

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 390/TT/2019

Coram:

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

Date of Order: 15.07.2022

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and revision of transmission tariff of 2004-09 and 2009-14 tariff periods and truing up of transmission tariff of 2014-19 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and determination of transmission tariff of 2019-24 period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of "Bihar Grid Strengthening Scheme" in the Eastern Region.

And in the matter of:

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

.....Petitioner

Versus

1. Bihar State Power (Holding) Company Limited,
(Formerly Bihar State Electricity Board - BSEB),
Vidyut Bhavan, Bailey Road, Patna – 800001.
2. West Bengal State Electricity Distribution Company Limited,
Bidyut Bhawan, Bidhan Nagar,
Block DJ, Sector-II, Salt Lake City,
Calcutta – 700091.
3. Grid Corporation of Orissa Limited,
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 D.K. Biswal, PGCIL
Shri V.P. Rastogi, PGCIL
Ms. Anshul Garg, PGCIL

For Respondent: Ms. Rohini Prasad, Advocate, BSPHCL

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited, a deemed transmission licensee, for revision of transmission tariff of 2004-09 and 2009-14 tariff periods, trueing of capital expenditure for 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) and for determination of tariff under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as “the 2019 Tariff Regulations”) for 2019-24 tariff period in respect of “Bihar Grid Strengthening Scheme” in the Eastern Region (hereinafter referred to as the “transmission project”) consisting of the following assets:

Asset-I: Extension of Biharshariff Sub-station with 400/220 kV, 1 Number 315 MVA transformer with associated bays) and

Asset-II: (a) Construction of Sasaram - Arrah - Khagaul 220 kV D/C line,

(b) LILO of Dehri - Sahupuri 220 kV S/C Line at Sasaram

(c) LILO of Dumraon- Arrah 132 kV S/C line at Arrah (New Sub-station)

(d) New Sub-station at Arrah with 2x100 MVA ICTs, 4 Numbers 220 kV line bays and 4 Numbers 132 kV line bays



- (e) Extension of Sasaram Sub-station with 2x315 MVA ICT and 4 Numbers 220 kV line bays
- (f) Extension of Khagaul Sub-station (BSEB) by 2 Numbers 220 kV line bays (BSEB).

Asset-I and Asset-II have been collectively referred to as "the transmission assets" in 2004-09 tariff period. The transmission assets have been combined during 2009-14 period and have been collectively referred to as the "Combined Asset" in 2009-14, 2014-19 and 2019-24 tariff periods.

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

"1) Approve the revised Transmission Tariff for 2004-09 block and transmission tariff for 2009-14 block for the assets covered under this petition, as per para 8 above.

2) 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 9 and 10 above.

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 9 and 10 above for respective block..

Further it is submitted that deferred tax liability before 01.04.2009 shall be recoverable from the beneficiaries or long term transmission customers /DIC as the case may be, as and when materialized as per regulation 49 of 2014 and regulation 67 of 2019 tariff regulation. The petitioner may be allowed to recover the deferred tax liability materialized directly without making any application before the commission as provided in the regulation

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 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 10.5 above.



8) Allow the petitioner to claim the capital spares at the end of tariff block as per actual.

9) Allow the Petitioner to bill and recover GST on Transmission Charges separately from the respondents, if GST on transmission is levied at any rate in future. Further, any taxes including GST and duties including cess etc. imposed by any statutory/Govt./municipal authorities shall be allowed to be recovered from the beneficiaries.

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

Background

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

- a) Investment Approval (IA) in respect of the transmission project was accorded by the Board of Directors of the Petitioner Company *vide* letter dated 22.8.2001 at an estimated cost of ₹16288 lakh, including IDC of ₹1627 lakh.
- b) Asset-I was put into commercial operation on 1.11.2004 and Asset-II on 1.4.2004.
- c) The Commission approved the transmission charges in respect of the transmission assets for 2004-09 tariff period *vide* order dated 23.5.2008 in Petition No. 31/2007, *vide* order dated 9.5.2006 in Petition No. 73/2005, *vide* order dated 23.5.2008 in Petition No. 31/2007 and tariff was revised on account of Addition Capital Expenditure (ACE) incurred during 2006-07 and 2007-08 periods *vide* order dated 7.8.2009 in Petition No. 78/2009 and *vide* order dated 7.8.2009 in Petition No. 78/2009.
- d) The Commission *vide* order dated 23.5.2011 in Petition No. 124/2010 approved the tariff in respect of the Combined Asset (comprising of Asset-I and Asset-II) for 2009-14 tariff period and subsequently *vide* order dated 7.12.2015 in Petition No. 199/TT/2014 trued up the tariff allowed for 2009-14 tariff period. The transmission tariff for 2014-19 period in respect of the



Combined Asset was allowed *vide* order dated 7.12.2015 in Petition No. 199/TT/2014.

- e) The Petitioner has sought revision of transmission tariff allowed for 2004-09 tariff period on account of change in Interest on Loan (IoL) and Interest on Working Capital (IWC) to the extent of revision in IoL and in Maintenance Spares in terms of the judgments of the Appellate Tribunal for Electricity (APTEL) dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters and dated 13.6.2007 in Appeal No.139 of 2006 and batch cases respectively. The Petitioner has sought consequential revision of transmission tariff allowed for 2009-14 tariff period besides truing up of tariff of 2014-19 tariff period and determination of transmission tariff of 2019-24 tariff period of the transmission assets.
- f) The APTEL in judgment dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters pertaining to generating stations of NTPC had considered 4 (four) issues. The issues considered by the APTEL and its decisions are as given in the table as follows:

Sl. No.	Issue	APTEL's decision/direction
1	Whether APTEL can enquire into the validity of Regulations framed by the Commission?	Challenge to the validity of Regulations framed by the Commission falls outside the purview of APTEL.
2	Computation of IoL	In view of the order of APTEL dated 14.11.2016 in Appeal Nos. 94 and 96 of 2005 and order dated 24.1.2007 passed in Appeal Nos. 81 to 87, 89 to 93 of 2005, computation of loan has to be based on loan repayment on normative basis. The Commission is required to recalculate the loan outstanding as on 31.3.2004 based on loan repayment on normative basis.
3(a)	O&M Expenses: Inadequate provision of employee costs as	The Commission's view upheld



Sl. No.	Issue	APTEL's decision/direction
	part of O&M Expenses due to variation in salary and wages.	
3(b)	O&M Expenses: Non-inclusion of incentives and ex-gratia payment to employees.	The Commission's view upheld
4	Cost of spares for calculation of working capital	The Commission's view upheld

g) The APTEL in judgment dated 13.6.2007 in Appeal No. 139 of 2006 and batch matters pertaining to generating stations of NTPC had considered 9 (nine) issues. The issues considered and the decisions of APTEL are given in the table as follows:

Sl. No.	Issue	APTEL's decision/direction
I	Computation of outstanding loan at the beginning of the tariff period i.e. 1.4.2004.	The Commission is required to recalculate the loan outstanding as on 31.3.2004 based on loan repayment on normative basis.
II	Consequence of refinance of loan	The Commission to consider the issue afresh.
III	Treating depreciation available as deemed repayment of loan.	The Commission to make a fresh computation of outstanding loan.
IV	Admissibility of depreciation up to 90%	The Commission to consider the issue afresh.
V	Cost of Maintenance Spares	The Commission to consider the issue afresh.
VI	Impact of de-capitalisation of the assets on cumulative repayment of loan	The cumulative repayment of the loan proportionate to the assets de-capitalized required to be reduced. The Commission to act accordingly.
VII	Non-consideration of normative transit loss for coal import	The Commission to consider afresh the transit losses for coal imported from coal mines other than the dedicated ones.
VIII	Foreign Exchange Rate Variation (FERV)	FERV has been kept as pass through to ensure that any liability or gain, if any, arising on account of any variation in foreign exchange rates is passed on to the beneficiary as held in order dated 4.10.2006 in Appeals Nos.135 to 140 of 2005. The Commission to act accordingly.
IX	Computation of IoL in Singrauli Station	Net loan closing at the end of a year is reflected as net loan opening on the first day of the next year. The Commission shall re-compute the interest accordingly.

h) The Commission and certain interested parties preferred Civil Appeals against the APTEL's judgments before the Hon'ble Supreme Court in 2007.



