CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 223/TT/2020

Coram:

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

Date of Order: 27.05.2022

In the matter of:

Approval under Regulation 86 of the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for determination of transmission tariff for 2014-19 tariff period for installation of 1x250 MVA, 400/220 kV ICT at Bhadrawati HVDC Back-to-Back Station under "Installation of Transformer & Procurement of Spare Convertor Transformer at Bhadrawati Back-to-Back Station" in Western Region.

And in the matter of:

Power Grid Corporation of India Limited,
"Saudamini", Plot No. 2, Sector 29,
Gurgaon-122001. **….Petitioner**

Vs

1. Madhya Pradesh Power Management Company Limited,
   Shakti Bhawan, Rampur,
   Jabalpur - 482 008.

2. Maharshtra State Electricity Distribution Company Limited,
   Hong Kong Bank Building, 3rd Floor,
   M. G. Road Fort,
   Mumbai – 400001.

3. Gujarat Urja Vikas Nigam Limited,
   Sardar Patel Vidyut Bhawan,
   Race Course Road,
   Vadodara - 390 007.

4. Electricity Department,
   Government of Goa,
   Vidyut Bhawan, Near Mandvi Hotel,
   Panaji, Goa - 403 001.

5. Electricity Department,
   Administration Of Daman & Diu,
   Daman - 396 210.

6. Electricity Department,
   Administration Of Dadra Nagar Haveli,
   U.T.Silvassa - 396 230.

7. Chhattisgarh State Electricity Board,
   P.O.Sunder Nagar, Dangania, Raipur,
   Chhatisgaarh-492013.

8. MadhyapradeshAudyogik Kendra,
   Vikas Nigam (Indore) Limited,
   3/54, Press Complex, Agra-Bombay Road,
   Indore-452 008.

9. Karnataka Power Transmission Corporation Limited,
   (KPTCL), Kaveri Bhavan,
   Bangalore – 560 009.

10. Transmission Corporation of Andhra Pradesh Limited,
    (APTRANSCO), Vidyut Soudha,
    Hyderabad– 500082

11. Kerala State Electricity Board (KSEB),
    VaidyuthiBhavanam, Pattom,
    Thiruvananthapuram – 695 004.

12. Tamil nadu Electricity Board (TNEB),
    NPKRR Maaligai, 800, Anna Salai,
    Chennai – 600 002.

13. Electricity Department,
    Government of Pondicherry,
    Pondicherry – 605001.

14. Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL),
    P&T Colony, Seethmmadhara,
    Vishakhapatnam, Andhra Pradesh.

15. Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL),
    Srinivasasa Kalyana Mandapam Backside,
    Tiruchanoor Road, Kesavayana Gunta,
    Tirupati-517 501, Chittoor District, Andhra Pradesh.

16. Central Power Distribution Company of Andhra Pradesh limited (APCPDCL),
    Corporate Office, Mint Compound,
    Hyderabad – 500 063, Andhra Pradesh.

17. Northern Power Distribution Company of Andhra Pradesh Limited (APNPDCL), Opposite NIT Petrol Pump, Chaitanyapuri, Kazipet, Warangal – 506 004, Andhra Pradesh.

18. Bangalore Electricity Supply Company Limited (BESCOM), Corporate Office, K.R.Circle, Bangalore – 560 001, Karanataka.

19. Gulbarga Electricity Supply Company Limited (GESCOM), Station Main Road, Gulburga, Karnataka.

20. Hubli Electricity Supply Company Limited (HESCOM), Navanagar, PB Road, Hubli, Karnataka.

21. MESCOM Corporate Office, Paradigm Plaza, AB Shetty Circle, Mangalore – 575 001, Karnataka.

22. Chamundeswari Electricity Supply Corporation Limited (CESC), 927, L J Avenue, Ground Floor, New Kantharaj Urs Road, Saraswatipuram, Mysore – 570 009 , Karnataka.

…**Respondent(s)**

For Petitioner	:	Shri S. S. Raju, PGCIL Shri D.K. Biswal, PGCIL Shri Ved Prakash Rastogi, PGCIL Shri Amit Yadav, PGCIL
For Respondents	:	Shri Manoj Dubey, Advocate, MPPMCL Shri Anindya Khare, MPPMCL

ORDER

The Power Grid Corporation of India Limited (PGCIL), has filed the instant petition for determination of transmission tariff for the period from COD to 31.3.2019 under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations") for Installation of Transformer & Procurement of Spare Convertor Transformer at Bhadrawati Back-to-Back Station (hereinafter referred to as "Transmission System").

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

"1) Approve the Transmission Tariff for the tariff block 2014- 19 block for the assets covered under this petition.

2) Admit the capital cost as claimed in the petition and approve the Additional Capitalisation incurred/ projected to be incurred.

3) Tariff may be allowed on the estimated completion cost, Revised Cost Estimates has been approved and is being submitted along with the Petition.

4) Allow the Petitioner to approach the Commission for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike, if any, during period 2014-19.

5) 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 under clause: 25 of the Tariff Regulations, 2014.

6) Approve the reimbursement of expenditure by the beneficiaries towards petition filing fee, expenditure on publishing of notices in newspapers in terms of Regulation: 52 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 and other expenditure (if any) in relation to the filing of petition.

7) Allow the petitioner to bill and recover Licensee fee and RLDC fees and charges, separately from the respondents in terms of Regulation: 52 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

8) 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 2014-19 period, if any, from the respondents.

9) Allow the petitioner to bill and recover GST on Transmission charges separately from the respondents, if GST on Transmission of electricity is withdrawn from the exempted (negative) list at any time in future. Further any taxes and duties including cess, etc. imposed by any Statutory/Govt./Municipal Authorities shall be allowed to be recovered from the beneficiaries.

10) Allow 90% of the Annual Fixed Charges as tariff in accordance with clause 7 (i) of Regulation 7 Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for purpose of inclusion in the PoC charges.

11) Allow the petitioner to bill Tariff from actual DOCO and also the petitioner may be allowed to submit revised Management Certificate and Tariff Forms (as per the Relevant Regulation) based on actual DOCO.

and pass such other relief as 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 (hereinafter referred to as "IA") for implementation of the Transmission System was accorded by the Board of Directors of the Petitioner's Company vide Memorandum No. C/CP/Investment/WR-273 dated 28.8.2013 with an estimated cost of ₹13565 lakh including Interest During Construction (IDC) of ₹664 lakh based on April 2013 price level. Revised Cost Estimates (RCE) of the project was approved by Board of Directors of the Petitioner's Company vide Memorandum No. C/CP/RCE/Spare Tr. Bhadrawati dated 11.3.2016 with an estimated cost of ₹16902 lakh including Interest During Construction (IDC) of ₹955 lakh based on August, 2015 price level.

