2014 Tariff Regulations.

32. ACE for Asset-IV for the year 2018-19 is beyond the cut-off date and has been claimed under Regulation 14(2)(iv) of the 2014 Tariff Regulations. In the order dated



29.4.2016 in Petition No. 136/TT/2015, ACE was admitted towards balance and retention payment. The Petitioner vide affidavit dated 12.3.2020 has submitted that many works in the sub-stations like roads, drains, township, etc. were completed after COD. At the same time, payments for all the works completed till COD was not made by that date. Thus, it was not possible to freeze the liability of all the works as on COD. The Petitioner has further submitted that value of works beyond the cut-off date and liability as on COD is known only after actual status of payments is reconciled. Thus, the estimates are revised while truing-up exercise is undertaken. It is observed that the total ACE claimed is within ACE allowed vide order dated 29.4.2016 in Petition No. 136/TT/2015, therefore, ACE claimed by the Petitioner has been allowed under Regulation 14(2)(iv) of the 2014 Tariff Regulations.

33. The Petitioner has further submitted that amounts of ₹19.96 lakh and ₹36.22 lakh were recovered as Liquidated Damages (LD) from the executing agency(ies) and the same were reduced from the capital cost in the year 2018-19. Thus, LD recovered to the extent of disallowed IDC and IEDC is to be retained and necessary adjustments thereof is made in the ACE for the year 2018-19 and shown in footnote of the Auditor Certificate submitted by the Petitioner.

34. We have considered the submissions made by the Petitioner. APTEL in its judgement dated 27.4.2011 in Appeal 72/2010 has laid down the following principles for dealing with the issue of time over-run in execution of projects.

“7.4. The delay in execution of a generating project could occur due to following reasons:

i) due to factors entirely attributable to the generating company, e.g., imprudence in selecting the contractors/suppliers and in executing contractual agreements including terms and conditions of the contracts, delay in award of contracts, delay



in providing inputs like making land available to the contractors, delay in payments to contractors/suppliers as per the terms of contract, mismanagement of finances, slackness in project management like improper co-ordination between the various contractors, etc.

ii) due to factors beyond the control of the generating company e.g. delay caused due to force majeure like natural calamity or any other reasons which clearly establish, beyond any doubt, that there has been no imprudence on the part of the generating company in executing the project.

iii) situation not covered by (i) & (ii) above.

In our opinion in the first case the entire cost due to time over run has to be borne by the generating company. However, the Liquidated Damages (LDs) and insurance proceeds on account of delay, if any, received by the generating company could be retained by the generating company. In the second case the generating company could be given benefit of the additional cost incurred due to time over-run. However, the consumers should get full benefit of the LDs recovered from the contractors/suppliers of the generating company and the insurance proceeds, if any, to reduce the capital cost. In the third case the additional cost due to time overrun including the LDs and insurance proceeds could be shared between the generating company and the consumer. It would also be prudent to consider the delay with respect to some benchmarks rather than depending on the provisions of the contract between the generating company and its contractors/suppliers. If the time schedule is taken as per the terms of the contract, this may result in imprudent time schedule not in accordance with good industry practices.”

35. As per the above directions of APTEL, when the time over-run is attributable to the project developer, in the instant case PGCIL, or its contractors, the cost of the time over-run, i.e. the IDC and the IEDC has to be borne by the project developer and the Liquidated Damages (LD), if any, recovered can be retained by the Petitioner. In the instant case, the time over-run in case of Assets-III, IV, and V was not condoned and it was partly condoned in case of Asset-II. Accordingly, IDC and IEDC for the period of time over-run not condoned in case of Assets-II, III, IV, and V is not capitalised and LD recovered by the Petitioner can be retained by the Petitioner. The Petitioner has submitted that it has recovered LD in case of Asset-IV and V. The capital cost of the said two assets is allowed in accordance with the observations made by the APTEL in judgement dated 27.4.2011. IDC and IEDC disallowed in case of the said assets are deducted from the capital cost as on their respective dates of commercial operation and ACE incurred by the Petitioner after the COD is added to the capital cost. The



adjustment of LD recovered as claimed by the Petitioner is not allowed and the Petitioner is allowed to retain the same.

36. The details of asset-wise adjustments made, as per the Auditor Certificates are as under:

(₹ in lakh)

Asset	IDC and IEDC disallowed vide order dated 29.4.2016 in Petition No. 136/TT/2015	Recovered LD deducted from ACE in 2018-19	IDC and IEDC disallowed in this order	LD allowed to be retained during 2018-19 upto IDC and IEDC disallowed	Excess LD recovered deducted in 2018-19
	A	B	C	D=Upto IDC and IEDC disallowed	E=B-D
Asset-IV	19.96	19.96	15.47	15.47	4.49
Asset-V	36.22	36.22	20.67	20.67	15.55

37. The un-discharged IDC liability as well as the amount of Initial Spares un-discharged as on COD have been allowed as ACE during their respective year of discharge. LD recovered over and above IDC and IEDC disallowed has been deducted from ACE of 2018-19 in the instant order. The allowed ACE from COD to 31.3.2019 in respect of the assets covered in the instant petition is summarized as under:

(₹ in lakh)

Asset	Particulars	ACE				Total ACE
		2015-16	2016-17	2017-18	2018-19	
Asset-I	ACE	741.66	244.51	115.49	0.00	1165.90
	IDC Discharged	64.24	0.00	0.00	0.00	
Asset-II	ACE		148.72	110.94	236.95	567.84
	IDC Discharged		71.23	0.00	0.00	
Asset-III	ACE			1.44	0.00	1.44
	IDC Discharged			0.00	0.00	
Asset-IV	ACE	43.40	56.51	0.00	41.71	137.13
	IDC Discharged	0.00	0.00	0.00	0.00	



Asset	Particulars	ACE				Total ACE
		2015-16	2016-17	2017-18	2018-19	
	Excess LD recovered deducted in 2018-19	0.00	0.00	0.00	(4.49)	
Asset-V	ACE	0.00	56.50	0.00	57.96	98.91
	IDC Discharged	0.00	0.00	0.00	0.00	
	Excess LD recovered deducted in 2018-19	0.00	0.00	0.00	(15.55)	

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

(₹ in lakh)

Asset	Capital Cost as on COD	ACE				Total Capital Cost as on 31.3.2019
		2015-16	2016-17	2017-18	2018-19	
Asset-I	2559.61	805.90	244.51	115.49	0.00	3725.51
Asset-II	3674.64		219.95	110.94	236.95	4242.47
Asset-III	528.16			1.44	0.00	529.60
Asset-IV	186.82	43.40	56.51	0.00	37.22	323.95
Asset-V	224.55	0.00	56.50	0.00	42.41	323.46