These Appeals were admitted and initially stay was granted by the Hon'ble Supreme Court. Subsequently, on an assurance by NTPC that the issues under Appeal would not be pressed for implementation during the pendency of the Appeals, the stay was vacated by the Hon'ble Supreme Court.

- i) Based on the APTEL's judgments dated 22.1.2007 in Appeal No. 81/2005 and batch matters and dated 13.6.2007 in Appeal No. 139/2006 and batch cases, the Petitioner sought revision of tariff of its transmission assets for 2001-04 and 2004-09 tariff periods in Petition No. 121/2007. The Commission after taking into consideration the pendency of Appeals before the Hon'ble Supreme Court adjourned the said petition *sine die* and directed that the same be revived after disposal of the Civil Appeals by the Hon'ble Supreme Court.
- j) The Hon'ble Supreme Court *vide* order dated 10.4.2018, dismissed the said Civil Appeals filed against APTEL's said judgments. Thus, the judgments of APTEL have attained finality.
- k) Consequent to the Hon'ble Supreme Court's order dated 10.4.2018 in NTPC matters, Petition No. 121/2007 was listed for hearing on 8.1.2019 before the Commission. The Commission *vide* order dated 18.1.2019 in Petition No. 121/2007, directed the Petitioner to submit its claim separately for the assets at the time of filing of truing up of the petitions for 2014-19 tariff period in respect of concerned transmission assets.
- l) The instant petition was heard on 11.2.2022 and in view of APTEL's judgments dated 22.1.2007 in Appeal No. 81/2005 and batch matters and dated 13.6.2007 in Appeal No. 139/2006 and batch cases and the order of



Hon'ble Supreme Court dated 10.4.2018, tariff is being revised. Period-wise transmission tariff is being re-worked based on the Tariff Regulations applicable for the respective tariff periods and suitable assumptions have been made at certain places and applied, which are indicated.

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

5. The Petitioner has served the petition on Respondents and notice regarding filing of this petition has been published in the newspapers in accordance with Section 64 of the Electricity Act, 2003. No comments or suggestions have been received from the general public in response to the aforesaid notice published in the newspapers by the Petitioner. Reply to the petition has been filed by Bihar State Power Holding Company Limited (BSPHCL), Respondent No. 1, *vide* affidavit dated 2.3.2021. BSPHCL has raised issues of effective tax rates considered for grossing up of rate of Return on Equity (RoE), weighted average rate of interest on loans considered for the 2019-24 tariff period, recovery of statutory charges and recovery of filing fees. BSPHCL *vide* affidavit dated 23.2.2022 made further submissions in response to the additional submissions made by the Petitioner *vide* affidavits dated 9.6.2021 and 16.9.2021 and has sought clarifications from the Petitioner regarding the reasons for change in the date of de-capitalisation and consequent changes in Form-10B. The Petitioner, *vide* affidavit dated 9.3.2022, has submitted its rejoinder to the reply of BSPHCL. The issues raised by BSPHCL and clarifications given by the Petitioner have been considered in the relevant portions of this order.



Interest on Loan

6. The APTEL while dealing with the issue of computation of IoL, in judgment dated 22.1.2007, observed that IoL for the period from 1.4.1998 to 31.3.2001 shall be computed only on normative loan repayment as per judgment dated 14.11.2006 in Appeal No. 94 and Appeal No. 96 of 2005. The APTEL *vide* judgment dated 14.11.2006 set aside the Commission's methodology of computation of loan on the actual repayment basis or normative repayment whichever is higher and held that the Commission is required to adopt normative debt repayment methodology for working out IoL liability for the period from 1.4.1998 to 31.3.2001. In view of the above, the interest allowed for 2004-09 tariff period is revised on the basis of the normative debt repayment methodology.

Additional Capital Expenditure (“ACE”)

7. The APTEL *vide* judgment dated 13.6.2007 in Appeal No. 139 of 2006 and batch matters held that ACE after COD should also be considered for computation of maintenance spares. In view of the above, the maintenance spares to be considered for computation of working capital for 2004-09 period are also required to be revised taking into consideration ACE after COD.

Depreciation

8. As regards depreciation, the APTEL *vide* judgement dated 13.6.2007 in Appeal No. 139 of 2006 observed that depreciation is an expense and it cannot be deployed for deemed repayment of loan and accordingly directed the Commission to compute the outstanding loan afresh. In view of the above directions of APTEL, the outstanding loan allowed for the transmission assets for 2004-09 period is revised in the instant order.



9. The revision of transmission tariff allowed for 2004-09 tariff period necessitates the revision of transmission tariff allowed for 2009-14 tariff period which is also being done in the present order. The implementation of the directions of APTEL *vide* judgments dated 22.1.2007 in Appeal No. 81 of 2005 and batch matters and dated 13.6.2007 in Appeal No. 139 of 2006 and batch matter in case of the Petitioner was kept pending awaiting the outcome of the Civil Appeals filed before the Hon'ble Supreme Court. Taking into consideration the facts of the case and keeping in view the interest of the consumers, we are of the view that the beneficiaries should not be burdened with the carrying cost for the difference in the tariff allowed earlier and allowed in the instant order for 2004-09 and 2009-14 tariff periods. Therefore, we direct that the Petitioner will neither claim nor pay any carrying cost from or to the beneficiaries for the difference, if any, in the tariff allowed earlier and the tariff being allowed in the instant order. Further, the said difference in tariff shall be recovered/ paid over a period of six months from the date of issue of this order.

10. The hearing in this matter was held on 11.2.2022 and the Commission reserved order in the matter.

11. This order is issued considering the submissions made by the Petitioner in the petition *vide* affidavits dated 24.9.2019, 31.7.2020, 9.6.2021 and 16.9.2021, reply submitted by BSPHCL *vide* affidavits dated 2.3.2021 and 22.2.2022 and the Petitioner's rejoinder affidavit dated 9.3.2022 to the reply of BSPHCL.

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



REVISION OF TRANSMISSION CHARGES ALLOWED FOR 2004-09 AND 2009-14 TARIFF PERIODS

13. The Commission approved the transmission charges for 2004-09 tariff period *vide* orders dated 23.5.2008 in Petition No. 31/2007 and dated 7.8.2009 in Petition No. 78/2009 for Asset-I and *vide* orders dated 9.5.2006 in Petition No. 73/2005, dated 23.5.2008 in Petition No. 31/2007 and dated 7.8.2009 in Petition No. 78/2009 for Asset-II. The transmission charges allowed in respect of the transmission assets are as follows:

(₹ in lakh)

Particulars	2004-05 (pro-rata 5 months)	2005-06	2006-07	2007-08	2008-09
Asset-I					
Depreciation	127.22	327.33	340.72	342.81	343.05
Interest on Loan	281.22	689.75	677.26	632.72	576.95
Return on Equity	111.66	290.71	302.45	304.48	304.88
Advance against Depreciation	-	-	87.68	305.59	347.23
O&M Expenses	289.39	722.40	751.48	781.11	812.73
Interest on Working Capital	20.81	51.95	55.08	59.60	60.89
Total	830.30	2082.13	2214.67	2426.31	2445.73

(₹ in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Asset-II					
Depreciation	33.62	34.36	35.32	35.56	35.56
Interest on Loan	64.57	62.72	60.27	55.46	49.94
Return on Equity	25.66	26.53	27.65	27.93	27.93
Advance against Depreciation	-	-	18.31	27.18	27.18
O&M Expenses	56.24	58.50	60.84	63.26	65.80
Interest on Working Capital	4.59	4.70	5.14	5.35	5.39
Total	184.68	186.81	207.53	214.74	211.80

14. The Petitioner has claimed the following revised Annual Fixed Charges (AFC) for 2004-09 tariff period in respect of the transmission assets and the same are as follows:



(₹ in lakh)

Particulars	2004-05 (pro-rata 5 months)	2005-06	2006-07	2007-08	2008-09
Asset-I					
Depreciation	127.22	327.33	340.72	342.81	343.05
Interest on Loan	282.87	699.12	687.87	642.59	585.94
Return on Equity	111.66	290.71	302.45	304.48	304.88
Advance against Depreciation	-	-	-	300.50	357.98
O&M Expenses	289.39	722.40	751.48	781.11	812.73
Interest on Working Capital	20.97	53.50	55.64	61.75	63.43
Total	832.11	2093.07	2138.16	2433.24	2468.01

