

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 220/TT/2017

Coram:

Shri P. K. Pujari, Chairperson

Shri A. K. Singhal, Member

Dr. M. K. Iyer, Member

Date of Order: 19.9.2018

In the matter of:

Approval of transmission tariff for “a) Both circuits of one LILO D/C portion of Simhadri-Vijayawada 400kV Line at Vemagiri-I (AP) shall be LILOed at Vemagiri-II (PG) (D/C Portion and multi-circuit Portion) alongwith associated bays at Vemagiri-II (PG) b) Both circuits of Second LILO D/C portion of Simhadri-Vijayawada 400kV Line at Vemagiri-I (AP) shall be looped in at Vemagiri-II (PG). There shall be NO LOOP OUT. The open section of 400kV D/C line from Vemagiri-I (AP) shall be used for termination of KV Kota Line alongwith associated bays at Vemagiri-II (PG). c) Shifting of 2 Nos. of 63 MVar reactors from Gazuwaka to Vemagiri-II (PG) for utilization on Simhadri-II-Vemagiri-II (PG) 400kV D/C Line under “Removal of Constraints in 400kV Bays Extensions at 400kV Vemagiri S/S” in Southern Region from COD to 31.3.2019 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

And in the matter of:

Power Grid Corporation of India Limited

"Saudamini", Plot No.2,

Sector-29, Gurgaon -122 001

.....Petitioner

Vs



1. Karnataka Power Transmission Corporation Ltd., (KPTCL),
Kaveri Bhavan, Bangalore – 560 009.
2. Transmission Corporation of Andhra Pradesh Ltd. (APTRANSCO),
Vidyut Soudha, Hyderabad – 500 082.
3. Kerala State Electricity Board (KSEB),
Vaidyuthi Bhavanam, Pattom, Thiruvananthapuram – 695 004.
4. Tamil Nadu Generation and Distribution Corporation Ltd.
(TANGEDCO),
(Formerly Tamilnadu Electricity Board (TNEB),
NPKRR Maaligai, 800, Anna Salai, Chennai – 600 002.
5. Electricity Department,
Government of Goa, Vidyuti Bhawan, Panaji, Goa – 403 001.
6. Electricity Department,
Govt of Pondicherry, Pondicherry – 605 001.
7. Eastern Power Distribution Company of Andhra Pradesh Ltd.
(APEPDCL),
P&T Colony, Seethmmadhara, Vishakhapatnam, Andhra Pradesh.
8. Southern Power Distribution Company of Andhra Pradesh Ltd.
(APSPDCL),
Srinivasasa Kalyana Mandapam Backside, Tiruchanoor Road,
Kesavayana Gunta,
Tirupati – 517 501, Chittoor District, Andhra Pradesh.
9. Central Power Distribution Company of Andhra Pradesh Ltd.
(APCPDCL)
Corporate Office, Mint Compound,
Hyderabad – 500 063, Andhra Pradesh.
10. Northern Power Distribution Company of Andhra Pradesh Ltd.
(APNPDCL)
Opp. NIT Petrol Pump, Chaitanyapuri, Kazipet,
Warangal – 506 004, Andhra Pradesh.
11. Bangalore Electricity Supply Company Ltd. (BESCOM),
Corporate Office, K.R.Circle, Bangalore – 560 001, Karanataka.



12. Gulbarga Electricity Supply Company Ltd. (GESCOM),
Station Main Road, Gulbarga, Karnataka.
13. Hubli Electricity Supply Company Ltd. (HESCOM),
Navanagar, PB Road , Hubli, Karnataka.
14. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore – 575 001, Karnataka.
15. Chamundeswari Electricity Supply Corporation Ltd. (CESC) ,
927, L J Avenue, Ground Floor,
New Kantharaj Urs Road, Saraswatipuram,
Mysore – 570 009, Karnataka.
16. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad, Hyderabad – 500 082.

