

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 70/TT/2017

Coram:

**Shri Gireesh B. Pradhan, Chairperson
Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member**

Date of Order : 21.11.2017

In the matter of:

Approval of transmission tariff for 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station transmission line alongwith 02 Nos. of 765 kV line Bays at Jharsuguda (Sundergarh) PS under Transmission System Associated with Darlipalli TPS in Eastern 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-122001
Haryana

....Petitioner

Vs

1. Bihar State Power (Holding) Company Ltd.
(Formerly Bihar State Electricity Board -BSEB)
Vidyut Bhavan, Bailey Road,
Patna – 800 001
2. West Bengal State Electricity Distribution Company Limited
Bidyut Bhawan, Bidhan Nagar
Block DJ, Sector-II, Salt Lake City
Calcutta - 700 091
3. Grid Corporation of Orissa Ltd.
Shahid Nagar, Bhubaneswar - 751 007
4. Jharkhand State Electricity Board
In Front of Main Secretariat
Doranda, Ranchi - 834002
5. Damodar Valley Corporation
DVC Tower, Maniktala



Civic Centre, VIP Road,
Calcutta - 700 054

6. Power Department
Government of Sikkim,
Gangtok - 737 101
7. NTPC Ltd.,
NTPC Bhawan
Core-7, Scope Complex
7, Institutional Area, Lodhi Road
New Delhi – 110003.

....Respondents

For Petitioner : Shri S.K. Venkatesan, PGCIL
Shri B. Dash, PGCIL
Shri Rakesh Prasad, PGCIL

For Respondents : Shri V. K. Jain, NTPC

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. ("PGCIL") seeking approval of transmission tariff for 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station transmission line alongwith 02 Nos. of 765 kV line Bays at Jharsuguda (Sundergarh) PS (hereinafter referred to as "transmission assets") under Transmission System Associated with Darlipalli TPS in Eastern Region (hereinafter referred to as "transmission system") for 2014-19 tariff period under Central Electricity Regulation Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

2. The Investment Approval (IA) of the transmission system was accorded by the Board of Directors of the petitioner company vide the letter dated 12.1.2016 at an estimated cost of ₹18704 lakh including an IDC of ₹1158 lakh (based on August, 2015 price level). As per the IA, the instant transmission system was



scheduled to be commissioned within 29 months from the date of IA, i.e. by 11.6.2018.

3. The transmission system for evacuation of power from the generation project consists of a 765 kV D/C transmission line from generation project to Jharsuguda (Sundergarh) 765/400 kV Sub-station of the petitioner. The scheme was discussed and agreed in the meeting regarding connectivity and long term access with constituents of ER held on 5.1.2013 and 24th meeting of ERPC held on 27.4.2013. The Indemnification agreement was signed between NTPC and PGCIL for Darlipalli STPP (2X800 MW) on 19.2.2014.

4. The scope of work covered under the instant transmission system is broadly as follows:-

- a. Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station 765 kV D/C Line
- b. 02 Nos. of 765 kV Line Bays at Jharsuguda (Sundergarh) Pooling Station (02 Nos. of 765 kV Bays at Darlipalli switchyard would be under the scope of NTPC)

* Due to non-availability of land at Jharsuguda, the pooling station has been constructed at Sundergarh.

5. The details of the transmission charges claimed by the petitioner are as under:-

(₹ in lakh)		
Particulars	2017-18 (pro-rata)	2018-19
Depreciation	462.03	583.72
Interest on Loan	467.22	552.15
Return on Equity	513.85	649.26
Interest on working capital	41.69	50.28
O & M Expenses	195.67	217.25
Total	1680.46	2052.66



6. The details of the Interest on Working Capital claimed by the petitioner for the instant asset are as under:-

(₹ in lakh)		
Particulars	2017-18 (pro-rata)	2018-19
Maintenance Spares	31.54	32.59
O & M Expenses	17.52	18.10
Receivables	300.98	342.11
Total	350.04	392.80
Rate of Interest	12.80%	12.80%
Interest	44.81	50.28

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. NTPC, Respondent No. 7 has filed reply vide affidavit dated 17.7.2017. NTPC has raised the issue of COD of the instant assets. The petitioner has filed its rejoinder to the reply filed vide affidavit dated 31.7.2017. Having heard the representatives of the parties and perused the material available on record, we proceed to dispose of the petition.