39. Based on the above, the tariff in respect of the instant asset is determined from the date of commercial operation to the end of first year of COD on pro-rata basis and thereafter for the whole year. The number of days of tariff allowed for the instant assets in their first year of COD is as under:

Asset	Actual date of commercial operation	Pro-rata period of 1 st year of COD
Asset-I	2.4.2015	From 2.4.2015 to 31.3.2016 (11 months and 29 days)
Asset-II	21.7.2016	From 21.7.2016 to 31.3.2017 (8 months and 11 days)
Asset-III	15.5.2017	From 15.5.2017 to 31.3.2017 (10 months and 17 days)
Asset-IV	14.10.2015	From 14.10.2015 to 31.3.2016 (5 months and 18 days)
Asset-V	17.1.2016	From 17.1.2016 to 31.3.2016



		(Two months and 15 days)
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Debt-Equity ratio

40. 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 Debt-Equity ratio in respect of the instant assets as on the date of commercial operation and as on 31.3.2019 are as under::

Asset	Capital Cost as on COD			ACE			Capital Cost as on 31.3.2019		
	Debt	Equity	Total	Debt	Equity	Total	Debt	Equity	Total
	70%	30%	100%	70%	30%	100%	70%	30%	100%
Asset-I	1791.73	767.88	2559.61	816.13	349.77	1165.90	2607.86	1117.65	3725.51
Asset-II	2572.25	1102.39	3674.64	397.49	170.35	567.84	2969.73	1272.74	4242.47
Asset-III	369.71	158.45	528.16	1.01	0.43	1.44	370.72	158.88	529.60
Asset-IV	130.78	56.05	186.82	95.99	41.14	137.13	226.77	97.19	323.95
Asset-V	157.19	67.37	224.55	69.24	29.67	98.91	226.42	97.04	323.46

Interest on Loan (IoL)

41. 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 the actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations. The following tables show asset-wise IoL allowed in the instant petition followed by IoL approved earlier, claimed by the Petitioner in the instant petition and trued up in this order:

Particulars	Asset-I			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Interest on Loan				
Gross Normative Loan	1791.73	2355.86	2527.01	2607.86



(₹ in lakh)

Particulars	Asset-I			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Interest on Loan				
Cumulative Repayments upto Previous Year	0.00	156.00	340.15	533.81
Net Loan-Opening	1791.73	2199.86	2186.86	2074.05
Additions	564.13	171.16	80.84	0.00
Repayment during the year	156.00	184.15	193.66	196.71
Net Loan-Closing	2199.86	2186.86	2074.05	1877.34
Average Loan	1995.80	2193.36	2130.46	1975.70
Weighted Average Rate of Interest on Loan (%)	9.2597	9.0954	8.7318	8.6358
Interest on Loan	184.30	199.49	186.03	170.62

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	181.37	199.22	209.07	210.83
Claimed by the Petitioner in the instant petition	184.32	199.51	186.04	170.63
Allowed after true-up in this order	184.30	199.49	186.03	170.62

(₹ in lakh)

Particulars	Asset-II		
	2016-17 (pro-rata)	2017-18	2018-19
Interest on Loan			
Gross Normative Loan	2572.25	2726.21	2803.87
Cumulative Repayments upto Previous Year	0.00	139.06	347.62
Net Loan-Opening	2572.25	2587.15	2456.25
Additions	153.96	77.66	165.87
Repayment during the year	139.06	208.56	217.75
Net Loan-Closing	2587.15	2456.25	2404.36
Average Loan	2579.70	2521.70	2430.30
Weighted Average Rate of Interest on Loan (%)	8.8481	8.6368	8.5497
Interest on Loan	158.84	217.79	207.78

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	158.62	229.52	226.43
Claimed by the Petitioner in the instant petition	158.84	217.80	207.79
Allowed after true-up in this order	158.84	217.79	207.78



(₹ in lakh)

Particulars	Asset-III	
	2017-18 (pro-rata)	2018-19
Interest on Loan		
Gross Normative Loan	369.71	370.72
Cumulative Repayments upto Previous Year	0.00	24.56
Net Loan-Opening	369.71	346.16
Additions	1.01	0.00
Repayment during the year	24.56	27.96
Net Loan-Closing	346.16	318.20
Average Loan	357.94	332.18
Weighted Average Rate of Interest on Loan (%)	8.2549	8.2529
Interest on Loan	25.99	27.41

(₹ in lakh)

Particulars	2017-18 (pro-rata)	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	25.68	29.33
Claimed by the Petitioner in the instant petition	25.99	27.41
Allowed after true-up in this order	25.99	27.41

(₹ in lakh)

Particulars	Asset-IV			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Interest on Loan				
Gross Normative Loan	130.78	161.16	200.71	200.71
Cumulative Repayments upto Previous Year	0.00	5.11	18.76	33.90
Net Loan-Opening	130.78	156.04	181.95	166.81
Additions	30.38	39.56	0.00	26.05
Repayment during the year	5.11	13.65	15.14	16.12
Net Loan-Closing	156.04	181.95	166.81	176.74
Average Loan	143.41	169.00	174.38	171.78
Weighted Average Rate of Interest on Loan (%)	9.1045	9.1255	8.8000	8.6557
Interest on Loan	6.06	15.42	15.35	14.87

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	5.74	17.7	20.92	19.09
Claimed by the Petitioner in the instant petition	6.40	16.10	15.95	15.38



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Allowed after true-up in this order	6.06	15.42	15.35	14.87
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(₹ in lakh)

Particulars	Asset-V			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Interest on Loan				
Gross Normative Loan	157.19	157.19	196.74	196.74
Cumulative Repayments upto Previous Year	0.00	2.43	15.78	30.62
Net Loan-Opening	157.19	154.76	180.96	166.12
Additions	0.00	39.55	0.00	29.69
Repayment during the year	2.43	13.35	14.84	15.96
Net Loan-Closing	154.76	180.96	166.12	179.85
Average Loan	155.97	167.86	173.54	172.98
Weighted Average Rate of Interest on Loan (%)	8.8890	8.7156	8.3307	8.2472
Interest on Loan	2.84	14.63	14.46	14.27

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	2.58	16.73	20.11	18.41
Claimed by the Petitioner in the instant petition	2.91	14.93	14.72	14.44
Allowed after true-up in this order	2.84	14.63	14.46	14.27

Return on Equity (RoE)

42. The Petitioner has claimed RoE for the instant assets in terms of Regulations 24 and 25 of the 2014 Tariff Regulations. The Petitioner has submitted that it is liable to pay income tax at MAT rates and has claimed 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	19.624
2015-16	21.382	19.715
2016-17	21.338	19.704
2017-18	21.337	19.704
2018-19	21.549	19.757