(₹ in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Asset-II					
Depreciation	33.62	34.36	35.32	35.56	35.56
Interest on Loan	65.75	65.48	63.32	58.25	52.45
Return on Equity	25.66	26.53	27.65	27.93	27.93
Advance against Depreciation	-	-	-	15.18	30.33
O&M Expenses	56.24	58.50	60.84	63.26	65.80
Interest on Working Capital	4.61	4.78	4.93	5.25	5.55
Total	185.88	189.65	192.06	205.42	217.62

15. We have considered the Petitioner's claim. The tariff is allowed in respect of the transmission assets on the basis of following:

- a) The admitted capital cost and Additional Capital Expenditure (ACE) approved by the Commission for 2004-09 period are as follows:

(₹ in lakh)

Particulars	Admitted Capital Cost as on COD	ACE					Admitted Capital Cost as on 31.3.2009
		2004-05	2005-06	2006-07	2007-08	2008-09	
Asset-I	9721.01	600.50	707.45	77.50	19.24	-	11125.70
Asset-II	933.08	1.53	39.97	13.15	-	-	987.73



- b) Weighted Average Rate of Interest on actual loan derived/ adopted from orders dated 9.5.2006 in Petition No. 73/2005, dated 23.5.2008 in Petition No. 31/2007 and dated 7.8.2009 in Petition No. 78/2009.
- c) Weighted Average Rate of Depreciation (WAROD), Rate of Interest for Working Capital and O&M Expenses as per orders dated 9.5.2006 in Petition No. 73/2005, dated 23.5.2008 in Petition No. 31/2007 and dated 7.8.2009 in Petition No. 78/2009.
- d) Maintenance Spares component of Interest on Working Capital is adjusted with respect to ACE incurred during 2004-09 period.

16. In view of above, revised AFC allowed in respect of the transmission assets for 2004-09 tariff period is as follows:

(₹ in lakh)

Particulars	2004-05 (pro-rata 5 months)	2005-06	2006-07	2007-08	2008-09
Asset-I					
Depreciation	127.22	327.33	340.72	342.81	343.05
Interest on Loan	283.03	699.53	687.87	642.59	585.94
Return on Equity	111.66	290.71	302.45	304.48	304.88
Advance against Depreciation	-	-	-	300.52	357.99
O&M Expenses	289.39	722.40	751.48	781.11	812.73
Interest on Working Capital	20.97	53.16	55.27	61.35	63.01
Total	832.27	2093.13	2137.78	2432.85	2467.60

(₹ in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Asset-II					
Depreciation	33.62	34.36	35.32	35.56	35.56
Interest on Loan	65.75	65.49	63.32	58.24	52.45
Return on Equity	25.66	26.53	27.65	27.93	27.93
Advance against Depreciation	-	-	-	15.18	30.33
O&M Expenses	56.24	58.50	60.84	63.26	65.80



Interest on Working Capital	4.61	4.78	4.93	5.25	5.55
Total	185.88	189.66	192.06	205.42	217.62

17. AFC allowed *vide* orders dated 23.5.2008 in Petition No. 31 of 2007, dated 7.8.2009 in Petition No. 78 of 2009 for Asset-I, dated 9.5.2006 in Petition No. 73 of 2005, dated 23.5.2008 in Petition No. 31 of 2007 and dated 7.8.2009 in Petition No. 78 of 2009 in respect of Asset-II for 2004-09 period, revised AFC claimed in the instant petition and AFC allowed in the instant order are as follows:

Particulars	(₹ in lakh)				
	2004-05	2005-06	2006-07	2007-08	2008-09
Asset-I					
AFC approved <i>vide</i> orders dated 23.5.2008 in Petition No. 31/2007 and dated 7.8.2009 in Petition No. 78/2009	830.30	2082.13	2214.67	2426.31	2445.73
AFC claimed by the Petitioner in the instant petition	832.11	2093.07	2138.16	2433.24	2468.01
AFC allowed in the instant order	832.27	2093.13	2137.78	2432.85	2467.60
Asset-II					
AFC approved <i>vide</i> orders dated 9.5.2006 in Petition No. 73/2005, dated 23.5.2008 in Petition No. 31/2007 and dated 7.8.2009 in Petition No. 78/2009	184.68	186.81	207.53	214.74	211.80
AFC claimed by the Petitioner in the instant petition	185.88	189.65	192.06	205.42	217.62
AFC allowed in the instant order	185.88	189.66	192.06	205.42	217.62

2009-14 Tariff Period

18. The Commission *vide* order dated 23.5.2011 in Petition No. 124/2010 approved the tariff in respect of the Combined Asset (comprising of Asset-I and Asset-II) for 2009-14 tariff period and subsequently *vide* order dated 7.12.2015 in Petition No. 199/TT/2014 trued up the tariff allowed for 2009-14 tariff period and the same is as follows:



(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	627.45	627.45	627.45	627.45	627.45
Interest on Loan	569.97	518.29	468.08	414.40	360.25
Return on Equity	443.92	460.18	460.63	460.63	466.17
O&M Expenses	909.57	961.57	1016.71	1074.78	1136.23
Interest on Working Capital	79.71	81.57	83.29	85.08	87.14
Total	2630.62	2649.06	2656.17	2662.35	2677.24

19. The Petitioner has claimed the following revised transmission charges in respect of the Combined Asset for 2009-14 tariff period in the instant petition:

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	627.45	627.45	627.45	627.45	627.45
Interest on Loan	580.79	529.11	478.94	425.21	370.97
Return on Equity	443.92	460.18	460.63	460.63	466.17
O&M Expenses	909.57	961.57	1016.71	1074.78	1136.23
Interest on Working Capital	79.93	81.80	83.52	85.30	87.36
Total	2641.67	2660.10	2667.24	2673.37	2688.18

20. We have considered the Petitioner's claim. The tariff is allowed in respect of the Combined Asset on the basis of the following:

- a) The admitted capital cost of ₹12113.43 lakh as on 1.4.2009 approved *vide* order dated 7.12.2015 in Petition No. 199/TT/2014.
- b) Weighted Average Rate of Interest on actual loan derived/ adopted from order dated 7.12.2015 in Petition No. 199/TT/2014.
- c) WAROD as per order dated 7.12.2015 in Petition No. 199/TT/2014.

21. In view of above, the revised transmission charges allowed in respect of the Combined Asset for 2009-14 tariff period are as follows:

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Depreciation	627.45	627.45	627.45	627.45	627.45
Interest on Loan	580.79	529.11	478.93	425.20	370.97



Return on Equity	443.92	460.18	460.63	460.63	466.17
O&M Expenses	909.57	961.57	1016.71	1074.78	1136.23
Interest on Working Capital	79.93	81.80	83.52	85.30	87.36
Total	2641.66	2660.11	2667.24	2673.37	2688.19

22. AFC allowed vide order dated 7.12.2015 in Petition No. 199/TT/2014 for 2009-14 tariff period, revised AFC claimed in the instant petition and AFC allowed in respect of the Combined Asset in the instant order are as follows:

(₹ in lakh)					
Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
AFC approved vide order dated 7.12.2015 in Petition No. 199/TT/2014	2630.62	2649.06	2656.17	2662.35	2677.24
AFC claimed by the Petitioner in the instant petition	2641.67	2660.10	2667.24	2673.37	2688.18
AFC allowed in the instant order	2641.66	2660.11	2667.24	2673.37	2688.19

TRUING UP OF ANNUAL FIXED CHARGES FOR 2014-19 TARIFF PERIOD

23. The details of the transmission charges claimed by the Petitioner in respect of the Combined Asset for 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	627.45	627.45	609.38	190.11	190.11
Interest on Loan	316.30	260.30	196.79	151.52	135.04
Return on Equity	466.53	468.66	455.20	441.97	443.15
O&M Expenses	1045.61	1080.27	1116.24	1153.11	1191.63
Interest on Working Capital	90.22	90.90	90.70	81.74	83.51
Total	2546.11	2527.58	2468.31	2018.45	2043.44

24. The details of the Interest on Working Capital (IWC) claimed by the Petitioner in respect of the Combined Asset for 2014-19 tariff period are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	87.13	90.02	93.02	96.09	99.30
Maintenance Spares	156.84	162.04	167.44	172.97	178.74



Receivables	424.35	421.26	411.39	336.41	340.58
Total Working Capital	668.32	673.32	671.85	605.47	618.62
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50
Interest on Working Capital	90.22	90.90	90.70	81.74	83.51

Capital Cost

25. Capital cost of ₹12113.43 lakh as on 31.3.2014 admitted by the Commission *vide* order dated 7.12.2015 in Petition No. 199/TT/2014 has been considered as opening capital cost as on 1.4.2014 by the Petitioner for determination of tariff. The same capital cost has been considered to work out trued up tariff for 2014-19 tariff period, in accordance with Regulation 9(3) of the 2014 Tariff Regulations.