.....Respondents

For petitioner : Shri Vivek Kumar Singh, PGCIL
Shri S. K. Venkatesan, PGCIL
Shri S. S. Raju, PGCIL
Shri V. P. Rastogi, PGCIL
Shri Rakesh Prasad, PGCIL
Shri B. Dash, PGCIL
Shri Pankaj Sharma, PGCIL

For respondents : Shri S. Vallinayagam, Advocate, TANGEDCO

ORDER

The petitioner, Power Grid Corporation of India Limited (PGCIL) has filed the instant petition for approval of transmission tariff for “a) Both circuits of one LILO D/C portion of Simhadri-Vijayawada 400kV Line at Vemagiri-I (AP) shall be LILOed at Vemagiri-II (PG) (D/C Portion and multi-circuit Portion) alongwith associated bays at Vemagiri-II (PG) b) Both



circuits of Second LILO D/C portion of Simhadri-Vijayawada 400kV Line at Vemagiri-I (AP) shall be looped in at Vemagiri-II (PG). There shall be NO LOOP OUT. The open section of 400kV D/C line from Vemagiri-I (AP) shall be used for termination of KV Kota Line alongwith associated bays at Vemagiri-II (PG). c) Shifting of 2 Nos. of 63 MVA reactors from Gazuwaka to Vemagiri-II (PG) for utilization on Simhadri-II-Vemagiri-II (PG) 400kV D/C Line under “Removal of Constraints in 400kV Bays Extensions at 400kV Vemagiri S/S” in Southern Region (hereinafter referred to as “transmission system”) for 2014-19 tariff period under the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

2. The Investment Approval (IA) for implementation of the project was accorded by the Board of Directors of the petitioner company (on 27.01.2016) vide Memorandum Ref.: C/CP/Removal of Constraints in Vemagiri S/s dated 19.2.2016, at an estimated cost of ₹ 207.88 Crores including IDC of ₹ 12.95 Crores, based on August, 2015 price level. As per IA, the transmission asset was scheduled to be commissioned within 30 months from the date of IA, i.e. by 26.7.2018.

3. The scheme in SR was discussed and agreed in the 37th, 38th and 39th SCM of Southern Region Constituents held on 31.7.2014, 7.3.2015



and 29.12.2015, respectively. Further, the scheme was also discussed and agreed in the 26th SRPC meeting held on 20.12.2014. Further also, the Empowered Committee on Transmission during its 33rd meeting held on 30th September 2014 at CEA, New Delhi had recommended the implementation of the said Scheme by the petitioner under regulated tariff mechanism with compressed time schedule.

4. The scope of work covered under "Removal of Constraints in 400kV Bays Extensions at 400kV Vemagiri SIS" in Southern Region is as follows:

Transmission Lines:

a) Both circuits of one LILO DIC portion of Simhadri-Vijayawada 400kV Line at Vemagiri-I (AP) shall be LILOed at Vemagiri-II (PO) (D/C Portion and multi-circuit Portion).

b) Both circuits of Second LILO DIC portion of Simhadri-Vijayawada 400kV Line at Vemagiri-I (AP) shall be looped in at Vemagiri-II (PO). There shall be NO LOOP OUT. The open section of 400kV DIC line from Vemagiri-I (AP) shall be used for termination of KV Kota Line.

Substations:

a) 400kV Vemagiri-II (PG) GIS Sub-station Extension.

i) Line Bays: 06 Nos.



ii) Shifting of 2 Nos. of 63 MVA reactors from Gazuwaka to Vemagiri-II (PG) for utilization on Simhadri-II-Vemagiri-II (PG) 400kV D/C Line.

5. The instant petition covers the following asset:

Name of Asset	Actual COD
<p>Asset-I:</p> <p>a) Both circuits of one LILO D/C portion of Simhadri-Vijayawada 400kV Line at Vemagiri-I (AP) shall be LILOed at Vemagiri-II (PG) (D/C Portion and multi-circuit Portion) alongwith associated bays at Vemagiri-II (PG);</p> <p>b) Both circuits of Second LILO D/C portion of Simhadri-Vijayawada 400kV Line at Vemagiri-I (AP) shall be looped in at Vemagiri-II (PG). There shall be NO LOOP OUT. The open section of 400kV D/C line from Vemagiri-I (AP) shall be used for termination of KV Kota Line alongwith associated bays at Vemagiri-II (PG).</p> <p>c) Shifting of 2 Nos. of 63 MVA reactors from Gazuwaka to Vemagiri-II (PG) for utilization on Simhadri-II-Vemagiri-II (PG) 400kV D/C Line.</p>	29.3.2018

6. Annual Fixed Charges was allowed for the instant asset in provisional order dated 23.3.2018 under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC computation as under:

(₹ in lakh)	
2017-18 (pro-rata)	2018-19
6.87	2587.93

7. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. The Respondent No. 4 (TANGEDCO) has filed the



information/reply vide affidavit dated 20.11.2017 and the petitioner has filed its rejoinder to the said reply. The petition was heard on 28.8.2018 and the Commission after directing the petitioner to file certain additional information, reserved the order in the petition. In compliance with the above directions, the petitioner vide affidavit dated 6.9.2018 has filed the additional information. Based on the documents available on record and after considering the submission of the parties, we dispose of the claim of the petitioner in the present petition as stated in the subsequent paragraphs.

8. The details of the transmission charges claimed by the petitioner (vide affidavit dated 25.4.2018) are as under:

(₹ in lakh)		
Particulars	2017-18 (pro-rata)	2018-19
Depreciation	5.67	806.45
Interest on Loan	5.68	779.18
Return on Equity	6.51	925.92
Interest on Working Capital	0.55	74.91
O&M Expenses	3.01	385.38
Total	21.42	2971.84

9. The details of the Interest on Working Capital claimed by the petitioner are as under:

(₹ in lakh)		
Particulars	2017-18 (pro-rata)	2018-19
Maintenance Spares	55.99	57.81
O&M Expenses	31.10	32.12
Receivables	442.63	495.31



Total	529.72	585.23
Rate of Interest	12.80%	12.80%
Interest on Working Capital	0.55	74.91

10. The Commission vide its provisional tariff order dated 23.3.2018 had directed the petitioner to submit additional information/clarification. Acting accordingly, the petitioner vide its affidavit dated 25.4.2018 has submitted the necessary information/clarification. The relevant and operative portion of the said reply is as under:

(a) As regards shifting of 2 nos. of 63 MVAr reactors from Gazuwaka to Vemagiri, the petitioner submitted that these reactors were originally booked in Augmentation of capacity of Gazuwaka HVDC back to back project (500 MW) in SR & ER for Vijaywada-Gazuwaka 400 kV D/C Line and the Commission approved the tariff for these assets in its order dated 23.10.2006 in petition no. 138/2005 which was further trued-up in order dated 17.12.2015 in petition no. 509/TT/2014. Further, the cost and tariff of these reactors has not been considered in the instant petition and only shifting cost of these reactors has been considered.

(b) With regard to the additional capital expenditure (ACE) on account of balance and retention payment the petitioner submitted that the ACE as indicated in the auditor's certificate is on account of



contract closing and final settlement of bills against the balance and retention payment of contractor.

(c) With regard to status of KV Kota-Vemagiri line and its termination in loop out portion of Asset-B, the petitioner submitted that the work of the said line are in progress and is expected to be completed by Dec'2018. Further, KV Kota feeder shall be terminated in Vemagiri-I at Vijayawada bays instead of Shimadri bays to avoid crossing of the lines as per the request of APTRANSCO.

(d) With regard to the differences, if any, in the final implemented arrangement vis-a-vis proposed arrangement in SCM the petitioner submitted that there is no such difference.

(e) With regard to SCM/RPC approval for shifting of reactor the petitioner submitted that shifting of reactor has been approved in 38th SCM of SR dated 7.3.2005.

11. Based on the above submission, we proceed to determine the tariff of Asset-I in terms of the provisions of the 2014 Tariff Regulations.

Date of Commercial operation

12. Regulation 4(3) of the 2014 Tariff Regulations provides as follows:



“4. Date of Commercial Operation: The date of commercial operation of a generating station or unit or block thereof or a transmission system or element thereof shall be determined as under:

xxx]

(3) Date of commercial operation in relation to a transmission system shall mean the date declared by the transmission licensee from 0000 hour of which an element of the transmission system is in regular service after successful trial operation for transmitting electricity and communication signal from sending end to receiving end:

(i) where the transmission line or substation is dedicated for evacuation of power from a particular generating station, the generating company and transmission licensee shall endeavour to commission the generating station and the transmission system simultaneously as far as practicable and shall ensure the same through appropriate Implementation Agreement in accordance with Regulation 12(2) of these Regulations:

(ii) in case a transmission system or an element thereof is prevented from regular service for reasons not attributable to the transmission licensee or its supplier or its contractors but is on account of the delay in commissioning of the concerned generating station or in commissioning of the upstream or downstream transmission system, the transmission licensee shall approach the Commission through an appropriate application for approval of the date of commercial operation of such transmission system or an element thereof.”