43. We have considered the submission of the Petitioner. The Commission vide order dated 27.4.2020 in Petition No.274/TT/2019 arrived at the effective tax rate for



Order in Petition No.512/TT/2019

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

”

44. The MAT rates as extracted in the preceding paragraph are considered for the purpose of grossing up of rate of RoE for truing up of the tariff of the 2014-19 tariff period in terms of the provisions of the 2014 Tariff Regulations which is as under:

Year	Notified MAT rates (inclusive of surcharge and 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



Year	Notified MAT rates (inclusive of surcharge and cess) (in %)	Base rate of RoE (in %)	Grossed up RoE (Base Rate/1-t) (in %)
2017-18	21.342	15.50	19.705
2018-19	21.549	15.50	19.758

45. 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 as per the above said Regulation. RoE is trued up on the basis of the MAT rate applicable in the respective years. The following tables show asset-wise RoE allowed in the instant petition followed by RoE approved earlier, claimed by the Petitioner in the instant petition and trued up in this order:

(₹ in lakh)

Particulars	Asset-I			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Return on Equity				
Opening Equity	767.88	1009.65	1083.01	1117.65
Additions	241.77	73.35	34.65	0.00
Closing Equity	1009.65	1083.01	1117.65	1117.65
Average Equity	888.77	1046.33	1100.33	1117.65
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT Rate for respective year (%)	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	19.705	19.705	19.705	19.758
Return on Equity	174.66	206.18	216.82	220.82

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	172.01	203.37	230.3	250.04
Claimed by the Petitioner in the instant petition	174.75	206.20	216.84	220.84
Allowed after true-up in this order	174.66	206.18	216.82	220.82

(₹ in lakh)

Particulars	Asset-II		
	2016-17 (pro-rata)	2017-18	2018-19
Return on Equity			
Opening Equity	1102.39	1168.37	1201.66



Additions	65.98	33.28	71.09
Closing Equity	1168.37	1201.66	1272.74
Average Equity	1135.38	1185.02	1237.20
Return on Equity (Base Rate) (%)	15.50	15.50	15.50
MAT Rate for respective year (%)	21.34	21.34	21.55
Rate of Return on Equity (%)	19.705	19.705	19.758
Return on Equity	155.69	233.51	244.44

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	153.74	238.76	255.03
Claimed by the Petitioner in the instant petition	155.70	233.51	244.45
Allowed after true-up in this order	155.69	233.51	244.44

(₹ in lakh)

Particulars	Asset-III	
	2017-18 (pro-rata)	2018-19
Return on Equity		
Opening Equity	158.45	158.88
Additions	0.43	0.00
Closing Equity	158.88	158.88
Average Equity	158.66	158.88
Return on Equity (Base Rate) (%)	15.50	15.50
MAT Rate for respective year (%)	21.342	21.549
Rate of Return on Equity (%)	19.705	19.758
Return on Equity	27.50	31.39

(₹ in lakh)

Particulars	2017-18 (pro-rata)	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	27.17	33.33
Claimed by the Petitioner in the instant petition	27.50	31.39
Allowed after true-up in this order	27.50	31.39

(₹ in lakh)

Particulars	Asset-IV			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Return on Equity				
Opening Equity	56.05	69.07	86.02	86.02
Additions	13.02	16.95	0.00	11.17
Closing Equity	69.07	86.02	86.02	97.19
Average Equity	62.56	77.54	86.02	91.60



Particulars	Asset-IV			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Return on Equity				
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT Rate for respective year (%)	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	19.705	19.705	19.705	19.758
Return on Equity	5.73	15.28	16.95	18.10

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	5.41	17.41	21.89	21.89
Claimed by the Petitioner in the instant petition	6.04	15.96	17.62	18.75
Allowed after true-up in this order	5.73	15.28	16.95	18.10

(₹ in lakh)

Particulars	Asset-V			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Return on Equity				
Opening Equity	67.37	67.37	84.32	84.32
Additions	0.00	16.95	0.00	12.72
Closing Equity	67.37	84.32	84.32	97.04
Average Equity	67.37	75.84	84.32	90.68
Return on Equity (Base Rate) (%)	15.50	15.50	15.50	15.50
MAT Rate for respective year (%)	21.342	21.342	21.342	21.549
Rate of Return on Equity (%)	19.705	19.705	19.705	19.758
Return on Equity	2.72	14.94	16.61	17.92

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	2.47	16.71	21.34	21.34
Claimed by the Petitioner in the instant petition	2.78	15.26	16.92	18.16
Allowed after true-up in this order	2.72	14.94	16.61	17.92

Depreciation

46. The Gross Block during the 2014-19 period 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 assets as prescribed in the 2014 Tariff Regulations. The following tables show asset-wise depreciation allowed in the instant petition followed by depreciation approved earlier, claimed by the Petitioner in the instant petition and trued up in this order respectively:

(₹ in lakh)

Particulars	Asset-I			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	2559.61	3365.51	3610.02	3725.51
Additional Capitalisation	805.90	244.51	115.49	0.00
Closing Gross Block	3365.51	3610.02	3725.51	3725.51
Average Gross Block	2962.56	3487.76	3667.76	3725.51
Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	2666.31	3138.99	3300.99	3352.96
Balance useful life of the asset	35.00	35.00	34.00	33.00
Elapsed life at the beginning of the year	0.00	0.00	1.00	2.00
Depreciation during the year	156.00	184.15	193.66	196.71
Cumulative depreciation	156.00	340.15	533.81	730.51
Remaining Depreciable Value	2510.31	2798.84	2767.18	2622.44

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	154.38	182.52	206.69	224.41
Claimed by the Petitioner in the instant petition	156.01	184.17	193.67	196.72
Allowed after true-up in this order	156.00	184.15	193.66	196.71

(₹ in lakh)

Particulars	Asset-II		
	2016-17 (pro-rata)	2017-18	2018-19
Depreciation			
Opening Gross Block	3674.64	3894.58	4005.52
Additional Capitalisation	219.95	110.94	236.95
Closing Gross Block	3894.58	4005.52	4242.47
Average Gross Block	3784.61	3950.05	4124.00
Rate of Depreciation (%)	5.28	5.28	5.28
Depreciable Value	3406.15	3555.05	3711.60
Balance useful life of the asset	35.00	35.00	34.00
Elapsed life at the beginning of the year	0.00	0.00	1.00



Depreciation during the year	139.06	208.56	217.75
Cumulative depreciation	139.06	347.62	565.37
Remaining Depreciable Value	3267.09	3207.43	3146.23

(₹ in lakh)

Particulars	2016-17	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	137.98	214.29	228.89
Claimed by the Petitioner in the instant petition	139.07	208.57	217.75
Allowed after true-up in this order	139.06	208.56	217.75

(₹ in lakh)