Additional Capital Expenditure (ACE) / De-capitalisation

26. The Petitioner has not claimed any ACE in 2014-19 tariff Period. Therefore, no ACE was allowed for 2014-19 period.

27. The Petitioner has claimed de-capitalisation of ₹684.29 lakh in the instant petition stating that replacement of 315 MVA ICT with 500 MVA at Sasaram (Pusauli) Sub-station has been done with effect from 2.4.2016 under ERSS-XII project covered under Petition No. 69/TT/2016 as approved in ERPC. After replacement, 315 MVA ICT has been diverted to Durgapur Sub-station and the same was executed on 9.6.2019 and capitalised under ERSS XVII Part-B project. However, in response to the Commission's observation, the Petitioner has submitted that the date of de-capitalisation is 2.4.2016 which is just one day prior to the execution of 500 MVA ICT at Sasaram. The Petitioner *vide* affidavit dated 9.6.2021 has submitted the actual date of de-capitalisation of the said 315 MVA ICT at Sasaram (Pusauli) is 26.2.2016. Accordingly, the gross block has



been decapitalised from the Combined Asset in 2015-16. Further, the Petitioner *vide* affidavit dated 16.9.2021 has revised Form-10 B and the same is as follows:

Equipment/ Asset	Year of capitalisation of asset/ equipment being de- capitalised	Original book value of the asset being decapitalised (₹ in lakh)	Debt-Equity ratio at the time of capitalisation	Cumulative depreciation corresponding to decapitalisation date (₹ in lakh)	Cumulative repayment of loan corresponding to decapitalisation (₹ in lakh)	Date of de- capitalisation
315 MVA ICT	2004-05 (1.11.2004)	684.29	80.38:19.62	380.52	377.79	26.2.2016

28. BSPHCL has submitted that the extract of minutes dated 1.4.2016 of the Operational Co-ordination Committee meeting held on 18.3.2016 reveals that it is the date of outage that has been mentioned as 26.2.2016 as against 315 MVA ICT-I at Sasaram while recording the reason for it as shutdown availed by the Petitioner. It is not clear from the said document that this was the very date of removal/ dismantling of the said asset. Such change ought to be explained by the Petitioner. BSPHCL has further sought additional clarifications regarding the de-capitalised asset stating that in the Commission's order dated 22.8.2016 in Petition No. 69/TT/2016, Asset-V in the said petition was "Replacement of 315 MVA 400/220 kV ICT- I with 500 MVA 400/220 kV ICT at Pusauli Sub-station" and its COD was considered as 3.4.2016, and Asset-VI in the said petition was "Replacement of 315 MVA 400/220 kV ICT-II with 500 MVA 400/220 kV ICT at Pusauli Sub-station" and its anticipated COD was claimed as 1.10.2016. The Petitioner has filed Petition No. 666/TT/2020 for approval of transmission tariff for "Replacement of existing 315 MVA, 400/220 kV ICT II with 500 MVA, 400/220 kV ICT-II at Pusauli Sub-station" under "Eastern Region Strengthening Scheme XII" in the Eastern Region and actual COD of the said asset has been claimed as 18.1.2020.



29. The Petitioner in response to the submissions of BSPHCL has submitted that it had initially considered the date of de-capitalisation as 2.4.2016 which was one day prior to the execution of the new ICT (500 MVA) replacing the old ICT (315 MVA) at Sasaram. However, on a query, the Petitioner has submitted that the actual date of removal/ dismantling of the ICT at Sasaram (Pusauli) was 26.2.2016. The Petitioner has further submitted in the instant petition that the asset- “Replacement of existing 315 MVA, 400/220 kV ICT II with 500 MVA, 400/220 kV ICT-II at Pusauli Sub-station” under “ERSS-XII” was initially filed with anticipated COD as 1.10.2016 in Petition No. 69/TT/2016 wherein the tariff for this asset was not approved due to non-execution of the asset. The COD for the same asset has now been claimed as 18.1.2020 in Petition No. 666/TT/2020 based on the actual COD, where the delay was due to unforeseen situations.

30. We have considered the submissions of the Petitioner and BSPHCL. The Petitioner has replaced the 315 MVA ICT with 500 MVA ICT at Sasaram (Pusauli). The actual date of de-capitalisation of 315 MVA ICT at Sasaram (Pusauli) is considered as 26.2.2016 and necessary adjustments have been made in the capital cost of the transmission asset and tariff has been allowed accordingly. The details of the approved capital cost are as follows:

(₹ in lakh)

Asset	FR Approved Cost	Capital Cost as on 31.3.2014	2015-16	Capital Cost as on 31.3.2019
Combined Asset	16288.00	12113.43	-684.29*	11429.14

*315 MVA ICT de-capitalized with effect from 26.2.2016

Debt-Equity ratio

31. The Petitioner has claimed opening debt-equity ratio approved by the Commission vide order dated 7.12.2015 in Petition No. 199/TT/2014. The Commission



has considered the same debt-equity ratio for truing up of tariff for 2014-19 tariff period. The details of debt-equity ratio considered in respect of the transmission assets as on 1.4.2014 and as on 31.3.2019 are as follows:

Particulars	Capital cost as on COD (₹ in lakh)	Debt Equity ratio as on 1.4.2014 (in %)	Total cost as on 31.3.2019 (₹ in lakh)	Debt-Equity ratio as on 31.3.2019 (in %)
Debt	9736.22	80.38	9186.22	80.38
Equity	2377.21	19.62	2242.92	19.62
Total	12113.43	100.00	11429.14	100.00

Depreciation

32. The calculation of WAROD for 2014-17 period in respect of the Combined Asset is 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 Combined Asset has completed 12 years of life as on 31.3.2017. The remaining depreciable value has been spread across the balance useful life in accordance with Regulation 27(5) of the 2014 Tariff Regulations. Accordingly, depreciation allowed during 2014-19 tariff period in respect of Combined Asset is as follows:

Particulars	(₹ in lakh)					
	2014-15	1.4.2015 to 26.2.2016 (332 days)	27.2.2016 to 31.3.2016 (34 days)	2016-17	2017-18	2018-19
Opening Gross Block	12113.43	12113.43	11429.14	11429.14	11429.14	11429.14
ACE	0.00	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	12113.43	12113.43	11429.14	11429.14	11429.14	11429.14
Average Gross Block	12113.43	12113.43	11429.14	11429.14	11429.14	11429.14
Freehold Land	85.97	85.97	85.97	85.97	85.97	85.97
Rate of Depreciation (in %)	5.18	5.18	5.17	5.17	1.673	1.673
Balance useful life of the asset (Year)	20	19	19	18	17	16
Lapsed life at the beginning of the year (Year)	9	10	10	11	12	13
Depreciable Value	10824.71	10824.71	10208.85	10208.85	10208.85	10208.85
Depreciation during the year	627.45	569.17	54.93	591.32	191.16	191.16



Cumulative Depreciation at the end of the year	6124.27	6312.92	6367.85	6959.17	7150.33	7341.49
Remaining Depreciable Value at the end of the year	4700.45	4131.28	3841.01	3249.68	3058.52	2867.37

