

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 675/TT/2020

Coram:

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

Date of Order: 27.05.2022

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and determination of transmission tariff from the date of commercial operation to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of **Asset-I:** 400 kV D/C Nabinagar - Patna line along with 2X80 MVAR switchable line reactor and associated bays at Patna Sub-station, **Asset-II:** 765/400 kV 3X500 MVA ICT-IV along with associated bays at Gaya Sub-station and **Asset-III:** 80 MVAR switchable line reactor in 400 kV Barh-I line at Patna Sub-Station along with associated bay under "Transmission System associated with Nabinagar-II TPS (3X660 MW)" in Eastern Region.

And in the matter of:

Power Grid Corporation of India Limited,
"Saudamini", Plot No. 2, Sector 29,
Gurgaon – 122 001 (Haryana).

.... Petitioner

Vs.

1. Bihar State Power (Holding) Company Limited,
(Formerly Bihar State Electricity Board -BSEB),
Vidyut Bhavan, Bailey Road,
Patna – 800 001.
2. West Bengal State Electricity Distribution Company Limited,
Bidyut Bhawan, Bidhan Nagar,
Block DJ, Sector-II, Salt Lake City,
Calcutta – 700 091.



3. Grid Corporation of Odisha 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
7. Nabinagar Power Generating Company Private Limited,
Vidyut Bahvan-II, 1st floor, Bailey Road,
Patna – 800001, Bihar.

...Respondent(s)

For Petitioner : Shri S.S. Raju, PGCIL
Shri D.K Biswal, PGCIL
Shri Ved Prakash Rastogi, PGCIL
Shri A.K. Verma, PGCIL

For Respondents : Ms. Swapna Seshadri, Advocate, NPGCL
Ms. Ritu Apurva, Advocate, NPGCL
Ms. Rohini Prasad, Advocate, BSPHCL

ORDER

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



“Transmission system associated with Nabinagar-II TPS (3X660 MW)” in Eastern Region (hereinafter referred to as “ the transmission project”):

Asset-I: 400 kV D/C Nabinagar - Patna line along with 2X80 MVAR switchable line reactor and associated bays at Patna Sub-station;

Asset-II: 765/400 kV 3X500 MVA ICT-IV along with Associated bays at Gaya Sub-station; and

Asset-III: 80 MVAR switchable Line reactor in 400 kV Barh-I line at Patna Sub-Station alongwith associated bays.

2. The Petitioner has made the following prayers in the instant petition:

“1. Admit the capital cost as claimed in the Petition and approve the Additional Capitalisation incurred / projected to be incurred.

2. Approve the Transmission Tariff for the tariff block 2019-24 block for the asset covered under this petition, as per para –8.2 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 2019 as per para 8 above for respective block.

4. Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, and expenditure on publishing of notices in newspapers in terms of Regulation 70 (1) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019, and other expenditure (if any) in relation to the filing of petition.

5. Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation 70 (3) and (4) Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019.

6. Allow the petitioner to bill and adjust impact on Interest on Loan due to change in Interest rate on account of floating rate of interest applicable during 2019-24 period, if any, from the beneficiaries.

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 8.8 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.

10. Allow interim tariff in accordance with Regulation 10 (3) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for purpose of inclusion in the PoC charges.

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

Background

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

(a) The Investment Approval (IA) for implementation of the transmission project was accorded by the Board of Directors of the Petitioner Company vide Ref. No. C/CP/ Nabinagar-II TPS dated 2.4.2016 for ₹79013 lakh including IDC of ₹5000 lakh based on October, 2015 price level.

(b) The transmission project was discussed with the regional constituents in the Standing Committee Meetings of ER held on 20.9.2010 as a part of the Associated Transmission System (ATS) for Nabinagar-II TPS (3x660 MW). Further, the transmission project was also discussed in the 15th Eastern Regional Power Committee (ERPC) meetings held on 28.9.2010 and ratified in the 16th meeting of ERPC held at Bhubaneswar on 18.12.2010.

(c) The scope of work covered under the transmission project is as follows:

Transmission Line:

1. Nabinagar-II – Gaya 400 kV D/C (Quad) line
2. Nabinagar-II – Patna 400 kV D/C (Quad) line

Sub-station:



(a) **Extension of 765/400 kV Sub-station at Gaya**

765 kV

- Transformer Bay : 1
- 765/400 kV, 1500 MVA ICT : 1

400 kV

- Transformer Bay : 1
- Line bays : 2

(b) **Extension of 765/400 kV Sub-station at Gaya**

400 kV

- Line bays : 2
- 420 kV, 80 MVAR Switchable line reactor : 2
- Switchable line reactor bays : 2

(d) The Petitioner has submitted that entire scope of the transmission project has been implemented and status of tariff petitions in respect of the transmission assets covered under the transmission project is as follows:

Sl. No	Asset Name	Actual COD	Petition
1	400 kV D/C Nabinagar - Patna line along with 2X80 MVAR switchable line reactor and associated bays at Patna Sub-station	21.7.2019	Covered in the instant petition
2	765/400 kV 3X500 MVA ICT-IV along with Associated bays at Gaya Sub-station	1.6.2019	
3	80 MVAR switchable Line Reactor in 400 kV Barh-I line at Patna Sub-Station along with associated bay	30.1.2020	
4	400 kV D/C (Quad) Nabinagar-II – Gaya Transmission Line with 02 number associated bays at Gaya Sub-station	12.5.2018	The Commission vide order 8.2.2021 in Petition No. 39/TT/2020 has allowed truing up of transmission tariff for 2014-19 period and determination of tariff for 2019-24 period.



(e) Initially the scope of the transmission project was approved as 400 kV D/C Nabinagar–Patna Transmission Line along with 2X80 MVAR switchable line reactor at Patna end. However, due to space constraint at Patna Sub-station, the scope of work was modified as per CEA meeting dated 2.11.2017 as follows:

- i. Termination of one of the circuits in existing 80 MVAR bus reactor bay along with conversion of existing 80 MVAR bus reactor as switchable line reactor.
- ii. Installation of originally identified switchable line reactor for this circuit as switchable line reactor in one circuit of Barh-Patna line.

(f) The same has also been approved in 1st ERPCTP dated 14.2.2020 and CEA meeting dated 2.11.2017.

(g) Further, 1X80 MVAR bus reactor at Patna Sub-station was originally put under commercial operation on 1.5.2007 under Kahalgaon Stage-II Phase-I project, the same is used as switchable line reactor along with one circuit of 400 kV D/C Nabinagar-Patna transmission line which has been de-capitalized in Petition No. 86/TT/2020 and is recapitalized in the instant petition along with Asset-I.

(h) The Petitioner vide affidavit dated 30.6.2021 has submitted that the existing 80 MVAR bus reactor which was originally declared under commercial operation on 1.5.2007 under the project “Kahalgaon Stage-II Phase-I” has been converted into a Switchable Line Reactor and installed with Circuit -1 of the 400



kV D/C Nabinagar II-Patna Transmission Line. Thus, in line with the general directions issued by the Commission in respect of shifting of assets from one project to another, the existing 80 MVAR bus reactor has been de-capitalized from the “Kahalgaon Stage-II Phase-I” project in truing up Petition No. 86/TT/2020 and has been re-capitalized in the instant transmission project as part of Asset-I. The relevant details of de-capitalization of reactor and recapitalization of 80 MVAR bus reactor are as follows:

“Date of Removal of 80 MVAR reactor (under operation as bus reactor): 2.3.2019

Date considered for de-capitalization (from Kahalgaon Stage-II Phase-I i.e. in Petition No. 86/TT/2020) : 20.7.2019

Date for re-capitalization of 80 MVAR bus reactor as SLR (under Asset-I): 21.7.2019”

(i) The relevant portion of the Commission’s order dated 11.9.2021 in Petition No. 86/TT/2020, with regard to de-capitalization of 80 MVAR bus reactor is as follows:

“Xxxx

34. In respect of the decapitalisation, the Petitioner has submitted as under (along with additional details submitted during hearing dated 31.3.2021:

Asset and year	Amount (₹ in lakh)	Reason(s)
Combined Asset-II 2019-20	551.04	80 MVAR Bus reactor at Patna sub-station was originally put under commercial operation on 1.5.2007. The same was removed from Lucknow sub-station on 2.3.2019. Thereafter, it was used at Patna sub-station under Transmission system associated with Nabinagar-II project and put under commercial operation w.e.f. 21.7.2019.

Xxxx

38. The Petitioner vide affidavit dated 17.11.2020 had submitted the following details of the decapitalised assets:



<i>Equipment/ Asset</i>	<i>Year of capitalisation of asset/ equipment being decapitalised</i>	<i>Actual date of removal of the asset</i>	<i>Original book value of the asset being decapitalised</i>	<i>Debt-Equity ratio at the time of capitalisation</i>	<i>Cumulative depreciation corresponding to decapitalisation date</i>	<i>Cumulative repayment of loan corresponding to decapitalisation</i>	<i>Date of decapitalisation claimed in the instant petition</i>
80 MVAR Bus Reactor	2007-08 (1.5.2007)	2.3.2019	551.04	70:30	323.18	296.02	21.7.2019

Xxxx”

(j) Accordingly, the Petitioner has submitted Form 10-B along with the petition. The Petitioner vide affidavit dated 31.5.2021 has submitted that capital cost and FR approved cost of shifted 80 MVAR reactor has already been approved vide order dated 6.5.2009 in Petition No. 1/2009, vide order dated 18.5.2010 in Petition No. 50/2010, vide order dated 15.2.2011 in Petition No. 300/2010, vide order dated 14.12.2015 in Petition No. 560/TT/2014 and vide order dated 11.9.2021 in Petition No. 86/TT/2020. Hence, the FR cost of the shifted reactor is not applicable in respect of the transmission assets. The Petitioner has not claimed any shifting cost for Asset-I.

(k) Similar issue was earlier dealt by the Commission in Petition No. 485/TT/2019, Petition No. 128/TT/2020 and Petition No. 195/TT/2016 etc. The observations of the Commission in order dated 28.9.2017 in Petition No. 195/TT/2016 in identical matter are as follows:

“Xxxx

6. The tariff of “40% FSC at Lucknow Sub-station” was allowed since 1.6.2007 and it has completed 10 years of its useful life. It is a case of inter-unit transfer. Since the proposed shifting of FSC from Lucknow to Sohawal is of permanent nature and as it involves two different schemes covered under different Investment Approvals, there will be a mismatch of recovery of the cost of the “40% FSC” over the 25 years. In order to address this issue, the Commission in the past has decided that in case of inter-unit transfer, the assets shall be decapitalised in the books of accounts of the transmission system where the asset was originally commissioned and capitalised in the books of accounts of the



transmission system where it is transferred. In the instant case, the 40% FSC has been transferred from Lucknow to Sohawal end. Therefore, the said assets need to be de-capitalised from the books of accounts of the assets at Lucknow and capitalised in the books of account of assets at Sohawal. The petitioner is directed to carry out the decapitalisation and corresponding capitalisation of the assets within a period of six months and claim the revised tariff of the “40% FSC” at Sohawal Sub-station at the time of truing-up. In so far as the expenditure involved in inter-unit transfer is concerned, this is in the nature of revenue expenditure and is allowed as a onetime pass through. Since the “40% FSC” was dismantled and shifted to Sohawal and thereafter, commissioned on 12.2.2016, the tariff of the assets shall be determined afresh with reference to the COD as 12.2.2016. Accordingly, the petitioner after carrying out necessary de-capitalisation of the assets at Lucknow and capitalisation at Sohawal Sub-station shall seek fresh determination of the tariff with effect from 12.2.2016. Therefore, the tariff for “40% FSC at Sohawal Sub-station” is not allowed in this order

Xxxx”

(l) In line with the aforesaid order, 1x80 MVAR reactor under Asset-I will be considered as a separate asset and separate tariff will be allowed to the re-capitalised asset.