Particulars	Asset-III	
	2017-18 (pro-rata)	2018-19
Depreciation		
Opening Gross Block	528.16	529.60
Additional Capitalisation	1.44	0.00
Closing Gross Block	529.60	529.60
Average Gross Block	528.88	529.60
Rate of Depreciation (%)	5.28	5.28
Depreciable Value	475.99	476.64
Balance useful life of the asset	25.00	25.00
Elapsed life at the beginning of the year	0.00	0.00
Depreciation during the year	24.56	27.96
Cumulative depreciation	24.56	52.52
Remaining Depreciable Value	451.43	424.12

(₹ in lakh)

Particulars	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	24.38	29.92
Claimed by the Petitioner in the instant petition	24.55	27.96
Allowed after true-up in this order	24.56	27.96

(₹ in lakh)

Particulars	Asset-IV			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	186.82	230.22	286.73	286.73
Additional Capitalisation	43.40	56.51	0.00	37.22
Closing Gross Block	230.22	286.73	286.73	323.95
Average Gross Block	208.52	258.48	286.73	305.34
Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	187.67	232.63	258.06	274.81



Balance useful life of the asset	25.00	25.00	24.00	23.00
Elapsed life at the beginning of the year	0.00	0.00	1.00	2.00
Depreciation during the year	5.11	13.65	15.14	16.12
Cumulative depreciation	5.11	18.76	33.90	50.02
Remaining Depreciable Value	182.56	213.87	224.16	224.79

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	4.86	15.63	19.64	19.64
Claimed by the Petitioner in the instant petition	5.39	14.25	15.74	16.70
Allowed after true-up in this order	5.11	13.65	15.14	16.12

(₹ in lakh)

Particulars	Asset-V			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Depreciation				
Opening Gross Block	224.55	224.55	281.05	281.05
Additional Capitalisation	0.00	56.50	0.00	42.41
Closing Gross Block	224.55	281.05	281.05	323.46
Average Gross Block	224.55	252.80	281.05	302.26
Rate of Depreciation (%)	5.28	5.28	5.28	5.28
Depreciable Value	202.10	227.52	252.95	272.03
Balance useful life of the asset	25.00	25.00	24.00	23.00
Elapsed life at the beginning of the year	0.00	0.00	1.00	2.00
Depreciation during the year	2.43	13.35	14.84	15.96
Cumulative depreciation	2.43	15.78	30.62	46.58
Remaining Depreciable Value	199.67	211.74	222.33	225.46

(₹ in lakh)

Particulars	2015-16	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	2.22	15.00	19.16	19.16
Claimed by the Petitioner in the instant petition	2.49	13.62	15.12	16.17
Allowed after true-up in this order	2.43	13.35	14.84	15.96

Operation & Maintenance Expenses (O&M Expenses)

47. The O&M Expenses claimed by the Petitioner for the instant assets are as under:

(₹ in lakh)

O&M Expenses	Asset-I : 400 kV Transmission Line for Swapping of Kahalgaon # 1 bay with Sasaram # 1 bay at Biharsharif Sub-station			
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19



O&M Expenses	Asset-I : 400 kV Transmission Line for Swapping of Kahalgaon # 1 bay with Sasaram # 1 bay at Biharsharif Sub-station			
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Transmission line (length 9.274 km)				
Total O&M expenses (₹ in lakh)	7.26	7.51	7.76	8.02

(₹ in lakh)

O&M Expenses	Asset-II 400 kV Transmission Line for Swapping of Purnea (1&2) Bays with Sasaram bays (3&4) at Biharsharif Sub-station;		
Particulars	2016-17 (pro-rata)	2017-18	2018-19
Transmission line			
D/C Bundled(4 or more sub-conductors) (6.924 km)			
Multi Ckt Bundled with 4 or more sub-conductors) (1.490 km)			
Total O&M expenses (₹ in lakh)	7.52	11.17	11.54

(₹ in lakh)

O&M Expenses	Asset-III	
Particulars	2017-18 (pro-rata)	2018-19
2 No. of 400 kV split bus bays at Biharsharif		
Total O&M expenses (₹ in lakh)	116.98	137.42

(₹ in lakh)

O&M Expenses	Asset-IV			
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
2 No. of 400 kV split bus bays at Durgapur				
Total O&M expenses (₹ in lakh)	57.87	128.74	133.02	137.42

(₹ in lakh)

O&M Expenses	Asset-V			
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
2 No. of 400 kV bus sectionalizer bays at Maithon				
Total O&M expenses (₹ in lakh)	25.53	128.74	133.02	137.42

48. In respect of Asset-I and Asset-II, the Petitioner has claimed higher line length as compared to previous order dated 4.2.2019 in Petition No. 49/TT/2018 for which no justification or reasoning has been provided by the Petitioner. Therefore, for Asset-I



and Asset-II, the O&M Expenses are allowed based on the line length as approved in order dated 4.2.2019 in Petition No. 49/TT/2018. Regulation 29(3) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The following tables show asset-wise O&M Expenses allowed in the instant petition followed by O&M Expenses approved earlier, claimed by the Petitioner in the instant petition and true up in this order:

(₹ in lakh)

O&M Expenses Particulars	Asset-I			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Transmission line				
S/C (Twin/Triple Conductor)(km)	0.88	0.88	0.88	0.88
Norms (₹ lakh/km)	0.418	0.432	0.446	0.461
D/C Twin/Triple Conductor (km)	9.17	9.17	9.17	9.17
Norms (₹ lakh/km)	0.731	0.755	0.78	0.806
Total O&M expenses (₹ in lakh)	7.05	7.30	7.55	7.80

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	7.05	7.30	7.54	7.80
Claimed by the Petitioner in the instant petition	7.25	7.51	7.76	8.02
Allowed after true-up in this order	7.05	7.30	7.55	7.80

(₹ in lakh)

O&M Expenses Particulars	Asset-II		
	2016-17 (pro-rata)	2017-18	2018-19
Transmission line			
D/C Bundled(4 or more sub-conductors) (km)	3.71	3.71	3.71
Norms (₹ lakh/km)	1.133	1.171	1.21
Multi Ckt Bundled with 4 or more sub-conductors) (km)	1.24	1.24	1.24
Norms (₹ lakh/km)	1.989	2.055	2.123
Total O&M expenses (₹ in lakh)	4.64	6.89	7.12

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
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Particulars	2016-17 (pro-rata)	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	4.62	6.89	7.12
Claimed by the Petitioner in the instant petition	7.52	11.17	11.54
Allowed after true-up in this order	4.64	6.89	7.12

(₹ in lakh)

O&M Expenses	Asset-III	
Particulars	2017-18 (pro-rata)	2018-19
400 kV		
No. of bays	2	2
Norms (₹ lakh/Bay)	66.51	68.71
Total O&M expenses (₹ in lakh)	116.98	137.42

