

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 253/TT/2021

Coram:

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

Date of Order: 30.11.2022

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 COD to 31.3.2024 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 in respect of 02 numbers 63 MVAR 400 kV Bus Reactor-I along with associated bays and equipment at Yelahanka GIS under "System Strengthening XXIII" in Southern 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. Tamil Nadu Generation and Distribution Corporation Limited,
(Formerly Tamil Nadu Electricity Board -TNEB),
NPKRR Maaligai, 800, Anna Salai,
Chennai - 600 002.
2. Transmission Corporation of Andhra Pradesh Limited ,
Vidyut Soudha, Near Axis Bank ATM,
Eluru Road, Gunadala,
Vijaywada - 520004.
3. Kerala State Electricity Board,
Vaidyuthi Bhavanam, Pattom,
Thiruvananthapuram - 695 004.
4. Electricity Department,
Government of Goa,
Vidyuti Bhawan, Panaji, Goa - 403001.



5. Electricity Department,
Government of Pondicherry,
Pondicherry - 605001.
6. Eastern Power Distribution Company of Andhra Pradesh Limited,
P&T Colony, Seethmmadhara,
Vishakhapatnam, Andhra Pradesh.
7. Southern Power Distribution Company of Andhra Pradesh Limited,
Srinivassa Kalyana Mandapam Backside, Tiruchanoor Road,
Kesavayana Gunta, Tirupati - 517 501.
8. Southern Power Distribution Company of Telangana Limited,
6-1-50, Corporate Office, Mint Compound,
Hyderabad - 500 063, Telangana.
9. Northern Power Distribution Company of Telangana Limited,
H. No 2-5-3 1/2, Vidyut Bhawan,
Corporate Office, Nakkal Gutta, Hanamkonda,
Warangal - 506 001, Telangana.
10. Bangalore Electricity Supply Company Limited,
Corporate Office, K.R. Circle
Bengaluru - 560 001, Karnataka.
11. Gulbarga Electricity Supply Company Limited,
Station Main Road,
Gulbarga, Karnataka.
12. Hubli Electricity Supply Company Limited,
Navanagar, PB Road,
Hubli, Karnataka.
13. MESCOM, Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore - 575 001, Karnataka.
14. Chamundeswari Electricity Supply Corporation Limited,
927, L J Avenue, Ground Floor,
New Kantharaj Urs Road, Saraswatipuram,
Mysore - 570 009, Karnataka.
15. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad, 500082.
16. Tamil Nadu Transmission Corporation,
NPKRR Maaligai, 800, Anna Salai,
Chennai- 600 002.



17. Karnataka Power Transmission Corporation Limited,
Kaveri Bhavan, Bengaluru- 560009.

...Respondent(s)

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

For Respondents : None

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 **Asset-1**: 1x63 MVAR 400 kV Bus Reactor-I along with associated bays and equipment at Yelahanka GIS; and **Asset-2**: 1x63 MVAR 400 kV Bus Reactor-II along with associated bays and equipment at Yelahanka GIS (hereinafter referred to as the “transmission assets”) under “System Strengthening- XXIII” in Southern Region (hereinafter referred to as “the transmission project”):

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 –8.4 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 8.9 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 (BoD) of the Petitioner's Company in its 309th meeting held on 29.1.2015 at an estimated cost of ₹20328 lakh including Interest during Construction (IDC) of ₹1246 lakh based on October 2014 price level (communicated vide Memorandum No. C/CP/SRSS-XXIII dated 3.2.2015).

(b) Further, approval for Revised Cost Estimate (RCE) of the transmission project was accorded by BoD of Petitioner's Company in its 338th meeting held



on 10.3.2017 at an estimated cost of ₹26003 lakh including IDC of ₹1330 lakh based on August, 2016 price level (communicated *vide* Memorandum No. C/CP/PA1617-03-0X-RCE012 dated 31.3.2017).

(c) The scope of the transmission project was discussed and agreed in the in the 35th and 36th Standing Committee Meeting (SCM) on Power System Planning of Southern Region held on 4.1.2013 and 4.9.2013 respectively. The transmission project was also agreed in the 21st, 22nd and 23rd SRPC meetings held on 2.2.2013, 18.5.2013 and 26.10.2013.

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

Sub-station:

1. Extension of 400/ 220 kV Sub-station at Madurai

- i. Provision of 400/220 kV, 1x500 MVA transformer
- ii. 1 number 400 kV transformer bay for 1x500 MVA transformer
- iii. 1 number 230 kV transformer bay for 1x500 MVA transformer

2. Extension of 400/220 kV Sub-station at Somanhalli

Replacement of 7x167 MVA, 400/220 kV ICTs with 2x500 MVA ICTs (The replaced ICTs shall be maintained as a regional spare).

3. Procurement of 2 Numbers 500 MVA, 765/400 kV Regional Spare ICTs

Reactive Compensation:

1. Bus Reactors (400 kV)

- i. 1x125 MVAR 400 kV bus reactor at Gooty, Hassan, Khammam, Trivandrum, Nellore (existing), Narendra (New) and Nagarjunasagar Sub-station.
- ii. 2x63 MVAR bus reactors at Yelahanka Sub-station.
- iii. Replacement of 1x50 MVAR bus reactor with 1x125 MVAR bus reactor at 400/220 kV Narendra Sub-station (The replaced bus reactor shall be maintained as a regional spare).



2. Line Reactors (400 kV)

(e) 1X63 MVAR Switchable line reactors at Nellore pooling station on each circuit of Nellore pooling Station- Gooty 400 kV Quad D/C line. As agreed in 36th SCM of SR dated 4.9.2013, 2 numbers 400 kV GIS bays which became surplus at Yelahanka Sub-station due to scope change under SRSS XII have been utilized for the transmission assets covered in the instant petition, namely, 2X63 MVAR Bus Reactors at Yelahanka. The Petitioner has clarified that transmission tariff for 2 number of surplus 400 kV GIS bays has been claimed under the instant transmission project and not under SRSS-XII.

(f) The Petitioner *vide* affidavit dated 21.7.2022 has submitted that the entire scope of the transmission project as per IA has been completed. Further, the status of other assets covered in the transmission project and the petitions under which transmission tariff granted /claimed are as follows:

Sl. No.	Asset Nomenclature	Asset Description	COD	Earlier covered in Petition No.
1	Asset-1	1X125 MVAR 400 kV Bus reactor at Hassan along with associated bays and equipment	18.12.2016	Tariff was trued-up for 2014-19 period and determined for 2019-24 period <i>vide</i> order dated 12.10.2021 in Petition No. 78/TT/2020
2	Asset-2	400/220 kV, 1X500 MVA transformer at Madurai Sub-station along with associated bays and equipment	31.12.2016	
3	Asset-3	1x125 MVAR 400 kV Bus reactor at Trivandrum along with associated bays and equipment	26.1.2017	
4	Asset-4	1x 125 MVAR 400 kV Bus reactor at Narendra (New) along with associated bays and equipment	30.12.2016	
5	Asset-5	1X 125MVAR 400 kV Bus reactor at Gooty along with associated bays and equipment	28.3.2017	
6		1X125 MVAR 400 kV Bus reactor at Khammam along with associated bays and equipment	28.3.2017	