(m) We have considered the submissions of the Petitioner. The COD of 400 kV D/C Nabinagar-Patna Transmission Line i.e. Asset-I has already been approved as 21.7.2019. Therefore, associated bays at Patna Sub-station is treated as a separate Asset-I(a) and it has to be serviced from its COD i.e. 21.7.2019. However, the shifted 80 MVAR bus reactor as Switchable Line Reactor is an existing asset which has already been allowed tariff since its COD on 1.5.2007 and it has completed around 10 years of its useful life. Taking into consideration the fact that remaining useful life is not same for both the transmission assets, Asset-I is bifurcated into Asset-I(a) and Asset-I(b).

(n) Tariff is approved for Asset-I in two parts and the details of the same are as follows:



Sl. No	Name of Assets	COD claimed	Asset nomenclature considered by the Commission
1	400 kV D/C Nabinagar - Patna line and associated bays at Patna Sub-station	21.7.2019	Asset-I(a)
2	80 MVAR Switchable Line Reactor at Nabinagar Sub-station	21.7.2019 (re-capitalisation date) (Actual COD - 1.5.2007)	Asset-I(b)

(o) The Petitioner has not claimed separate tariff for Asset-I(b). The Petitioner is directed to submit separate tariff forms for Asset-I(b) at the time of truing up.

(p) As per IA dated 2.4.2016, the transmission assets were scheduled to be put into commercial operation (SCOD) within 38 months from the date of approval of Board of Directors i.e., by 1.6.2019. The details of SCOD, COD and time over-run are as follows:

Assets	SCOD	COD claimed	Time over-run (days)
Asset-I	1.6.2019	21.7.2019	49
Asset-II		1.6.2019	-
Asset- III		30.1.2020	242

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

5. The Petitioner has served the petition on the Respondents and notice of this petition has also 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 notices published in the newspapers by the Petitioner. Bihar State Power Holding Company Limited (BSPHCL) i.e. Respondent No. 1 has filed its reply vide affidavit dated 16.6.2021 and has raised issues of time over-run, Additional Capital Expenditure (ACE), Return on Equity (RoE), recovery of statutory charges, floating rate of interest and security expenses. In response, the Petitioner has filed rejoinder to the reply of BSPHCL vide affidavit dated 21.6.2021. Nabinagar Power Generation Company Private Limited (NPGCL) i.e. Respondent No. 7 has filed reply vide affidavit dated 15.7.2021 and has mainly submitted that Asset-III is not related to the Associated Transmission System of NPGCL. In response, the Petitioner has filed its rejoinder dated 30.7.2021.

6. It is observed that BSPHCL has repeatedly been raising the same issues of MAT rate, grossing up of RoE and floating rate of interest in various petitions despite clear findings of the Commission rejecting the contentions of BSPHCL. The contentions of BSPHCL have been rejected by the Commission in various petitions including vide order dated 28.5.2021 in Petition No. 476/TT/2019. As BSPHCL has not challenged the findings of the Commission, the same have attained finality. In view of this, the contentions of BSPHCL pertaining to MAT, grossing up of RoE and floating rate of interest are rejected. The issues which are specific to the instant petition and not dealt by the Commission earlier are considered in the relevant paragraphs of this order.

7. The hearing in this matter was held on 26.10.2021 through video conference and order was reserved.



8. This order is issued considering the submissions made by the Petitioner in the main petition vide affidavits dated 7.9.2020, 31.5.2021, 18.6.2021 and 30.6.2021, replies filed by BSPHCL and NPGCL vide affidavits dated 16.6.2021 and 15.7.2021 respectively and Petitioner's rejoinders thereto.

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

10. BSPHCL has submitted that the Petitioner did not make application for determination of tariff in respect of the transmission assets within 60 days of anticipated date of commercial operation as mandated under Regulation 9(1) of the 2019 Tariff Regulations. However, the Petitioner has not given any specific reply to the submission of BSPHCL on this issue.

11. We have considered the submission of the Petitioner and BSPHCL. On perusal of record, we notice that the Petitioner in the instant petition has claimed tariff in respect of the transmission assets on the basis of actual date of commercial operation. Accordingly, the submission of BSPHCL is misplaced and is accordingly rejected.

DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD

12. The Annual Fixed Charges (AFC) claimed by the Petitioner in respect of the transmission assets for 2019-24 tariff period are as follows:

Asset-I	(₹ in lakh)				
	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	1442.02	2131.52	2171.15	2194.17	2201.85



Interest on Loan	1236.83	1709.89	1592.46	1456.59	1307.72
Return on Equity	1531.92	2264.65	2306.95	2331.52	2339.71
Interest on working capital	72.01	104.99	104.90	104.04	102.25
O&M Expenses	199.32	295.97	306.27	316.97	327.93
Total	4482.10	6507.02	6481.73	6403.29	6279.46

(₹ in lakh)

Asset-II	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	246.96	318.74	341.60	355.31	359.88
Interest on Loan	245.64	295.36	293.38	280.28	256.31
Return on Equity	260.56	336.55	360.94	375.58	380.46
Interest on working capital	40.88	51.06	53.04	54.64	55.72
O&M Expenses	678.05	841.88	871.68	903.09	934.59
Total	1472.09	1843.59	1920.64	1968.90	1986.96

(₹ in lakh)

Asset-III	2019-20 (Pro-rata for 62 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	8.27	56.00	65.06	67.93	68.88
Interest on Loan	6.09	39.58	43.05	41.41	38.20
Return on Equity	8.83	59.76	69.43	72.49	73.50
Interest on working capital	0.59	3.79	4.18	4.30	4.32
O&M Expenses	5.45	33.28	34.45	35.66	36.91
Total	29.23	192.41	216.17	221.79	221.81

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

(₹ in lakh)

Asset-I	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	23.84	24.66	25.52	26.41	27.33
Maintenance Spares	42.91	44.40	45.94	47.55	49.19
Receivables	790.96	802.24	799.12	789.45	772.06
Total	857.71	871.30	870.58	863.41	848.58
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	72.01	104.99	104.90	104.04	102.25

(₹ in lakh)

Asset-II	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	67.81	70.16	72.64	75.26	77.88



Asset-II	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
Maintenance Spares	122.05	126.28	130.75	135.46	140.19
Receivables	217.19	227.29	236.79	242.74	244.30
Total	407.05	423.73	440.18	453.46	462.37
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	40.88	51.06	53.04	54.64	55.72

(₹ in lakh)

Asset-III	2019-20 (Pro-rata for 62 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	2.68	2.77	2.87	2.97	3.08
Maintenance Spares	4.82	4.99	5.17	5.35	5.54
Receivables	21.21	23.72	26.65	27.34	27.27
Total	28.71	31.48	34.69	35.66	35.89
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest on Working Capital	0.59	3.79	4.18	4.30	4.32

Date of Commercial Operation (“COD”)

14. Regulation 5 of the 2019 Tariff Regulations provides as follows:

“5. Date of Commercial Operation: (1) *The date of commercial operation of a generating station or unit thereof or a transmission system or element thereof and associated communication system shall be determined in accordance with the provisions of the Grid Code.*

(2) *In case the transmission system or element thereof executed by a transmission licensee is ready for commercial operation but the interconnected generating station or the transmission system of other transmission licensee as per the agreed project implementation schedule is not ready for commercial operation, the transmission licensee may file petition before the Commission for approval of the date of commercial operation of such transmission system or element thereof:*

Provided that the transmission licensee seeking the approval of the date of commercial operation under this clause shall give prior notice of at least one month, to the generating company or the other transmission licensee and the long term customers of its transmission system, as the case may be, regarding the date of commercial operation:

Provided further that the transmission licensee seeking the approval of the date of commercial operation of the transmission system under this clause shall be required to submit the following documents along with the petition:

(a) *Energisation certificate issued by the Regional Electrical Inspector under Central Electricity Authority;*



(b) Trial operation certificate issued by the concerned RLDC for charging element with or without electrical load;

(c) Implementation Agreement, if any, executed by the parties;

(d) Minutes of the coordination meetings or related correspondences regarding the monitoring of the progress of the generating station and transmission systems;

(e) Notice issued by the transmission licensee as per the first proviso under this clause and the response;

(f) Certificate of the CEO or MD of the company regarding the completion of the transmission system including associated communication system in all respects.

(3) The date of commercial operation in case of integrated mine(s), shall mean the earliest of —

a) the first date of the year succeeding the year in which 25% of the Peak Rated Capacity as per the Mining Plan is achieved; or

b) the first date of the year succeeding the year in which the value of production estimated in accordance with Regulation 7A of these regulations, exceeds total expenditure in that year; or

c) the date of two years from the date of commencement of production: Provided that on earliest occurrence of any of the events under sub- clauses (a) to (c) of Clause (3) of this Regulation, the generating company shall declare the date of commercial operation of the integrated mine(s) under the relevant sub-clause with one week prior intimation to the beneficiaries of the end-use or associated generating station(s);

Provided further that in case the integrated mine(s) is ready for commercial operation but is prevented from declaration of the date of commercial operation for reasons not attributable to the generating company or its suppliers or contractors or the Mine Developer and Operator, the Commission, on an application made by the generating company, may approve such other date as the date of commercial operation as may be considered appropriate after considering the relevant reasons that prevented the declaration of the date of commercial operation under any of the sub-clauses of Clause (3) of this Regulation;

Provided also that the generating company seeking the approval of the date of commercial operation under the preceding proviso shall give prior notice of one month to the beneficiaries of the end-use or associated generating station(s) of the integrated mine(s) regarding the date of commercial operation.”

15. The Petitioner has claimed actual COD in respect of the transmission assets and the details of the same are as follows:



Assets	SCOD	Completion of trial run	COD claimed
Asset-I	1.6.2019	20.1.2019	21.7.2019
Asset-II		4.1.2019	1.6.2019
Asset-III		29.1.2020	30.1.2020

16. During the course of hearing dated 22.6.2021, the Commission observed that the Petitioner has not clearly enumerated about the reactors in the petition and directed the Petitioner to clarify the number of reactors being capitalised in the instant petition.

17. In response, the Petitioner vide affidavit dated 30.6.2021 has submitted as follows:

(a) At Patna end two 400 kV line bays, two 80 MVAR Switchable Line Reactors (SLR) and two 400 kV bays for these 80 MVAR SLRs were required. Thus, four 400 kV bays were required at Patna Sub-station. The Petitioner procured only two 80 MVAR Line Reactors for the transmission project in respect of Asset-I(a).

(b) At Patna Sub-station, space was available only for termination of one of the circuits of 400 kV D/C Nabinagar II-Patna 400 kV D/C (Quad) line. In view of the space constraints, the transmission project had to be modified as follows:

- Termination of one of the circuits in existing 80 MVAR bus reactor bay along with conversion of existing 80 MVAR bus reactor as switchable line reactor.
- One 80 MVAR existing bus reactor along with bay (declared under commercial operation on 1.5.2007 under project "Kahalgaon Stage-II



Phase-I [K2P1]”) was available at Patna Sub-station and it was decided that one circuit of Nabinagar II-Patna 400 kV D/C Transmission Line may be terminated in bus reactor bay. Accordingly, one 400 kV bus reactor bay was utilised for termination of one Circuit (Circuit-1) of 400 kV D/C Nabinagar II-Patna Transmission Line.

(c) Further, the scope also required installation of 80 MVAR Switchable Line Reactor (SLR) with the line. Thus, 80 MVAR bus reactor (provided under Kahalgaon Stage-II Phase-I) was converted as SLR and used with Circuit-1 of the said line.

(d) Installation of originally identified switchable line reactor for Nabinagar II-Patna Transmission Line on one circuit of Barh-Patna Transmission Line:

- Out of the 2 number of 80 MVAR line reactors procured under Nabinagar-II, one was utilized in the 2nd circuit of Nabinagar II-Patna 400 kV D/C Transmission Line at Patna end and other new 80 MVAR SLR was utilized as 80 MVAR SLR in one circuit of the existing 400 kV Barh-Patna line at Patna end (line declared under commercial operation on 1.12.2012 under project “DVC Common Scheme”). Thus, this switchable line reactor is now Asset-III and it was declared under commercial operation w.e.f. 30.1.2020.