(₹ in lakh)

Particulars	2017-18 (pro-rata)	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	116.62	137.42
Claimed by the Petitioner in the instant petition	116.98	137.42
Allowed after true-up in this order	116.98	137.42

(₹ in lakh)

O&M Expenses	Asset-IV			
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
400 kV				
No. of bays	2	2	2	2
Norms (₹ lakh/Bay)	62.30	64.37	66.51	68.71
Total O&M expenses (₹ in lakh)	57.87	128.74	133.02	137.42

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	57.87	128.74	133.02	137.42
Claimed by the Petitioner in the instant petition	57.87	128.74	133.02	137.42
Allowed after true-up in this order	57.87	128.74	133.02	137.42

(₹ in lakh)

O&M Expenses	Asset-V			
Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
400 kV				



O&M Expenses	Asset-V			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
No. of bays	2	2	2	2
Norms (₹ lakh/Bay)	62.30	64.37	66.51	68.71
Total O&M expenses (₹ in lakh)	25.53	128.74	133.02	137.42

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	25.53	128.74	133.02	137.42
Claimed by the Petitioner in the instant petition	25.53	128.74	133.02	137.42
Allowed after true-up in this order	25.53	128.74	133.02	137.42

Interest on Working Capital (IWC)

49. IWC has been worked out as per the methodology provided under Regulation 28 of the 2014 Tariff Regulations. The following tables show asset-wise IWC allowed in the instant petition followed by IWC approved earlier, claimed by the Petitioner in the instant petition and true up in this order respectively:

(₹ in lakh)

Particulars	Asset-I			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Interest on Working Capital				
O&M Expenses	0.59	0.61	0.63	0.65
Maintenance Spares	1.06	1.10	1.13	1.17
Receivables	89.29	101.85	103.03	101.65
Total Working Capital	90.94	103.56	104.79	103.47
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on Working Capital	12.24	13.98	14.15	13.97

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	12.08	13.87	15.29	16.20
Claimed by the Petitioner in the instant petition	12.26	13.99	14.16	13.98
Allowed after true-up in this order	12.24	13.98	14.15	13.97



(₹ in lakh)

Particulars	Asset-II		
	2016-17 (pro-rata)	2017-18	2018-19
Interest on Working Capital			
O&M Expenses	0.56	0.57	0.59
Maintenance Spares	1.00	1.03	1.07
Receivables	112.17	113.58	115.34
Total Working Capital	113.73	115.19	117.01
Rate of Interest (%)	12.80	12.80	12.80
Interest on Working Capital	10.13	14.74	14.98

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	10.06	15.24	15.86
Claimed by the Petitioner in the instant petition	10.28	14.97	15.21
Allowed after true-up in this order	10.13	14.74	14.98

(₹ in lakh)

Particulars	Asset-III	
	2017-18 (pro-rata)	2018-19
Interest on Working Capital		
O&M Expenses	11.09	11.45
Maintenance Spares	19.95	20.61
Receivables	38.42	38.85
Total Working Capital	69.46	70.92
Rate of Interest (%)	12.60	12.60
Interest on Working Capital	7.70	8.94

(₹ in lakh)

Particulars	2017-18 (pro-rata)	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	7.66	9.06
Claimed by the Petitioner in the instant petition	7.70	8.93
Allowed after true-up in this order	7.70	8.94

(₹ in lakh)

Particulars	Asset-IV			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Interest on Working Capital				
O&M Expenses	10.38	10.73	11.09	11.45
Maintenance Spares	18.69	19.31	19.95	20.61
Receivables	28.12	30.20	31.48	32.54



Particulars	Asset-IV			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Interest on Working Capital				
Total Working Capital	57.19	60.24	62.52	64.60
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on Working Capital	3.59	8.13	8.44	8.72

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	3.57	8.28	8.79	8.99
Claimed by the Petitioner in the instant petition	3.61	8.18	8.48	8.76
Allowed after true-up in this order	3.59	8.13	8.44	8.72

(₹ in lakh)

Particulars	Asset-V			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Interest on Working Capital				
O&M Expenses	10.38	10.73	11.09	11.45
Maintenance Spares	18.69	19.31	19.95	20.61
Receivables	28.56	29.96	31.22	32.38
Total Working Capital	57.64	60.00	62.26	64.44
Rate of Interest (%)	13.50	13.50	13.50	13.50
Interest on Working Capital	1.59	8.10	8.41	8.70

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	1.58	8.23	8.74	8.95
Claimed by the Petitioner in the instant petition	1.60	8.12	8.43	8.71
Allowed after true-up in this order	1.59	8.10	8.41	8.70

Approved Annual Fixed Charges for the 2014-19 Tariff Period

50. The trued up annual fixed charges for Asset-I for the 2014-19 tariff period are as under:



(₹ in lakh)

Particulars	Asset-I			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Annual Transmission Charges				
Depreciation	156.00	184.15	193.66	196.71
Interest on Loan	184.30	199.49	186.03	170.62
Return on Equity	174.66	206.18	216.82	220.82
Interest on Working Capital	12.24	13.98	14.15	13.97
O&M Expenses	7.05	7.30	7.55	7.80
Total	534.25	611.12	618.20	609.91

51. For Asset-I, the Annual Transmission Charges allowed earlier vide order dated 4.2.2019 in Petition No. 49/TT/2018, claimed by the Petitioner in the instant petition and as approved after trueing up in the instant order is shown in the table below:

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	526.88	606.29	668.89	709.27
Claimed by the Petitioner in the instant petition	534.59	611.38	618.47	610.19
Allowed after true-up in this order	534.25	611.12	618.20	609.91

52. The trued up annual fixed charges for Asset-II for the 2014-19 tariff period are as under:

(₹ in lakh)

Particulars	Asset-II		
	2016-17 (pro-rata)	2017-18	2018-19
Annual Transmission Charges			
Depreciation	139.06	208.56	217.75
Interest on Loan	158.84	217.79	207.78
Return on Equity	155.69	233.51	244.44
Interest on Working Capital	10.13	14.74	14.98
O&M Expenses	4.64	6.89	7.12
Total	468.36	681.51	692.07



53. For Asset-II, the Annual Transmission Charges allowed earlier vide order dated 4.2.2019 in Petition No. 49/TT/2018, claimed by the Petitioner in the instant petition and as approved after truing up in the instant order is shown in the table below:

Particulars	(₹ in lakh)		
	2016-17 (pro-rata)	2017-18	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	465.02	704.69	733.32
Claimed by the Petitioner in the instant petition	471.41	686.02	696.74
Allowed after true-up in this order	468.36	681.51	692.07