Sl. No.	Asset Nomenclature	Asset Description	COD	Earlier covered in Petition No.
7		1X125 MVAR 400 kV Bus reactor at Nellore (existing) along with associated bays and equipment	28.3.2017	
8		1X125 MVAR 400 kV Bus reactor at Nagarjunasagar along with associated bays and equipment	28.3.2017	
9		1x63 MVAR Switchable Line reactors at Nellore Pooling Station on each ckt of Nellore pooling station-Gooty 400 kV Quad D/C Line.	28.3.2017	
10	Asset-1	Replacement of 3X167 MVA, 400/220 kV ICTs with 1X500 MVA ICT at Somanhalli Sub-station	16.3.2017	
11	Asset-2	Replacement of 4X167 MVA, 400/220 kV ICTs with 1X500 MVA ICT at Somanhalli Sub-station	31.3.2017	
12	Asset-3	Replacement of 1x50 MVAR Bus reactor with 1x125 MVAR Bus reactor at 400/220 kV Narendra Sub-station	25.1.2017	
13	Asset-4	01 Number 500 MVA, 765/400 kV Regional Spare ICTs at Thiruvalem Sub-station	28.3.2017	
14	Asset-5	01 Numbers 500 MVA, 765/400 kV Regional Spare ICTs at Raichur Sub-station	6.2.2019	
15	Asset-1	1x63 MVAR 400 kV Bus Reactor-I along with associated bays and equipment at Yelahanka GIS	2.1.2020	
16	Asset-2	1x63 MVAR 400 kV Bus Reactor-II along with associated bays and equipment at Yelahanka GIS	13.1.2020	

Tariff was trued-up for 2014-19 period and determined for 2019-24 period vide order dated 6.2.2021 in Petition No. 505/TT/2020

**253/TT/2021
(instant petition)**



(g) The transmission assets were scheduled to be put into commercial operation within 30 months from the date of IA i.e. 29.1.2015, hence, the scheduled date of commercial operation of the transmission assets is 29.7.2017. The assets were put into commercial operation on 2.1.2020 and 13.1.2020. Thus, there is time over-run in the execution of transmission assets. The details of scheduled date of commercial operation (SCOD), date of commercial operation (COD) and time over-run with respect to the transmission assets covered in the transmission project are as follows:

SI. No.	Asset	SCOD	COD	Time over-run
1	Asset-1	29.7.2017	2.1.2020	29 months & 4 days (887 days)
2	Asset-2		13.1.2020	29 months & 15 days (898 days)

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

5. The Petitioner has served the petition on the Respondents and notice regarding filing 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. None of the Respondents have filed their replies in the matter.

6. The hearing in this matter was held on 26.7.2022 through video conference and the order was reserved.

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



DETERMINATION OF ANNUAL FIXED CHARGES FOR 2019-24 TARIFF PERIOD

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

Asset-1					(₹ in lakh)
Particulars	2019-20 (Pro-rata 90 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	12.81	63.56	70.83	70.83	70.83
Interest on Loan	12.60	59.78	61.96	56.65	51.35
Return on Equity	13.67	67.83	75.58	75.58	75.58
O&M Expenses	0.83	3.90	4.19	4.15	4.10
Interest on Working Capital	5.53	23.30	24.12	24.96	25.84
Total	45.44	218.37	236.68	232.17	227.70

Asset-2					(₹ in lakh)
Particulars	2019-20 (Pro-rata 79 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	11.33	61.17	64.69	64.69	64.69
Interest on Loan	11.16	57.60	56.38	51.53	46.69
Return on Equity	12.09	65.28	69.03	69.03	69.03
O&M Expenses	0.73	3.79	3.92	3.88	3.84
Interest on Working Capital	4.86	23.30	24.12	24.96	25.84
Total	40.17	211.14	218.14	214.09	210.09

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

Asset-1					(₹ in lakh)
Particulars	2019-20 (Pro-rata 90 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	1.88	1.94	2.01	2.08	2.15
Maintenance Spares	3.38	3.50	3.62	3.74	3.88
Receivables	22.72	26.92	29.18	28.62	28.00
Total of Working Capital	27.98	32.36	34.81	34.44	34.03
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest of working capital	0.83	3.90	4.19	4.15	4.10

Asset-2					(₹ in lakh)
Particulars	2019-20 (Pro-rata 79 days)	2020-21	2021-22	2022-23	2023-24
O&M Expenses	1.88	1.94	2.01	2.08	2.15



Maintenance Spares	3.38	3.50	3.62	3.74	3.88
Receivables	22.88	26.03	26.89	26.39	25.83
Total of Working Capital	28.14	31.47	32.52	32.21	31.86
Rate of Interest (in %)	12.05	12.05	12.05	12.05	12.05
Interest of working capital	0.73	3.79	3.92	3.88	3.84

Date of Commercial Operation (“COD”)

10. The Petitioner has claimed actual COD of Asset-1 and Asset-2 as 2.1.2020 and 13.1.2020 respectively. 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.”

11. In support of actual COD of Asset-1 and Asset-2, the Petitioner has submitted self-declaration COD letters dated 2.1.2020 and 13.1.2020 respectively; CEA Energisation certificates dated 31.12.2019 and 7.1.2020 respectively under Regulation 43 of the Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulations, 2010; RLDC charging certificate dated 22.1.2020 (combined) certifying that successful trial operation was completed for Asset-1 on 1.1.2020 and for Asset-2 on 12.1.2020 and CMD Certificate as required under Grid Code.

12. Taking into consideration the self-declaration of COD letter, CEA Energisation certificate, RLDC charging certificate and CMD Certificate submitted by the Petitioner, COD of Asset-1 and Asset-2 is approved as 2.1.2020 and 13.1.2020 respectively.



Capital Cost

13. 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 Vidyutikaran Yojana (RGGVY) and Deendayal Upadhyaya Gram Jyoti Yojana (DDUGJY) project in the affected area.

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

(a) The 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.”

14. The Petitioner has claimed the following capital cost as on COD and Additional Capital Expenditure (ACE) for 2019-24 tariff period in respect of the transmission



assets and has submitted the Auditor's Certificate dated 24.5.2020 in support of the same:

Asset	FR Apportioned approved Cost	RCE Apportioned approved Cost	Capital Cost up to COD	Projected ACE		Capital Cost as on 31.3.2024
				2019-20	2020-21	
Asset-1	1584.37	1558.39	916.25	159.07	266.09	1341.41
Asset-2	1590.78	1526.04	907.23	195.12	122.76	1225.11

15. The details of estimated completion cost vis-à-vis FR apportioned approved cost and RCE apportioned approved cost for the transmission assets covered under the instant petition are as follows:

Assets	FR Apportioned approved cost	RCE Apportioned approved cost	Estimated completion cost	Cost variation (FR)	Cost variation (RCE)
	(a)	(b)	(c)	(d)=(c)-(a)	(e)=(c)-(b)
Asset-1	1584.37	1558.39	1341.41	(-)242.96	(-)216.98
Asset-2	1590.78	1526.04	1225.11	(-)365.67	(-)300.93

Cost variation

16. It is observed that the estimated capital cost of Asset-1 and Asset-2 of ₹1341.41 lakh and ₹1225.11 lakh is within the FR apportioned approved cost of ₹1584.37 lakh and ₹1590.78 lakh respectively. Hence, there is a cost variation of ₹242.96 lakh and ₹365.67 lakh respectively in the estimated capital cost of Asset-1 and Asset-2 vis-à-vis the FR apportioned approved cost. Further, the estimated completion cost of Asset-1 and Asset-2 of ₹1341.41 lakh and ₹1225.11 lakh respectively, is within the FR apportioned approved cost of ₹1584.37 lakh and ₹1590.78 lakh, respectively. The Petitioner has submitted the reasons for item-wise cost variation between FR apportioned approved cost and estimated completion cost and submitted Form-5 in support of the same. The major head-wise cost variation with respect to FR/ RCE and estimated completion cost of the transmission line are as



follows:

Asset-1

(₹ in lakh)						
Sl. No.	Description	FR AppORTIONED approved cost	RCE AppORTIONED approved cost	Estimated Completion Cost	Variation as per FR (-decrease, +increase)	Variation as per RCE (-decrease, +increase)
		a	b	c	d = c - a	e = c - b
A	Transmission Lines material	-	-	-	-	-
B	Sub-stations					
1	Switchgear (CT,PT, Circuit Breaker, Isolator etc)	667.64	376.00	415.11	-252.53	38.78
2	Compensating Equipment (Reactor etc)	352.27	363.17	464.02	111.75	100.85
3	Control, Relay & Protection Panel	65.03	75.11	44.80	-20.23	-30.30
4	Bus Bar, Conductor, Insulator etc.	-	-	30.01	30.01	30.01
5	Auxiliaries	52.18	65.43	52.81	0.63	-12.62
6	Structure for switch yard	82.50	91.00	75.17	-7.33	-15.44
7	Spares	-	-	16.88	16.88	16.88
8	Taxes & Duties	81.47	45.00	120.99	39.52	75.64
	Total substation (1 to 8)	1301.09	1016.00	1219.79	-81.30	203.80
C	Over heads	171.78	236.39	112.56	-59.22	-123.83
D	Interest During Construction (IDC)	111.49	306.00	9.06	-102.43	-296.94
	Grand Total	1584.37	1558.39	1341.41	-242.96	-216.98

Asset-2

(₹ in lakh)						
Sl. No.	Description	FR AppORTIONED Approved Cost	FR AppORTIONED Approved Cost	Estimated Completion Cost	Variation as per FR (-decrease, +increase)	Variation as per RCE (-decrease, +increase)
		a	B	c	d = c - a	e = c - b
A	Transmission Lines material	-	-	-	-	-
B	Substations					
1	Switchgear (CT,PT, Circuit Breaker, Isolator etc)	667.64	376.33	414.27	-253.37	37.94
2	Compensating Equipment (Reactor etc)	352.27	363.17	443.09	90.82	79.93
3	Control, Relay & Protection Panel	65.03	75.11	13.46	-51.57	-61.64
4	Bus Bar, Conductor, Insulator etc.	-	-	-	-	-



Sl. No.	Description	FR Apportioned Approved Cost	FR Apportioned Approved Cost	Estimated Completion Cost	Variation as per FR (-decrease, +increase)	Variation as per RCE (-decrease, +increase)
		a	B	c	d = c - a	e = c - b
5	Auxiliaries	38.46	33.43	51.61	13.15	18.18
6	Structure for switch yard	82.50	90.61	68.26	-14.24	-22.35
7	Spares	-	-	14.19	14.19	14.19
8	Taxes & Duties	81.47	45.00	104.86	23.39	59.86
	Total substation (1 to 8)	1287.37	983.65	1109.75	-177.63	126.09
C	Over heads	184.85	236.39	104.95	-79.90	-131.44
D	Interest During Construction (IDC)	118.56	306.00	10.40	-108.16	-295.60
	Grand Total	1590.78	1526.04	1225.11	-365.69	-300.93

17. The Petitioner has submitted that being a Government Enterprise, the Petitioner has the obligation for indigenous development of manufacturer as well as to adhere to Government of India guidelines in vogue. Accordingly, the Petitioner has been following a well laid down procurement policy which ensures both transparency and competitiveness in the bidding process. Route of Domestic Competitive Bidding (DCB) process have been followed to award this special mega project. Through this process, lowest possible market prices for required product/ services/ as per detailed designing is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may vary as compared to the cost estimate depending upon prevailing market conditions, design and site requirements. Whereas, the estimates are prepared by the Petitioner as per well-defined procedures for cost estimate. The FR cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts/general practice. It is submitted that the cost estimate of the transmission project is on the basis of October, 2014 price level.

18. The Petitioner has submitted that the variation in cost is due to variation in the



cost of sub-station equipment, taxes & duties, IDC and IEDC etc. The reasons submitted by the Petitioner for the cost variation are as follows:

(a) There is an overall reduction in the cost of about ₹81.30 lakh and ₹177.63 lakh in case of Asset-1 and Asset-2 respectively with respect to FR on account of sub-station equipment and structure for switchyard due to the rate received through competitive bidding. On item-wise comparison, there is increase in the price of reactor and sub-station auxiliaries, but reduction in the price of switchgear equipment, control relay & protection panels and Sub-station structures etc. The Contracts for various packages under this project were awarded to the lowest evaluated and responsive bidder, on the basis of Open International/ Domestic Competitive Bidding. The award prices represent the lowest prices available at the time of bidding of various packages, thus capturing the price level at the bidding stage.

(b) The FR costs of individual items/ materials are exclusive of taxes and duties which have been indicated under a separate head, whereas the cost of items as per the actual expenditure is inclusive of taxes and duties. The increase of about ₹39.52 lakh and ₹23.39 lakh in case of Asset-1 and Asset-2 respectively is mainly on accounts of actual taxes & duties, octroi, custom duty, excise duty, GST etc. paid based on the prevailing rates.

(c) As per the FR apportioned approved cost, IEDC for Asset-1 and Asset-2, was estimated at ₹171.78 lakh and ₹184.85 lakh respectively, whereas, based on the actual expenditure incurred, IEDC works out to ₹112.56 lakh and ₹104.95 lakh respectively. Thus, IEDC under the transmission asset has reduced by ₹59.22 lakh for Asset-1 and ₹79.90 lakh for Asset-2 with respect to FR. The Petitioner has further submitted that during estimation for FR, 3% and 10.75% of capital cost (excluding IEDC & IDC) has been considered for contingency and IEDC respectively. However, the actual amount of IEDC, has been considered for claiming the tariff.

(d) IDC as per FR apportioned approved cost for Asset-1 and Asset-2, was estimated at ₹111.49 lakh and ₹118.56 lakh respectively against which, the IDC



works out to ₹9.06 lakh and ₹10.40 lakh, respectively. Thus, there is a reduction of ₹102.43 lakh for Asset-1 and ₹108.16 lakh for Asset-2 with respect to FR. The main reason for the reduction in IDC of transmission asset is due to reduction in the capital cost of the transmission assets. The reason for reduction in IDC is attributable to variation in rate of interest for domestic loan @10.50% considered in FR vis-à-vis actual weighted average rate of interest on loans @7.49% (approximately). Further, the decrease in IDC is also attributable to the reduction in overall capital cost of transmission asset with respect to FR and deployment of funds based on actual fund requirement during execution of work. The actual IDC accrued upto COD has been considered for claiming the tariff.

19. We have considered the submissions of the Petitioner. As stated above, the estimated completion cost of the transmission assets is within the FR approved apportioned cost. The Petitioner has submitted that overall reduction in cost has occurred in equipment cost as well as IEDC and IDC. The major reason for overall reduction in the sub-station cost is due to actual prices received through transparent bidding process vis-à-vis the estimated FR cost.

20. Further, IEDC and IDC has also reduced due to actual booking of cost and weighted average interest on actual loan being less than the normative rates considered in FR for arriving at the IEDC and IDC cost. The Petitioner has also submitted RCE of the transmission project duly approved by its BoD of the competent authority and revised the apportioned approved cost as per RCE. As compared to RCE cost, the estimated completion cost of Asset-1 and Asset-2 is lesser by ₹216.98 lakh and ₹300.93 lakh respectively. Since, the estimated completion cost of the transmission assets is within the respective FR apportioned approved cost, there is no cost over-run.



Time Over-run

21. As per IA dated 29.1.2015, the transmission assets were scheduled to be put into commercial operation within 30 months from the date of IA. Accordingly, SCOD of the transmission assets was 29.7.2017 against which, Asset-1 and Asset-2 have been put under commercial operation with effect from 2.1.2020 and 13.1.2020 respectively. Hence, there is a time over-run of 887 days and 898 days in execution of Asset-1 and Asset-2 respectively.