(b) The scope of work covered under the transmission systemare as follows:

Sub-station:

i. Installation of 1x315 MVA, 400/220 kV ICT at Bhadrawati HVDC Back-to-Back Station

ii. Spare converter transformers (234MVA, 1-Ph 3 winding): 3 numbers

(c) The scope of the transmission system covered under various petitions are as follows:

Sr. No.	Scope as Approved in Investment Approval	COD	Petition No.	Order date & Status
	Sub-station			
1	Procurement of 3 numbers Spare Converter Transformers (234 MVA, 1-ph, 3 winding) at Bhadrawati HVDC Back-to-Back Station	22.3.2018	270/TT/2018	2.8.2019
2	Installation of 1x315 MVA, 400/220 kV ICT at Bhadrawati HVDC Back-to-Back Station	19.3.2015	56/TT/2015	29.7.2016 (The tariff was not granted by the Commission)
3	Installation of 1x250 MVA, 400/220 kV ICT at Bhadrawati HVDC Back-to-back Station	8.9.2017	Covered under instant petition	

(d) The Petitioner had earlier filed the Petition No. 56/TT/2015 claiming tariff in respect of Asset: “Installation of ICT of 315 MVA at Bhadrawati HVDC Back-to-Back Station”. The Commission vide order dated 29.7.2016 in Petition No. 56/TT/2015, rejected the claim of tariff for the said ICT as it was catering to only 2 MVA load of HVDC Back-to-Back Station Bhadravati. The Petitioner was directed to move this transformer elsewhere where it can be fully utilized and subsequently approach the Commission for tariff. The relevant paragraphs of the said order dated 29.7.2016 are as under:

> *“18. In the light of above decision, we are of the view that installation of ICT of 315 MVA capacity transformer to meet requirements of 2 MVA load is not a prudent decision on the part of the petitioner as almost entire capacity of the transformer would remain unutilized. Accordingly, the petitioner’s prayer for grant of tariff for 315 MVA ICT at Bhadravati back to back Sub-station is rejected. The petitioner is advised to shift the 315 MVA ICT to some other location where its capacity could be fully utilized and approach the Commission for tariff.”*

(e) The Commission directed the Petitioner to submit the present status of the 315 MVA ICT that was earlier covered in Petition No. 56/TT/2015. In response, the Petitioner has submitted that the 315 MVA ICT whose tariff was rejected has been shifted to Daltanganj Sub-station and cost of that transformer has been booked in that sub-station under Petition No. 105/TT/2018 and its truing up covered in Petition No. 372/TT/2020 under project ERSS-III.

(f) Accordingly, the Petitioner has filed the instant petition and submitted the following:

i. In the 31st SRPC meeting dated 25.2.2017, the Petitioner offered to install another transformer at Bhadrawati at their own cost in place of the 315 MVA transformer, and if the ICT is removed, reliable uninterrupted supply to meet the auxiliary would be affected which would result in more trippings of Bhadravati HVDC Back to Back poles. Any tripping of poles leads to diversion of power through other AC links (Sholapur-Raichur,Kolhapur-Kudgi etc.) along with all associated AC links in WR. Sometimes, it could lead to triggering of SPS affecting the WR generators/SR loads.

ii. As SR, being an importing region, is affected by such events and the Petitioner had informed that the ICT would be provided at their own cost. Afterwards, in 33rd Meeting of SRPC held on 17. 2.2018, the Petitioner had informed that they have achieved COD of 400/220/33 kV, 250 MVA transformer at Bhadravathi which was shifted from Moga.

iii. Subsequently, in 34thmeeting of SRPC held on 11. 8.2018 matter was again deliberated issue regarding reliable alternate auxiliary supply at HVDC as follows:

"*PGCIL vide letter dated 26.07.2018 (refer Annexure-XXIX) had informed that out of two (2) nos. dismantled 250 MVA ICT at Moga SIS, one (1) no. ICT had been diverted to Bhadravathi S/S. As agreed in 31st SRPC Meeting held on 25.02.2017, the said diverted ICT was proposed to be provided at Bhadravathi at zero cost. However, in review petition no. 182/MP/2017, Hon"ble CERC has denied this ICT as regional spare. Therefore, instead of zero cost, depreciated cost of diverted ICT and bay equipment cost needs to be shared by Southern Region beneficiaries."*

iv. As decided in Regional Power Committee of Southern Region, 250 MVA, 400/220/33 kV transformer, which has been diverted form Moga, has been installed at Bhadrawathi for increasing reliability of power supply to auxiliary system of HVDC Bhadrawati. The depreciated cost of the said diverted transformer has been claimed here, which is comparatively less as compared to the new transformer of any rating at *400/33 kV* voltage level. Therefore, in the instant petition, instead of zero cost, depreciated cost of diverted ICT and bay equipment cost, has been claimed which is to be shared by Southern Region beneficiaries.

v. Accordingly, the 250 MVA ICT was declared under commercial operation on 8.9.2017.

(g) However, post hearing dated 19.8.2020 of the instant Petition, the Commisison noticed that 250 MVA, ICT shifted from Moga Sub-station to Bhadrawati HVDC Sub-station as claimed by the Petitioner in the instant petition was originally installed at Moga Sub-station under Chamera Stage-I Transmission System associated with the Northern Region and covered under Petition No. 488/TT/2019. The Commission vide order dated 19.2.2021 in Petition No. 488/TT/2019 has already trued-up the tariff for 2014-19 tariff period and determined the tariff for 2019-24 tariff period for Chamera Stage-I Transmission System associated with the Northern Region including 250 MVA, ICT at Moga Sub-station which was shifted to Bhadrawati HVDC Sub-station, without any decapitalisation therein. Accordingly, in order to take a comprehensive view for appropriate treatment of re-capitalisation and de-capitalisation of 250 MVA, 400/220/33 kV ICT (shifted from Moga Sub-station to Bhadrawati HVDC Sub-station), the Commission vide interim order dated 24.8.2021 in Petition No. 223/TT/2020 and Petition No. 488/TT/2019 decided to revisit the order dated 19.2.2021 in Petition No. 488/TT/2019 and directed to relist the instant petition alongwith Petition No.488/TT/2019 and Petition No. 676/TT/2020. Relevant portions of the interim order dated 24.8.2021 are reprodcuced below:

"6. We observe that there are issues as regards de-capitalization and recapitalization of various assets covered in Petition No. 488/TT/2019 (order

issued on 19.2.2021), Petition No. 676/TT/2020 (matter heard on 9.7.2021 and order reserved) and the instant petition. Accordingly, in order to take a comprehensive view for appropriate treatment of re-capitalisation and de-capitalisation of 250 MVA, 400/220/33 kV ICT (shifted from Moga sub-station to Bhadrawati HVDC sub-station) and 500 MVA ICT at Moga sub-station, we are of the view that the order dated 19.2.2021 in Petition No. 488/TT/2019 has to be revisited and the instant petition is required to be considered alongwith Petition No.676/TT/2020 and Petition No.488/TT/2019."

"9. Accordingly, in accordance with Regulation 92 of the 1999 Regulations, the proceedings in Petition No.488/TT/2019 shall be reopened for the purpose of revising the tariff allowed for 250 MVA, 400/220/33 kV ICT in order dated 19.2.2021. Pending revision of tariff, the order dated 19.2.2021 in Petition No. 488/TT/2019 issuspended. And we direct to relist Petition No.488/TT/2019 for reconsideration alongwith Petition No. 676/TT/2020 and Petition No. 223/TT/2020."

(h) Instant petition alongwith Petition No. 488/TT/2019 and Petition No. 676/TT/2020 was listed for hearing on 2.11.2021 for consideration of issue of de-capitalization, re-capitalization and fixation of tariff with reference to 250 MVA 400/220 kV ICT at Bhadrawati. During the hearing, the Commission decided to de-capitalise 250 MVA, 400/220/33 kV ICT (shifted from Moga Sub-station to Bhadrawati HVDC Sub-station) in the Petition No. 488/TT/2019 with effect from 1.4.2014 and there will be no decapitalization of the subject asset in Petition No. 676/TT/2020. Re-capitalization of the same is to be carried out in the instant Petition with effect from 8.9.2017 as claimed by the Petitioner. Accorindlgy, the Petitioner was directed to submit revised tariff forms in the instant petition and also in Petition No. 488/TT/2019 and Petition No. 676/TT/2020.

4. As decided during the hearing held on 2.11.2021, re-capitalisation of 250 MVA, 400/220/33 kV ICT (shifted from Moga Sub-station to Bhadrawati HVDC Sub-station) is now carried out in the instant petition with effect from 8.9.2017 in the instant order.