54. The trued up annual fixed charges for Asset-III for the 2014-19 tariff period are as under:

Particulars	(₹ in lakh)	
	Asset-III	
	2017-18 (pro-rata)	2018-19
Annual Transmission Charges		
Depreciation	24.56	27.96
Interest on Loan	25.99	27.41
Return on Equity	27.50	31.39
Interest on Working Capital	7.70	8.94
O&M Expenses	116.98	137.42
Total	202.72	233.12

55. For Asset-III, the Annual Transmission Charges allowed earlier vide order dated 4.2.2019 in Petition No. 49/TT/2018, claimed by the Petitioner in the instant petition and as approved after truing up in the instant order is shown in the table below:

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Approved vide order dated 4.2.2019 in Petition No. 49/TT/2018	201.51	239.06
Claimed by the Petitioner in the instant petition	202.72	233.11
Allowed after true-up in this order	202.72	233.12



56. The trued up annual fixed charges for Asset-IV for the 2014-19 tariff period are as under:

(₹ in lakh)

Particulars	Asset-IV			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Annual Transmission Charges				
Depreciation	5.11	13.65	15.14	16.12
Interest on Loan	6.06	15.42	15.35	14.87
Return on Equity	5.73	15.28	16.95	18.10
Interest on Working Capital	3.59	8.13	8.44	8.72
O&M Expenses	57.87	128.74	133.02	137.42
Total	78.36	181.22	188.90	195.23

57. For Asset-IV, the Annual Transmission Charges allowed earlier vide order dated 29.4.2016 in Petition No. 136/TT/2015, claimed by the Petitioner in the instant petition and as approved after truing up in the instant order is shown in the table below:

(₹ in lakh)

Particulars	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	77.45	187.75	204.26	207.03
Claimed by the Petitioner in the instant petition	79.31	183.23	190.81	197.01
Allowed after true-up in this order	78.36	181.22	188.90	195.23

58. The trued up annual fixed charges for Asset-V for the 2014-19 tariff period are as under:

(₹ in lakh)

Particulars	Asset-V			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Annual Transmission Charges				
Depreciation	2.43	13.35	14.84	15.96
Interest on Loan	2.84	14.63	14.46	14.27
Return on Equity	2.72	14.94	16.61	17.92
Interest on Working Capital	1.59	8.10	8.41	8.70
O&M Expenses	25.53	128.74	133.02	137.42
Total	35.12	179.76	187.34	194.26



59. For Asset-V, the Annual Transmission Charges allowed earlier vide order dated 29.4.2016 in Petition No. 136/TT/2015, claimed by the Petitioner in the instant petition and as approved after trueing up in the instant order is shown in the table below:

Particulars	(₹ in lakh)			
	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Approved vide order dated 29.4.2016 in Petition No. 136/TT/2015	34.39	185.41	202.37	205.28
Claimed by the Petitioner in the instant petition	35.31	180.67	188.21	194.90
Allowed after true-up in this order	35.12	179.76	187.34	194.26

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

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	488.14	492.70	492.70	492.70	492.70
Interest on Loan	409.92	372.07	331.65	291.20	248.50
Return on Equity	520.92	525.79	525.79	525.79	525.79
Interest on Working Capital	30.68	30.64	30.38	30.12	29.77
O&M Expenses	214.28	221.81	229.59	237.66	246.00
Total	1663.94	1643.01	1610.11	1577.47	1542.76

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	17.86	18.48	19.13	19.81	20.50
Maintenance Spares	32.14	33.27	34.44	35.65	36.90
Receivables	204.58	202.56	198.51	194.48	189.68
Total Working Capital	254.58	254.31	252.08	249.94	247.08
Rate of Interest (%)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	30.68	30.64	30.38	30.12	29.77



Effective Date of Commercial Operation (E-COD)

62. The Petitioner has stated that E-COD of the Combined Asset works out to be 10.1.2016. However, based on the trued up capital cost and actual COD of the individual assets, the E-COD has been worked out as 9.1.2016 and is shown below:

Asset	Trued-up Capital Cost as on 31.3.2019 (₹ in lakh)	COD	No. of days from COD of Asset from COD of Project	Weight of cost	Weighted days
Asset-I	3725.51	2.4.2015	774	40.74%	315.31
Asset-II	4242.47	21.7.2016	298	46.39%	138.25
Asset-III	529.60	15.5.2017	0	5.79%	0.00
Asset-IV	323.95	14.10.2015	579	3.54%	20.51
Asset-V	323.46	17.1.2016	484	3.54%	17.12
Total	9145.00			100.00%	491.19
Effective COD (latest COD less total weighted days)- 9.1.2016					

Weighted Average Life (WAL) of the Asset

63. WAL has been determined based on the admitted capital cost of individual elements as on 31.3.2019 and their respective life as provided in the 2019 Tariff Regulations. Accordingly, WAL of all the assets executed during 2014-19 tariff period has been worked out as 34 years as shown below:

(₹ in lakh)				
Particulars	Useful Life (in years) (A)	Capital Cost as on 31.3.2019 (₹ in lakh) (B)	Weighted Cost (₹ in lakh) (C=A x B)	Weighted Avg. Life of Asset (in years) (D=C / B)
Building Civil Works and Colony	25	0.00	0.00	33.71 years (rounded off to 34 years)
Transmission Line	35	7967.98	278879.40	
Sub-station	25	1177.02	29425.42	
PLCC	15	0.00	0.00	
IT Equipment (Incl. Software)	6	0.00	0.00	
Total		9145.00	308304.82	



Capital Cost

64. 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.”



65. As per Form 10A, the Petitioner has claimed capital cost of ₹9158.67 lakh as on 31.3.2019 for the Combined Asset. The Capital cost of ₹9145.00 lakh as on 31.3.2019 for the Combined Asset has been worked out 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)

66. Regulations 24 and 25 of the 2019 Tariff Regulations provide 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.”*

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

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

- (a) *Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;*
- (b) *Change in law or compliance of any existing law;*
- (c) *Deferred works relating to ash pond or ash handling system in the original*



- scope of work;
- (d) Liability for works executed prior to the cut-off date;
- (e) Force Majeure events;
- (f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and
- (g) Raising of ash dyke as a part of ash disposal system.
- (2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:
- (a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;
- (b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;
- (c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”

67. As per the Auditor Certificates dated 23.5.2019 and 31.7.2019, the Petitioner has claimed ₹172.73 lakh for the year 2019-20 (on projection basis) as ACE for the Combined Asset during the 2019-24 tariff period. The Petitioner has claimed the capital cost as on 31.3.2024 as under:

Capital Cost as on 31.3.2019	Projected ACE	Capital Cost as on 31.3.2024
	2019-20	
9158.67	172.73	9331.40