22. The Petitioner has submitted that the delay in execution is mainly because of delay in execution of Yelahanka GIS due to severe Right of Way (RoW) issues and litigation faced during the construction of incoming transmission line (LILO of 400 kV S/C Neelmangala-Hoody and Somanhalli-Hoody lines at Yelahanka GIS) executed under Sothern Region System Strengthening Scheme-XII (SRSS-XII). Further, the LoA of transmission assets was put on hold due to uncertainty in completion of Yelahanka GIS, which led to further delay in completion of Asset-1 and Asset-2. After managing intense RoW problems, Court cases throughout the stretch of transmission line and other construction challenges in and around Bengaluru, the Petitioner has compressed the prolonged delay and put Asset-1 and Asset-2 into commercial operation on 2.1.2020 and 13.1.2020 respectively. In support of delay condonation, the Petitioner has submitted PERT and CPM chart i.e. planned vs actual and submitted chronology of events supported by the documentary evidence.

23. The Petitioner has submitted that best efforts had been made to complete the LILO line and Yelahanka Sub-station and the same were put under commercial operation with effect from 1.4.2018. The Commission *vide* order dated 8.11.2019 in Petition No. 361/TT/2018, while allowing transmission tariff for LILO of Neelmangala-



Hoody line at Yelahanka GIS including implementation of a new 400/220 kV GIS Substation at Yelahanka, has condoned the time over-run as it was beyond the control of the Petitioner.

24. The Petitioner has submitted that in Karnataka, the line work was at a standstill due to severe RoW issues faced since the start of work which could be resolved only after rigorous persuasion by the Petitioner at State and Central level and with judicial intervention. The Petitioner while submitting detailed chronology of events along with supporting documents has inter-alia submitted the following guidelines under which the issues were resolved:

- (i) Compensation @85% of land value as determined by District Magistrate or any other authority based on Circle rate/ Guideline value/ Stamp Act rates for tower base area (between four legs) impacted severely due to installation of tower/ pylon structure;
- (ii) Compensation towards diminution of land value in the width of RoW Corridor due to laying of transmission line and imposing certain restriction would be decided by the States as per categorization/type of land in different places of States, subject to a maximum of 15% of land value as determined based on Circle rate Guideline value Stamp Act rates.
- (iii) In areas where landowner/ owners have been offered accepted alternate mode of compensation by concerned Municipality under Transfer Development Rights (TDR) policy of State, the licensee Utility shall deposit compensation amount as per (i) and (ii) above with the concerned Municipality, Local Body or the State Government.

25. Further, the Petitioner has submitted that RoW issues were also resolved through judicial intervention including filing of Writ Petition in Hon'ble High Court of



Karnataka for directing the district administration to remove obstacles in the construction of subject line and consequently Hon'ble High Court on 11.5.2017 directed State Government to provide police protection for completion of subject line. RoW issues were also deliberated at various meetings held at the level of Secretary (Power), Power Minister, GoI and even in Pragati (Pro Active Governance and timely intervention) Meeting.

26. The Petitioner has submitted that owing to the uncertainty in execution of Yelahanka GIS, LoA for subject reactors were not placed along with other reactors under the project and were delayed in order to match the supply of the reactor with execution of the Sub-station. Further, in the 40th SCM of SR held on 19.11.2016, it has been agreed to defer the procurement of 2x63 MVAR reactors under SRSS-XXIII for Yelahanka Sub-station due to non-readiness of Yelahanka Sub-station due to RoW issues in the LILO of Neelmangala- Hoody 400 kV S/C Line. It has been agreed to procure these reactors after resolution of RoW issues. Since, the Yelahanka Sub-station was charged on 1.4.2018 after resolution of RoW issues, tendering for installation of these reactors at Yelahanka Sub-station was completed and LoA was issued on 25.5.2018. Accordingly, construction of bay extension works at Yelahanka with 2 numbers of bus reactors have been taken up and put into commercial operation with effect from 2.1.2020 and 13.1.2020 (i.e. within 22 months from revised zero date of 1.4.2018).

Sl. No.	Particulars	Date
1	Investment Approval	29.1.2015
2	SCOD as per IA	29.7.2017
3	Standing committee meeting in which bay extension at Yelahanka GIS was deferred	40 th SCM dated 19.11.2016



4	Reactor package (RT-03) for 2x63 MVAR, 3Ph,400 kV Bus reactors at Yelahanka GIS Sub-station under SRSS XXIII (instant project)	M/s BHEL 25.5.2018
5	COD of 1 st & 2 nd 63 MVAR Reactors at Yelahanka GIS	2.1.2020 & 13.1.2020

27. We have considered the submission of the Petitioner. As per IA dated 29.1.2015, the transmission project was scheduled to be commissioned within 30 months from the date of IA. Accordingly, SCOD of the transmission assets was 29.7.2017. Against which Asset-1 and Asset-2 have been put under commercial operation with effect from 2.1.2020 and 13.1.2020 respectively. Hence, there is a time over-run of 887 days and 898 days in execution of Asset-1 and Asset-2 respectively.

28. The Petitioner has submitted that the time over-run is mainly due to delay in Yelahanka GIS Sub-station and delay in LoA. The Petitioner has submitted copies of relevant documents in support of time over-run justification. The Petitioner has further submitted that Yelahanka Sub-station was delayed due to RoW problems in construction of LILO line and a court case pertaining to construction of LILO line. The Commission *vide* order dated 8.11.2019 in Petition No. 361/TT/2018 has already been condoned the time over-run upto 1.4.2018. The relevant extracts of the said order is as follows:

“35. The Petitioner has also submitted extensive details of correspondences with various authorities alongwith supporting documents. From the submission, ROW issues from 23.12.2011 to 21.2.2018 (2252 days) at various locations affected the commissioning of the instant assets. The time over run of 2252 days on account of ROW problems was beyond the control of the petitioner. However, the Petitioner has compressed the execution time and commissioned the instant assets with overall delay of 2106 days. Therefore, the overall time over run of 2106 days in commissioning of Asset-1, Asset-2A and Asset-2B is condoned.”

29. In terms of the order dated 8.11.2019 in Petition No. 361/TT/2018, the Commission has condoned the time over-run of 2106 days in execution of the



Yelahanka Sub-station. Without execution of the Yelahanka Sub-station, the Petitioner cannot execute 2X63 MVAR bus reactor at Yelahanka Sub-station. Therefore, the time over-run from 29.7.2017 (SCOD) to 1.4.2018 (COD of Yelahanka Sub-station) of 246 days is beyond the control of the Petitioner and the same is condoned.

30. The Petitioner has further submitted that the time over-run up to 1.4.2018 was due to delay in execution of Yelahanka Sub-station and the same was taken up in the 40th SCM of SR held on 19.11.2016, wherein it was agreed that the procurement of 2x63 MVAR bus reactors at Yelahanka Sub-station may be taken up after resolution of RoW issues. The relevant extracts of the minutes of the 40th SCM of SR held on 19.11.2016 is follows:

“13.0 Implementation of 2x63 MVAR, 420 kV bus reactors at Yelahanka under the Scheme Southern Region System Strengthening -XXIII

13.1 PGCIL informed that, installation of 2x63 MVAR, 420 kV bus reactors at Yelahanka 400/220 kV substation was agreed under the scheme Southern Region System Strengthening – XXIII. Yelahanka 400/220 kV substation along with LILO of Neelamangala – Hoodi 400kV S/c line at Yelahanka is being implemented under the scheme SRSS-XII. However, considering the uncertainty in commissioning of Yelahanka 400/220kV S/s, due to severe RoW issues POWERGRID had deferred the procurement of 2x63 MVAR, 420 kV bus reactors. Keeping above in view, it is proposed that the procurement of 2x63 MVAR bus reactors at Yelahanka substation may be taken up after resolution of ROW issues and if required diversion of reactors (based on the availability) from other projects shall be explored.