13. The petitioner vide affidavit dated 25.4.2018 has submitted that the Asset-I has been commissioned and the date of the commercial operation of the said transmission asset is 29.3.2018. The petitioner was directed to submit the RLDC certificate for the trial run operation for the transmission asset, CMD certificate under grid code and CEA certificate under Regulation 43 of CEA (Measures Relating to safety and Electric supply) Regulations, 2010 certificate for instant asset. In response, the petitioner vide affidavit dated



25.4.2018 has submitted the RLDC certificate dated 26.3.2018 issued by SRLDC in support of the claim of commercial operation in accordance with Regulation 5(2) of the 2014 Tariff Regulations which indicates the completion of successful trial operation. The petitioner has submitted the CEA inspection certificate dated 5.2.2018, 22.2.2018 and CMD certificate as required under Grid Code.

14. Accordingly, taking into consideration the RLDC certificate, CEA certificate and CMD certificate for the instant asset, the COD of the Asset-I is approved as 29.3.2018 and has been considered for the purpose of tariff computation, from COD till 31.3.2019. There is no time over-run since COD was achieved on 29.3.2018 as against SCOD of 26.7.2018.

Capital Cost

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

“(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of 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) Increase in cost in contract packages as approved by the Commission;

(d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;

(e) capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;

(f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;

(f) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD 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.”

16. The details of capital cost claimed by the petitioner in terms of the Cost Accountant's certificate dated 19.4.2018 (submitted vide affidavit dated 25.4.2018) as on actual COD and the estimated additional capital expenditure projected to be incurred for the said transmission asset is summarized below:

(₹ in lakh)

Asset	Apportioned approved cost	Expenditure as on COD	Estimated expenditure		Total estimated completion cost
			2017-18	2018-19	
Asset-I	20788.00	13339.63	543.85	3053.33	16936.81

17. According to the Auditor Certificate, the expenditure up to COD has



been verified from the books of accounts of the project and the projected expenditure is on the basis of estimates as furnished by the Management.

Cost over-run

18. The total estimated completion cost of the transmission assets is ₹16936.81 lakh as against the apportioned approved cost of ₹20788.00 lakh. Hence, there is no cost over-run in commissioning of the instant transmission assets.

19. The petitioner submitted that the cost under-run in the instant asset is mainly on account of the lower rates received during competitive bidding. The petitioner has submitted that the schedule of rates are prepared based on the average of unit rates of latest three bids/LOAs/Raw Material Prices in order to achieve cost efficiency.

Time Over-run

20. As stated above there is no time over-run since COD was achieved on 29.3.2018 as against SCOD of 26.7.2018.

Treatment of IDC and IEDC

21. The petitioner has claimed Interest during Construction (IDC) of ₹519.97 lakh for Asset-I on accrual basis and ₹193.29 lakh on cash basis. The petitioner submitted the discharge details of IDC as under:



(₹ in lakh)		
IDC on accrual basis as per Auditor Certificate	IDC discharged up to COD	IDC discharged in 2018-19
519.97	193.29	326.68

22. The petitioner has further submitted the statement showing IDC discharged up to COD for the asset in which the loan wise drawl date has also been mentioned. For the purpose of determining IDC, the loan wise drawl date as furnished by the petitioner has been considered as the date of infusion of debt fund for the concerned loan. IDC amounting to ₹193.29 lakh have been worked out and allowed as on COD, on cash basis, for Asset-I. The balance IDC of ₹326.68 lakh has been discharged after COD (i.e.in 2018-19) and the same has been considered as the additional capital expenditure for the year 2018-19.

23. The petitioner has claimed Incidental Expenditure During Construction (IEDC) of ₹99.01 lakh for Asset-I. Further, the petitioner vide affidavit dated 25.04.2018 has submitted that the entire IEDC has been discharged as on DOCO. Accordingly, the entire amount of IEDC has been considered.

Treatment of initial spares

24. Regulation 13 of the 2014 Tariff Regulations specifies ceiling norms for capitalization of initial spares in respect of transmission system as under:



“13. Initial Spares

Initial spares shall be capitalised as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:

xxx]

(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 per the 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 break-up of head wise IDC & IEDC in its tariff application.