68. The Petitioner has further submitted that out of the total ACE claim of ₹172.73 lakh in 2019-20, ACE of ₹112.73 lakh pertains to Asset-III which is within the cut-off date, i.e., 31.3.2020, and ACE for Assets-IV and V of ₹45.00 lakh and ₹15.00 lakh respectively is beyond the cut-off date, i.e., 31.3.2018 and 31.3.2019 respectively. The Petitioner submitted the details of ACE claimed beyond the cut-off date as under:

Asset Name	Party Name	Package	Balance and retention amount (₹ in lakh)
Asset-IV	BHEL	Sub-station	45.00
Asset-V		Sub-station	15.00



69. We have considered the submissions made by the Petitioner. ACE claimed by the Petitioner comprises of ₹112.73 lakh pertaining to Asset-III which is within the cut-off date and is allowed under Regulation 24(1)(a) of the 2019 Tariff Regulations. It is observed that ₹45.00 lakh pertaining to Asset-IV and ₹15.00 lakh pertaining to Asset-V are projected towards balance and retention payments to BHEL for the works executed within the cut-off date and they are thus allowed under Regulation 25(1)(d) of the 2019 Tariff Regulations. Accordingly, the capital cost as on 31.3.2024 is considered as under:

(₹ in lakh)

Admitted Capital Cost as on 1.4.2019	ACE allowed	Capital Cost as on 31.3.2024
	2019-20	
9145.00	172.73	9317.73

Debt-Equity ratio

70. 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.”

71. The debt-equity ratio considered for the purpose of tariff calculations for the 2019-24 tariff period is as under:

Particulars	Capital Costas on 1.4.2019 (₹ in lakh)	%	ACE 2019-24 (₹ in lakh)	%	Capital Cost as on 31.3.2024(₹ in lakh)	%
Debt	6401.50	70.00	120.91	70.00	6522.41	70.00
Equity	2743.50	30.00	51.82	30.00	2795.32	30.00
Total	9145.00	100.00	172.73	100.00	9317.73	100.00

Return on Equity (RoE)

72. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provide 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.”

73. The Petitioner has submitted that MAT rate is applicable to the Petitioner's Company. Accordingly, the MAT rate applicable in the year 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. RoE allowed for the Combined Asset is as under:



(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	2743.50	2795.32	2795.32	2795.32	2795.32
Additions	51.82	0.00	0.00	0.00	0.00
Closing Equity	2795.32	2795.32	2795.32	2795.32	2795.32
Average Equity	2769.41	2795.32	2795.32	2795.32	2795.32
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	520.14	525.00	525.00	525.00	525.00

Interest on Loan (IoL)

74. 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.”



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

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	6401.50	6522.41	6522.41	6522.41	6522.41
Cumulative Repayments upto Previous Year	1445.00	1932.42	2424.40	2916.37	3408.35
Net Loan-Opening	4956.50	4589.99	4098.01	3606.04	3114.06
Additions	120.91	0.00	0.00	0.00	0.00
Repayment during the year	487.42	491.98	491.98	491.98	491.98
Net Loan-Closing	4589.99	4098.01	3606.04	3114.06	2622.09
Average Loan	4773.24	4344.00	3852.03	3360.05	2868.07
Weighted Average Rate of Interest on Loan (%)	8.5767	8.5545	8.5992	8.6563	8.6546
Interest on Loan	409.39	371.61	331.24	290.86	248.22

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 Gross Block during the 2019-24 tariff period has been depreciated at weighted average of depreciation (WAROD) (as placed in Annexure-II). The WAROD has been worked out after taking into account the depreciation rates of assets as prescribed in the 2019 Tariff Regulations and depreciation allowed is as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation					
Opening Gross Block	9145.00	9317.73	9317.73	9317.73	9317.73
Additional Capitalisation	172.73	0.00	0.00	0.00	0.00
Closing Gross Block	9317.73	9317.73	9317.73	9317.73	9317.73
Average Gross Block	9231.36	9317.73	9317.73	9317.73	9317.73
Rate of Depreciation (%)	5.28	5.28	5.28	5.28	5.28
Balance useful life of the asset	31	30	29	28	27
Elapsed life at the beginning of the year	3	4	5	6	7
Depreciable Value	8308.23	8385.96	8385.96	8385.96	8385.96
Depreciation during the year	487.42	491.98	491.98	491.98	491.98
Cumulative Depreciation upto PY	1445.00	1932.42	2424.40	2916.37	3408.35
Total Cumulative Depreciation	1932.42	2424.40	2916.37	3408.35	3900.32
Remaining Depreciable Value	6375.81	5961.56	5469.58	4977.61	4485.63

Operation and Maintenance Expenses (O&M Expenses)

78. The O&M Expenses claimed by the Petitioner for the Combined Asset are as under:

O&M Expenses					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
No. of bays	6	6	6	6	6
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
Transmission Line					
S/C (Twin/Triple Conductor) (km)	1.186	1.186	1.186	1.186	1.186
Norms (₹ lakh/km)	0.503	0.521	0.539	0.558	0.578
D/C Bundled(4 or more sub-conductors) (km)	6.924	6.924	6.924	6.924	6.924
Norms (₹ lakh/km)	1.322	1.368	1.416	1.466	1.517



D/C Twin/Triple Conductor (km)	9.274	9.274	9.274	9.274	9.274
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
Multi Ckt Bundled with 4 or more sub-conductors (km)	1.490	1.490	1.490	1.490	1.490
Norms (₹ lakh/km)	2.319	2.401	2.485	2.572	2.662
Total O&M expense (₹ in lakh)	214.28	221.81	229.59	237.66	246.00

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

“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-conductor)	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



<i>Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)</i>	1,666	1,725	1,785	1,848	1,913
<i>500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)</i>	2,252	2,331	2,413	2,498	2,586
<i>±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)</i>	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.”