13.2 The same was agreed.”

31. As per the approval in 40th SCM dated 19.11.2016, the procurement of bus-reactors was deferred due to delay in execution of Yelahanka Sub-station. LoA for procurement of bus-reactors was placed after commercial operation of Yelahanka Sub-station. Since, the Yelahanka Sub-station was charged on 1.4.2018 after resolution of RoW issues, tendering for installation of these reactors at Yelahanka



Sub-station was completed and LoA was issued on 25.5.2018. Accordingly, construction of bay extension works at Yelahanka with 2 numbers of bus reactors have been taken up and put into commercial operation with effect from 2.1.2020 and 13.1.2020 (i.e. within 22 months from revised zero date of 1.4.2018). We have dealt with the time over-run upto 1.4.2018 in execution of Yelahanka Sub-station and concluded that the time over-run was beyond the control of the Petitioner. The delay beyond 1.4.2018 upto 2.1.2020 i.e. of 641 days in case of Asset-1 and upto 13.1.2020 i.e. of 652 days in case of Asset-2 is due to delay in placement of award of work for installation of bus reactors.

32. We have observed from the PERT and CPM chart i.e. Planned vs Actual activity, submitted by the Petitioner, that a time period of about 24 months has been envisaged between the IA to execution of 2x63 MVAR 400 kV Bus reactors along with associated bays and equipment at Yelahanka. In the instant case, the Petitioner has placed the award on 25.5.2018 and put Asset-1 and Asset-2 into commercial operation on 2.1.2020 and 13.1.2020, respectively, thereby taking about 20 months from LoA and 22 months from zero date 1.4.2018 (deemed IA) against the overall schedule of 24 months for supply, erection and testing and executing the Asset-1 and Asset-2. Hence, the Petitioner has executed the transmission assets within the schedule as per revised zero date of 1.4.2018.

33. Accordingly, the additional time of 641 days in case of Asset-1 and 652 days in case of Asset-2 due to delay in placing LoA due to deferment of the procurement of 2x63 MVAR reactors for Yelahanka Sub-station on account of non-readiness of Yelahanka Sub-station due to RoW issues in the LILO of Neelmangala-Hoody 400 kV S/C Line had a cascading effect on the execution of Asset-1 and Asset-2 and was



beyond the control of the Petitioner. Keeping in view the above reasons, the time over-run of 641 days in case of Asset-1 and 652 days in case of Asset-2 is condoned.

34. In view of the above the time-over run in case of the transmission assets are condoned. The details of time over-run condoned/ not condoned are as follows:

Assets	SCOD as per IA	Actual COD	Time over-run	Time over-run condoned	Time over-run not condoned
Asset-1	29.07.2017	2.1.2020	887 days	887 days	Nil
Asset-2		13.1.2020	898 days	898 days	Nil

Interest During Construction (“IDC”)

35. The Petitioner has claimed the following IDC in respect of the transmission assets covered in the instant petition and has submitted the statement showing IDC claim, discharge of IDC liability as on COD and thereafter:

(₹ in lakh)

Assets	IDC as per Auditor’s Certificate dated 24.5.2020	IDC Discharged upto COD	IDC discharged during 2020-21	IDC discharged during 2022-23
Asset -1	9.06	0.00	9.06	0.00
Asset -2	10.40	0.00	10.40	0.00
Asset-1	9.06	0.00	9.06	0.00
Asset-2	10.40	0.00	10.40	0.00

36. The Petitioner has submitted that the accrued IDC as on COD was not considered for calculating tariff as the same was undischarged up to COD. Accrued IDC has been reduced from the capital cost as on COD and it is added in ACE when it was discharged. It is observed that, the calculation is done from the date of drawl of the loan to COD.



37. We have considered the submissions of the Petitioner. The allowable IDC has been worked out considering the information submitted by the Petitioner. Further, the loan amount as on COD has been mentioned in Form-6 and Form-9C. The allowable IDC has been worked out based on the information available on record and relying on loan amount as per Form-9C. IDC claimed and considered as on COD and summary of discharge of IDC liability up to COD and thereafter for the purpose of tariff determination is as follows:

(₹ in lakh)

Assets	IDC as per Auditor's Certificate	IDC disallowed due to computational difference	IDC undischarged up to COD	IDC Discharged up to COD	IDC Discharge During the year	
					2019-20	2020-21
1	2	3	4	5=2-3-4	6	7
Asset-1	9.06	0.07	8.99	0.00	0.00	8.99
Asset-2	10.40	0.00	10.40	0.00	0.00	10.40

Incidental Expenditure During Construction ("IEDC")

38. The Petitioner has claimed IEDC of ₹112.56 lakh and ₹104.95 lakh in respect of Asset-1 and Asset-2 respectively and has submitted Auditor's Certificate in this regard.

39. IEDC considered in respect of the transmission asset as on COD for the purpose of tariff determination in the instant order is as follows:

(₹ in lakh)

Asset	IEDC Claimed (As per Auditor's Certificate)	IEDC disallowed	IEDC considered as on COD	IEDC discharged up to COD
Asset-1	112.56	0.00	112.56	112.56
Asset-2	104.95	0.00	104.95	104.95



Initial Spares

40. 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%”

41. The Petitioner has claimed the Initial Spares in respect of the transmission assets as follows:

(₹ in lakh)

Particulars	Plant & Machinery cost (excluding IDC and IEDC, Land cost and cost of civil works) (A)	Initial Spares claimed(B)	Ceiling limit (in %) (C)	Initial Spares worked out	Excess Initial Spares
				$D = [(A-B) / (100-C)]$	
Asset-1	1219.79	16.88	7.00	90.54	0.00
Asset-2	1109.75	14.19	7.00	82.46	0.00

42. We have considered the submission of the Petitioner. The Petitioner's claim of Initial Spares is within the norm under Regulation 23(d)(iv) of the 2019 Tariff Regulations. Accordingly, the details of the Initial Spares allowed in respect of the transmission asset for the 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
Asset-1	1219.79	16.88	7.00	90.54	16.88
Asset-2	1109.75	14.19	7.00	82.46	14.19



43. The Petitioner has submitted details of capitalisation of Initial Spares in Form 13 which is as follows:

(₹ in lakh)			
Particulars	As on COD	2019-20	2020-21
Asset-1	13.14	3.20	0.55
Asset-2	13.14	0.00	0.46

44. It is observed that in case of Asset-2, the Petitioner has claimed Initial Spares of ₹14.19 lakh as submitted in Auditor's Certificate dated 24.5.2020. However, in Form 13 the Petitioner has submitted the details of capitalization of ₹13.60 lakh. Therefore, the Petitioner is directed to reconcile the Initial Spares claimed and its capitalization at the time of truing-up.

45. The details of capital cost approved as on COD in respect of the transmission asset are as follows:

(₹ in lakh)				
Assets	Capital Cost claimed as on COD as per Auditor's Certificate) (A)	Less: IDC disallowed due to computational error (B)	Less: Undischarged IDC (C)	Capital Cost allowed as on COD on cash basis (D)=(A-B-C)
Asset-1	916.25	0.07	8.99	907.19
Asset-2	907.23	0.00	10.40	896.83

Additional Capital Expenditure ("ACE")

46. Regulations 24 and 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) Undischarged liabilities recognized to be payable at a future date;

(b) Works deferred for execution;

(c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;



(d) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority or order or decree of any court of law;

(e) Change in law or compliance of any existing law; and

(f) Force Majeure events:

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

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

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

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

a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;

b) Change in law or compliance of any existing law;

c) Deferred works relating to ash pond or ash handling system in the original scope of work;

d) Liability for works executed prior to the cut-off date;

e) Force Majeure events;

f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and g) Raising of ash dyke as a part of ash disposal system.