25. The details of initial spares claimed by the petitioner vide affidavit dated 25.4.2018 in terms of the CA certificate dated 19.4.2018 is as under:



(₹ in lakh)

Cost for Calculation of Initial Spares		Initial Spares Claimed	
Transmission Line #	Sub-Station #	Transmission Line	Sub-Station
6923.91	7922.92	102.76 (1.48%)	447.64 (5.65%)

#Total Cost (Plant and machinery cost excluding IDC, IEDC, land cost and cost of civil works for the purpose of initial spares).

26. The initial spares claimed by the petitioner are not within the ceiling limits as specified under the 2014 Tariff Regulations. Accordingly, initial spares has been worked out by considering 1% and 5% of the plant and machinery cost for transmission line and sub-station, respectively as shown below:

(₹ in lakh)

Cost for Calculation of Initial Spares		Allowable Initial Spares	
Transmission Line	Sub-Station	Transmission Line	Sub-Station
6923.91	7922.92	68.90 (1.00%)	393.44 (5.00%)

27. The petitioner vide affidavit dated 6.9.2018 submitted the details of un-discharged liabilities, projected to be discharged during 2018-19, included in initial spares on COD as shown below:

(₹ in lakh)

Particulars	Amount
Transmission Line	102.76
Sub-Station	264.64

28. Since, the allowable initial spares as worked out above for transmission line are less than the corresponding un-discharged liabilities,



₹68.90 lakh has been considered as un-discharged liabilities corresponding to allowable initial spares of ₹68.90 lakh. Further, entire un-discharged liabilities corresponding to initial spares pertaining to sub-station has been considered as corresponding to allowable initial spares.

29. In view of above following initial spares has been allowed for the purpose of tariff on cash basis:

(₹ in lakh)		
Particulars	Transmission Line	Sub-Station
Allowable initial spares (on accrual basis)	68.90	393.44
Less: Un-discharged liabilities	68.90	264.64
Initial spares allowed (on cash basis)	0.00	128.80

30. Further, the un-discharged liabilities as considered above amounting to ₹333.54 lakh has been considered as ACE for the year 2018-19, on projected basis.

Capital cost as on COD

31. The detail of the capital cost considered as on COD after adjustment of IDC and IEDC is as follows:

(₹ in lakh)				
Capital cost as on COD (on accrual basis)	Un-discharged IDC as on COD	Un-discharged Initial Spares as on COD	Excess initial Spares disallowed	Capital cost allowed as on COD
13339.63	326.68	333.54	88.06	12591.36

Additional capital expenditure

32. Clause (1) of Regulation 14 of the 2014 Tariff Regulations provides as



under:

“(1) The capital expenditure in respect of the 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:

(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, in accordance with the provisions of Regulation 13;

(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a 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 original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.

33. Clause (13) of Regulation 3 of the 2014 Tariff Regulations defines

“cut-off” date as under:

“cut-off date” means 31st March of the year closing after two years of the year of commercial operation of whole or part of the project, and in case the whole or part of the project is declared under commercial operation in the last quarter of the year, the cut-off date shall be 31st March of the year closing after three years of the year of commercial operation”.

34. Accordingly, the cut-off date for the above mentioned asset is considered as 31.3.2021.

35. The details of additional capital expenditure claimed by the petitioner vide affidavit dated 25.4.2018 under Regulation 14(1) of 2014 Tariff

Regulations are as under:



(₹ in lakh)	
2017-18	2018-19
543.85	3380.00*

* including IDC discharges of ₹326.68 lakh.

36. TANGEDCO has raised queries vide reply dated 20.11.2017 wherein the respondent has asked the petitioner to submit the details of balance and retention payment as claimed in the petition. In response petitioner vide its affidavit dated 25.04.2018 submitted the requisite details.

37. We have considered the submissions of the parties. The additional capital expenditure incurred by the petitioner and projected to be incurred by the petitioner for the transmission asset is on the account of balance and retention payments. Moreover, the same is within the approved apportioned cost and is within the cut-off date.

38. Based on the above, the additional capital expenditure allowed, subject to truing up, for 2017-19 is as under:

(₹ in lakh)	
2017-18	2018-19
543.85	3713.54*

* including IDC discharges of ₹326.68 lakh and initial spares discharges of ₹333.54 lakh.