5. The Petitioner vide affidavit dated 3.12.2021 has submitted the revised tariff

forms and claimed the tariff in respect of following two assets:

Asset Description	Asset nomenclature used in the instant Petition
Sub-station extension for 400/200 kV ICT at Bhadrawati HVDC Back-to-Back Station	Asset-A1
400/200 kV250 MVA shifted transformer from Moga Sub-station	Asset-A2

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

7. The Petitioner has served the petition on the Respondents and notice of this application 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. Madhya Pradesh Power Management Company Limited (MPPMCL), i.e. Respondent No. 1, has filed its reply vide affidavit dated 29.2.2020 and has raised issues of inclusion of wage revision in tariff claimed by the Petitioner and allowing the cost of ICT. The Petitioner vide affidavit dated 17.8.2020 has filed its rejoinder to the reply of MPPMCL. The issues raised by MPPMCL and the clarifications given by the Petitioner are dealt in the relevant portions of the instant order.

8. The hearing in this matter was held on 2.11.2021 through video conference and order was reserved. This order is being issued taking into consideration the submissions made by the Petitioner in the petition dated 3.4.2019, the Petitioner's

affidavits dated 21.9.2020, 5.1.2021, 4.2.2021 and 3.12.2021 reply of MPPMCL and Petitioner's rejoinder thereto.

9. Having heard the representatives of the Petitioner and MPPMCLand having perused the materials on record, we proceed to dispose of the petition.

ANNUAL FIXED CHARGES FOR 2014-19 TARIFF PERIOD

10. The Petitioner has claimed the following revised Annual Transmission Charges in respect of Asset-A1 and Asset-A2:

(₹ in lakh)

Particulars	Asset-A1		Asset–A2	
	2017-18 (Pro-rata for 205 days)	2018-19	2017-18 (Pro-rata for 205 days)	2018-19
Depreciation	27.50	54.26	21.87	38.94
Interest on Loan	33.29	62.67	0.00	0.00
Return on Equity	33.77	67.67	39.92	71.27
Interest on Working Capital	3.95	7.50	1.33	2.36
O & M expenses	37.35	68.71	0.00	0.00
Total	**135.86**	**260.81**	**63.12**	**112.57**

11. The details of the Interest on Working Capital (IWC) claimed by the Petitioner in respect Asset-A1 and Asset-A2 are as follows:

(₹in lakh)

Particulars	Asset-A1		Asset–A2	
	2017-18 (Pro-rata for 205 days)	2018-19	2017-18 (Pro-rata for 205 days)	2018-19
O & M expenses	5.54	5.73	0.00	0.00
Maintenance Spares	9.98	10.31	0.00	0.00
Receivables	40.32	43.47	18.73	18.76
Total	**55.84**	**59.51**	**18.73**	**18.76**
Rate of Interest	12.60	12.60	12.60	12.60
Interest on working capital	**3.95**	**7.50**	**1.33**	**2.36**

Date of Commercial Operation (COD)

12. The Petitioner has claimed the actual COD of the 1x250 MVA, 400/220 kV ICT at Bhadrawati HVDC Back-to-Back Station as 8.9.2017. In support of COD of the transmission asset, the Petitioner has submitted CEA Energisation Certificate dated 24.8.2017 under Regulation 43 of CEA (Measures Related to

Safety & Electricity Supply) Regulations, 2010, RLDC Charging Certificate dated 5.10.2017, self-declaration COD Letter dated 10.10.2017.

13. The Commission directed the Petitioner to submit the power-flow details of 250 MVA ICT at Bhadrawati Sub-station and details of trippings at Bhadrawati Sub-station before COD of 250 MVA ICT and after COD of 250 MVA ICT. In response the Petitioner vide affidavit dated 5.1.2021 has submitted the required details, which depict the reduction in trippings after installation of the ICT and also submitted that the power flow is about 0.80 MW to cater the auxiliary load.

14. In response to technical validation dated 19.12.2020 as to whether the Petitioner has implemented any 220 kV bays associated with the instant asset, the Petitioner vide affidavit dated 5.1.2021 has submitted that no 220 kV bays are implemented in association with transmission asset.

15. The Petitioner has submitted the self-declaration letter dated 10.10.2017 notifying charging of the instant asset, and CEA "Approval for Energisation" letter dated 24.8.2017, as required under Regulation 43 of CEA (Measures relating to Safety and Electric Supply) Regulations, 2010 and WRLDC certificate dated 5.10.2017 in support of its claim.

16. Accordingly, taking into consideration the submissions of the Petitioner, CEA Energisation Certificate, and RLDC Charging Certificate, we approve the COD of the instant transmission asset as 8.9.2017. The Petitioner has not submitted CMD Certificate as required under Grid Code and the Petitioner is directed to submit the same at the time of truing–up.

17. The Petitioner in the instant petition has claimed seperate tariff for Asset-A1 and Asset-A2. Asset-A1, i.e. the associated equipment in Bhadrawati Sub-station is a new asset and has to be serviced from its COD, i.e. 8.9.2017.

However, Asset-A2, 250 MVA ICT shifted from Moga Sub-station, is an existing asset which has already been granted tariff since its COD on 19.5.1994, has completed around 19 years of its useful life. Taking into consideration the submission of the Petitioner for allowing separate tariff for Asset-A1 and Asset-A2 and the fact that the remaining useful life of Asset-A1 and Asset-A2 is not the same, separate tariff is allowed for Asset-A1 and Asset-A2.

Capital Cost

18. Regulation 9(1)(2) of the 2014 Tariff Regulations provides as follows:

"(1) The Capital cost as determined by the Commission after prudence check inaccordance with this regulation shall form the basis of determination of tariff for existingand 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 commercialoperation 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% ofthe funds deployed, by treating the excess equity as normative loan, or (ii) beingequal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;
(bi) Any gain or loss on account of foreign exchange risk variation pertaining to the loan amount availed during the construction period shall form part of the capital cost.
(c) Increase in cost in contract packages as approved by the Commission;
(d) Interest during construction and incidental expenditure during construction ascomputed in accordance with Regulation 11 of these regulations;
(e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 ofthese regulations;
(f) expenditure on account of additional capitalization and de-capitalisationdetermined in accordance with Regulation 14 of these regulations;
(g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to theCOD as specified under Regulation 18 of these regulations; and
(h) adjustment of any revenue earned by the transmission licensee by using the assets before COD."

19. The Petitioner has claimed the following capital cost as on COD and estimated ACE up to 31.3.2019 in respect of the transmission asset:

(₹ in lakh)

Approved Cost (FR)	Approved Approtioned cost	Capital Cost as on COD	Estimated ACE	Total Capital Cost as on 31.3 2019

	as per RCE		2017-18	2018-19	
1980.94	2637.22	1020.26	12.11	223.97	1256.34

20. The Petitioner has submitted that in FR, the cost of new 315 MVA, 400/220 kV transformer had been considered, whereas in the instant petition, depreciated cost of diverted transformer has been claimed. The Petitioner has also submitted that there is cost variation in the cost of sub-station equipments/ packages due to variation in awarded / executed cost received in competitive bidding. Further, in response to technical validation letter dated 19.12.2020 regarding reasons for approval of RCE even though completion cost is within FR cost, the Petitioner has submitted that the overall project cost had increased due to which RCE was prepared.