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

(a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations.

(b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;

(c) The replacement of such asset or equipment is necessary on account of

(d) The replacement of such asset or equipment has otherwise been allowed by



the Commission.”

47. Based on the Auditor’s Certificate dated 24.5.2020, the details of ACE claimed by the Petitioner are as follows:

(₹ in lakh)

Assets	ACE claimed (Details as per Form-1A)		
	2019-20	2020-21	2021-22
Asset-1	159.07	266.09	0.00
Asset-2	195.12	122.76	0.00

48. Further, the Petitioner vide affidavit dated 21.7.2022 has submitted the contractor-wise details of ACE (Liabilities flow Statement) claimed including details of balance and retention payments. ACE claimed is within the cut-off date and is within the original scope of work. The Petitioner has confirmed that as on date no ACE is expected beyond 2023-24.

49. We have considered the submissions of the Petitioner and note that ACE projected for 2019-24 tariff period is on account of balance and retention payments due to un-discharged liability projected for works executed within the cut-off date (31.3.2023) and also towards undischarged IDC. Accordingly, ACE claimed is allowed under Regulations 24(1)(a) and 24(1)(b) of the 2019 Tariff Regulations as follows:

(₹ in lakh)

Asset-1	ACE				
	2019-20	2020-21	2021-22	2022-23	2023-24
Regulation 24(1)(a) & Regulation 24(1)(b) of the 2019 Tariff Regulations	159.07	266.09	0.00	0.00	0.00
Add: IDC Discharged	0.00	8.99	0.00	0.00	0.00
Total ACE allowed	159.07	275.08	0.00	0.00	0.00



(₹ in lakh)

Asset-2	ACE				
	2019-20	2020-21	2021-22	2022-23	2023-24
Regulation 24(1)(a) & Regulation 24(1)(b) of the 2019 Tariff Regulations	195.12	122.76	0.00	0.00	0.00
Add: IDC Discharged	0.00	10.40	0.00	0.00	0.00
Total ACE allowed	195.12	133.16	0.00	0.00	0.00

Capital Cost for 2019-24 tariff period

50. In view of the above, the capital cost considered in respect of the transmission assets for 2019-24 tariff period is as follows:

Assets	Apportioned approved capital cost as per RCE	Capital Cost as on COD on cash basis	ACE		Total Capital Cost as on 31.3.2024
			2019-20	2020-21	
Asset-1	1558.39	907.19	159.07	275.08	1341.34
Asset-2	1526.04	896.83	195.12	133.16	1225.11

Debt-Equity Ratio

51. Regulations 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:

- where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:
- the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:
- 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.”

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

Funding	Capital cost as on COD (₹ in lakh)	(in %)	Total capital cost as on 31.3.2024 (₹ in lakh)	(in %)
Asset-1				
Debt	635.04	70.00	938.95	70.00
Equity	272.15	30.00	402.39	30.00
Total	907.19	100.00	1341.34	100.00
Asset-2				
Debt	627.78	70.00	857.58	70.00
Equity	269.05	30.00	367.53	30.00
Total	896.83	100.00	1225.11	100.00



Depreciation

53. 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 s completed its useful life.”*

54. We have considered the submissions of the Petitioner. The IT equipment has been considered as part of the Gross Block and depreciated using Weighted Average Rate of Depreciation (WAROD). WAROD at Annexure-I has been worked out after considering the depreciation rates of IT and non-IT assets as specified in the 2019 Tariff Regulations. The salvage value of IT equipment has been considered nil, i.e. IT asset has been considered as 100% depreciable. Depreciation allowed for the



transmission asset for 2019-24 tariff period is as follows:

(₹ in lakh)

Asset-1						
	Particulars	2019-20 (Pro-rata for 90 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	907.19	1066.26	1341.34	1341.34	1341.34
B	Addition during the year 2019-24 due to projected ACE	159.07	275.08	0.00	0.00	0.00
C	Closing Gross Block (A+B)	1066.26	1341.34	1341.34	1341.34	1341.34
D	Average Gross Block (A+C)/2	986.73	1203.80	1341.34	1341.34	1341.34
E	Average Gross Block (90% depreciable assets)	986.73	1203.80	1341.34	1341.34	1341.34
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	888.05	1083.42	1207.21	1207.21	1207.21
H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	888.05	1083.42	1207.21	1207.21	1207.21
J	Weighted average rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
K	Lapsed useful life at the beginning of the year (Year)	0.00	0.00	1.00	2.00	3.00
L	Balance useful life at the beginning of the year (Year)	25.00	25.00	24.00	23.00	22.00
M	Depreciation during the year(D*J)	12.81	63.56	70.82	70.82	70.82
N	Aggregate Cumulative Depreciation at the end of the year	12.81	76.37	147.19	218.02	288.84
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	875.24	1007.05	1060.01	989.19	918.37



Asset-2						
	Particulars	2019-20 (Pro-rata for 79 days)	2020-21	2021-22	2022-23	2023-24
A	Opening Gross Block	896.83	1091.95	1225.11	1225.11	1225.11
B	Addition during the year 2019-24 due to projected ACE	195.12	133.16	0.00	0.00	0.00
C	Closing Gross Block (A+B)	1091.95	1225.11	1225.11	1225.11	1225.11
D	Average Gross Block (A+C)/2	994.39	1158.53	1225.11	1225.11	1225.11
E	Average Gross Block (90% depreciable assets)	994.39	1158.53	1225.11	1225.11	1225.11
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	894.95	1042.68	1102.60	1102.60	1102.60
H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	894.95	1042.68	1102.60	1102.60	1102.60
J	Weighted average rate of Depreciation (WAROD) (in %)	5.28	5.28	5.28	5.28	5.28
K	Lapsed useful life at the beginning of the year (Year)	0.00	0.00	1.00	2.00	3.00
L	Balance useful life at the beginning of the year (Year)	25.00	25.00	24.00	23.00	22.00
M	Depreciation during the year(D*J)	11.33	61.17	64.69	64.69	64.69
N	Aggregate Cumulative Depreciation at the end of the year	11.33	72.50	137.19	201.87	266.56
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	883.62	970.17	965.41	900.72	836.04



Interest on Loan (“IoL”)

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

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

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

(3) *The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalisation of such asset.*

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

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

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

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

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

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

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

56. The Petitioner has submitted that weighted average rate of interest (WAROI) on loan has been calculated on the basis of the rates prevailing as on 1.4.2019 and has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2019-24 tariff period may be adjusted.