33. Accordingly, depreciation approved vide order dated 7.12.2015 in Petition No. 199/TT/2014, claimed by the Petitioner in the instant petition and trued up depreciation in the instant order is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
AFC approved vide order dated 7.12.2015 in Petition No. 199/TT/2014	627.45	627.45	627.45	196.26	196.26
Claimed by the Petitioner in the instant petition	627.45	627.45	609.38	190.11	190.11
Allowed after true-up in this order	627.45	624.10	591.32	191.16	191.16

Interest on Loan (“IoL”)

34. The Petitioner has claimed the Weighted Average Rate of IoL based on its actual loan portfolio and rate of interest. Accordingly, IoL has been calculated based on actual interest rate, in accordance with Regulation 26 of the 2014 Tariff Regulations. IoL allowed in respect of the Combined Asset is as follows:

Particulars	(₹ in lakh)					
	2014-15	1.4.2015 to 26.2.2016 (332 days)	27.2.2016 to 31.3.2016 (34 days)	2016-17	2017-18	2018-19
Gross Normative Loan	9736.22	9736.22	9186.22	9186.22	9186.22	9186.22
Cumulative Repayments upto Previous Year	5496.81	6124.27	6315.65	6370.58	6961.90	7153.06
Net Loan-Opening	4239.41	3611.95	2870.58	2815.64	2224.32	2033.16
Additions	0.00	0.00	0.00	0.00	0.00	0.00
Repayment during the year	627.45	569.17	54.93	591.32	191.16	191.16
Net Loan-Closing	3611.95	3042.79	2815.64	2224.32	2033.16	1842.01
Average Loan	3925.68	3327.37	2843.11	2519.98	2128.74	1937.58



Weighted Average Rate of Interest on Loan (in %)	8.0572	7.8920	7.8920	7.5819	7.1757	7.0280
Interest on Loan	316.30	238.20	20.84	191.06	152.75	136.17

35. Accordingly, IoL approved vide order dated 7.12.2015 in Petition No. 199/TT/2014, claimed by the Petitioner in the instant petition and trued up IoL in the instant order in respect of the Combined Asset is as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
AFC approved vide order dated 7.12.2015 in Petition No. 199/TT/2014	305.72	249.98	192.64	152.95	136.71
Claimed by the Petitioner in the instant petition	316.30	260.30	196.79	151.52	135.04
Allowed after true-up in this order	316.30	259.05	191.06	152.75	136.17

Return on Equity (“RoE”)

36. The Petitioner has claimed RoE in respect of the Combined Asset in terms of Regulation 24 and Regulation 25 of the 2014 Tariff Regulations. The Petitioner has submitted that they are liable to pay income tax at MAT rates and has claimed following effective tax rates for 2014-19 period:

Year	Claimed effective tax (in %)	Grossed up RoE [(Base Rate)/(1-t)] (in %)
2014-15	21.0177	19.625
2015-16	21.3819	19.716
2016-17	21.3384	19.705
2017-18	21.3371	19.704
2018-19	21.5488	19.758

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



The instant petition is silent on whether the tax and interest paid by the Petitioner is indeed after such adjustment and exclusive of the impermissible claims. BSPHCL has submitted that the grossed-up rate of RoE has to be trued up every financial year based on actual tax paid as stated in Regulations 25 (3) of the 2014 Tariff Regulations and Regulations also do not contemplate claim of differential tariff on this account directly from the beneficiaries. Thus, differential tariff on this account should not be permitted to be claimed directly from the beneficiaries. The Petitioner did not give any clarification to the above mentioned submissions of BSPHCL.

38. We have considered the submissions of the Petitioner and BSPHCL. As regards BSPHCL’s contention that the grossed-up rate of RoE for the period 2016-17 to 2018-19 is not based on MAT rates approved by the Income Tax Authorities, it is observed that the effective rate of tax considered by the Petitioner for 2014-15, 2015-16 and 2016-17 are based on assessment orders issued by Income Tax authorities and the effective rate of tax considered for 2017-18 and 2018-19 are based on the Income Tax returns filed for the purpose of grossing up the RoE rate of respective years.

39. The Commission vide order dated 27.4.2020 in Petition No. 274/TT/2019 has arrived at the effective tax rate based on the notified MAT rates for the Petitioner and the same is as follows:

Year	Notified MAT rates (in %) (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

40. MAT rates considered in order dated 27.4.2020 in Petition No. 274/TT/2019 are considered for the purpose of grossing up of rate of RoE for truing up of tariff of 2014-



19 period in terms of the provisions of the 2014 Tariff Regulations and the same are as follows:

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

41. RoE is trued up on the basis of MAT rate applicable in the respective years and the same is allowed as follows:

(₹ in lakh)

Particulars	2014-15	1.4.2015 to 26.2.2016 (332 days)	27.2.2016 to 31.3.2016 (34 days)	2016-17	2017-18	2018-19
Opening Equity	2377.21	2377.21	2242.92	2242.92	2242.92	2242.92
Additions	0.00	0.00	0.00	0.00	0.00	0.00
Closing Equity	2377.21	2377.21	2242.92	2242.92	2242.92	2242.92
Average Equity	2377.21	2377.21	2242.92	2242.92	2242.92	2242.92
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	20.961	21.342	21.342	21.342	21.342	21.549
Rate of Return on Equity (in %)	19.610	19.705	19.705	19.705	19.705	19.758
Return on Equity	466.17	424.91	41.06	441.97	441.97	443.16

42. Accordingly, RoE approved vide order dated 7.12.2015 in Petition No. 199/TT/2014, claimed by the Petitioner in the instant petition and trued up RoE in the instant order in respect of the Combined Asset is as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
AFC approved vide order dated 7.12.2015 in Petition No. 199/TT/2014	466.17	466.17	466.17	466.17	466.17
Claimed by the Petitioner in the instant petition	466.53	468.66	455.20	441.97	443.15



Allowed after true-up in this order	466.17	465.97	441.97	441.97	443.16
-------------------------------------	--------	--------	--------	--------	--------

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

43. The total O&M Expenses claimed in respect of the Combined Asset by the Petitioner are as follows:

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses claimed by the Petitioner	1045.61	1080.27	1116.24	1153.11	1191.63

44. We have considered the submissions of the Petitioner. It is observed that the Petitioner has de-capitalised 315 MVA ICT at Sasaram (Pusauli) on 26.2.2016. The O&M Expenses are allowed in line with the norms specified in Regulation 29(3) of the 2014 Tariff Regulations and are as follows:

Particulars	2014-15	1.4.2015 to 26.2.2016 (332 days)	27.2.2016 to 31.3.2016 (34 days)	2016-17	2017-18	2018-19
Sub-station bays						
400 kV						
Number of bays	3	3	3	3	3	3
Norms (₹ lakh/bay)	60.30	62.30	62.30	64.37	66.51	68.71
220 kV						
Number of bays	15	15	15	15	15	15
Norms (₹ lakh/bay)	42.21	43.61	43.61	45.06	46.55	48.10
132 kV & below						
Number of bays	6	6	6	6	6	6
Norms (₹ lakh/bay)	30.15	31.15	31.15	32.18	33.25	34.36
Transmission line (D/C Single Conductor)						
220 kV Ara-Khagul D/C line (48.44 km) Sasaram - Arrah - Khagaul 220 kV D/C line (160.58 km) (km)						
220 kV Sasaram-Ara D/C line (112.40 km) (km)	167.16	167.16	167.16	167.16	167.16	167.16
LILO of Dehri – Sahupuri 220 kV D/C line at Sasaram (4.88 km) (km)						



LILO of Dumraon – Arrah 132 kV D/C line at Arrah (1.70 km) (km)						
Norms (₹ lakh/km)	0.303	0.313	0.313	0.324	0.334	0.346
Total O&M Expense (₹ in lakh)	1045.60	979.92	100.35	1116.25	1153.11	1191.63

45. Accordingly, O&M Expenses approved vide order dated 7.12.2015 in Petition No. 199/TT/2014, claimed by the Petitioner in the instant petition and trued up O&M Expenses in the instant order in respect of the Combined Asset are as follows:

Particulars	(₹ in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
AFC approved vide order dated 7.12.2015 in Petition No. 199/TT/2014	1045.60	1080.27	1116.25	1153.11	1191.63
Claimed by the Petitioner in the instant petition	1045.61	1080.27	1116.24	1153.11	1191.63
Allowed after true-up in this order	1045.60	1080.27	1116.25	1153.11	1191.63