(e) The aforesaid modification in the scheme was deliberated and approved in the CEA meeting dated 2.11.2017 and also in the 1st ERPCTP dated 14.2.2020.



18. NPGCL has submitted as follows:

- (i) Discussions held with CEA as well as reply furnished by the Petitioner to the Record of Proceedings dated 22.6.2021 clearly shows that Asset-III is not at all related to the Associated Transmission System (ATS) of NPGCL and it is not connected to evacuation of electricity from NPGCL's generating station. Therefore, NPGCL on account of delay in execution of its generating station cannot be made liable to pay transmission charges with respect to Asset-III which is not at all related to its generating station and it is a part of DVC Transmission Scheme.
- (ii) Further, NPGCL's LTA was operationalised on 29.8.2019 whereas Asset-III was admittedly put under commercial operation on 30.1.2020. This further shows that Asset-III is not related to the ATS of NPGCL's generating station.

19. In response to the submissions of NPGCL, the Petitioner has submitted that Asset-III is a part of the transmission project but it is not for evacuation of power from NPGCL's generating station.

20. In support of actual COD of the transmission assets, the Petitioner has submitted CEA Energisation Certificate dated 14.6.2019 and 26.6.2019, RLDC charging certificate dated 4.9.2019, 1.3.2019 and 6.3.2020 certifying completion of trial run and CMD certificate in respect of the transmission assets.

21. We have considered the submissions of the Petitioner and NPGCL. NPGCL has



contended that Asset-III is not at all related to the ATS of NPGCL and is not connected to the evacuation of electricity from NPGCL's generating station. The relevant extracts of the minutes of the 1st ERPCTP is as follows:

"19. Modification in ISTS scheme namely – "Associated Transmission System for Nabinagar-II TPS (3 x 660 MW)".

19.1 Representative of CTU informed that the transmission system of Nabinagar-II TPS was agreed in the 11th meeting of Standing Committee on Power System Planning of ER held on 20-09-2010 which inter alia includes Nabinagar-II – Patna 400kV D/c (Q) line. 2x80 MVAR switchable line reactor was also agreed at Patna end of the above line. However, in view of space constraint at Patna S/s, the matter was discussed in a meeting held at CEA on 02-11-2017 wherein the following was agreed in principle:

- (i) Termination of one of the circuits in existing 80 MVAR bus reactor bay along with conversion of existing 80 MVAR bus reactor as switchable line reactor.*
- (ii) Installation of originally identified switchable line reactor for this circuit as switchable line reactor in one circuit of Barh – Patna line.*

19.2 CTU informed that the scheme has already been implemented as agreed in the said meeting.

19.3 Members noted the same."

22. In view of above, we are of the view that Asset-I(a) i.e. Nabinagar-II – Patna 400 kV D/C (Quad) Transmission Line alongwith 2x80 MVAR switchable line reactor at Patna end is part of ATS of NPGCL and Asset-III i.e. 80 MVAR Switchable Line Reactor in 400 kV Barh-I Transmission Line at Patna Sub-station along with associated bay is not part of ATS of NPGCL.

23. The Petitioner and NPGCL have entered into Implementation Agreement (IA) on 15.3.2016. The relevant extracts of IA is as follows:

"Annexure-I

Schedule for the purpose of Indemnification

Project: Nabinagar Super Thermal Power Project (NPGCPL) (3x660 MW)

1.0 Unit wise Commissioning Schedule of power project of "NPGCPL"



- a. Unit No.1 (660 MW): 30.09.2017,
 - b. Unit No.2&3 (660 MW): Thereafter
- 2.0 Details Associated Transmission System (ATS) for NPGCPL STPP to be implemented by "POWERGRID"

A. Transmission line

- i) Nabinagar STPP-Patna 400 kV D/C line with quad moose conductor
- ii) Nabinagar STPP-Gaya 400 kV D/C line with quad moose conductor

B. Sub-stations

- iii) 765/400 kV, Gaya substation (Extn.)-1 No. 765 kV ICT bay,
1 No. 1500 MVA 765/400 kV ICT at (to match with 3rd unit of gen project)
- iv) 400 kV Patna Substation Extn.-02 no.400 kV line bays
- v) 400 kV Gaya Substation Extn.-02 no.400 kV line bays

Commissioning Schedule of ATA: 30 April,2019

Thus, for the purpose of Indemnification, the zero date would be 01.05.2019.

1. *It is agreed that the Zero date for above projects shall be 01.05.2019 for the purpose of indemnification of NPGCPL or POWERGRID, as the case may be, in line with clause 12(2) of CERC (terms and Conditions of tariff) Regulations,2014.*

2. *NPGCPL has requested POWERGRID to commission on e-transmission line matching with commissioning of the first unit by Sept, 2017. POWERGRID agreed to make its best effort to expediate the completion of Nabinagar-Gaya 400 kV D/c (quad) line and the bay extension at Gaya to match with the first unit of NPGCPL."*

24. The Petitioner vide affidavit dated 18.6.2021 has submitted that COD of the first unit of NPGCL is 6.9.2021, COD of second unit of NPGCL is 31.3.2021 and third unit of NPGCL has not yet been declared under commercial operation and is expected to be executed by July, 2022.

25. Taking into consideration CEA energisation certificate, RLDC charging certificate and CMD certificate as required under the Grid Code, COD of Asset-I, Asset-II and Asset-III is approved as 21.7.2019, 1.6.2019 and 30.1.2020 respectively. Asset-I(b) is an existing asset and the Commission had approved its COD as 1.5.2007 under "1X80 MVAR bus reactor at Patna Sub-station with associated bay equipment in Eastern Region" vide order dated 6.5.2009 in Petition No. 1/2009. Accordingly, tariff of 80 MVAR bus reactor was allowed and the same is



now re-capitalised in this petition with COD as 21.7.2019.

Capital Cost

26. 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 Asset-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 tried up by excluding liability, if any, as on 1.4.2019;*
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*
- (c) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
- (e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal up to the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and*
- (f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries.”*

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

- (a) cost of approved rehabilitation and resettlement (R&R) plan of the project in conformity with National R&R Policy and R&R package as approved; and*
- (b) cost of the developer's 10% contribution towards Rajiv Gandhi Grameen Viduytikaran 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 Asset-forming part of the project, but not in use, as declared in the tariff petition;*
- (b) De-capitalised Asset-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 asset.

(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.”

27. The Petitioner has claimed the following capital cost incurred in respect of Asset-I(a), Asset-II and Asset-III as per Auditor’s Certificate dated 29.5.2020 as on COD and ACE projected to be incurred. The details of the same are as follows:

Assets	Apportioned approved cost as per FR	Capital Cost claimed as on COD	Projected ACE				Estimated completion cost
			2019-20	2020-21	2021-22	2022-23	
Asset-I(a)	41324.72	38008.89	1219.76	872.15	581.43	290.72	40972.95
Asset-II	6762.96	5391.86	321.35	519.47	346.31	173.19	6752.18
Asset-III	1310.48	943.14	0	252.99	72.28	36.14	1304.55
Total	49398.16	44343.89	1541.11	1644.61	1000.02	500.05	49029.68

28. The estimated completion cost of the transmission assets is based on the Auditor’s Certificate which works out to be ₹49029.68 lakh, which is within the approved FR cost of ₹49398.16 lakh.

29. The Petitioner has submitted Form-5 along with the following justification for cost variation from FR cost of ₹49398.16 lakh to completion cost of ₹49029.68 lakh as on 31.3.2024:

a. Decrease in IDC:

Decrease in IDC is attributable to variation in the rate of interest considered in FR as against actuals. Actual IDC accrued upto COD has been considered as claimed in the instant petition.

b. IEDC:



In the Investment Approval 5% and 3% of equipment cost and civil works have been considered for IEDC and contingency respectively, whereas based on the actual expenditure, IEDC has been claimed in the Auditor's Certificate.

c. Cost variation in the equipment cost including civil works:

Through open competitive bidding process, lowest possible market prices for products/services are obtained and contracts are awarded on the basis of lowest evaluated eligible bidder on overall basis. The best competitive bid prices against tenders may vary as compared to the cost estimate depending upon prevailing market conditions, design and site requirements. The cost estimate of the transmission project is on the basis of October, 2015 price level. Further, as regards variation in the cost of individual item in sub-station packages, the packages under subject scope of works comprise of a large number of items and the same are awarded through open competitive bidding. In the said bidding process, bids are received from multiple parties quoting different rates for various BOQ items under the said package. Hence, item-wise unit prices in contracts and the variation over unit rate considered in FR estimates are beyond the control of the Petitioner.

30. It is observed that cost variation is primarily on account of variation in estimated prices and final competitive prices. Further, variation in cost against the total apportioned approved cost as per FR of ₹49398.16 lakh, the estimated completion cost is ₹49029.68 lakh as on 31.3.2024, which is within the apportioned approved



cost. Therefore, the cost variation is allowed.

Time Over-run

31. Scheduled date of commercial operation of the transmission project was 38 months from the date of Investment Approval. Accordingly, SCOD of the transmission project is 1.6.2019 against which Asset-I(a) and Asset-III have been put under commercial operation on 21.7.2019 and 30.1.2020 with delay of 49 days and 242 days respectively. There is no time over-run in case of Asset-II.

Asset-I(a)

32. The Petitioner has submitted that time over-run is due to delay in construction works due to non-approval of crossing by National Highway Authority of India (NHAI) and delay in foundation, erection and stringing work due to RoW (Right of Way) and local law and order problems. The Petitioner has submitted chronology of delay on account of NHAI approval and the same is as follows:

Sl. No.	Type of Clearance	Location Numbers Affected	Date of Submission of proposal	Date of Approval	Delay
1	National Highway-83	81/0-82/0	24.8.2017	22.3.2018	07 Months
2	National Highway-02	13/0-14/0	11.4.2017	03.1.2019	01 Year and 09 months
3	National Highway-98	33/0-34/0	18.8.2017	06.7.2018	11 months
4	National Highway-110	58/0-59/0	25.7.2017	02.2.2018	06 months and 07 days

33. The Petitioner made the following submissions with respect to RoW issues:

- a. RoW problems started creeping in various sections of the line and law & order issues at various locations were there. Many such issues were initially handled and managed by the officials of the Petitioner.
- b. ROW issues involved demand of exorbitant amount of crop compensation, land compensation, construction of structures/buildings in right of way of



line, manhandling of gang workers, etc. Wherever possible, persuasive measures were adopted to pacify the land-owners/ villagers agitating against the line construction.

- c. Gradually, such RoW issues started flaring up frequently and in larger proportions, wherein the local villagers/ land-owners vehemently opposed the construction work and stopped the work several times demanding exorbitant amount of compensation.
- d. At certain locations, verbal persuasions did not suffice and eventually the help and assistance of District Administration, police department and Additional Secretary to Government of Bihar was sought to mitigate the RoW issues.

34. The Petitioner has submitted the following documentary evidence in support of issues related to right of way/law and order:

Date	Remarks
4.12.2017	Letter from Petitioner to SP (east), Patna, intimating him of RoW issue at various locations and requesting to take action against people/villagers obstructing the foundation work, erection & stringing works.
4.12.2017	Letter from SP (East), Patna, to OIC (Officer-in-Charge), <i>Punpun</i> Police Station, directing him to investigate and take necessary action to mitigate the RoW issues.
6.12.2017	Letter from Petitioner to SP, Aurangabad, intimating him of RoW issue at various locations.
5.3.2018	Letter from Petitioner to SDM, Aurangabad, intimating him of RoW issue at various locations.
8.3.2018	Letter from SDM, <i>Masaurhi</i> to CO (Circle Officer), <i>Punpun</i> , directing him to investigate and take necessary action to mitigate the ROW issues for resumption of foundation works at Location No. 78/1 & 78/5.
24.3.2018	Letter from Petitioner to DM, Aurangabad, intimating him of RoW issue at various locations.
24.3.2018	Letter from Petitioner to DM, Patna, intimating him of RW issue at various locations.
12.4.2018	Letter from DM, Patna to CO, <i>Patna Sadar, Masaudhi & Paliganj</i> , directing him to investigate and take necessary action to mitigate the ROW issues for resumption of foundation works.
20.4.2018	Letter from Petitioner to CO, Masaurhi, for providing assistance for peaceful execution of line works hampered by ROW issues.
25.4.2018	Letter from Petitioner to CO, Masaurhi, for providing assistance and police protection in adequate numbers for peaceful execution of line works hampered by ROW issues.