57. We have considered the submissions of the Petitioner. The Petitioner has prayed that the change in interest rate due to floating rate of interest applicable, if any, during 2019-24 tariff period be adjusted. The floating rate of interest, if any, will be considered at the time of true-up. Therefore, IoL has been allowed in accordance with Regulation 32 of the 2019 Tariff Regulations. IoL allowed for the transmission assets for 2019-24 tariff period is as follows:

(₹ in lakh)

Asset-1						
	Particulars	2019-20 (Pro-rata for 90 days)	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	635.04	746.39	938.95	938.95	938.95
B	Cumulative Repayments up to Previous Year	0.00	12.81	76.37	147.19	218.02
C	Net Loan-Opening (A-B)	635.04	733.58	862.58	791.76	720.93
D	Addition due to ACE	111.35	192.56	0.00	0.00	0.00
E	Repayment during the year	12.81	63.56	70.82	70.82	70.82
F	Net Loan-Closing(C+D-E)	733.58	862.58	791.76	720.93	650.11
G	Average Loan (A+F)/2	684.31	798.08	827.17	756.35	685.52
H	Weighted Average Rate of Interest on Loan (in %)	7.490	7.490	7.490	7.490	7.490
I	Interest on Loan (GxH)	12.60	59.78	61.95	56.65	51.35

(₹ in lakh)

Asset-2						
	Particulars	2019-20 (Pro-rata for 79 days)	2020-21	2021-22	2022-23	2023-24
A	Gross Normative Loan	627.78	764.37	857.58	857.58	857.58
B	Cumulative Repayments up to Previous Year	0.00	11.33	72.50	137.19	201.87
C	Net Loan-Opening (A-B)	627.78	753.03	785.07	720.39	655.70
D	Addition due to ACE	136.58	93.21	0.00	0.00	0.00
E	Repayment during the year	11.33	61.17	64.69	64.69	64.69
F	Net Loan-Closing(C+D-E)	753.03	785.07	720.39	655.70	591.02
G	Average Loan (A+F)/2	690.41	769.05	752.73	688.05	623.36
H	Weighted Average Rate of Interest on Loan (in %)	7.490	7.490	7.490	7.490	7.490
I	Interest on Loan (GxH)	11.16	57.60	56.38	51.53	46.69

Return on Equity ("RoE")

58. Regulations 30 and 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 cutoff date beyond the original scope, excluding additional capitalization on account of emission control system, shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system or in the absence of actual loan portfolio of the generating station or the transmission system, the weighted average rate of interest of the generating company or the transmission licensee, as the case may be, as a whole shall be considered, subject to ceiling of 14%.

Provided further that:

- i. In case of a new project, the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;
- ii. in case of existing generating station, as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC, rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;
- iii. in case of a thermal generating station, with effect from 1.4.2020:
 - a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;
 - b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute, subject to ceiling of additional rate of return on equity of 1.00%:

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

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

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



calculation of effective tax rate.

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

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

Where "t" is the effective tax rate in accordance with clause (1) of this Regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess.

Illustration-

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

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

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

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

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

59. The Petitioner has submitted that it is liable to pay income tax at MAT rate specified under the Taxation Laws (Amendment) Ordinance 2019. Further, RoE has been calculated @18.782% after grossing up RoE with MAT rate of 17.472% (Base Rate 15% + Surcharge 12% + Cess 4%) based on the formula given in Regulation 31(2) of the 2019 Tariff Regulations for 2019-24 tariff period. As per Regulation 31(3)



of the 2019 Tariff Regulations, the grossed-up rate of RoE at the end of every financial year shall be trued-up 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 IT authorities pertaining to 2019-24 tariff period on actual gross income. However, if any penalty arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the Petitioner. Any under-recovery or over-recovery of grossed-up rate on RoE after truing up shall be recovered or refunded to beneficiaries or the long term customers on yearly basis. The Petitioner has further submitted that any adjustment due to additional tax demand including interest duly adjusted for any refund of tax including interest received from IT authorities will be recoverable/ adjustable during 2019-24 tariff period on yearly basis on receipt of Income Tax assessment order.

60. We have considered the submissions of the Petitioner. MAT rate applicable in 2019-20 has been considered for the purpose of RoE, which will be trued-up with actual tax rate in accordance with Regulation 31(3) of the 2019 Tariff Regulations. RoE allowed for the transmission assets for 2019-24 tariff period is as follows:

(₹ in lakh)

		Asset-1				
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	272.15	319.87	402.39	402.39	402.39
B	Addition due to ACE	47.72	82.52	0.00	0.00	0.00
C	Closing Equity (A-B)	319.87	402.39	402.39	402.39	402.39
D	Average Equity(A+B)/2	296.01	361.13	402.39	402.39	402.39
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	Rate of Return on Equity (Pre-tax)	18.782	18.782	18.782	18.782	18.782
H	Return on Equity (Pre-tax)	13.67	67.83	75.58	75.58	75.58



(₹ in lakh)

Asset-2						
	Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
A	Opening Equity	269.05	327.59	367.53	367.53	367.53
B	Addition due to ACE	58.54	39.95	0.00	0.00	0.00
C	Closing Equity (A-B)	327.59	367.53	367.53	367.53	367.53
D	Average Equity(A+B)/2	298.32	347.56	367.53	367.53	367.53
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	Rate of Return on Equity (Pre-tax)	18.782	18.782	18.782	18.782	18.782
H	Return on Equity (Pre-tax)	12.09	65.28	69.03	69.03	69.03

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

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

(₹ in lakh)					
Particulars	2019-20 (Pro-rata for 90 days)	2020-21	2021-22	2022-23	2023-24
Asset-1	5.53	23.30	24.12	24.96	25.84
Particulars	2019-20 (Pro-rata for 79 days)	2020-21	2021-22	2022-23	2023-24
Asset-2	4.86	23.30	24.12	24.96	25.84

62. Regulations 35(3)(a) and 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
<i>Norms for sub-station Bays (₹ Lakh per bay)</i>					
765 kV	45.01	46.60	48.23	49.93	51.68
400 kV	32.15	33.28	34.45	35.66	36.91
220 kV	22.51	23.30	24.12	24.96	25.84
132 kV and below	16.08	16.64	17.23	17.83	18.46
<i>Norms for Transformers (₹ Lakh per MVA)</i>					
765 kV	0.491	0.508	0.526	0.545	0.564



Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
400 kV	0.358	0.371	0.384	0.398	0.411
220 kV	0.245	0.254	0.263	0.272	0.282
132 kV and below	0.245	0.254	0.263	0.272	0.282
Norms for AC and HVDC lines (₹ Lakh per km)					
Single Circuit (Bundled Conductor with six or more sub-conductors)	0.881	0.912	0.944	0.977	1.011
Single Circuit (Bundled conductor with four sub-conductors)	0.755	0.781	0.809	0.837	0.867
Single Circuit (Twin & Triple Conductor)	0.503	0.521	0.539	0.558	0.578
Single Circuit (Single Conductor)	0.252	0.260	0.270	0.279	0.289
Double Circuit (Bundled conductor with four or more sub-conductors)	1.322	1.368	1.416	1.466	1.517
Double Circuit (Twin & Triple Conductor)	0.881	0.912	0.944	0.977	1.011
Double Circuit (Single Conductor)	0.377	0.391	0.404	0.419	0.433
Multi Circuit (Bundled Conductor with four or more sub-conductor)	2.319	2.401	2.485	2.572	2.662
Multi Circuit (Twin & Triple Conductor)	1.544	1.598	1.654	1.713	1.773
Norms for HVDC stations					
HVDC Back-to-Back stations (Rs Lakh per 500 MW) (Except Gazuwaka BTB)	834	864	894	925	958
Gazuwaka HVDC Back-to-Back station (₹ Lakh per 500 MW)	1,666	1,725	1,785	1,848	1,913
500 kV Rihand-Dadri HVDC bipole scheme (Rs Lakh) (1500 MW)	2,252	2,331	2,413	2,498	2,586
±500 kV Talcher- Kolar HVDC bipole scheme (Rs Lakh) (2000 MW)	2,468	2,555	2,645	2,738	2,834
±500 kV Bhiwadi-Balia HVDC bipole scheme (Rs Lakh) (2500 MW)	1,696	1,756	1,817	1,881	1,947
±800 kV, Bishwanath-Agra HVDC bipole scheme (Rs Lakh) (3000 MW)	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."*