Interest on Working Capital (“IWC”)

46. IWC has been worked out as per the methodology provided in Regulation 28 of the 2014 Tariff Regulations and allowed as follows:

Particulars	(₹ in lakh)					
	2014-15	1.4.2015 to 26.2.2016 (332 days)	27.2.2016 to 31.3.2016 (34 days)	2016-17	2017-18	2018-19
Working Capital for O&M Expenses (O&M Expenses for one month)	87.13	90.02	90.02	93.02	96.09	99.30
Working Capital for Maintenance Spares (15% of O&M Expenses)	156.84	162.04	162.04	167.44	172.97	178.74
Working Capital for Receivables (equivalent to two months of Annual Fixed Charges/Annual Transmission Charges)	424.29	421.62	404.43	405.08	336.80	340.95
Total Working Capital	668.26	673.68	656.49	665.53	605.86	618.99
Rate of Interest (in %)	13.50	13.50	13.50	13.50	13.50	13.50



Interest of working capital (D*E)	90.22	82.50	8.23	89.85	81.79	83.56
------------------------------------------	--------------	--------------	-------------	--------------	--------------	--------------

47. Accordingly, IWC approved vide order dated 7.12.2015 in Petition No. 199/TT/2014, claimed by the Petitioner in the instant petition and trued up IWC in the instant order in respect of the Combined Asset is as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
AFC approved vide order dated 7.12.2015 in Petition No. 199/TT/2014	89.97	90.60	91.27	82.47	84.22
Claimed by the Petitioner in the instant petition	90.22	90.90	90.70	81.74	83.51
Allowed after true-up in this order	90.22	90.73	89.85	81.79	83.56

Approved Annual Fixed Charges of 2014-19 Tariff Period

48. The trued up Annual Fixed Charges (AFC) in respect of the Combined Asset for 2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	2014-15	1.4.2015 to 26.2.2016 (332 days)	27.2.2016 to 31.3.2016 (34 days)	2016-17	2017-18	2018-19
Depreciation	627.45	569.17	54.93	591.32	191.16	191.16
Interest on Loan	316.30	238.20	20.84	191.06	152.75	136.17
Return on Equity	466.17	424.91	41.06	441.97	441.97	443.16
O&M Expenses	1045.60	979.92	100.35	1116.25	1153.11	1191.63
Interest on Working Capital	90.22	82.50	8.23	89.85	81.79	83.56
Total	2545.74	2294.70	225.42	2430.45	2020.78	2045.68

49. Accordingly, the comparison between Annual Transmission Charges approved vide order dated 7.12.2015 in Petition No. 199/TT/2014, claimed by the Petitioner and approved after truing up in the instant order are as follows:



(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
AFC approved vide order dated 7.12.2015 in Petition No. 199/TT/2014	2534.92	2514.48	2493.79	2050.95	2074.99
AFC claimed by the Petitioner in the instant petition	2546.11	2527.58	2468.31	2018.45	2043.44
AFC allowed in the instant order	2545.74	2520.12	2430.45	2020.78	2045.68

DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 PERIOD

50. The Petitioner has claimed the following transmission charges in respect of the Combined Asset for 2019-24 tariff period:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	190.11	190.11	190.11	190.11	190.11
Interest on Loan	151.76	135.09	118.47	101.80	85.13
Return on Equity	443.15	443.15	443.15	443.15	443.15
Interest on Working Capital	54.77	56.12	57.43	58.81	60.11
O&M Expenses	985.98	1021.01	1056.61	1093.98	1131.34
Total	1825.77	1845.48	1865.77	1887.85	1909.84

51. The Petitioner has claimed the following IWC in respect of the Combined Asset for 2019-24 tariff period:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses	82.17	85.08	88.05	91.17	94.28
Maintenance Spares	147.90	153.15	158.49	164.10	169.70
Receivables	224.48	227.53	230.03	232.75	234.82
Total Working Capital	454.55	465.76	476.57	488.02	498.80
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	54.77	56.12	57.43	58.81	60.11

Capital Cost

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

“19. Capital Cost: (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.



(2) *The Capital Cost of a new project shall include the following:*

- (a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
- (b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
- (c) Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period;*
- (d) Interest during construction and incidental expenditure during construction as computed in accordance with these regulations;*
- (e) Capitalised initial spares subject to the ceiling rates in accordance with these regulations;*
- (f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with these regulations;*
- (g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the date of commercial operation as specified under Regulation 7 of these regulations;*
- (h) Adjustment of revenue earned by the transmission licensee by using the assets before the date of commercial operation;*
- (i) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (j) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of the generating station but does not include the transportation cost and any other appurtenant cost paid to the railway;*
- (k) Capital expenditure on account of biomass handling equipment and facilities, for co-firing;*
- (l) Capital expenditure on account of emission control system necessary to meet the revised emission standards and sewage treatment plant;*
- (m) Expenditure on account of fulfilment of any conditions for obtaining environment clearance for the project;*
- (n) Expenditure on account of change in law and force majeure events; and*
- (o) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.*

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

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
- (b) Additional capitalisation and de-capitalisation for the respective year of tariff as determined in accordance with these regulations;*
- (c) Capital expenditure on account of ash disposal and utilisation including handling and transportation facility;*
- (d) Capital expenditure on account of ash disposal and utilisation including handling and transportation facility;*
- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and*



(f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.”

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

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

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

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

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

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

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

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

(c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;

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

(e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”

53. The Petitioner has claimed capital cost of ₹11429.14 lakh as on 31.3.2019 which is the same capital cost as has been worked out by the Commission. Accordingly, ₹11429.14 lakh has been considered as opening capital cost as on 1.4.2019 for determination of tariff in respect of the Combined Asset in accordance with Regulation 19 of the 2019 Tariff Regulations.

54. The Petitioner has not claimed any ACE in 2019-24 tariff period.



Debt-Equity ratio

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

“18. Debt-Equity Ratio: (1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the Capital Cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

- i. where equity actually deployed is less than 30% of the Capital Cost, actual equity shall be considered for determination of tariff:
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.

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

(2) The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:

Provided that in case of a generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the Capital Cost, equity in excess of 30% shall not be taken into account for tariff computation;

Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as ACE for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.



(6) Any expenditure incurred for the emission control system during the tariff period as may be admitted by the Commission as additional capital expenditure for determination of supplementary tariff, shall be serviced in the manner specified in clause (1) of this Regulation.”

56. Debt-equity ratio considered for the purpose of tariff for 2019-24 tariff period is as follows:

Particulars	Capital Cost as on 1.4.2019 (₹ in lakh)	Debt: Equity ratio as on 1.4.2019 (in %)	Capital Cost as on 31.3.2024 (₹ in lakh)	Debt: Equity ratio as on 31.3.2024 (in %)
Debt	9186.22	80.38	9186.22	80.38
Equity	2242.92	19.62	2242.92	19.62
Total	11429.14	100.00	11429.14	100.00

Depreciation

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

“33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission project or element thereof including communication project. In case of the tariff of all the units of a generating station or all elements of a transmission project including communication project 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 project 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 project, 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 project, weighted average life for the generating station of the transmission project shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

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

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

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



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

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

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

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

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

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

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

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

(9) Where the emission control system is implemented within the original scope of the generating station and the date of commercial operation of the generating station or unit thereof and the date of operation of the emission control system are the same, depreciation of the generating station or unit thereof including the emission control system shall be computed in accordance with Clauses (1) to (8) of this Regulation.

(10) Depreciation of the emission control system of an existing or a new generating station or unit thereof where the date of operation of the emission control system is subsequent to the date of commercial operation of the generating station or unit thereof, shall be computed annually from the date of operation of such emission control system based on straight line method, with salvage value of 10%, over a period of-

a) twenty five years, in case the generating station or unit thereof is in operation for fifteen years or less as on the date of operation of the emission control system; or

b) balance useful life of the generating station or unit thereof plus fifteen years, in case the generating station or unit thereof is in operation for more than fifteen years as on the date of operation of the emission control system; or

c) ten years or a period mutually agreed by the generating company and the beneficiaries, whichever is higher, in case the generating station or unit thereof has completed its useful life.”