Capital cost for the tariff period 2014-19

39. Accordingly, the capital cost considered for the year 2017-19 (29.3.2018) till 31.3.2019, subject to truing up, is as under:



(₹ in lakh)		
Particulars	2017-18	2018-19
Opening Capital Cost	12591.35	13135.20
Add: Projected ACE	543.85	3713.54
Closing Capital Cost	13135.20	16848.74
Average Capital Cost	12863.27	14991.97

Debt-Equity Ratio

40. Clauses 1 and 5 of Regulation 19 of the 2014 Tariff Regulations specifies as follows:

“(1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:

ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt : equity ratio.

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

“(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.”

41. Considering the details of debt and equity as on COD as submitted by



the petitioner, the debt-equity ratio as on COD works out to 70:30 and the same is allowed. Further, the admitted ACE has been considered in the debt-equity ratio of 70:30. Accordingly, the details of debt-equity considered in respect of the assets under consideration, subject to truing up, is as under:

(₹ in lakh)			
Particulars	%	As on COD	As on 31.03.2019
Debt	70.00	8813.94	11794.12
Equity	30.00	3777.40	5054.62
Total	100.00	12591.35	16848.74

Return on equity

42. Clause (1) and (2) of Regulation 24 and Clause (2) of Regulation 25 of the 2014 Tariff Regulations specify as under:

“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 kilometers.”

“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 income on other income stream (i.e. income of non generation or non transmission business, 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.”



Additional Return on Equity

43. The petitioner has claimed RoE considering rate of 20.243% after grossing up the RoE of 16% (base rate of 15.5% plus 0.5% additional RoE) with MAT rate of 20.961% in terms of the above Regulations. The petitioner has further submitted that the grossed up RoE is subject to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

44. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/adjustable after completion of income tax assessment of the financial year.

45. The petitioner has further submitted that the whole project has been actually commissioned within the timeline for claiming additional RoE under Regulation 24(2) of the 2014 Tariff Regulations.

46. The line length of the existing transmission asset is 29.35 kilometers.



In this background, we are not inclined to allow additional ROE.

47. ROE has been computed at the rate of 19.610% for the period 2014-19 after grossing up the ROE with MAT rate in terms of the above Regulations. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity 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 Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioner's company. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity. This is however subject to truing-up based on the actual tax rate in accordance with Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, ROE has been allowed, subject to truing up, as under:

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Opening Equity	3777.40	3940.56
Addition due to ACE	163.16	1114.06
Closing Equity	3940.56	5054.62
Average Equity	3858.98	4497.59
Return on Equity (Base Rate)	15.500%	15.500%
Tax rate (MAT rate for FY 2013-14)	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%
Return on Equity (Pre-tax)	6.22	881.98



Interest on loan

48. Regulation 26 of the 2014 Tariff Regulations provides as under:

“(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.

(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation 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 decapitalisation of such asset.

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

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

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

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

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

49. In terms of the provisions of Regulation 26 of the 2014 Tariff Regulations, the petitioner's entitlement to interest on loan has been calculated on the following basis:



- (i) Gross normative loan of ₹8813.94 lakh has been considered as on COD;
- (ii) Gross actual loan, repayment of instalments and rate of interest as provided at Form-9C has been considered to arrive at the weighted average rate of interest;
- (iii) The normative repayment for the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for that period.

50. Based on the above, interest on loan has been calculated, subject to truing up, as follows:

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Gross Normative Loan	8813.94	9194.64
Cumulative Repayment upto previous Year	0.00	5.59
Net Loan-Opening	8813.94	9189.04
Addition due to ACE	380.70	2599.48
Repayment during the year	5.59	792.95
Net Loan-Closing	9189.04	10995.57
Average Loan	9001.49	10092.31
Weighted Average Rate of Interest	7.582%	7.591%
Interest on Loan	5.61	766.16

Depreciation

51. Regulation 27 of the 2014 Tariff Regulations provide as follows:-

"27. Depreciation:

Depreciation shall be computed from the date of commercial operation of a generating 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 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 or elements thereof.



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

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

(4) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.”