63. We have considered the Petitioner's claim of O&M Expenses. The O&M Expenses are allowed for the transmission assets as per the provisions of Regulation 35(3) of the 2019 Tariff Regulations and the same are as follows:



(₹ in lakh)

Asset - 1					
Sub-station					
Sl. No.	400 kV GIS Bay				
1	Yelahanka: Bus Reactor Bay at Yelahanka				
Particulars	2019-20 (Pro-rata for 90 days)	2020-21	2021-22	2022-23	2023-24
Substation (Number of bays)					
400 kV GIS	1	1	1	1	1
Norms (₹ lakh/bay)					
400 kV substation	22.51	23.30	24.12	24.96	25.84
Total Sub-station O&M Expenses	22.51	23.30	24.12	24.96	25.84
Total O&M Expenses	5.53	23.30	24.12	24.96	25.84

(₹ in lakh)

Asset - 2					
Sub-station					
Sl.No.	400 kV GIS Bay				
1	Yelahanka: Bus Reactor Bay at Yelahanka				
Particulars	2019-20 (Pro-rata for 79 days)	2020-21	2021-22	2022-23	2023-24
Sub-station (Number of bays)					
400 kV GIS	1	1	1	1	1
Norms (₹ lakh/bay)					
400 kV Sub-station	22.51	23.30	24.12	24.96	25.84
Total Sub-station O&M Expenses	22.51	23.30	24.12	24.96	25.84
Total O&M Expenses	4.86	23.30	24.12	24.96	25.84

Interest on Working Capital (“IWC”)

64. Regulation 34(1)(c), Regulation 34(3), 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;”

65. The Petitioner has submitted that it has computed the 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 2021-24 onwards. The components of the working capital and interest allowed thereon are as follows:



(₹ in lakh)

Asset-1					
Particulars	2019-20 (Pro-rata for 90 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M expenses for one month)	1.88	1.94	2.01	2.08	2.15
Working Capital for Maintenance Spares (15% of O&M expenses)	3.38	3.49	3.62	3.74	3.88
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/ annual transmission charges)	22.72	26.89	29.11	28.56	27.93
Total Working Capital	27.98	32.32	34.74	34.38	33.96
Rate of Interest for working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest of working capital	0.83	3.64	3.65	3.61	3.57

(₹ in lakh)

Asset-2					
Particulars	2019-20 (Pro-rata for 79 days)	2020-21	2021-22	2022-23	2023-24
Working Capital for O&M Expenses (O&M expenses for one month)	1.88	1.94	2.01	2.08	2.15
Working Capital for Maintenance Spares (15% of O&M expenses)	3.38	3.49	3.62	3.74	3.88
Working Capital for Receivables (Equivalent to 45 days of annual fixed cost/ annual transmission charges)	22.89	26.00	26.83	26.34	25.77
Total Working Capital	28.14	31.44	32.46	32.16	31.80
Rate of Interest for working capital (in %)	12.05	11.25	10.50	10.50	10.50
Interest of working capital	0.73	3.54	3.41	3.38	3.34

Annual Fixed Charges for 2019-24 Tariff Period

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



(₹ in lakh)

Asset-1					
Particulars	2019-20 (Pro-rata for 90 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	12.81	63.56	70.82	70.82	70.82
Interest on Loan	12.60	59.78	61.95	56.65	51.35
Return on Equity	13.67	67.83	75.58	75.58	75.58
O&M Expenses	5.53	23.30	24.12	24.96	25.84
Interest on Working Capital	0.83	3.64	3.65	3.61	3.57
Total	45.44	218.11	236.12	231.62	227.16

(₹ in lakh)

Asset-2					
Particulars	2019-20 (Pro-rata for 79 days)	2020-21	2021-22	2022-23	2023-24
Depreciation	11.33	61.17	64.69	64.69	64.69
Interest on Loan	11.16	57.60	56.38	51.53	46.69
Return on Equity	12.09	65.28	69.03	69.03	69.03
O&M Expenses	4.86	23.30	24.12	24.96	25.84
Interest on Working Capital	0.73	3.54	3.41	3.38	3.34
Total	40.17	210.89	217.63	213.59	209.59

Filing Fee and Publication Expenses

67. 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

68. 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

69. 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 has to be borne and additionally paid by the Respondent(s) to the Petitioner and the same will 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.

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

Security Expenses

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

72. We have considered the above submissions of Petitioner. 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

73. 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

74. With effect from 1.7.2011, sharing of transmission charges for inter-State transmission systems was governed by the provisions of the 2010 Sharing Regulations. However, with effect from 1.11.2020, sharing of transmission charges is governed by the Central Electricity Regulatory Commission (Sharing of Transmission Charges and Losses) Regulations, 2020 (in short "the 2020 Sharing Regulations"). The COD of Asset-1 and Asset-2 has been approved as 2.1.2020 and 13.1.2020. Therefore, the transmission charges from COD of the Asset-1 and Asset-2 to 31.10.2020 shall be governed by the 2010 Sharing Regulations and from 1.11.2020 shall be governed by the 2020 Sharing Regulations. Accordingly, the liabilities of the DICs for arrears of the transmission charges determined through this order shall be computed DIC-wise in accordance with the provisions of respective Tariff Regulations and shall be recovered from the concerned DICs through bill under Regulation 15(2)(b) of the 2020 Sharing Regulations.

75. To summarise,

(a) The Annual Fixed Charges (AFC) allowed in respect of the transmission asset for 2019-24 tariff period are as follows:

(₹ in lakh)					
Asset-1					
Particulars	2019-20 (Pro-rata for 90 days)	2020-21	2021-22	2022-23	2023-24
AFC	45.44	218.11	236.12	231.62	227.16



(₹ in lakh)

Asset-2					
Particulars	2019-20 (Pro-rata for 79 days)	2020-21	2021-22	2022-23	2023-24
AFC	40.17	210.89	217.63	213.59	209.59

76. Annexure-I given hereinafter shall form part of the order.

77. This order disposes of Petition No. 253/TT/2021 in terms of the above discussions and findings.

sd/-
(P. K. Singh)
Member

sd/-
(Arun Goyal)
Member

sd/-
(I. S. Jha)
Member



Particulars	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE 2019-24					Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
		2019-20	2020-21	2021-22	2022-23	2023-24			2019-20	2020-21	2021-22	2022-23	2023-24
Sub Station	907.19	159.07	275.08	0.00	0.00	0.00	1341.34	5.28%	52.10	63.56	70.82	70.82	70.82
Total	907.19	159.07	275.08	0.00	0.00	0.00	1341.34		52.10	63.56	70.82	70.82	70.82
Weighted Average Rate of Depreciation (WAROD) (in %)									5.28%	5.28%	5.28%	5.28%	5.28%
Average Gross Block (₹ in lakh)									986.73	1203.80	1341.34	1341.34	1341.34



Particulars	Admitted Capital Cost as on 1.4.2019 (₹ in lakh)	ACE 2019-24					Admitted Capital Cost as on 31.3.2024 (₹ in lakh)	Rate of Depreciation (in %)	Annual Depreciation as per Regulations (₹ in lakh)				
		2019-20	2020-21	2021-22	2022-23	2023-24			2019-20	2020-21	2021-22	2022-23	2023-24
Sub Station	896.83	195.12	133.16	0.00	0.00	0.00	1225.11	5.28%	52.50	61.17	64.69	64.69	64.69
Total	896.83	195.12	133.16	0.00	0.00	0.00	1225.11		52.50	61.17	64.69	64.69	64.69
Weighted Average Rate of Depreciation (WAROD) (in %)									5.28%	5.28%	5.28%	5.28%	5.28%
Average Gross Block (₹ in lakh)									994.39	1158.53	1225.11	1225.11	1225.11