Date	Remarks
4.5.2018	Letter from Petitioner to SDM, <i>Daudanagar</i> , intimating him of ROW issue at various locations where land-owners are demanding unlawful compensation or diversion and requesting him to take necessary action for resumption of works at Location No. 45A/0.
7.5.2018	Letter from Petitioner to DM, Aurangabad, intimating him of ROW issues at various locations and requesting him to take action against people/villagers obstructing works and threatening the workers/employees and also requesting him to provide necessary police protection for resumption of works around <i>Daudanagar & Barun</i> areas.
14.5.2018	Letter from DM, Duadanagar, to CO, Daudanagar & ADO (Areas Development Officer), Daudanagar, directing them to investigate and take necessary action to mitigate the ROW issues and take steps for peaceful resumption of works.
18.5.2018	Office Order from the Office of SDM, Patna Sadar, <i>conveying directions as received from DM, Patna</i> to Zonal Officers to be deputed as Magistrate along with OIC (local police stations) to take necessary action to mitigate the ROW issues and take steps for peaceful resumption of works.
21.5.2018	Letter from Petitioner to SDM, Aurangabad, intimating him of ROW issue at various locations where land-owners are demanding unlawful advance of crop compensation or diversion and requesting him to take necessary action for resumption of works at Location No. 18/0.
17.7.2018	Letter from Petitioner to CO, <i>Sampatchak</i> , Patna, intimating him of ROW issue at various locations where land-owner is not allowing casting works and requesting him to take necessary action for resumption of works at Location No. 91/1.
11.8.2018	Letter from Petitioner to Additional Collector, Patna, intimating him of persistent ROW issues at various locations and requesting him to provide assistance.
25.8.2018	Letter from Petitioner to DM, Patna, intimating him of ROW issues at various locations where land-owners are demanding crop compensation which is yet to be paid from District Authorities. Thus, requesting him to ask CO, Masaurhi, to depute revenue officers at the earliest to disburse the crop compensation.
31.8.2018	Office Order from the Office of DM, Patna, directing the Zonal Officers, Masaurhi, to disburse the crop compensation so that line works could be resumed without hassle from land owners.
8.9.2018	Office Order from Additional Collector, Patna, to Zonal Officers, Masaurhi, directing them to investigate and resolve the ROW issues and revert the office of the Collector, Patna with investigation/action reports.
24.9.2018	Letter from Petitioner to SDM, Masaurhi, intimating him of ROW issue at various locations where land-owners obstructing line works and requesting him to take necessary action for resumption of works at Location No. 84A/0, 84B/0, 84A/3 & 84A/1.
12.10.2018	Office order from CO, Masaurhi, to Zonal Officers & OIC, police stations for providing assistance and police protection in adequate numbers for peaceful execution of line works hampered by ROW issues.
28.11.2018	Letter from Petitioner to SP (East), Patna, intimating him of ROW issues at



Date	Remarks
	various locations and requesting him to take action against people/villagers obstructing the line works & threatening workers at Location No. 85/0.
4.12.2018	Office order from CO, Masaurhi, to Zonal Officers & OIC, police stations for providing assistance & police protection in adequate numbers for peaceful execution of line works hampered by ROW issues for resumption of works at various locations.
13.12.2018	Office order from CO, Masaurhi, to Zonal Officers & OIC, police stations for providing assistance and police protection in adequate numbers for peaceful execution of line works hampered by ROW issues for resumption of works at Location No. 84A/0, 84B/0, 84A/3 & 84A/1.
24.12.2018	Letter from Petitioner to Additional Secretary, Govt. of Bihar, intimating him of re-occurring ROW issues during construction of Nabinagar- Patna TL and requesting him to take up the matter with the concerned authorities for aiding in expediting the construction work which have been severely affected by ROW issues at various locations.
26.12.2018	Letter from Additional Secretary, Govt. of Bihar, to SDM, Patna & SP, Patna directing them to provide assistance in all matters as requested by Petitioner in completion of Nabinagar- Patna TL.
27.12.2018	Letter from Petitioner to SDM, Masaurhi, intimating him of ROW issues at various locations where land-owners obstructing line works and requesting him to take necessary action for resumption of works at Location No. 83A/5, 84/0, 84A/0, 84B/0, 84A/3 & 84A/1.
27.12.2018	Letter from Petitioner to ADM, Law & Order, Patna, intimating him of severe and persistent ROW issues at various locations where land-owners obstructing line works and requesting him to deploy Magistrates so that resumption of works may take place peacefully.
27.12.2018	Office order from DM, Patna to the concerned officials for providing assistance & police protection in adequate number for peaceful execution of line works hampered by ROW issues for resumption of works.
29.12.2018	Letter from Petitioner to DM, Patna, intimating him of ROW issues at various locations where land-owner is not allowing casting works and requesting him to take necessary action for resumption of works.
31.12.2018	Office Order from the Office of DM, Patna, directing the Zonal Officers, Punpun, to assist Petitioner to complete the line works by removing ROW issues being created by land owners/ villagers.
7.1.2019	Office Order from the Office of DM, Patna, directing the Zonal Officers, Punpun, to deploy police manpower and to assist POWERGRID to complete the line works by removing the ROW issues being created by land owners/ villagers.
10.1.2019	Letter from Petitioner to DM, Patna, intimating him of ROW issues at various locations where land-owner is not allowing casting works and requesting him to take necessary action for resumption of works.
18.1.2019	Letter from Petitioner to DM, Aurangabad, intimating him of ROW issues at various locations where land-owner is not allowing casting works and requesting him to take necessary action for resumption of works at Location No. 17/0- 18/0.



Date	Remarks
9.2.2019	Office Order from the Office of DM, Aurangabad, directing the concerned district officials to deploy police manpower and to assist POWERGRID to complete the line works by removing the ROW issues being created by land owners/ villagers.
11.2.2019	Letter from Petitioner to DM, Patna, intimating him of ROW issue at various locations where land-owner is not allowing casting works and requesting him to take necessary action along with deployment of 10-15 armed policemen for resumption of works at Location No. 92/0.
14.2.2019	Office Order from the Office of Special Works Officer, Intelligence Wing, Patna to concerned to take necessary action along with deployment of 10-15 armed policemen for resumption of works to mitigate the ROW issues and take steps for peaceful resumption of works.

35. BSHPCL has submitted that chronology given by the Petitioner shows that the Petitioner started seeking approval from NHA only from 11.4.2017 onwards i.e., one year after IA. Similarly, the difficulties arising on account of RoW/ law and order issues have been stated to have started only from 4.12.2017. The statements given by the Petitioner regarding the mitigating and adaptive efforts are bereft of any details. BSPHCL has further submitted that the Petitioner should have explained this lag as it has given no justification regarding the same in the petition.

Asset-III

36. The Petitioner submitted the following reasons to justify the delay of 8 months in the case of Asset-III:

- a. As per 156th OCC meeting, the shut-down of 400 kV Patna-Balia line-1, 400 kV Bus-2 and 500 MVA ICT at Patna was approved from 1.5.2019 to 15.5.2019, but due to excessive loading of Patna Sub-station shut-down was not approved by BSEB.
- b. Further the shut-down was also approved in 157th, 158th, 159th, 160th, 161st, 162th and 163th OCC meeting but due to system constraint and excessive overloading condition the same was not approved by BSEB.
- c. BSEB finally granted shut-down in the month of January, 2020 and after



granting shut-down the reactor has been executed on 30.1.2020. Hence, the resultant delay of 08 months in execution of Asset-III is beyond the control of the Petitioner.

37. The Petitioner has submitted copy of relevant extracts of 156th to 163rd OCC meeting as documentary evidence. The details of approval in the OCC meetings provided by the Petitioner include the following:

Sl. No.	OCC Meeting	Remarks
1	156 th OCC Meeting	Outage approved from 1.5.2019 to 15.5.2019 for execution of 80 MVAR bus reactor as switchable line reactor
2	157 th OCC Meeting	Outage approved from 1.6.2019 to 15.6.2019
3	158 th OCC Meeting	Outage approved from 1.7.2019 to 15.7.2019
4	159 th OCC Meeting	Outage approved from 1.8.2019 to 15.8.2019
5	160 th OCC Meeting	Outage approved from 1.9.2019 to 15.9.2019
6	161 st OCC Meeting	Outage approved from 24.10.2019 to 25.10.2019
7	162 nd OCC Meeting	Outage approved from 16.11.2019 to 19.11.2019
8	163 rd OCC Meeting	Outage approved from 24.12.2019 to 25.12.2019

38. We have considered the submissions of the Petitioner and BSPHCL. As regards Assets-I(a) and Asset-III, there is delay of 49 days and 242 days respectively. With regard to Asset-I(a), the Petitioner has submitted that delay was due to non-approval of crossing by NHAI Authority, RoW problems and law and order problems. With respect to RoW problems, the Petitioner has given details of correspondences exchanged with various authorities along with supporting documents. The Petitioner has submitted letters starting from 4.12.2017 to 14.2.2019 wherein the Petitioner has mentioned about RoW problems being faced at Location No. 17/0-18/0, 78/1, 78/5, 91/1, 84A/0, 84B/0, 84A/3, 84A/1 and 85/0. Based on the justifications and documentary evidence submitted by the Petitioner, we are of the view that delay of 49 days was due to RoW issues.



39. It is further observed that there was considerable delay in getting approval from NHAI. A perusal of the documents submitted by the Petitioner demonstrates that the Petitioner applied for permission for overhead crossing at Patna-Gaya-Dobhi section of NH-83 on 24.8.2017, which was granted by NHAI only on 22.3.2018. Similarly, permission with regard to NH-2 was applied by the Petitioner on 11.4.2017, whereas its approval was received only on 3.1.2019. The Petitioner applied for permission of NH-98 on 18.8.2017, while its permission was granted only on 6.7.2018. For NH-110, permission was applied on 25.7.2017 and its approval was received only on 2.2.2018. On perusal of the documents, it is observed that delay in obtaining permissions from NHAI is subsumed in the RoW problems.

40. As discussed above, delay in respect of Asset-I(a) was on account of reasons beyond the control of the Petitioner. Hence, the entire delay of 49 days in completion of Asset-I(a) is condoned.

41. As regards Asset-III, the Petitioner has submitted that shut-down of 400 kV Patna-Balia line-1, 400 kV bus-2, 500 MVA ICT at Patna was approved from 1.5.2019 to 15.5.2019 but BSEB did not approve the shut-down due to excessive loading at Patna Sub-station. The Petitioner has not submitted any letter or documentary evidence to show that BSEB had rejected or denied the shut-down. In the absence of valid documentary evidence in support of shut-down, time over-run of 242 days is not condoned. However, the Petitioner is at liberty to provide all necessary documents at the time of truing up of tariff in support of delay of 242 days and the claim for time over-run with reference to Asset-III shall be considered on



merit.

42. In view of above discussions, time over-run condoned/ not condoned in respect of transmission asset is as follows:

Assets	SCOD	COD claimed	Time over-run (days)	Time over-run condoned (days)	Time over-run not condoned (days)
Asset-I(a)	2.6.2019	21.7.2019	49	49	-
Asset-II		1.6.2019	-	-	-
Asset-III		30.1.2020	242	-	242

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

43. The Petitioner has claimed IDC in respect of the transmission assets and has submitted Auditor's Certificates dated 29.5.2020 for Asset-I(a), Asset-II and Asset-III in support of the same. The Petitioner has submitted computation of IDC along with year-wise details of the IDC discharged.