58. Depreciation has been worked out considering the admitted capital expenditure as on 31.3.2019 and accumulated depreciation up to 31.3.2019. WAROD at Annexure-II has been worked out as per the rates of depreciation specified in the 2019 Tariff Regulations. The Combined Asset has already completed 12 years of life as on 31.3.2017. Therefore, the remaining depreciable value has been spread across the balance useful life in accordance with Regulation 33(5) of the 2019 Tariff Regulations. Depreciation allowed in respect of the Combined Asset is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross Block	11429.14	11429.14	11429.14	11429.14	11429.14
Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Closing Gross Block	11429.14	11429.14	11429.14	11429.14	11429.14
Average Gross Block	11429.14	11429.14	11429.14	11429.14	11429.14
Freehold Land	85.97	85.97	85.97	85.97	85.97
Rate of Depreciation (in %)	5.17	5.17	5.17	5.17	5.17
Balance useful life of the asset (Year)	15	14	13	12	11
Lapsed life at the beginning of the year (Year)	14	15	16	17	18
Depreciable Value	10208.85	10208.85	10208.85	10208.85	10208.85
Depreciation during the year	191.16	191.16	191.16	191.16	191.16
Cumulative Depreciation at the end of the year	7532.64	7723.80	7914.96	8106.12	8297.28
Remaining Depreciable Value at the end of the year	2676.21	2485.05	2293.89	2102.74	1911.58

Interest on Loan (“IoL”)

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

“32. Interest on loan capital: (1) *The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.*

(2) *The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.*

(3) *The repayment for each of the year of the tariff period 2019-24 shall be deemed*



to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.

(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered;

Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.

(5a) The rate of interest on loan for installation of emission control system shall be the weighted average rate of interest of actual loan portfolio of the emission control system or in the absence of actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered.

(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.

(7) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.”

60. BSPHCL has submitted that interest on loan may be calculated as contemplated under Regulation 32 of the 2019 Tariff Regulations only. BSPHCL has further submitted that nothing in the Regulations permit change in interest rate due to floating rate of interest. Interest applicable, if any, is to be adjusted/claimed over the tariff period directly from/with the beneficiaries.

61. We have considered the submissions of BSPHCL. 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 2019-24 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of truing up. Further, as there is no actual



loan remaining after 2021-22, the weighted average rate of IoL for 2021-22 i.e. the last available weighted average rate of IoL has been considered. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed in respect of the Combined Asset is as follows:

(₹ in lakh)					
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Normative Loan	9186.22	9186.22	9186.22	9186.22	9186.22
Cumulative Repayments upto Previous Year	7344.22	7535.37	7726.53	7917.69	8108.85
Net Loan-Opening	1842.01	1650.85	1459.69	1268.53	1077.37
Additions	0.00	0.00	0.00	0.00	0.00
Repayment during the year	191.16	191.16	191.16	191.16	191.16
Net Loan-Closing	1650.85	1459.69	1268.53	1077.37	886.22
Average Loan	1746.43	1555.27	1364.11	1172.95	981.80
Weighted Average Rate of Interest on Loan (in %)	8.7655	8.7655	8.7655	8.7655	8.7655
Interest on Loan	153.08	136.33	119.57	102.82	86.06

Return on Equity (“RoE”)

62. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations specify as follows:

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

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

Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope excluding additional capitalization on account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%;

Provided further that:



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

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

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

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

b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.”

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

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

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

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

Where “t” is the effective tax rate in accordance with clause (1) of this Regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business,



as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), “t” shall be considered as MAT rate including surcharge and cess.

Illustration-

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

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

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

- (a) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1,000 crore;
- (b) Estimated Advance Tax for the year on above is Rs 240 crore;
- (c) Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore = 24%;
- (d) Rate of return on equity = $15.50 / (1 - 0.24) = 20.395\%$.

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee, as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on year to year basis.”

63. The Petitioner has submitted that MAT rate is applicable to it. Accordingly, MAT rate applicable in 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 in respect of the Combined Asset is as follows:

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity	2242.92	2242.92	2242.92	2242.92	2242.92
Additions	0.00	0.00	0.00	0.00	0.00
Closing Equity	2242.92	2242.92	2242.92	2242.92	2242.92
Average Equity	2242.92	2242.92	2242.92	2242.92	2242.92
Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
MAT Rate for respective year (in %)	17.472	17.472	17.472	17.472	17.472
Rate of Return on Equity (in %)	18.782	18.782	18.782	18.782	18.782
Return on Equity	421.26	421.26	421.26	421.26	421.26



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

64. The Petitioner has claimed the following O&M Expenses in respect of the elements of Combined Asset for 2019-24 tariff period:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station bays					
400 kV					
Number of bays	3	3	3	3	3
Norms (₹ lakh/ bay)	32.15	33.28	34.45	35.66	36.91
220 kV					
Number of bays	15	15	15	15	15
Norms (₹ lakh/ bay)	22.51	23.30	24.12	24.96	25.84
132 kV & below					
Number of bays	6	6	6	6	6
Norms (₹ lakh/ bay)	16.08	16.64	17.23	17.83	18.46
Transformers					
400 kV					
3x315 MVA ICTs at Sasaram (MVA)	945	945	945	945	945
Norms (₹ lakh/ MVA)	0.358	0.371	0.384	0.398	0.411
220 kV					
2x100 MVA ICTs at Arrah (MVA)	200	200	200	200	200
Norms (₹ lakh/ MVA)	0.245	0.254	0.263	0.272	0.282
Transmission line (D/C Single Conductor)					
220 kV D/C Ara-Khagaul transmission line (48.44 km)					
220 kV D/C Sasaram-Ara transmission line (112.40 km)	167.16	167.16	167.16	167.16	167.16
LILO of Dehri – Sahupuri 220 kV line at Sasaram (4.88 km)					
LILO of Dumraon – Arrah 132 kV line at Arrah (1.70 km)					
Norms (₹ lakh/ km)	0.377	0.391	0.404	0.419	0.433
O&M for PLCC (2% of ₹253.29 lakh)	5.07	5.07	5.07	5.07	5.07
Total O&M Expense (₹ in lakh)	985.98	1021.01	1056.61	1093.98	1131.34

65. The Regulation 35(3)(a) and Regulation 35(4) of the 2019 Tariff Regulations provide as follows:

“35. Operation and Maintenance Expenses:



...

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

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Norms for sub-station Bays (₹ Lakh per bay)					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
Norms for Transformers (₹ Lakh per MVA)					
765 kV	0.491	0.508	0.526	0.545	0.564
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (₹ Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<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 Combined Asset 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 Combined Asset 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.”*

66. We have considered the submission of the Petitioner. The Petitioner has claimed O&M Expenses separately for PLCC under Regulation 35(4) of the 2019 Tariff Regulations @2% of its original project cost in the instant petition. The Petitioner has made similar claim in other petitions as well. Though PLCC is a communication system, it has been considered as part of the sub-station in the 2014 and 2019 Tariff Regulations and the norms for sub-station have been specified accordingly. Accordingly, the Commission *vide* order dated 24.1.2021 in Petition No. 126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even though PLCC is a communication system. Therefore, the Petitioner’s claim for separate O&M Expenses for PLCC @2% is not allowed.

67. It is also observed that the Petitioner has considered O&M Expenses in respect of the de-capitalised 315 MVA ICT after the date of de-capitalisation. It is observed that the Petitioner has de-capitalised 315 MVA ICT at Sasaram (Pusauli) on 26.2.2016. Accordingly, the O&M Expenses are not allowed for the 315 MVA ICT after the date of de-capitalisation. The O&M Expenses allowed in respect of the elements included in the Combined Asset are as follows:

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station bays					
400 kV					
Number of bays	3	3	3	3	3
Norms (₹ lakh/bay)	32.15	33.28	34.45	35.66	36.91
220 kV					
Number of bays	15	15	15	15	15
Norms (₹ lakh/bay)	22.51	23.30	24.12	24.96	25.84



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
132 kV & below					
Number of bays	6	6	6	6	6
Norms (₹ lakh/bay)	16.08	16.64	17.23	17.83	18.46
Transformers					
400 kV					
2x315 MVA ICTs at Sasaram (MVA)	630	630	630	630	630
Norms (₹ lakh/ MVA)	0.358	0.371	0.384	0.398	0.411
220 kV					
2x100 MVA ICTs at Arrah (MVA)	200	200	200	200	200
Norms (₹ lakh/ MVA)	0.245	0.254	0.263	0.272	0.282
Transmission line (D/C Single Conductor)					
220 kV D/C Ara-Khagaul transmission line (48.44 km)					
220 kV D/C Sasaram-Ara transmission line (112.40 km)	167.16	167.16	167.16	167.16	167.16
LILO of Dehri – Sahupuri 220 kV line at Sasaram (4.88 km)					
LILO of Dumraon – Arrah 132 kV line at Arrah (1.70 km)					
Norms (₹ lakh/ km)	0.377	0.391	0.404	0.419	0.433
Total O&M Expense (₹ in lakh)	868.14	899.07	930.58	963.54	996.80

Interest on Working Capital (“IWC”)

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

“34. Interest on Working Capital

(1) ...