21. We have considered the submissions of the Petitioner. Based on the Form-5 furnished by the Petitioner, major variations are as follows:

(₹ in lakh)

Sr. No.	Particulars	Cost Details		Variation (+ within/ - increase)	Variation as compared to FR Cost	Reason (s) for Variation
		FR	Completion			
1	Civil Works	258.72	343.08	-84.36	-32.60%	As per actual execution and site condition
2	Sub-station equipment					
(i)	Switchgear (CT, PT, Circuit Breaker, Isolator etc.)	109.65	148.14	-38.49	-35.10%	Increase in award cost compared to FR and PV
(ii)	Transformers	1005.49	148.61	856.88	85.41%	Transformer diverted from Moga Sub-station was used, hence only depreciated cost of transformer and transportation cost considered.
(iii)	Control, Relay & Protection Panel	81.61	230.26	-148.65	-182.14%	Increase in award cost compared to FR and PV
(iv)	Bus bars/ conductors/ Insulators	39	227.94	-188.94	-484.46%	Increase in award cost compared to FR and PV

22. The Petitioner has submitted justification for variation which has been duly approved by the Board of Directors of the Petitioner. It is observed that the cost variation is mainly on account of Civil Works and sub-station equipment's like: Switchgear (CT, PT, Circuit Breaker, and Isolator, etc.), Transformers, Control, Relay & Protection Panel and Bus bars/conductors/Insulators. The capital cost on part of Bus bars/ conductors/ Insulators increased from ₹39 lakh as per FR to total actual cost of ₹227.94 due to increase in award cost compared to FR and PV resulting in an overall increase of ₹188.94 lakh i.e (-) 484.46 % which is quite higher in percentage. The cost variation is allowed subject to furnishing of the detailed justification of cost variation towards Bus bars/ conductors/ Insulators along with valid documentary evidence in support of cost variationat the time of truing by the Petitioner.

23. As per IA, the project was scheduled to be put into commercial within 24 months from the date of IA. Accordingly, the scheduled date of commercial operation (hereinafter referred to as "SCOD") of the instant asset is 27.8.2015 against which the original asset (315 MVA ICT of 400/220 kV) was put under commercial operation as on 19.3.2015, which is within the SCOD. However as per Commission's direction vide order dated 29.7.2016 in Petition No. 56/TT/2015, the said ICT was moved as discussed in paragraphs above. The shifting of the 250 MVA ICT from Moga Sub-station was discussed in 31st meeting held on 25.2.2017 and thereafter, the Petitioner has commissioned the asset within 6 months. As a special case, we consider the 31st SRPC meeting date as reference for the time schedule and observe that the asset was put into commercial operation within 6 months from the approval of the 31st SRPC

meeting which is the minimum time required for shifting of the 250 MVA ICT and its erection, testing and commissioning.

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

24. The Petitioner has claimed Interest During Construction (IDC) of ₹101.90 lakh for Asset-A1 and submitted Auditor's Certificate dated 21.1.2019 in support of the same. The Petitioner has submitted statement showing IDC claim, discharge of IDC liability as on COD and thereafter. The details are as follows:

(₹ in lakh)

Asset	IDC as per Auditor Certificate	IDC Discharged up to COD	IDC discharged during 2017-18	IDC discharged during 2018-19
Asset-A1	101.90	86.95	13.20	1.75

25. We have considered the submissions made by the Petitioner. The allowable IDC has been worked out considering the information submitted by the Petitioner for transmission asset on cash basis. The revised loan details submitted in Form-9C vide affidavit dated 3.12.2021 for the 2014-19 tariff period and the IDC computation sheet have been considered for the purpose of IDC calculation on cash and accrued basis. The un-discharged IDC as on COD has been considered as ACE during the year in which it has been discharged. Accordingly, based on the information furnished by the Petitioner, the IDC considered, is as follows:

(₹ in lakh)

Asset	IDC as per Auditor's Certificate	IDC admissible	IDC disallowed due to computation difference	IDC allowed up to COD on cash basis	Un-discharged IDC as on COD
Asset-A1	A	B	C=(A-B)	D	E=(B-D)
	101.90	100.27	1.63	86.63	13.64

26. The un-discharged portion of IDC is being allowed as ACE during the respective year of discharge and the same is as follows:

(₹ in lakh)

Un-discharged portion of entitled IDC as on COD	IDC being discharged as ACE	
	2017-18	2018-19
13.64	13.22	0.43

27. The Petitioner has claimed IEDC of ₹58.64 lakh for Asset-A1. The Petitioner has claimed IEDC as on COD, which is within the percentageof hard cost as indicated in the abstract cost estimate. Hence, the entire amount of IEDC has been allowed. Accordingly, IEDC considered for the purpose of tariff calculation is as follows:

(₹ in lakh)

Asset	IEDC claimed by Petitioner (as per Auditor Certificate)	IEDC allowed on cash basis as on COD
Asset-A1	A	B
	58.64	58.64

Initial Spares

28. Regulation 13 of the 2014 Tariff Regulations specifies ceiling norms forcapitalization of initial spares in respect of transmission system as follows:

> *"13. <u>Initial Spares</u>*
>
> *Initial spares shall be capitalised as a percentage of the Plant and Machinery cost uptocut-off date, subject to following ceiling norms:*
>
> *(a) Coal-based/lignite-fired thermal generating stations - 4.0%*
>
> *(b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%*
>
> *(c) Hydro generating stations including pumped storage hydro generating station. - 4.0%*
>
> *(d) Transmission system*
> *(i) Transmission line-1.00%*
> *(ii) Transmission Sub-station (Green Field)-4.00%*
> *(iii) Transmission Sub-station (Brown Field)-6.00%*
> *(iv) Series Compensation devices and HVDC Station-4.00%*
> *(v) Gas Insulated Sub-station (GIS)-5.00%*
> *(vi) Communication system-3.5%*
>
> *Provided that:*
> *i. where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:*

ii. where the generating station has any transmission equipment forming part of the generation project, the ceiling norm for initial spares for such equipments shall be as perthe ceiling norms specified for transmission system under these regulations:
iii. once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up:
iv. for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the breakup of head wise IDC& IEDC in its tariff application."

29. The Petitioner has claimed the following Initial Spares for Asset-A1:

Asset	Estimated Completion Cost (A) (₹ in lakh)	Initial Spares claimed (B) (₹ in lakh)	Ceiling limit (in %) (C)	Initial Spares worked out D = [(A-B)*C /(100-C)] (₹ in lakh)	Excess Initial Spares E = (B-D) (₹ in lakh)
Asset-A1	752.73	36.33	6%	45.73	-

30. We have considered the submissions made by the Petitioner. The initial spares claimed by the Petitioner for the transmission asset is within the permissible limit and the same is allowed.

(₹ in lakh)

Asset	Element	Plant and machinery Cost excluding IDC, IEDC, Land Expenditure up to 31.3.2019	Initial spares claimed	Initial spares allowed	Initial spares allowed up to COD	Initial spares allowed in 2018-19	
						2017-18	2018-19
Asset-A1	Sub-station	752.73	36.33	36.33	34.51	1.82	-

<u>Re-capitalisation of Asset-A2</u>

31. As stated above, recapitalisation of 250 MVA, 400/220/33 kV ICT (shifted from Moga Sub-station to Bhadrawati HVDC Sub-station) is carried out in the instant petition with effect from 8.9.2017. The Petitioner vide affidavit dated 3.12.2021 has submitted the revised tariff forms in respect of Asset-A2 and has considered the following details for recapitalisation of 250 MVA, 400/220/33 kV ICT:

(₹ in lakh)

	Particulars	Add/add-cap amount w.r.t shited ICT form Moga Sub-station to Bhadrawati Sub-station
1	Opening gross block	737.56
2	Cumulative depreciation as on 1.4.2014	461.18

32. The Commission vide order dated26.5.2022 in Petition No. 488/TT/2019 has already decapitalised 250 MVA, 400/220/33 kV ICT from Moga Sub-station under Chamera Stage-I Transmission System associated with the Northern Region. The relevant paragraph 12 and paragraph 13 of the order dated 26.5.2022 in Petition No. 488/TT/2019 are extracted hereunder for reference:

> *"12. As regards decapitaisation of 250 MVA, 400/220/33 kV ICT (shifted from Moga Sub-station to Bhadrawati HVDC Sub-station) in the instant petition, the Petitioner has claimed the following :*

(₹ in lakh)

Particulars	***As per order dated 19.2.2021 in Petition No. 488/TT/2019 (A)***	***Less de-capitalisation amount w.r.t. replaced/ shifted ICT-I from Moga Sub-station to Bhadrawati Sub-station (B)***	***Revised Capital Cost after de-capitalisation (A-B)***
Opening Gross Block as on 1.4.2014	*24629.96*	*737.56*	*23892.40*
Cumulative depreciation up to previous year	*15400.50*	*461.18**	*14939.32*

> **Calculated as per pro-rata opening deprecation considered in tariff order in Petition No. 488/TT/2020.*
>
> *13. Accordingly, we have considered the date of de-capitalisation of 250 MVA, 400/220/33 kV ICT as 1.4.2014 and date of re-capitalisation to be considered in Petition No. 223/TT/2020 is 8.9.2017. The capital cost of ₹23892.40 (₹24629.96-₹737.56) lakh as on 1.4.2014 and 31.3.2019 has been considered for the purpose of truing up of the tariff for 2014-19 tariff period."*

33. Accordingly, date of re-capitalisation of 250 MVA, 400/220/33 kV ICT i.e. Asset-A2 has been considered as 8.9.2017 in the instant petition. The cumulative depreciation till the date of de-capitalisation i.e. 1.4.2014 in respect of Asset-A2

corresponding to the gross block value of ₹737.56 lakh considered in Petition No. 488/TT/2019 is ₹461.18 lakh and the same has been considered in the instant petition.

<u>Capital Cost as on COD</u>

34. Accordingly, the capital cost allowed as on COD under Regulation 9(2) of the 2014 Tariff Regulations is as follows:

(₹ in lakh)

Asset	Capital Cost as on COD claimed (A)	IDC Disallowed (B)	Un-discharged IDC as on COD (C)	Capital Cost allowed as on COD (D) = (A-B-C)
Asset-A1	1020.26	1.63	13.64	1004.99

(₹ in lakh)

Asset	Original COD	Date of recapitalisation considered in the instant petition	Original book value of the asset being recapitalised	Corresponding cumulative depreciation as on date of decapitalisation
Asset-A2	19.5.1994	8.9.2017	737.56	461.18

<u>Additional Capital Expenditure (ACE)</u>

35. Regulation 14(1) of the 2014 Tariff Regulations provides as follows:

> *"(1) The capital expenditure in respect of the new project or an existing projectincurred or projected to be incurred, on the following counts within the originalscope of work, after the date of commercial operation and up to the cut-off date maybe admitted by the Commission, subject to prudence check:*
>
> *(i) Undischarged liabilities recognised to be payable at a future date;*
> *(ii) Works deferred for execution;*
> *(iii) Procurement of initial capital spares within the original scope of work, inaccordance with the provisions of Regulation 13;*
> *(iv) Liabilities to meet award of arbitration or for compliance of the order or decree ofa court; and*
> *(v) Change in Law or compliance of any existing law:*
>
> *Provided that the details of works asset wise/work wise included in the originalscope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submittedalong with the application for determination of tariff."*

36. Regulation 3(13) of the 2014 Tariff Regulations defines “cut-off” date as follows:

> *“(13) ’Cut-off Date’ means 31st March of the year closing after two years of theyear of commercial operation of whole or part of the project, and in case the wholeor part of the project is declared under commercial operation in the last quarter ofthe year, the cut-off date shall be 31st March of the year closing after three years ofthe year of commercial operation:*
>
> *Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer.”*

37. The cut-off date for the transmission asset is 31.3.2020. The Petitioner has claimed estimated ACE of ₹12.11 lakh for 2017-18 and ₹223.97 lakhfor 2018-19 in respect of Asset-A1 (on accrual basis). The Petitioner has submitted that ACE incurred in 2017-18 and 2018-19 is on account of un-discharged liability towards final payment/ withheld payment due to contractual exigencies for works executed within the cut-off date. The Petitioner has claimed the same under Regulation 14(1)(i) (undischarged liabilities recognized to be payable at a future date) of the 2014 Tariff Regulations.

38. We have considered the submissions made by the Petitioner. Un-discharged IDC as on COD has been allowed as ACE during the year of discharge. ACE claimed by the Petitioner has been allowed under Regulation 14(1)(i) of the 2014 Tariff Regulations which pertains to un-discharged liabilities recognized to be payable at a future date. Accordingly, ACE as claimed for 2017-18 and 2018-19 is allowed as follows:

(₹ in lakh)

Asset-A1	**Regulation**	**2017-18**	**2018-19**
Particulars			
Balance and retention payments for liabilities other than IDC	14(1)(i)	12.11	223.97
IDC Discharged after COD	14(1)(i)	13.22	0.43
Total ACE		**25.33**	**224.40**

39. The capital cost allowed as on 31.3.2019 after including ACE in respect of the transmission asset is as follows:

(₹ in lakh)

Asset-A1	**Capital Cost as on COD on cash basis**	**ACE**		**Total Capital Cost including ACE as on 31.3.2019**
Particulars		**2017-18**	**2018-19**	
Allowed in this order	1004.99	25.33	224.40	1254.72

Capital Cost for the 2104-19 Tariff Period

40. Accordingly, the capital cost considered for the 2014-19 tariff period, subject to truing up, is as follows:

(₹ in lakh)

Asset	**Capital Cost as on COD considered fortariff calculation**	**ACE allowed during 2018-19**	**Total estimated completion cost up to 31.3.2019**
Asset-A1	1004.99	249.73	1254.72
Asset-A2	737.56*	0.00	737.56

* *Gross Block Value as on the date of re-capitalisation*

Debt-Equity Ratio

41. Regulation 19(1) and Regulation 19(5) of the 2014 Tariff Regulations specify as follows:

> *"19. **Debt-Equity Ratio**: (1) For a project declared under commercial operation on orafter 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. Iftheequity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:*
>
> *Provided that:*
>
> *i. where equity actually deployed is less than 30% of the capital cost, actual equityshall be considered for determination of tariff:*
> *ii. the equity invested in foreign currency shall be designated in Indian rupees on thedate of each investment:*
> *iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.*
>
> ***Explanation** -The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing returnonequity, only if such premium amount and internal resources are actually utilised formeeting the capital expenditure of the generating station or the transmission system."*

"(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 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."

42. The Petitioner has claimed debt-equity ratio of 70:30 as on COD and for ACE debt-equity ratio of 72.10:27.90 and 70:30 for 2017-18 and 2018-19 respectively has been claimed in respect of Asset-A1. The debt-equity ratio of 70:30 has been considered for capital cost as on COD and for ACE debt-equity ratio of 72.10:27.90 and 70:30 for 2017-18 and 2018-19 respectively has been considered as provided under Regulation 19 of the 2014 Tariff Regulations.

43. Asset-A2, the debt-equity ratio of 51.09:48.91 has been considered. The debt-equity as on date of commercial operation and 31.3.2019 considered on normative basis are as follows:

(₹ in lakh)

Funding Asset-A1	Amount as on COD (₹ in lakh)	(in %)	Amount as on 31.3.2019 (₹ in lakh)	(in %)
Debt	703.49	70.00	878.85	70.04
Equity	301.49	30.00	375.87	29.96
Total	**1004.99**	**100.00**	**1254.72**	**100.00**

(₹ in lakh)

Funding Asset-A2	Amount as on COD (₹ in lakh)	(in %)	Amount as on 31.3.2019 (₹ in lakh)	(in %)
Debt	376.82	51.09	376.82	51.09
Equity	360.74	48.91	360.74	48.91
Total	**737.56**	**100.00**	**737.56**	**100.00**

Depreciation

44. Regulation 27 of the 2014 Tariff Regulations with regard to depreciation specifies as follows:

*"27. **Depreciation**:*

(1) Depreciation shall be computed from the date of commercial operation of agenerating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a

generating station orall elements of a transmission system including communication system for which asingle 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 or elementsthereof.