52. The instant transmission assets were put under commercial operation during 2017-18 (29.3.2018). Accordingly, the same will complete 12 years, during the year 2030 i.e. after the tariff period 2014-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in **Appendix-II** of the 2014 Tariff Regulations. Based on the above, the depreciation has been considered and allowed, subject to truing up, as under:

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Average Capital Cost	12863.27	14991.97



Rate of Depreciation	5.2900%	5.2892%
Depreciable Value	11576.94	13492.77
Remaining Depreciable Value	11576.94	13487.18
Depreciation	5.59	792.95

Operation and Maintenance Expenses (O&M Expenses)

53. Regulation 29 (4) (a) of the 2014 Tariff Regulations specifies the norms for O&M Expenses for the transmission system based on the type of sub-station and the transmission line. Norms specified in respect of the elements covered in the instant petition are as under:

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Multi Circuit (Twin Conductors) TL (₹ lakh/km)	1.240	1.282	1.324	1.368	1.413
Double Circuit (Twin Conductors) TL (₹ lakh/km)	0.707	0.731	0.755	0.780	0.806
400 kv GIS (₹ lakh per bay)	51.54	53.25	55.02	56.84	58.73

54. The petitioner's entitlement to O&M expenses has been worked out as hereunder:

(₹ in lakh)

Particulars	2017-18 (pro-rata)	2018-19
LILO of both circuits of 400kV D/C Line one DIC portion of Gazuwaka/Simhadri-Vemagiri-I (AP) Line at Vemagiri-II (PG) (15.4 km)	0.17	21.76
2nd LILO D/C portion of Gazuwaka/Simhadri-Vijayawada (Nunna) at Vemagiri-I (AP) to be extended to Vemagiri-II (PG) (13.95 km)	0.09	11.24
400 kv Vemagiri-II (PG) GIS (6 nos. 400 kv bays)	2.80	352.38
Total	3.07	385.38



Interest on Working Capital (IWC)

55. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specify as follows:-

“28. Interest on Working Capital

(1)(c)(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”

“(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;”

56. The petitioner is entitled to claim interest on working capital as per the 2014 Tariff Regulations. The components of the working capital and the petitioner’s entitlement to interest thereon are discussed hereunder:

(i) Receivables

Receivables as a component of working capital will be equivalent to two months fixed cost. The petitioner has claimed the receivables on the basis of 2 months annual transmission charges. In the tariff being allowed, receivables have been worked out on the basis of 2 months transmission charges.

(ii) Maintenance spares

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M expenses. The



value of maintenance spares has accordingly been worked out.

(iii) O & M expenses

O&M expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M expenses for one month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of interest on working capital

The rate of interest on working capital considered is 12.60% (SBI Base Rate of 9.10%, as on 1.4.2017 plus 350 basis points).

57. The interest on working capital, subject to truing up, has been worked out and allowed as under:

(₹ in lakh)

Particulars	2017-18 (pro-rata)	2018-19
Maintenance Spares	0.46	57.81
O&M expenses	0.26	32.12
Receivables	3.50	483.11
Total	4.22	573.04
Interest on Working Capital	0.53	72.20

Annual Transmission charges

58. In view of the above, the transmission charges allowed for the instant assets are as follows:

(₹ in lakh)

Particulars	2017-18 (pro-rata)	2018-19
Depreciation	5.59	792.95
Interest on Loan	5.61	766.16



Return on Equity	6.22	881.98
Interest on Working Capital	0.53	72.20
O&M Expenses	3.07	385.38
Total	21.02	2898.67

Filing fee and the publication expenses

59. 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. 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) of Regulation 52 of the 2014 Tariff Regulations.

License fee and RLDC Fees and Charges

60. The petitioner has prayed to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. We are of the view that the petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a) of Regulation 52 of the 2014 Tariff Regulations.

Goods and Services Tax

61. The petitioner has prayed for reimbursement of tax, if any, on account of proposed implementation of GST. The petitioner has submitted that the Commission should allow to recover GST from the beneficiaries, if



imposed on transmission charges under the proposed GST when implemented by Government of India. We are of the view that petitioner's prayer is premature.

Sharing of Transmission Charges

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

63. This order disposes of Petition No. 220/TT/2017.

Sd/-
(Dr. M. K. Iyer)
Member

Sd/-
(A. K. Singhal)
Member

Sd/-
(P. K. Pujari)
Chairperson