44. The loan amount as on COD has been mentioned in Form-6 and Form-9C. On perusal these documents, it is observed that there is mismatch in the loan amount between IDC statement and in Form-9C. Therefore, the allowable IDC has been worked out based on the available information on record and relying on loan amount as per Form 9C. Recapitalization loan amounting to ₹385.73 lakh has been mentioned in Form-9C for which has no explanation is given in the present petition. The Petitioner is directed to submit detailed IDC statement by rectifying the above-mentioned deviation, at the time of true up. Loan details submitted in Form-9C for 2019-24 tariff period and IDC computation statement have been considered for the purpose of IDC calculation on cash basis and on accrued basis. The un-discharged IDC as on COD has been considered as ACE during the year in which it has been



discharged. Further, adjustment on account of time delay has been done to arrive at the admissible IDC. IDC on cash basis up to COD has been worked out based on loan details given in Form-9C in respect of the transmission assets.

45. Accordingly, based on the information furnished by the Petitioner, IDC considered is as follows:

(₹ in lakh)

Assets	IDC Claimed	IDC allowed	IDC disallowed due to time over run/ Computational Difference	IDC Discharged as on COD	IDC Un-discharged as on COD	IDC Discharge During	
						2019-20	2020-21
	A	B	C=(A-B)	D	E=(B-D)	F	G
Asset-I(a)	3007.62	3007.62	-	2760.34	247.27	199.63	47.64
Asset-II	247.05	217.69	29.36	210.77	6.92	6.92	-
Asset-III	54.6	32.13	22.47	32.13	-	-	-

46. The Petitioner has claimed IEDC in respect of Asset-I(a), Asset-II and Asset-III and has furnished Auditor's Certificates in support of the same. The Petitioner has submitted that entire IEDC has been discharged as on COD in respect of the transmission assets. Accordingly, pro-rata IEDC allowed and disallowed in respect of the transmission assets is as follows:

(₹ in lakh)

Assets	IEDC claimed as per Auditor's Certificate	Pro-rata IEDC disallowed due to time over-run	Pro-rata IEDC allowed as on COD
	1	2	3=(1-2)
Asset-I(a)	1821.84	-	1821.84
Asset-II	245.68	-	245.68
Asset-III	79.35	13.74	65.61



Initial Spares

47. Regulation 23(d) of the 2019 Tariff Regulations provides as follows:

“23. Initial Spares: Initial spares shall be capitalised as a percentage of the Plant and Machinery cost, subject to the following ceiling norms:

....

- (d) Transmission system (i) Transmission line - 1.00%
- (ii) Transmission Sub-station
 - Green Field - 4.00%
 - Brown Field - 6.00%
- (iii) Series Compensation devices and HVDC Station - 4.00%
- (iv) Gas Insulated Sub-station (GIS)
 - Green Field - 5.00%
 - Brown Field - 7.00%
- (v) Communication system - 3.50%
- (vi) Static Synchronous Compensator - 6.00%

.....”

48. The Petitioner has claimed the following Initial Spares in respect of the transmission assets:

Asset	Components of the Asset	Plant & Machinery cost (excluding IDC/IEDC, land cost and cost of civil works) (A)	Initial Spares claimed (B)	Ceiling limit (%) (C)	(₹ in lakh)	
					Initial Spares worked out $D = [(A-B)*C/(100-C)]$	Excess Initial Spares
Asset-I(a)	Transmission Line	32898.50	324.00	1.00	329.04	-
Asset-I(a)	Sub-Station Brownfield	2278.30	78.44	6.00	140.42	-
Asset-II	Sub-Station Brownfield	5476.64	327.74	6.00	328.65	-
Asset-III	Sub-Station Brownfield	869.86	28.27	6.00	53.72	-

49. We have considered the submission of the Petitioner. The Petitioner’s claim for Initial Spares is within the ceiling specified under Regulation 23(d) of the 2019 Tariff Regulations. Accordingly, details of Initial Spares allowed in respect of the



transmission assets for 2019-24 tariff period are as follows:

(₹ in lakh)

Assets		Plant & Machinery cost considered as on cut-off date	Initial Spares claimed	Norms as per 2019 Tariff Regulations (in %)	Initial Spares allowable as per 2019 Tariff Regulations	Initial Spares allowed	Discharge of Initial Spares	
							As on COD	2020-21
Asset-I(a)	Transmission Line	32898.50	324.00	1.00	329.04	324.00	184.00	140.00
	Sub-station	2278.30	78.44	6.00	140.42	78.44	38.44	40.00
Asset-II	Sub-station	5476.64	327.74	6.00	328.60	327.74	101.60	226.14
Asset-III	Sub-station	869.86	28.27	6.00	53.72	28.27	23.27	5.00

Capital Cost allowed as on COD

50. Accordingly, capital cost allowed in respect of the transmission assets as on COD is as follows:

(₹ in lakh)

Assets	Capital Cost claimed in Auditor's certificate as on COD (A)	IDC disallowed due to time over-run/ computational difference (B)	Un-discharged IDC as on COD (C)	IEDC disallowed due to time over-run (D)	Expenditure up to COD (E) = (A-B-C-D)
Asset-I(a)	38008.89	-	247.28	-	37761.61
Asset-I(b)	551.04	-	-	-	551.04
Asset-II	5391.86	29.36	6.92	-	5355.58
Asset-III	943.14	22.47	0.00	13.74	906.94

Additional Capital Expenditure ("ACE")

51. Regulation 24 and Regulation 25 of the 2019 Tariff Regulations provide as follows:

"24. Additional Capitalization within the original scope and up to the cut-off date:

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



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

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

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

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

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

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

(2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:

- a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations.*
- b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;*
- c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and*
- d) The replacement of such asset or equipment has otherwise been allowed by the Commission.”*

52. The Petitioner has claimed projected ACE for 2019-24 tariff period on account of



balance and retention payments due to un-discharged liability projected for works executed within the cut-off date and unexecuted works within the cut-off date. The Petitioner has claimed projected ACE as per Auditor's certificate and the same is as follows:

(₹ in lakh)

Asset	ACE during 2019-24 period*			
	2019-20	2020-21	2021-22	2022-23
Asset-I(a)	1219.76	872.15	581.43	290.72
Asset-II	321.35	519.47	346.31	173.19
Asset-III	-	252.99	72.28	36.14

*Excluding undischarged IDC

53. BSPHCL has submitted that as per Regulation 24 of the 2019 Tariff Regulations, ACE may be admitted up to the cut-off date only. No ACE in respect of Asset-I and Asset-II for 2022-2023 may be admitted as they are beyond the cut-off date. Further, the Petitioner ought to submit the details of liabilities recognised to be payable at a future date. In response the Petitioner has not given any categorical reply.

54. We have considered the submissions of Petitioner and BSPHCL. ACE claimed on account of balance and retention payments is allowed under Regulation 24(1)(a) of the 2019 Tariff Regulations. ACE allowed in respect of the transmission assets is as follows:

(₹ in lakh)

Assets	FR	Capital Cost as on COD	Admitted ACE*				Capital Cost as on 31.3.2024
			2019-20	2020-21	2021-22	2022-23	
Asset-I(a)	41324.72	37761.61	1419.39	919.79	581.43	290.72	40872.94
Asset-I(b)**	0.00	551.04	0.00	0.00	0.00	0.00	551.04
Asset-II	6762.96	5355.58	328.27	519.47	346.31	173.19	6722.82
Asset-III	1310.48	906.94	0.00	252.99	72.28	36.14	1268.35
Total	49398.16	44475.17	1747.66	1692.26	1000.02	500.05	49415.15

*Includes undischarged IDC



***The Petitioner has submitted that FR cost of Asset-I(b) had already been approved vide order dated 11.9.2021 in Petition No. 86/TT/2020 (original project) and not included in FR cost of subject transmission project.*

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 additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.

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

56. The details of debt-equity ratio considered for the purpose of computation of tariff for 2019-24 period in respect of the transmission assets are as follows:

Particulars	Capital Cost as on COD (₹ in lakh)	(in %)	Total Capital Cost as on 31.3.2024 (₹ in lakh)	(in %)
Asset-I(a)				
Debt	26433.14	70.00	28681.07	70.00
Equity	11328.47	30.00	12291.87	30.00
Total	37761.61	100.00	40972.94	100.00
Asset-I(b)				
Debt	385.73	70.00	385.73	70.00
Equity	165.31	30.00	165.31	30.00
Total	551.04	100.00	551.04	100.00
Asset-II				
Debt	3748.91	70.00	4705.99	70.00
Equity	1606.67	30.00	2016.83	30.00
Total	5355.58	100.00	6722.82	100.00
Asset-III				
Debt	634.87	70.00	887.86	70.00
Equity	272.07	30.00	380.49	30.00
Total	906.94	100.00	1268.35	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 system or element thereof including communication system. In case of the tariff of all the units of a



generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units:

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

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

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

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

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

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

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

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

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

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

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



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

(8) In case of de-capitalization of 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. We have considered the submissions of the Petitioner. Weighted Average Rate of Depreciation (WAROD) has been worked out and placed as Annexures-I to IV after taking into account the depreciation rates of assets as prescribed in the 2019 Tariff Regulations. The transmission Asset-I(b) has completed 12 years of life as on 31.3.2020. The remaining depreciable value of ₹161.52 lakh as on 31.3.2020 has been spread over the balance useful life of 13 years in accordance with Regulation 33(5) of the 2019 Tariff Regulations. Depreciation has been worked out considering



ACE as on COD and ACE in 2019-24 period. Depreciation allowed in respect of the transmission assets is as follows:

(₹ in lakh)

Sl. No.	Asset-I(a)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	37761.61	39181.00	40100.79	40682.22	40972.94
B	Addition during the year 2019-24	1419.39	919.80	581.43	290.72	0.00
C	Closing Gross Block (A+B)	39181.00	40100.80	40682.22	40972.94	40972.94
D	Average Gross Block [(A+C)/2]	38471.31	39640.90	40391.51	40827.58	40972.94
E	Freehold Land	0.00	0.00	0.00	0.00	0.00
F	Depreciable value [(D-E)*90%]	34632.34	35685.00	36360.55	36753.02	36883.84
G	Weighted average rate of Depreciation (WAROD) (in %)	5.30	5.30	5.30	5.30	5.30
H	Lapsed useful life at the beginning of the year (Year)	0	1	2	3	4
I	Balance useful life at the beginning of the year (Year)	34	33	32	31	30
J	Cumulative Depreciation at the beginning of the year	0.00	1421.76	3524.18	5666.24	7831.32
K	Remaining Aggregate Depreciable Value at the beginning of the year (F-J)	34632.34	34263.24	32836.37	31086.78	29052.52
L	Depreciation during the year (D*G)	1421.76	2102.42	2142.06	2165.08	2172.76
M	Cumulative Depreciation at the end of the year (J+L)	1421.76	3524.18	5666.24	7831.32	10004.08
N	Remaining Aggregate Depreciable Value at the end of the year (F-M)	33210.58	32160.82	30694.31	28921.70	26879.76

(₹ in lakh)

Sl. No.	Asset-I(b)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	551.04	551.04	551.04	551.04	551.04
B	Addition during the year 2019-24	0.00	0.00	0.00	0.00	0.00
C	Closing Gross Block (A+B)	551.04	551.04	551.04	551.04	551.04
D	Average Gross Block [(A+C)/2]	551.04	551.04	551.04	551.04	551.04