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

(2) The value base for the purpose of depreciation shall be the capital cost of the assetadmitted by the Commission. In case of multiple units of a generating station ormultiple elements of transmission system, weighted average life for the generatingstation of the transmission system shall be applied. Depreciation shall be chargeablefrom the first year of commercial operation. In case of commercial operation of theasset 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 in case of hydro generating station, the salvage value shall be asprovided in the agreement signed by the developers with the State Government fordevelopment of the Plant:

Provided further that the capital cost of the assets of the hydro generatingstation for the purpose of computation of depreciated value shall correspond to thepercentage of sale of electricity under long-term power purchase agreement atregulated tariff:

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

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.

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

(5) Depreciation shall be calculated annually based on Straight Line Method and atrates specified in Appendix-II to these regulations for the assets of the generatingstation and transmission system:

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

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shallbe worked out by deducting the cumulative depreciation as admitted by theCommission upto 31.3.2014 from the gross depreciable value of the assets.

(7) The generating company or the transmission license, as the case may be, shallsubmit the details of proposed capital expenditure during the fag end of the project(five years before the useful life) alongwith justification and proposed life extension.The Commission based on prudence check of such submissions shall approve thedepreciation on capital expenditure during the fag end of the project.
(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 decapitalizedasset during its useful services."

45. The depreciation has been worked out as per the methodology provided in Regulation 27 of the 2014 Tariff Regulations. Asset-A1 was put under commercial operation during 2017-18. Accordingly, it will complete 12 years beyond the 2014-19 tariff period. The Gross Block during the 2017-19 tariff period has been depreciated at Weighted Average Rate of Depreciation (WAROD) WAROD at Annexure-I has been worked out after taking into account the depreciation rates of asset as prescribed in the 2014 Tariff Regulations

46. Asset-A2 has already completed 12 years of life as on 31.3.2007, the remaining depreciable value of has been spread across the balance useful life in accordance with Regulation 27(5) of the 2014 Tariff Regulations.

47. Details of the depreciation allowed for the transmission assets are as follows:

(₹ in lakh)

	Particulars	**Asset-A1**		**Asset – A2**	
		2017-18 (Pro-rata for 205 days)	**2018-19**	**2017-18 (Pro-rata for 205 days)**	**2018-19**
A	Opening Gross Block	1004.99	1030.32	737.56	737.56
B	ACE	25.33	224.40	0.00	0.00
C	Closing Gross Block (A+B)	1030.32	1254.72	737.56	737.56
D	Average Gross Block [(A+C)/2]	1017.65	1142.52	737.56	737.56
E	Average Gross Block (90% depreciable assets)	1017.65	1142.52	737.56	737.56
F	Average Gross Block (100% depreciable assets)	0.00	0.00	0.00	0.00
G	Depreciable value (excluding IT equipment and software) (E*90%)	915.89	1028.26	663.80	663.80

H	Depreciable value of IT equipment and software	0.00	0.00	0.00	0.00
I	Total Depreciable Value (G+H)	915.89	1028.26	663.80	663.80
J	Weighted Average Rate of Depreciation (WAROD) (in %)	4.81	4.75	4.58	4.98
K	Elapsed useful life at the beginning of the year (Year)	0.00	1.00	19.00	20.00
L	Balance useful life at the beginning of the year (Year)	25.00	24.00	6.00	5.00
M	**Depreciation during the year** (D*J)	**27.50**	**54.23**	**18.97**	**36.73**
N	Aggregate Cumulative Depreciation at the end of the year	27.50	81.73	480.15	516.88
O	Remaining Aggregate Depreciable Value at the end of the year(I-N)	888.39	946.54	183.66	146.93

<u>Interest on Loan (IoL)</u>

48. The Petitioner has claimed IoL in accordance with Regulation 26(5) and Regulation 26(6) of 2014 Tariff Regulations. Regulation 26(5) and Regulation 26(6) of 2014 Tariff Regulations specify as follows:

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

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

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

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

49. The Petitioner has claimed IoL based on actual interest rates for each year during 2014-19 period. We have considered the submissions of the Petitioner and accordingly calculated IoL based on actual interest rate, in accordance with

Regulation 26 of the 2014 Tariff Regulations. IoL has been worked out as detailed below:

(i) Gross amount of loan, repayment of instalments and weighted average rate of interest on actual average loan have been considered as per the petition.

(ii) The repayment for 2014-19 tariff period has been considered to be equal to the depreciation allowed for that period.

50. The details of IoL approved for Asset-A1 are as follows:

(₹ in lakh)

	Particular	**Asset-A1**	
		2017-18 (Pro-rata for 205 days)	**2018-19**
A	Gross Normative Loan	703.49	721.77
B	Cumulative Repayments upto Previous Year	0.00	27.50
C	Net Loan-Opening (A-B)	703.49	694.27
D	Addition due to Additional Capitalization	18.27	157.08
E	Repayment during the year	27.50	54.23
F	Net Loan-Closing (C+D-E)	694.27	797.12
G	Average Loan [(A+F)/2]	698.88	745.69
H	Weighted Average Rate of Interest on Loan (%)	8.478	8.397
I	**Interest on Loan** (GxH)	**33.28**	**62.62**

51. The Petitioner has not claimed any IoL for Asset-A2.

<u>Return on Equity (RoE)</u>

52. Regulation 24 and of Regulation 25 of the 2014 Tariff Regulations specify as follows:

"24. ***Return on Equity****:*
(1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.
(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the 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:

(i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:

(ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

(iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

(iv) the rate of return of a new project shall be reduced by 1% 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)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

(vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometer

*"**25. Tax on Return on Equity**:*

(1) The base rate of return on equity as allowed by the Commission under Regulation 24 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 the 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 on income from other business streams including deferred tax liability (i.e. income on business other than business of generation or transmission, as the case may be) shall not be considered 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:

Rate of pre-tax return on equity = 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 the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 20.96% including surcharge and cess:

Rate of return on equity = 15.50/(1-0.2096) = 19.610%

(ii) In case of generating company or the transmission licensee paying normal corporate tax including surcharge and cess:
(a) Estimated Gross Income from generation or transmission business for FY 2014-15 is Rs 1000 crore.
(b) Estimated Advance Tax for the year on above is Rs 240 crore.
(c) Effective Tax Rate for the year 2014-15 = 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 2014-15 to 2018-19 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 transmission customers/DICs as the case may be on year to year basis.

53. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of RoE with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying MAT, the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. Accordingly, MAT rate applicable during the 2017-18 and 2018-19 has been considered for the purpose of RoE, which shall be trued-up with actual tax rate in accordance with Regulation 25(3) of the 2014 Tariff Regulations.