80. In the instant petition for true-up of the 2014-19 period, for Asset-I and Asset-II, the Petitioner has claimed higher line length as compared to previous order dated 4.2.2019 in Petition No. 49/TT/2018 for which no justification or reasoning has been provided by the Petitioner. Therefore, for Asset-I and Asset-II, the O&M Expenses are allowed based on the line length as approved in order dated 4.2.2019 in Petition No. 49/TT/2018. The O&M Expenses allowed as per the norms specified in the 2019 Tariff Regulations are as under:

O&M Expenses Particulars	Combined Asset				
	2019-20	2020-21	2021-22	2022-23	2023-24
2 No of 400 kV Split Bus Bays at Biharsharif, 2 No of 400 kV Split Bus Bays at Durgapur and 2 No of 400 kV Bus sectionalizer bay at Maithon. (Total 6 No. of 400 kV Bays)					
Norms (₹ lakh/Bay)	32.15	33.28	34.45	35.66	36.91
Transmission Line					
400 kV S/C (Twin/Triple Conductor) Swaping on Kahalgaon-Sasaram T/L at Biharsharif (km)	0.88	0.88	0.88	0.88	0.88
Norms (₹ lakh/km)	0.503	0.521	0.539	0.558	0.578
400 kV D/C Bundled(4 or more sub-conductor Swaping on Kahalgaon-Sasaram T/L at Biharsharif (km)	3.71	3.71	3.71	3.71	3.71
Norms (₹ lakh/km)	1.322	1.368	1.416	1.466	1.517



400 kV D/C Twin/Triple Conductor swapping on Kahalgaon-Sasaram T/L at Biharsharif (km)	9.17	9.17	9.17	9.17	9.17
Norms (₹ lakh/km)	0.881	0.912	0.944	0.977	1.011
400 kV Multi Ckt Bundled with 4 or more sub-conductors KahalgaonSasaram T/L at Biharsharif (km)	1.24	1.24	1.24	1.24	1.24
Norms (₹ lakh/km)	2.319	2.401	2.485	2.572	2.662
Total O&M expense (₹ in lakh)	209.20	216.55	224.17	232.04	240.17

Interest on Working Capital (IWC)

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

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

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

- (i) *Receivables equivalent to 45 days of annual fixed cost;*
- (ii) *Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and*
- (iii) *Operation and maintenance expenses, including security expenses for one month.*

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

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

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

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

- (7) **‘Bank Rate’** *means the one year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points;”*



82. The Petitioner has submitted that it has computed IWC for the 2019-24 tariff 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%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The Rate of Interest (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	17.43	18.05	18.68	19.34	20.01
Maintenance Spares	31.38	32.48	33.62	34.81	36.03
Receivables	203.68	201.39	197.32	193.28	188.47
Total Working Capital	252.49	251.92	249.62	247.42	244.51
Rate of Interest (%)	12.05	11.25	11.25	11.25	11.25
Interest on Working Capital	30.43	28.34	28.08	27.83	27.51

Annual Fixed Charges allowed for the 2019-24 Tariff Period

83. The transmission charges allowed for the Combined Asset for the 2019-24 period are as under:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	487.42	491.98	491.98	491.98	491.98
Interest on Loan	409.39	371.61	331.24	290.86	248.22
Return on Equity	520.14	525.00	525.00	525.00	525.00
Interest on Working Capital	30.43	28.34	28.08	27.83	27.51
O&M Expenses	209.20	216.55	224.17	232.04	240.17
Total	1656.56	1633.48	1600.47	1567.71	1532.88



Filing Fee and the Publication Expenses

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

Licence Fee and RLDC Fees and Charges

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

Goods and Services Tax

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

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



Security Expenses

88. The Petitioner has submitted that security expenses for the instant assets 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.

89. We have considered the submissions of the Petitioner. We are of the view that the Petitioner should claim security expenses for all the transmission assets 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.



Capital Spares

90. 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

91. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as amended from time to time as provided in Regulation 43 of 2014 Tariff Regulations for the 2014-19 period and Regulation 57 of the 2019 Tariff Regulations for the 2019-24 period.

92. To summarise, the trued-up Annual Fixed Charges allowed for the instant assets for the 2014-19 period are as under:

(₹ in lakh)

Annual Fixed Charges				
Asset	2015-16	2016-17	2017-18	2018-19
Asset-I	534.25	611.12	618.20	609.91
Asset-II		468.36	681.51	692.07
Asset-III			202.72	233.12
Asset-IV	78.36	181.22	188.90	195.23
Asset-V	35.12	179.76	187.34	194.26

The Annual Fixed Charges allowed for the Combined 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	1656.56	1633.48	1600.47	1567.71	1532.88



93. This order disposes of Petition No. 512/TT/2019

**Sd/
(Arun Goyal)
Member**

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

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



ANNEXURE-I

Asset	2014-19	Admitted Capital Cost as on 1.4.2014 / COD (₹ in lakh)	ACE (₹ in lakh)				Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depn.	Depreciation as per Regulations (₹ in lakh)			
	Capital Cost		2015-16	2016-17	2017-18	2018-19			2015-16	2016-17	2017-18	2018-19
Asset-I	Transmission Line	2559.61	805.90	244.51	115.49	0.00	3725.51	5.28%	156.42	184.15	193.66	196.71
	Total	2559.61	805.90	244.51	115.49	0.00	3725.51	Average Gross Block (₹ in lakh)	2962.56	3487.76	3667.76	3725.51
								Weighted Average Rate of Depreciation	5.28%	5.28%	5.28%	5.28%
Asset-II	Transmission Line	3667.11		214.05	110.94	236.95	4229.05	5.28%		199.83	208.56	217.75
	Total	3667.11		214.05	110.94	236.95	4229.05	Average Gross Block (₹ in lakh)		3784.61	3950.05	4124.00
								Weighted Average Rate of Depreciation		5.28%	5.28%	5.28%
Asset-III	Sub-station	524.13			1.44	0.00	525.57	5.28%			27.92	27.96
	Total	524.13			1.44	0.00	525.57	Average Gross Block (₹ in lakh)			528.88	529.60
								Weighted Average Rate of Depreciation			5.28%	5.28%
Asset-IV	Sub-station	194.86	43.40	56.51	0.00	37.22	331.99	5.28%	11.01	13.65	15.14	16.12
	Total	194.86	43.40	56.51	0.00	37.22	331.99	Average Gross Block (₹ in lakh)	208.52	258.48	286.73	305.34
								Weighted Average Rate of Depreciation	5.28%	5.28%	5.28%	5.28%
Asset-V	Sub-station	233.93	0.00	56.50	0.00	42.41	332.84	5.28%	11.86	13.35	14.84	15.96
	Total	233.93	0.00	56.50	0.00	42.41	332.84	Average Gross Block (₹ in lakh)	224.55	252.80	281.05	302.26
								Weighted Average Rate of Depreciation	5.28%	5.28%	5.28%	5.28%



Annexure-II

2019-24	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE (₹ in lakh)	Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation	Depreciation as per Regulations (₹ in lakh)				
Capital Cost		2019-20			2019-20	2020-21	2021-22	2022-23	2023-24
Transmission Line	7967.98	0.00	7967.98	5.28%	420.71	420.71	420.71	420.71	420.71
Sub-station	1177.02	172.73	1349.75	5.28%	66.71	71.27	71.27	71.27	71.27
Total	9145.00	172.73	9317.73	Total	487.42	491.98	491.98	491.98	491.98
Average Gross Block (₹ in lakh)					9231.36	9317.73	9317.73	9317.73	9317.73
Weighted Average Rate of Depreciation					5.28%	5.28%	5.28%	5.28%	5.28%