E	Freehold Land	0.00	0.00	0.00	0.00	0.00
F	Depreciable value [(D-E)*90%]	495.94	495.94	495.94	495.94	495.94
G	Weighted average rate of Depreciation (WAROD) (in %)	5.28%	1.97%	1.97%	1.97%	1.97%
H	Lapsed useful life at the beginning of the year (Year)	11	12	13	14	15
I	Balance useful life at the beginning of the year (Year)	14	13	12	11	10
J	Cumulative Depreciation at the beginning of the year	334.42	354.69	365.56	376.42	387.29
K	Remaining Aggregate Depreciable Value at the beginning of the year (F-J)	161.52	141.24	130.38	119.51	108.65
L	Depreciation during the year (D*G)	20.27	10.86	10.86	10.86	10.86
M	Cumulative Depreciation at the end of the year (J+L)	354.69	365.56	376.42	387.29	398.15
N	Remaining Aggregate Depreciable Value at the end of the year (F-M)	141.24	130.38	119.51	108.65	97.78

(₹ in lakh)

Sl. No.	Asset-II	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	5355.58	5683.85	6203.32	6549.63	6722.82
B	Addition during the year 2019-24	328.27	519.47	346.31	173.19	0.00
C	Closing Gross Block (A+B)	5683.85	6203.32	6549.63	6722.82	6722.82
D	Average Gross Block [(A+C)/2]	5519.71	5943.59	6376.48	6636.23	6722.82
E	Freehold Land	0.00	0.00	0.00	0.00	0.00
F	Depreciable value (D-E)*90%	4971.19	5352.67	5742.28	5976.05	6053.99
G	Weighted average rate of Depreciation (WAROD) (in %)	5.34	5.34	5.33	5.33	5.33
H	Lapsed useful life at the beginning of the year (Year)	0	1	2	3	4
I	Balance useful life at the beginning of the year (Year)	25	24	23	22	21
J	Cumulative Depreciation at the beginning of the year	0.00	245.66	562.83	902.86	1256.61
K	Remaining Aggregate Depreciable Value at the beginning of the year (F-J)	4971.19	5107.02	5179.44	5073.19	4797.38



L	Depreciation during the year (D*G)	245.66	317.17	340.03	353.74	358.32
M	Cumulative Depreciation at the end of the year (J+L)	245.66	562.83	902.86	1256.61	1614.92
N	Remaining Aggregate Depreciable Value at the end of the year (F-M)	4725.53	4789.84	4839.42	4719.45	4439.06

(₹ in lakh)

Sl. No.	Asset-III	2019-20 (Pro-rata for 62 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	906.94	906.94	1159.93	1232.21	1268.35
B	Addition during the year 2019-24	0.00	252.99	72.28	36.14	0.00
C	Closing Gross Block (A+B)	906.94	1159.93	1232.21	1268.35	1268.35
D	Average Gross Block [(A+C)/2]	906.94	1033.43	1196.07	1250.28	1268.35
E	Freehold Land	0.00	0.00	0.00	0.00	0.00
F	Depreciable value [(D-E)*90%]	816.24	930.09	1076.46	1125.25	1141.51
G	Weighted average rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
H	Lapsed useful life at the beginning of the year (Year)	0	1	2	3	4
I	Balance useful life at the beginning of the year (Year)	25	24	23	22	21
J	Cumulative Depreciation at the beginning of the year	8.11	54.57	63.15	66.01	66.97
K	Remaining Aggregate Depreciable Value at the beginning of the year (F-J)	816.24	921.98	1013.78	999.42	949.67
L	Depreciation during the year (D*G)	8.11	54.57	63.15	66.01	66.97
M	Cumulative Depreciation at the end of the year (J+L)	8.11	62.68	125.83	191.84	258.81
N	Remaining Aggregate Depreciable Value at the end of the year (F-M)	808.13	867.41	950.63	933.40	882.70

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 asset, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.

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

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

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

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

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

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

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

60. The Weighted Average Rate of Interest on IoL has been considered on the basis of rates prevailing as on COD for respective loans. The Petitioner has prayed that 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. In view of above, IoL has been worked out in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed in respect



of the transmission assets is as follows:

(₹ in lakh)

Sl. No.	Asset-I(a)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	26433.14	27426.71	28070.56	28477.57	28681.07
B	Cumulative Repayments up to Previous Year	0.00	1421.76	3524.18	5666.24	7831.32
C	Net Loan-Opening (A-B)	26433.14	26004.96	24546.39	22811.33	20849.75
D	Addition due to ACE	993.57	643.85	407.00	203.50	0.00
E	Repayment during the year	1421.76	2102.42	2142.06	2165.08	2172.76
F	Net Loan-Closing (C+D-E)	26004.96	24546.39	22811.33	20849.75	18676.99
G	Average Loan [(C+F)/2]	26219.05	25275.67	23678.86	21830.54	19763.37
H	Weighted Average Rate of Interest on Loan (in %)	6.753	6.753	6.721	6.677	6.632
I	Interest on Loan (G*H)	1233.61	1706.94	1591.49	1457.55	1310.61

(₹ in lakh)

Sl. No.	Asset-I(b)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	385.73	385.73	385.73	385.73	385.73
B	Cumulative Repayments up to Previous Year	307.26	327.53	338.40	349.26	360.13
C	Net Loan-Opening (A-B)	78.47	58.20	47.33	36.47	25.60
D	Addition due to ACE	0.00	0.00	0.00	0.00	0.00
E	Repayment during the year	20.27	10.86	10.86	10.86	10.86
F	Net Loan-Closing (C+D-E)	58.20	47.33	36.47	25.60	14.74
G	Average Loan [(C+F)/2]	68.33	52.76	41.90	31.03	20.17
H	Weighted Average Rate of Interest on Loan (in %)	8.808	8.808	8.808	8.808	8.808
I	Interest on Loan (G*H)	4.19	4.65	3.69	2.73	1.78

(₹ in lakh)

Sl. No.	Asset-II	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	3748.91	3978.71	4342.34	4584.76	4705.99
B	Cumulative Repayments up to Previous Year	0.00	245.66	562.83	902.86	1256.61
C	Net Loan-Opening (A-B)	3748.91	3733.05	3779.51	3681.90	3449.39



D	Addition due to ACE	229.80	363.63	242.42	121.23	0.00
E	Repayment during the year	245.66	317.17	340.03	353.74	358.32
F	Net Loan-Closing (C+D-E)	3733.05	3779.51	3681.90	3449.39	3091.07
G	Average Loan [(C+F)/2]	3740.98	3756.28	3730.70	3565.64	3270.23
H	Weighted Average Rate of Interest on Loan (in %)	7.838	7.825	7.829	7.827	7.805
I	Interest on Loan (G*H)	244.34	293.92	292.06	279.08	255.24

(₹ in lakh)

Sl. No.	Asset-III	2019-20 (Pro-rata for 62 days)	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	634.87	634.87	811.96	862.56	887.86
B	Cumulative Repayments up to Previous Year	0.00	8.11	62.68	125.83	191.85
C	Net Loan-Opening (A-B)	634.87	626.76	749.29	736.73	696.02
D	Addition due to ACE	0.00	177.09	50.60	25.30	0.00
E	Repayment during the year	8.11	54.57	63.15	66.02	66.97
F	Net Loan-Closing (C+D-E)	626.76	749.29	736.73	696.02	629.05
G	Average Loan [(C+F)/2]	630.82	688.02	743.01	716.38	662.53
H	Weighted Average Rate of Interest on Loan (in %)	5.587	5.605	5.621	5.621	5.621
I	Interest on Loan (G*H)	5.97	38.56	41.77	40.27	37.24

Return on Equity (“RoE”)

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

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

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



Provided that return on equity in respect of Additional Capitalization after cut-off date beyond the original scope excluding Additional 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 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.”

62. The Petitioner has submitted that MAT rate is applicable to it. MAT rate applicable in the year 2019-20 has been considered for the purpose of RoE which shall be trued up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations.

63. We have considered the submissions of the Petitioner. RoE allowed in respect



of the transmission assets is as follows:

(₹ in lakh)

Sl. No.	Asset-I(a)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	11328.47	11754.29	12030.23	12204.65	12291.87
B	Addition due to ACE	425.82	275.94	174.43	87.22	0.00
C	Closing Equity (A+B)	11754.29	12030.23	12204.65	12291.87	12291.87
D	Average Equity [(A+C)/2]	11541.38	11892.26	12117.44	12248.26	12291.87
E	Return on Equity (Base Rate) (in %)	15.500	15.500	15.500	15.500	15.500
F	Tax Rate applicable (in %)	17.472	17.472	17.472	17.472	17.472
G	Applicable RoE Rate (in %)	18.782	18.782	18.782	18.782	18.782
H	Return on Equity for the year (D*G)	1510.28	2233.60	2275.90	2300.47	2308.66

(₹ in lakh)

Sl. No.	Asset-I(b)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	165.31	165.31	165.31	165.31	165.31
B	Addition due to ACE	0.00	0.00	0.00	0.00	0.00
C	Closing Equity (A+B)	165.31	165.31	165.31	165.31	165.31
D	Average Equity [(A+C)/2]	165.31	165.31	165.31	165.31	165.31
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
F	Tax Rate applicable (in %)	17.472	17.472	17.472	17.472	17.472
G	Applicable RoE Rate (in %)	18.782	18.782	18.782	18.782	18.782
H	Return on Equity for the year (D*G)	21.63	31.05	31.05	31.05	31.05

(₹ in lakh)

Sl. No.	Asset-II	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	1606.67	1705.14	1860.98	1964.87	2016.83
B	Addition due to ACE	98.48	155.84	103.89	51.96	0.00
C	Closing Equity (A+B)	1705.14	1860.98	1964.87	2016.83	2016.83
D	Average Equity (A+C)/2	1655.90	1783.06	1912.93	1990.85	2016.83
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
F	Tax Rate applicable (in %)	17.472	17.472	17.472	17.472	17.472
G	Applicable RoE Rate (in %)	18.782	18.782	18.782	18.782	18.782
H	Return on Equity for the year (D*G)	259.18	334.89	359.29	373.92	378.80

(₹ in lakh)

Sl. No.	Asset-III	2019-20 (Pro-rata for 62 days)	2020-21	2021-22	2022-23	2023-24
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Sl. No.	Asset-III	2019-20 (Pro-rata for 62 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	272.07	272.07	347.97	369.65	380.49
B	Addition due to ACE	0.00	75.90	21.68	10.84	0.00
C	Closing Equity (A+B)	272.07	347.97	369.65	380.49	380.49
D	Average Equity (A+C)/2	272.07	310.02	358.81	375.07	380.49
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500	15.500
F	Tax Rate applicable (in %)	17.472	17.472	17.472	17.472	17.472
G	Applicable RoE Rate (in %)	18.782	18.782	18.782	18.782	18.782
H	Return on Equity for the year (D*G)	8.66	58.23	67.39	70.45	71.46

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

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

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



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
<i>Double Circuit (Bundled conductor with four or more sub-conductors)</i>	1.322	1.368	1.416	1.466	1.517
<i>Double Circuit (Twin & Triple Conductor)</i>	0.881	0.912	0.944	0.977	1.011
<i>Double Circuit (Single Conductor)</i>	0.377	0.391	0.404	0.419	0.433
<i>Multi Circuit (Bundled Conductor with four or more sub-conductor)</i>	2.319	2.401	2.485	2.572	2.662
<i>Multi Circuit (Twin & Triple Conductor)</i>	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
<i>HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)</i>	834	864	894	925	958
<i>Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)</i>	1,666	1,725	1,785	1,848	1,913
<i>500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)</i>	2,252	2,331	2,413	2,498	2,586
<i>±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)</i>	2,468	2,555	2,645	2,738	2,834
<i>±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)</i>	1,696	1,756	1,817	1,881	1,947
<i>±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)</i>	2,563	2,653	2,746	2,842	2,942

Provided that the O&M expenses for the GIS bays shall be allowed as worked out by multiplying 0.70 of the O&M expenses of the normative O&M expenses for bays;

Provided further that:

- i. the operation and maintenance expenses for new HVDC bi-pole schemes commissioned after 1.4.2019 for a particular year shall be allowed pro-rata on the basis of normative rate of operation and maintenance expenses of similar HVDC bi-pole scheme for the corresponding year of the tariff period;*
- ii. the O&M expenses norms for HVDC bi-pole line shall be considered as Double Circuit quad AC line;*



- iii. the O&M expenses of ± 500 kV Mundra-Mohindergarh HVDC bipole scheme (2000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 500 kV Talchar-Kolar HVDC bi-pole scheme (2000 MW);
- iv. the O&M expenses of ± 800 kV Champa-Kurukshetra HVDC bi-pole scheme (3000 MW) shall be on the basis of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme;
- v. the O&M expenses of ± 800 kV, Alipurduar-Agra HVDC bi-pole scheme (3000 MW) shall be allowed as worked out by multiplying 0.80 of the normative O&M expenses for ± 800 kV, Bishwanath-Agra HVDC bi-pole scheme; and
- vi. the O&M expenses of Static Synchronous Compensator and Static Var Compensator shall be worked at 1.5% of original project cost as on commercial operation which shall be escalated at the rate of 3.51% to work out the O&M expenses during the tariff period. The O&M expenses of Static Synchronous Compensator and Static Var Compensator, if required, may be reviewed after three years.