54. Accordingly, the RoE allowed for the transmission assets is as follows:

(₹ in lakh)

	Particulars	**Asset-A1**		**Asset–A2**	
		2017-18 (Pro-rata for 205 days)	**2018-19**	**2017-18 (Pro-rata for 205 days)**	**2018-19**
A	Opening Equity	301.49	308.55	360.74	360.74
B	Additions	7.06	67.32	0.00	0.00
C	Closing Equity (A-B)	308.55	375.87	360.74	360.74
D	Average Equity [(A+B)/2]	305.02	342.21	360.74	360.74
E	Return on Equity (Base Rate) (%)	15.500	15.500	15.500	15.500
F	MAT Rate for respective	21.342	21.549	21.342	21.549

	Particulars	Asset-A1		Asset–A2	
		2017-18 (Pro-rata for 205 days)	2018-19	2017-18 (Pro-rata for 205 days)	2018-19
	year (%)				
G	Rate of Return on Equity	19.705	19.758	19.705	19.758
H	**Return on Equity** (DxG)	**33.76**	**67.61**	**39.92**	**71.28**

Operation & Maintenance Expenses (O&M Expenses)

55. The Petitioner has not claimed O&M expenses for Asset-A2.

56. The details of the O&M Expenses claimed by the Petitioner for Asset-A1 are within norms specified under the 2014 Tariff Regulations. Accordingly, the O&M Expenses allowed are as follows:

Asset -A1		
Sub-station		
Srl. No.	**400 kV Sub-station**	
1	400/220 kV, 250 MVA ICT	
O&M Expenses		
	2017-18 (Pro-rata for 205 days)	**2018-19**
Sub-station		
400 kV		
Number of bays	1	1
Total O&M Expenses (₹ in lakh)	**37.35**	**68.71**

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

Element	UoM	Norms for 2017-18	Norms for 2018-19
400 kV Sub-station	₹ lakh/bay	66.51	68.71

58. We have considered the submissions of the Petitioner. The O&M Expenses approved for Assert-A1 under Regulation 29(3) of the 2014 Tariff Regulations are as follows:

(₹ in lakh)

Asset-A1	2017-18 (Pro-rata for 205 days)	2018-19
400 kV Sub-station	37.35	68.71

Asset-A1	2017-18 (Pro-rata for 205 days)	2018-19
Total O&M Expenses	**37.35**	**68.71**

59. The Petitioner has also submitted that the wage revision of the employees of the Petitioner company was due w.e.f. 1.1.2017 and actual impact of wage hike effective from a future date was also not factored in fixation of the normative O&M rates prescribed for the tariff block 2014- 19. Hence, the Petitioner has requested the Commission for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike from 1.1.2017 onwards as and when required.

60. MPPMCL has submitted that since PGCIL is a profit making company, it has sufficient funds to implement wage revision. Further, MPPMCL has stated that, Ministry of Heavy Industries & Public Enterprises in its Office Memorandum dated 3.8.2017 has instructed that the expenditure on account of pay revision has to borne by the CPSEs. Accordingly, the Petitioner has to bear the financial implications of pay and Respondents are not liable to bear the burden on this count. The relevant portion of the OM dated 3.8.2017 is extracted hereunder:-

> ***"3. Affordability –*** *The revised pay scales would be implemented subject to the condition that the additional financial impact in the year of implementing the revised pay package for Board level Executives, below Board Level Executives and Non-Unionized Supervisors should not be more than 20% of the average Profit Before Tax (PBT) of the last three financial years preceding the year of implementation.*
>
> ***17.Financial Implications: -*** *Expenditure on account of pay revision is to be entirely borne by the CPSEs out of their earnings and no budgetary support will be provided by the Government.*

61. In response, the Petitioner vide affidavit dated 17. 8.2020 submitted that the wage revision of the employees of the Petitioner company due during 2014-19 and actual impact of wage hike which will be effective from a future date has also not been factored in fixation of the normative O&M rates prescribed for the tariff block 2014-19 and has to be compensated due to pay revision. The Petitioner

has submitted that it would approach the Commission for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike during 2014-19 onwards. Accordingly, the Petitioner has prayed for suitable revision in the norms for O&M expenditure for claiming the impact of wage hike, if any, during period 2014-19.

62. We have considered the submissions of the Petitioner and the Respondent. We are of the view that O&M Expenses have been worked out as per the O&M Expenses norms specified in the 2014 Tariff Regulations. As regards the impact of wage revision, any application filed by the Petitioner in this regard will be dealt with in the accordance with the appropriate provisions of the 2014 Tariff Regulations.

<u>Interest on Working Capital (IWC)</u>

63. Regulation 28(1)(c), Regulation 28(3) and Regulation 3(5) of the 2014 Tariff Regulations specify as follows:

> *"**28. Interest on Working Capital***
>
> *(1) The working capital shall cover:*
> *.......*
>
> *(c) Hydro generating station including pumped storage hydro electric generating station and transmission system including communication system:*
>
> *(i) Receivables equivalent to two months of fixed cost;*
>
> *(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and*
> *(iii) Operation and maintenance 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 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 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."*
>
> *"**3. Definitions and Interpretations**:*
> *....*

(5) "Bank Rate" means the base rate of interest as specified by the State Bank of India from time to time or any replacement thereof for the time being in effect plus 350 basis points;"

64. The Petitioner is entitled to claim IWC as per the 2014 Tariff Regulations. The components of the working capital and the Petitioner's entitlement to interest thereon are discussed as follows:

i. **Working Capital for Maintenance spares:**
Maintenance spares have been worked out based on 15% of Operation and Maintenance Expenses.

ii. **Working Capital for O & M Expenses:**
O&M Expenses have been considered for one month of the allowed O&M Expenses.

iii. **Working Capital for Receivables:**
The receivables have been worked out on the basis of 2 months of annual transmission charges as worked out above.

iv. **Rate of interest on working capital:**
Rate of interest on working capital is considered on normative basis in accordance with Clause (3) of Regulation 28 of the 2014 Tariff Regulations.

65. The IWC allowed for the transmission assets are as follows:

(₹ in lakh)

Particulars	**Asset-A1**		**Asset–A2**	
	2017-18 (Pro-rata for 205 days)	**2018-19**	**2017-18 (Pro-rata for 205 days)**	**2018-19**
Working Capital for O&M Expenses (Equivalent to O&M Expenses for 1 Month)	5.54	5.73	0.00	0.00
Working Capital for Maintenance Spares (Equivalent to 15% of O&M Expenses)	9.98	10.31	0.00	0.00
Working Capital for Receivables (Equivalent to 45 days of annual transmission charges)	40.31	43.44	17.85	18.39

Total Working Capital	**55.83**	**59.48**	**17.85**	**18.39**
Rate of Interest (in %)	12.60	12.60	12.60	12.60
Interest of working capital	**3.95**	**7.49**	**1.26**	**2.32**

Approved Annual Fixed Charges for the 2014-19 Tariff Period

66. Accordingly, the annual transmission charges allowed for Asset-A1 and Asset-A2 for 2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	**Asset-A1**		**Asset–A2**	
	2017-18 (Pro-rata for 205 days)	**2018-19**	**2017-18 (Pro-rata for 205 days)**	**2018-19**
Depreciation	27.50	54.23	18.97	36.73
Interest on Loan	33.28	62.62	0.00	0.00
Return on Equity	33.76	67.61	39.92	71.28
O & M expenses	37.35	68.71	0.00	0.00
Interest on Working Capital	3.95	7.49	1.26	2.32
Total	**135.84**	**260.66**	**60.15**	**110.32**

Filing Fee and Publication Expenses

67. The Petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations.

68. 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 clause (1) Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

69. The Petitioner shall be entitled for reimbursement of licence fee and RLDC fees in accordance with Clause (2)(b) and (2)(a) of Regulation 52 in the 2014 Tariff Regulations for the 2014-19 tariff period.

Goods and Services Tax

70. The Petitioner has sought to recover GST on transmission charges separately from the Respondents, if at any time GST on transmission is withdrawn from negative list in future.

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

Sharing of Transmission Charges

72. The billing, collection and disbursement of the transmission charges approved shall be governed by the provisions of the Central Electricity Regulatory Commission (Sharing of Inter-State Transmission Charges and Losses) Regulations, 2010, as applicable, as provided in Regulation 43 of the 2014 Tariff Regulations for the 2014-19 tariff period.