(c) *For Hydro Generating Station (including Pumped Storage Hydro Generating Station) and Combined Asset:*

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

(3) *Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the Combined Asset*



including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later:

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

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

“3. Definitions ...

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

69. 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, 11.25% (SBI 1 year MCLR applicable as on 1.4.2020 of 7.75% plus 350 basis points) for 2020-2021 and from 2021-22 onwards it has been considered as 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points). The components of the working capital and interest allowed thereon in respect of the Combined Asset are as follows:

	(₹ in lakh)				
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	72.34	74.92	77.55	80.30	83.07
Working Capital for Maintenance Spares (15% of O&M Expenses)	130.22	134.86	139.59	144.53	149.52
Working Capital for Receivables (Equivalent to 45 days of Annual Fixed Charges/Annual Transmission Charges)	206.92	208.96	210.51	212.64	214.20
Total Working Capital)	409.49	418.75	427.65	437.46	446.79
Rate of Interest (in %)	12.05	11.25	10.50	10.50	10.50
Interest on Working Capital	49.34	47.11	44.90	45.93	46.91



Annual Fixed Charges of 2019-24 Tariff Period

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

Particulars	(₹ in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	191.16	191.16	191.16	191.16	191.16
Interest on Loan	153.08	136.33	119.57	102.82	86.06
Return on Equity	421.26	421.26	421.26	421.26	421.26
O&M Expenses	868.14	899.07	930.58	963.54	996.80
Interest on Working Capital	49.34	47.11	44.90	45.93	46.91
Total	1682.99	1694.93	1707.48	1724.71	1742.20

Filing Fee and the Publication Expenses

71. The Petitioner has sought reimbursement of fees paid by it for filing the petition and publication expenses. BSPHCL has submitted that grant of filing fees and expenses incurred is the discretion of the Commission and need not necessarily be allowed in all cases.

72. We have considered the submissions of the Petitioner and BSPHCL. Regulation 70(1) of the 2019 Tariff Regulations provides for reimbursement of filing fees and publication paid by the Petitioner. Accordingly, the Petitioner is 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 Fees & RLDC Fees and Charges

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



Goods and Services Tax

74. 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.

75. We have considered the submissions 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

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

77. We have considered the above submissions of Petitioner. The Petitioner has claimed consolidated security expenses on projected basis for 2019-24 tariff period on the basis of actual security expenses incurred in 2018-19 in Petition No. 260/MP/2020. The Commission vide order dated 3.8.2021 in Petition No. 260/MP/2020 has already approved security expenses from 1.4.2019 to 31.3.2024. Therefore, security expenses will be shared in terms of the order dated 3.8.2021 in Petition No. 260/MP/2020. Therefore, the Petitioner's prayer in the instant petition for allowing it to file a separate petition for claiming the overall security expenses and consequential IWC has become infructuous.



Capital Spares

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

Sharing of Transmission Charges

79. During the tariff periods 2004-09 and 2009-14 (upto 30.6.2011), the transmission charges for inter-State transmission systems were being shared in accordance with the Tariff Regulations for the respective tariff periods. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission system was governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2010 ("2010 Sharing Regulations"). With effect from 1.11.2020, sharing of transmission charges is governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2020 ("the 2020 Sharing Regulations"). Accordingly, the liabilities of the DICs for arrears of transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and shall be recovered from the concerned DICs through Bills under Regulation 15(2)(b) of the 2020 Sharing Regulations. For subsequent period, the billing, collection and disbursement of the transmission charges approved in this order shall be governed by the provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

80. To summarise

- a) The revised AFC allowed in respect of the transmission assets for 2004-09 tariff period as per the APTEL's judgements are as follows:



(₹ in lakh)

Particulars	2004-05	2005-06	2006-07	2007-08	2008-09
Asset-I	832.27	2093.13	2137.78	2432.85	2467.60
Asset-II	185.88	189.66	192.06	205.42	217.62

b) The consequential revision of AFC allowed in respect of the Combined Asset for 2009-14 tariff period are as follows:

(₹ in lakh)

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14
Combined Asset	2641.66	2660.11	2667.24	2673.37	2688.19

c) The trued-up AFC allowed in respect of the Combined Asset for 2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Combined Asset	2545.74	2520.12	2430.45	2020.78	2045.68

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

(₹ in lakh)

Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Combined Asset	1682.99	1694.93	1707.48	1724.71	1742.20

81. Annexure-I and Annexure-II given hereinafter form part of the order.

82. This order disposes of Petition No. 390/TT/2019 in terms of the above discussions and findings.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member



Annexure-I

2014-19 Capital Expenditure	Admitted Capital Cost as on 1.4.2014 (₹ in lakh)	ACE (₹ in lakh)		Admitted Capital Cost as on 31.3.2019 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)					
		2015-16	Total			2014-15	1.4.2015 to 26.2.2016	27.2.2016 to 31.3.2016	2016-17	2017-18	2018-19
Land - Freehold	85.97	-	-	85.97	-	-	-	-	-	Spreading	
Land - Leasehold	-	-	-	-	3.34%	-	-	-	-		
Building Civil Works & Colony	528.59	-	-	528.59	3.34%	17.65	17.65	17.65	17.65		
Transmission Line	4946.23	-	-	4946.23	5.28%	261.16	261.16	261.16	261.16		
Sub Station	6299.35	-684.29	-684.29	5615.06	5.28%	332.61	332.61	296.48	296.48		
PLCC	253.29	-	-	253.29	6.33%	16.03	16.03	16.03	16.03		
IT Equipment (Incl. Software)	-	-	-	-	5.28%	-	-	-	-		
Total	12113.43	-684.29	-684.29	11429.14		627.45	627.45	591.32	591.32	191.16	191.16
Average Gross Block (₹ in lakh)						12113.43	12113.43	11429.14	11429.14	11429.14	11429.14
Weighted Average Rate of Depreciation (in %)						5.18%	5.18%	5.17%	5.17%	1.673%	1.673%



Annexure-II

2019-24	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	Projected Additional Capitalisation (₹ in lakh)	Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation as per Regulations	Annual Depreciation as per Regulations (₹ in lakh)					
Capital Expenditure	Total	Total	Total	Total	2019-20	2020-21	2021-22	2022-23	2023-24	
Land - Freehold	85.97	-	85.97	-	Spreading					
Land - Leasehold	-	-	-	3.34%						
Building Civil Works & Colony	528.59	-	528.59	3.34%						
Transmission Line	4946.23	-	4946.23	5.28%						
Sub Station	5615.06	-	5615.06	5.28%						
PLCC	253.29	-	253.29	6.33%						
IT Equipment (Incl. Software)	-	-	-	15.00%						
Total	11429.14	-	11429.14							
					Average Gross Block (₹ in lakh) (A)	11429.14	11429.14	11429.14	11429.14	11429.14
					Remaining Depreciable Value (₹ in lakh) (B)	2867.37	2676.21	2485.05	2293.89	2102.74
					Balance useful life (in years) (C)	15	14	13	12	11
					Depreciation (D)=[(B)/(C)]	191.16	191.16	191.16	191.16	191.16
					Weighted Average Rate of Depreciation (E)=[(D)/(A)] (in %)	1.673%	1.673%	1.673%	1.673%	1.673%