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

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

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

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

65. O&M Expenses claimed by the Petitioner in respect of the transmission assets are as follows:

(₹ in lakh)

Asset-I(a)				
Transmission Lines				
Sl. No.	Name of Line	Single Circuit / Double Circuit	Number of Sub-conductors	Line length in km
1	400 kV D/C Nabinagar –Patna	Double Circuit	4	141.391



Asset-I(a)						
Transmission Lines						
Sl. No.	Name of Line	Single Circuit / Double Circuit	Number of Sub-conductors	Line length in km		
	Transmission Line					
Sl. No.	400 kV Sub-station bay					
1	Patna: Line bays for Patna Sub-Station					
2	Patna: SLR bay at Patna Sub-Station					
O&M Expenses						
		2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station						
400 kV						
Number of bays		3	3	3	3	3
Transmission Lines						
D/C Bundled with 4 or more sub-conductor)		141.391	141.391	141.391	141.391	141.391
PLCC						
Original project cost (₹ in lakh)		135.44	135.44	135.44	135.44	135.44
Total O&M Expenses (₹ in lakh)		199.32	295.97	306.27	316.97	327.93

(₹ in lakh)

Asset-II						
Sl. No.	765 kV Sub-station bay					
1	Gaya: ICT bay					
Sl. No.	400 kV Sub-station bay					
1	Gaya: ICT bay					
Sl. No.	765 kV Sub-station ICT bay					
1	ICT at Gaya Sub-station					
O&M Expenses						
		2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station						
765 kV						
Number of bays		1	1	1	1	1
400 kV						
Number of bays		1	1	1	1	1
765 kV ICT						
MVA (3X500 MBA)		1500	1500	1500	1500	1500
Total O&M Expenses (₹ in lakh)		678.05	841.88	871.68	903.09	934.59



(₹ in lakh)

Asset-III					
Sl. No.	400 kV Sub-station bay				
1	Patna: SLR at Patna Sub-station				
O&M Expenses					
	2019-20	2020-21	2021-22	2022-23	2023-24
Sub-station					
400 kV					
Number of bays	1	1	1	1	1
Total O&M Expense (₹ in lakh)	5.45	33.28	34.45	35.66	36.91

66. We have considered the submissions 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 Tariff Regulations and the 2019 Tariff Regulations and the norms for sub-station have been specified accordingly. Accordingly, the Commission vide order dated 24.1.2021 in Petition No.126/TT/2020 has already concluded that no separate O&M Expenses can be allowed for PLCC under Regulation 35(4) of the 2019 Tariff Regulations even though PLCC is a communication system. Therefore, the Petitioner's claim for separate O&M Expenses for PLCC @2% is not allowed.

67. Regulation 35(3) of the 2019 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. The norms specified in respect of the elements covered in the transmission assets are as follows:



Asset-I(a)						
Elements	UoM	Norms for 2019-20	Norms for 2020-21	Norms for 2021-22	Norms for 2022-23	Norms for 2023-24
400 kV Sub-station	₹ lakh/bay	32.150	33.280	34.450	35.660	36.910
D/C Bundled with 4 or more sub-conductor)	₹ lakh/km	1.32	1.37	1.42	1.47	1.52

Asset-II						
Elements	UoM	Norms for 2019-20	Norms for 2020-21	Norms for 2021-22	Norms for 2022-23	Norms for 2023-24
400 kV Sub-station	₹ lakh/bay	32.150	33.280	34.450	35.660	36.910
765 kV Sub-station	₹ lakh/bay	1.32	1.37	1.42	1.47	1.52
765 kV Sub-station ICT	₹ lakh/MVA	0.491	0.508	0.526	0.545	0.564

Asset-III						
Elements	UoM	Norms for 2019-20	Norms for 2020-21	Norms for 2021-22	Norms for 2022-23	Norms for 2023-24
400 kV Sub-station	₹ lakh/bay	32.150	33.280	34.450	35.660	36.910

68. The Petitioner has claimed O&M Expenses in respect of the transmission assets as per the norms of O&M Expenses provided under Regulation 35(3)(a) of the 2019 Tariff Regulations. Accordingly, we allow O&M Expenses claimed by the Petitioner. The O&M Expenses approved in respect of the transmission assets for 2019-24 tariff period are as follows:

(₹ in lakh)					
Asset – I(a)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
3 Number of 400 kV Sub-station bays	96.45	99.84	103.35	106.98	110.73
141.391 km D/C (Bundled with 4 or more sub-conductor)	186.92	193.42	200.21	207.28	214.49
Total	197.43	293.26	303.56	314.26	325.22



(₹ in lakh)

Asset – II	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
1 Number of 400 kV Sub-station bay	32.15	33.28	34.45	35.66	36.91
1 Number of 765 kV Sub-station bay	45.01	46.60	48.23	49.93	51.68
1500 MVA of 765 kV Sub-station bay	736.50	762.00	789.00	817.50	846.00
Total	678.05	841.88	871.68	903.09	934.59

(₹ in lakh)

Asset – III	2019-20 (Pro-rata for 62 days)	2020-21	2021-22	2022-23	2023-24
1 Number of 400 kV Sub-station bay	32.15	33.28	34.45	35.66	36.91
Total	5.45	33.28	34.45	35.66	36.91

Interest on Working Capital (“IWC”)

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

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

.....

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

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

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

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

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



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

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

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

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

70. The Petitioner has submitted that it has computed IWC for 2019-24 period considering the SBI Base Rate plus 350 basis points as on 1.4.2019. The Petitioner has considered the rate of IWC as 12.05%. IWC is worked out in accordance with Regulation 34 of the 2019 Tariff Regulations. The rate of IWC 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 2020-21, 10.50% (SBI 1 year MCLR applicable as on 1.4.2021 of 7.00% plus 350 basis points) for 2021-22 and 10.60% (SBI 1 year MCLR applicable as on 1.4.2022 of 7.10% plus 350 basis points) for 2022-24. The components of the working capital and interest allowed thereon in respect of the transmission assets are as follows:

(₹ in lakh)					
Asset-I(a)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	23.61	24.44	25.30	26.19	27.10
Working Capital for Maintenance Spares (15% of O&M Expenses)	42.51	43.99	45.53	47.14	48.78
Working Capital for Receivables	782.53	793.13	789.45	780.14	763.05



(Equivalent to 45 days of annual fixed cost / annual transmission charges)					
Total Working Capital	848.65	861.56	860.28	853.47	838.94
Rate of Interest for working capital (in %)	12.05	11.25	10.50	10.60	10.60
Interest of working capital	71.25	96.93	90.33	90.47	88.93

(₹ in lakh)

Asset-I(b)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	0.00	0.00	0.00	0.00	0.00
Working Capital for Maintenance Spares (15% of O&M Expenses)	0.00	0.00	0.00	0.00	0.00
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	8.26	5.82	5.70	5.58	5.44
Total Working Capital	8.26	5.82	5.70	5.58	5.44
Rate of Interest for working capital (in %)	12.05	11.25	10.50	10.60	10.60
Interest of working capital	0.69	0.65	0.60	0.59	0.58

(₹ in lakh)

Asset-II	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	67.81	70.16	72.64	75.26	77.88
Working Capital for Maintenance Spares (15% of O&M Expenses)	122.05	126.28	130.75	135.46	140.19
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	216.60	226.28	235.37	241.37	242.93
Total Working Capital	406.45	422.72	438.76	452.09	461.00
Rate of Interest for working capital (in %)	12.05	11.25	10.50	10.60	10.60
Interest of working capital	40.81	47.56	46.07	47.92	48.87

(₹ in lakh)



Asset-III	2019-20 (Pro-rata for 62 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M Expenses for one month)	2.68	2.77	2.87	2.97	3.08
Working Capital for Maintenance Spares (15% of O&M Expenses)	4.82	4.99	5.17	5.35	5.54
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost / annual transmission charges)	20.88	23.19	25.93	26.64	26.60
Total Working Capital	28.38	30.96	33.97	34.96	35.21
Rate of Interest for working capital (in %)	12.05	11.25	10.50	10.60	10.60
Interest of working capital	0.58	3.48	3.57	3.71	3.73

Annual Fixed Charges for 2019-24 Tariff Period

71. The transmission charges allowed in respect of the transmission assets for 2019-24 tariff period are as follows:

(₹ in lakh)

Asset-I(a)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	1421.76	2102.42	2142.06	2165.08	2172.76
Interest on Loan	1233.61	1706.94	1591.49	1457.55	1310.61
Return on Equity	1510.28	2233.60	2275.90	2300.47	2308.66
O&M Expenses	197.43	293.26	303.56	314.26	325.22
Interest on Working Capital	71.25	96.93	90.33	90.47	88.93
Total	4434.32	6433.16	6403.33	6327.83	6206.18

(₹ in lakh)

Asset-I(b)	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	20.27	10.86	10.86	10.86	10.86
Interest on Loan	4.19	4.65	3.69	2.73	1.78
Return on Equity	21.63	31.05	31.05	31.05	31.05
O&M Expenses	0.00	0.00	0.00	0.00	0.00
Interest on Working Capital	0.69	0.65	0.60	0.59	0.58
Total	46.79	47.22	46.20	45.24	44.27



(₹ in lakh)

Asset-II	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	245.66	317.17	340.03	353.74	358.32
Interest on Loan	244.34	293.92	292.06	279.08	255.24
Return on Equity	259.18	334.89	359.29	373.92	378.80
O&M Expenses	678.05	841.88	871.68	903.09	934.59
Interest on Working Capital	40.81	47.56	46.07	47.92	48.87
Total	1468.04	1835.42	1909.13	1957.75	1975.81

(₹ in lakh)

Asset-III	2019-20 (Pro-rata for 62 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	8.11	54.57	63.15	66.01	66.97
Interest on Loan	5.97	38.56	41.77	40.27	37.24
Return on Equity	8.66	58.23	67.39	70.45	71.46
O&M Expenses	5.45	33.28	34.45	35.66	36.91
Interest on Working Capital	0.58	3.48	3.57	3.71	3.73
Total	28.76	188.12	210.33	216.09	216.32

Filing Fee and Publication Expenses

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

Licence Fee and RLDC Fees and Charges

73. The Petitioner shall be entitled for reimbursement of licence fee 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 fee and charges in accordance with Regulations 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. BSPHCL has submitted that Regulation 56 of the 2019 Regulations contemplates recovery of statutory charges by generating company and not by transmission licensee and in any case the claim of the Petitioner is premature. Therefore, the claim for GST is liable to be rejected.

76. In response, the Petitioner has submitted that if GST is levied at any rate and at any point of time in future on 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.

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

Security Expenses

78. 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 the consequential IWC.



79. BSPHCL has submitted that the Petitioner has failed to explain the reason for claiming actual security expenses incurred by it for 2018-19 after escalating the same at 3.5% p.a. BSPHCL has further submitted that 2019 Tariff Regulations do not contemplate recovery of estimated security expenses from beneficiaries on quarterly basis. BSPHCL has submitted that the Commission has previously directed the Petitioner to claim security expenses for all the assets in one petition. In response, the Petitioner has reiterated its submissions as made by it in the petition.