73. As regards sharing of transmission charges, MPPMCL has made the following submssions:

(a) The Commission vide order dated 29.7.2016 in Petition No. 56/TT/2015 has rejected the claim of tariff for "Installation of Transformer & Procurement of Spare Converter Transformer at Bhadrawati Back-to-Back Station". Further, the Petitioner was directed to move the transformer elsewhere where it can be fully utilized and subsequently approach for approval of tariff.

(b) In the 31st SRPC meeting held on 25.2.2017 and during the 33rd Meeting of SRPC held on 17.2.2018, the Petitioner had informed that the 400/220/33 kV, 250 MVA transformer at Bhadrawati, which was diverted from Moga, has been put into commercial operation. Subsequently, in the 34th meeting of SRPC held on 11.8.2018, the reliable alternate auxiliary supply at HVDC was deliberated as under:

"PGCIL vide letter dated 26.7.2018 (refer Annexure-XXIX) had informed that out of two (2) nos. dismantled 250 MVA ICT at Moga S/S, one ICT had been

diverted to Bhadrawati S/S. As agreed in 31st SRPC Meeting held on 25.2.2017, the said diverted ICT was proposed to be provided at Bhadrawati at zero cost. However, in review petition no.182/MP/2017, CERC has denied this ICT as regional spare. Therefore, instead of zero cost, depreciated cost of diverted ICT and bay equipment cost needs to be shared by Southern Region beneficiaries."

(c) Accordingly, as per the minutes of 34th meeting of SRPC held on 11.8.2018, that the depreciated cost of diverted ICT and bay equipment cost needs to be shared by Southern Region beneficiaries. Therefore, MPPMCL may not be made liable for payment of tariff for the instant asset.

74. The Commission during hearing on 19.8.2020 observed that the subject asset, i.e. the 250 MVA, 400/220 kV ICT at Bhadrawati is installed in the WR, however, the Petitioner has submitted that the installation of the instant asset at Bhadrawati was discussed and agreed in the 31st, 33rd and 34th SRPC. The Commission directed the Petitioner to clearly state whether beneficiaries in WR would bear the transmission charges or the beneficiaries in the SR and why the approval of the WRPC was not obtained when the subject asset is installed in the WR.

75. In response, the Petitioner vide affidavit dated 4.2.2021 has submitted that Southern Region has a TTC/ATC of around 4000/3250 MW from WR. Out of this, around 1,000 MW TTC/ATC is available through HVDC, Bhadravati. Earlier Bhadravati HVDC station of PGCIL was having two feeders from MSEDCL (Maharashtra) and a back-up DG. The supply from MSEDCL had a number of voltage fluctuations and HVDC poles had tripped on several occasions. There were some issues in the auto pick up/ delayed pick up of DG at Sub-station at Bhadravati. SR had been raising these issues for a long period. Subsequently, the Petitioner had put the 315 MVA ICT into commercial operation and its tertiary was used as alternate auxiliary supply for PGCIL Sub-station at Bhadravati. After

COD of this ICT, reliability of auxiliary supply had improved considerably. The Commission had not approved the tariff for 315 MVA ICT which was proposed to be used as an alternate supply to MSETCL and had directed the Petitioner to remove the ICT as it is catering only 2 MVA load of HVDC, Bhadravati. If the ICT is removed, reliable uninterrupted supply to meet the auxiliary would be affected and there could be more tripping of HVDC, Bhadravati poles. Any tripping of poles leads to diversion of power through other AC links (Sholapur-Raichur, Kolhapur-Kudgi etc.) along with all associated AC links in WR. Sometimes, it could lead to triggering of SPS affecting the WR generators/ SR loads. SR being an importing region is affected by such events, SRLDC vide letter dated 7.2.2017 had proposed the issue for discussion. Further, *vide* 34th MOM of SRPC, it was agreed that depreciated cost of diverted ICT and bay equipment cost was to be shared by Southern Region beneficiaries. Therefore, it is requested to allow the tariff as claimed in the petition.

76. We have considered the submissions of the Petitioner and MPPMCL. It is observed that in the 34th meeting held on 11.8.2018 it was agreed that depreciated cost of the 50 MVA ICT at Bhadravati Sub-station shifted from Moga sub-station and bay equipment cost will be shared by Southern Region beneficiaries. The relevant portion of the minutes of the meeting dated 11.8.2018 is extracted hereunder:

> *"18.13250 MVAICT at Bhadravathi Substation shifted from Moga Substation*
>
> *PGCIL vide letter dated 26.7.2018 (refer Annexure-XXIX) had informed that out of two (2) nos. dismantled 250 MVA ICT at Moga S/S, one (1) no. ICT had been diverted to Bhadravathi S/S. As agreed in 31st SRPC Meeting held on 25.2.2017, the said divertedICT was proposed to be provided at Bhadravathi at zero cost. However, in Review PetitionNo. 182/MP/2017, Hon'ble CERC has denied this ICT as regional spare. Therefore, insteadof zero cost, depreciated cost of diverted ICT and bay equipment cost needs to be sharedby Southern Region beneficiaries.*
>
> *TCC recommended for approval.*

SRPC approved TCC recommendation."

77. In view of the above, the tariff approved in the instant order for the depreciated cost of the diverted ICTs and bay equipment shall be recovered on monthly basis in accordance with Regulation 43 of the 2014 Tariff Regulations and shall be shared by the Southern Region beneficiaries and long term transmission customers in accordance with the Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 as amended from time to time.

78. To summarise:

(a) The Annual Fixed Charges allowed for the transmission assets for the2014-19 tariff period are as follows:

(₹ in lakh)

Particulars	**Asset-A1**		**Asset–A2**	
	2017-18 (Pro-rata for 205 days)	**2018-19**	**2017-18 (Pro-rata for 205 days)**	**2018-19**
Annual Fixed charges	**135.84**	**260.66**	**60.15**	**110.32**

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

80. This order disposes of Petition No. 223/TT/2020 in terms of the above discussions and findings.

sd/-	**sd/-**	**sd/-**	**sd/-**
(P.K. Singh)	**(Arun Goyal)**	**(I.S. Jha)**	**(P. K. Pujari)**
Member	**Member**	**Member**	**Chairperson**

Annexure-I

(₹ in lakh)

	Particulars	Admitted Capital Cost as on COD	ACE		Admitted Capital Cost as on 31.3.2019	Rate of Depreciation (in %)	Annual Depreciation as per Regulations	
			2017-18	2018-19			2017-18	2018-19
Asset – A1	Buildings	238.43	14.97	121.80	375.20	3.34	8.21	10.50
	Sub-station	766.56	10.36	102.60	879.52	5.28	40.75	43.73
	TOTAL	**1004.99**	**25.33**	**224.4**	**1254.72**		**48.96**	**54.23**
					Average Gross Block		1017.65	1142.52
					Weighted Average Rate of Depreciation (in %)		4.81	4.75

Annexure-II

(₹ in lakh)

	Particulars	**Admitted Capital Cost as on COD**	**ACE**		**Admitted Capital Cost as on 31.3.2019**	**Rate of Depreciation (in %)**	**Annual Depreciation as per Regulations**	
			2017-18	**2018-19**			**2017-18**	**2018-19**
Asset – A2	Buildings	0.00	0.00	0.00	0.00	3.34	Spreading	
	Sub-station	737.56	0.00	0.00	737.56	5.28		
	TOTAL	**737.56**	0.00	0.00	**737.56**		**33.77**	**36.73**
					Average Gross Block		737.56	737.56
					Weighted Average Rate of Depreciation (in %)		4.58	4.98