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

Capital Spares

81. 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

82. The Petitioner has prayed that tariff for 2019-24 period may be allowed to be



recovered on monthly basis in accordance with Regulation 57 of the 2019 Tariff Regulations and may be shared by the beneficiaries and long-term transmission customers as per 2010 Sharing Regulations or as amended from time to time.

83. The Petitioner vide affidavit dated 18.6.2021 has submitted that the project under the scope of the Petitioner is associated with the generation project of Nabinagar Power Generation Co. Pvt. Ltd. (NPGCL). An implementation Agreement between the Petitioner and NPGCL was signed on 18.3.2016. The Petitioner has further submitted that NPGCL had planned to set-up a 1980 MW (3X660 MW) Nabinagar Super Thermal Power Project (NSPTT) and the power from Nabinagar-II projects is divided in the two corridors towards Patna and Gaya. The following transmission system has been approved for evacuation of power from Nabinagar-II STPP and the same is as follows:

- Nabinagar-II-Gaya 400 kV D/C Transmission Line with Quad Moose conductor (declared under commercial operation executed on 12.5.2018 and in respect of which truing-up Petition No. 36/TT/2020 was filed).
- Nabi Nagar-II-Patna 400 kV D/C line with Quad Moose Conductor (Asset-I)

84. NPGCL has submitted that Asset-III is not at all related to the ATS of NPGCL and it is not connected to evacuation of electricity from NPGCL's generating station. Therefore, NPGCL cannot be made liable for transmission charges of Asset-III, on account of delay in execution of its generating station as it is not related to its generating station. Further, NPGCL's LTA was operationalised w.e.f. 28.8.2019 whereas Asset-III was admittedly put under commercial operation only on 30.1.2020.



This further goes on to show that Asset-III is not related to the ATS of NPGCL's generating station.

85. In response, the Petitioner has submitted that Asset-III has been utilised to tackle the over voltage problem at Patna Sub-station. Hence, the said asset is not related to the generating station of NPGCL and has only been used for improvement of voltage profile at Patna Sub-station. Further, the Implementation Agreement dated 18.3.2016 signed by the Petitioner with NPGCL provides that in case the respective units of generating station are not commissioned by COD of the ATS, the generating company shall bear the IDC or the transmission charges till commissioning of the generating station.

86. We have considered the submissions of the Petitioner and NPGCL. We agree with the submission of the NPGCL that Asset-III is not associated with ATS of NPGCL. Accordingly, the transmission charges in case of Asset-III shall be included in PoC pool.

87. As per Implementation Agreement dated 18.3.2016 executed between Petitioner and NPGCL, Asset-I(a) and Asset-II are part of ATS of NPGCL and the execution schedule of ATS is 30.4.2019 and the zero date of the project is 1.5.2019 in line with Regulation 12(2) of 2014 tariff Regulations.

88. Further, Regulation 8(5) and Regulation 8(6) of the 2010 Sharing Regulations provides as follows:

“(5) Where the Approved Withdrawal or Approved Injection in case of a DIC is not materializing either partly or fully for any reason whatsoever, the concerned DIC shall



be obliged to pay the transmission charges allocated under these regulations:

Provided that in case the commissioning of a generating station or unit thereof is delayed, the generator shall be liable to pay Withdrawal Charges corresponding to its Long term Access from the date the Long Term Access granted by CTU becomes effective.

The Withdrawal Charges shall be at the average withdrawal rate of the target region:

Provided further that where the operationalization of LTA is contingent upon commissioning of several transmission lines or elements and only some of the transmission lines or elements have been declared commercial, the generator shall pay the transmission charges for LTA operationalised corresponding to the transmission system commissioned:

Provided also that where the construction of dedicated transmission line has been taken up by the CTU or the transmission licensee, the transmission charges for such dedicated transmission line shall be payable by the generator as provided in the Regulation 8 (8) of the Connectivity Regulations:

Provided also that a generating station drawing start-up power or injecting infirm power before commencement of LTA shall be liable to pay the withdrawal or injection charges corresponding to the actual injection of infirm power or withdrawal start-up power during a month (concerned month) and the amount received on account of such payments shall be reimbursed to the DICs in the month following the month of billing, in proportion to the billing of the DICs during the concerned month.

Provided also that CTU shall maintain a separate account for the above amount received in a quarter and deduct the same from the transmission charges of ISTS considered in PoC calculation for the next application period.

(6) For Long Term Transmission Customers availing power supply from inter-State generating stations, the charges attributable to such generation for long term supply shall be calculated directly at drawl nodes as per methodology given in the Annexure-I. Such mechanism shall be effective only after commercial operation of the generator. Till then it shall be the responsibility of the generator to pay transmission charges.”

89. The Unit-I and Unit-II of NPGCL 1980 MW (3X660) Nabinagar-II generation project was commissioned on 6.9.2019 and 23.7.2021 respectively and Unit-III is yet to be commissioned and it is anticipated to be commissioned by July, 2021.

90. Asset-I(a), Asset-I(b) and Asset-II were put into commercial operation on



21.7.2019, 21.7.2019 and 1.6.2019 respectively. However, NPGCL did not commission its generating units by then. Therefore, NPGCL is liable to pay the transmission charges as per the details given below in terms of the Regulation 8(5) and Regulation 8(6) of the 2010 Sharing Regulations:

COD of the transmission assets	Generation capacity (MW) commissioned (COD)	Liability of transmission charges
Asset-I(a) and Asset-I(b) 21.7.2019	Unit-I (660 MW): 6.9.2019 Unit-II (660 MW): 23.7.2021 Unit-III (660 MW): Not yet commissioned	From 21.7.2019 to 5.9.2019: Transmission charges of Asset-I shall be borne by NPGCL.
		From 6.9.2019 to 22.7.2021: Transmission charges of Asset-I proportionate to 660 MW shall be included in the common pool while that for 1320 MW shall be borne by NPGCL.
		From 23.7.2021 till COD of Unit-III: Transmission charges of Asset-I proportionate to 1320 MW shall be included in the common pool while that for 660 MW shall be borne by NPGCL.

91. It is observed that as per the Implementation Agreement dated 18.3.2016 between the Petitioner and NPGCL, the Petitioner was scheduled to put into commercial operation the Asset-II, 1500 MVA 765/400 kV ICT matching with the commissioning of third unit of NPGCL. The third unit of NPGCL has not been commissioned yet. Since Asset-II has already been put into commercial operation on 1.6.2019, the transmission charges (YTC) allowed for Asset-II will be borne by NPGCL from 1.6.2019 to the date of commissioning of Unit-III COD of NPGCL.

92. With effect from 1.11.2020, the 2010 Sharing Regulations has been repealed and sharing of transmission charges is governed by the provisions of the 2020 Sharing Regulations. Accordingly, the liabilities of 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 Sharing Regulations and shall be recovered from the concerned DICs under Regulation 15(2)(b) of the 2020 Sharing Regulations. Billing, collection, and disbursement of transmission charges for subsequent period shall be recovered in terms of provisions of the 2020 Sharing Regulations as provided in Regulation 57 of the 2019 Tariff Regulations.

93. To summarise,

(a) AFC allowed in respect of the transmission assets for 2019-24 tariff period in the instant order are as follows:

(₹ in lakh)					
Asset	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
Asset-I(a)	4434.32	6433.16	6403.33	6327.83	6206.18

(₹ in lakh)					
Asset	2019-20 (Pro-rata for 255 days)	2020-21	2021-22	2022-23	2023-24
Asset-I(b)	46.79	47.22	46.20	45.24	44.27

(₹ in lakh)					
Asset	2019-20 (Pro-rata for 305 days)	2020-21	2021-22	2022-23	2023-24
Asset-II	1468.04	1835.42	1909.13	1957.75	1975.81

(₹ in lakh)					
Asset	2019-20 (Pro-rata for 62 days)	2020-21	2021-22	2022-23	2023-24
Asset-III	28.76	188.12	210.33	216.09	216.32

94. Annexure-I, Annexure-II, Annexure-III and Annexure-IV given hereinafter form part of the order.



95. This order disposes of Petition No. 675/TT/2020 in terms of the above discussions and findings.

sd/-
(P. K. Singh)
Member

sd/-
(I. S. Jha)
Member

sd/-
(Arun Goyal)
Member

sd/-
(P. K. Pujari)
Chairperson



Annexure I

Asset-I(a)	Particulars	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE 2019-24					Admitted Capital Cost as on 1.4.2024 (₹ in lakh)	Rate of Depreciation (in %)	Annual depreciation as per Regulations				
			2019-20	2020-21	2021-22	2022-23	2023-24			2019-20	2020-21	2021-22	2022-23	2023-24
	Transmission Line	35802.12	1216.79	366.99	214.98	107.49	0.00	37,708.37	5.28	1922.48	1964.29	1979.65	1988.16	1991.00
	Sub-station	1743.49	201.48	552.53	366.45	183.23	0.00	3047.18	5.28	97.38	117.28	141.54	156.05	160.89
	PLCC	134.56	0.70	0.17	0.00	0.00	0.00	135.43	6.33	8.54	8.57	8.57	8.57	8.57
	IT equipment & software	81.44	0.42	0.10	0.00	0.00	0.00	81.96	15.00	12.25	12.29	12.29	12.29	12.29
	Total	37761.61	1419.39	919.79	581.43	290.72	0.00	40972.94		2040.64	2102.42	2142.06	2165.08	2172.76
	Weighted Average Rate of Depreciation (in %)									5.30	5.30	5.30	5.30	5.30
	Average Gross Block (₹ in lakh)									38471.31	39640.90	40391.51	40827.58	40972.94



Annexure-II

Asset-I(b)	Particulars	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE 2019-24					Admitted Capital Cost as on 1.4.2024 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations					
			2019-20	2020-21	2021-22	2022-23	2023-24			2019-20	2020-21	2021-22	2022-23	2023-24	
	Sub station	551.04	0.00	0.00	0.00	0.00	0.00	551.04	5.28	29.09	Spreading				
	Total	551.04	0.00	0.00	0.00	0.00	0.00	551.04		29.09					
Weighted Average Rate of Depreciation (in %)										5.28	1.97	1.97	1.97	1.97	
Average Gross Block (₹ in lakh)										551.04	551.04	551.04	551.04	551.04	



Annexure-III

Asset-II	Particulars	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE 2019-24					Admitted Capital Cost as on 1.4.2024 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations					
			2019-20	2020-21	2021-22	2022-23	2023-24			2019-20	2020-21	2021-22	2022-23	2023-24	
	Sub station	5321.14	328.23	519.47	346.31	173.19	0.00	6688.34	5.28	289.62	312.00	334.86	348.57	353.14	
	IT equipment & software	34.44	0.04	0.00	0.00	0.00	0.00	34.48	15.00	5.17	5.17	5.17	5.17	5.17	
	Total	5355.58	328.27	519.47	346.31	173.19	0.00	6722.82		294.79	317.17	340.03	353.74	358.32	
			Weighted Average Rate of Depreciation (in %)								5.34	5.34	5.34	5.34	5.34
			Average Gross Block (₹ in lakh)								5519.71	5943.59	6376.48	6636.23	6722.82



Annexure-IV

Asset-III	Particulars	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE 2019-24					Admitted Capital Cost as on 1.4.2024 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations				
			2019-20	2020-21	2021-22	2022-23	2023-24			2019-20	2020-21	2021-22	2022-23	2023-24
	Sub station	906.94	0.00	252.99	72.28	36.14	0.00	1268.35	5.28	47.89	54.57	63.15	66.01	66.97
	Total	906.94	0.00	252.99	72.28	36.14	0.00	1268.35		47.89	54.57	63.15	66.01	66.97
Weighted Average Rate of Depreciation (in %)										5.28	5.28	5.28	5.28	5.28
Average Gross Block (₹ in lakh)										906.94	1033.43	1196.07	1250.28	1268.35