Date of commercial operation

8. The petitioner has claimed the date of the commercial operation of the instant transmission assets as 26.4.2017. The petitioner has submitted that it signed an Indemnification Agreement with NTPC on 19.2.2014, in which NTPC requested that start-up power shall be required through the instant transmission line w.e.f. March, 2016. The petitioner has agreed to make best efforts to expedite the implementation of the transmission line and its associated bays by March, 2016. The petitioner has submitted that NTPC agreed to bear the transmission charges as determined by the Commission for the instant line and its associated bays from March, 2016 or actual date of commissioning of said line and bays, whichever is later, till commissioning of its 1st Generating Unit.

9. The petitioner has submitted that 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station transmission line alongwith 02 Nos. of 765 kV line Bays at Jharsuguda (Sundergarh) PS was ready for use w.e.f. 26.4.2017. The petitioner has claimed the COD of the instant assets as 26.4.2017 as per the second proviso of Regulation 4(3) of the 2014 Tariff Regulations as it was prevented from putting the instant assets into use because of the delay in COD of the Darlipalli STPP.

10. The Commission directed the petitioner to submit the status of commissioning and actual COD of the instant assets and associated bays at NTPC end. In response, the petitioner vide affidavit dated 28.6.2017 has submitted that the COD of the instant assets was 26.4.2017. The petitioner also submitted that NTPC in its letter dated 31.3.2017 has stated that the instant assets were required for startup power for commissioning of unit#1 auxiliary equipments and the tentative schedule of power required for test charging of 765 kV Bus#2 is from 24.4.2017. The petitioner has submitted that accordingly the instant assets were put under commercial operation on 26.4.2017. As regards the associated bays at NTPC end, the petitioner has submitted that the bay at NTPC end corresponding to Circuit-I was commissioned on 7.6.2017 and bay corresponding to Circuit-II is not commissioned yet. In support of its claim for COD, the petitioner has submitted RLDC charging certificate on “no load condition” and the CEA certificate under Regulation 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010.

11. NTPC in its reply has submitted that the transmission element can be said to be ready for commissioning only when the transmission system along with

associated communication system is ready. NTPC has submitted that the petitioner, vide its email dated 26.4.2017, has informed that end to end testing of PLCC will take place by the end of April. However, the PLCC was not ready till 26.4.2017 and it was commissioned only in May, 2017. NTPC further submitted that instant assets can be declared under commercial operation only if all the elements including communication system are commissioned. The transmission line was charged on 24.4.2017 from PGCIL end and PLCC along with OPGW cable for the above lines were commissioned in May, 2017. NTPC has submitted that one 765 kV bays at NTPC end was declared charged on 7.6.2017 and the work in case of the 2nd bay is in progress. As per Indemnification Agreement dated 19.2.2014, NTPC informed the petitioner that the Unit 1 and 2 of Darlipalli STPP are scheduled to be commissioned in June, 2018 and December, 2018 respectively.

12. The petitioner in its rejoinder has submitted that PLCC at Jharsuguda (Sundergarh) Sub-station was installed on 24.4.2017. However, there was delay in installing PLCC at Darlipalli end as essential under the scope of NTPC were not completed. The petitioner has submitted that it completed all the works (including PLCC installation at Jharsuguda (Sundergarh) Sub-station) by 24.4.2017 in its scope except PLCC work at Darlipalli TPS end due to non-readiness of works in the scope of NTPC. The petitioner has submitted that for installation and commissioning of PLCC, the transmission line should be ready and the terminal equipment i.e. CVT should be connected with transmission Line at both ends. PLCC panels were installed in Switchyard Panel Room (KIOSK) and also cable trench for laying of HF cable from CVT to PLCC Panel in KIOSK should also be ready. The petitioner has submitted that the petitioner requested

NTPC through mail dated 17.3.2017, 27.3.2017, 10.5.2017 and 9.5.2017 to expedite the work at Darlipalli end to complete the PLCC work. The petitioner has completed all its scope and PLCC alongwith OPGW cable network at the petitioner's end. However, the petitioner was not able to charge the line due to non-readiness of bays at Darlipalli TPS on 26.4.2017. Accordingly, the petitioner prayed for approval of the COD under the second proviso of Regulation 4(3) of the 2014 Tariff Regulations.

13. We have considered the submissions of petitioner and NTPC and perused the documents available on record. The petitioner has submitted that the 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station transmission line along with 02 Nos. of 765 kV line Bays at Jharsuguda (Sundergarh) PS was ready for use w.e.f. 26.4.2017. Further, the petitioner has submitted that bay corresponding to Circuit-I at Darlipalli (NTPC) end was commissioned on 7.6.2017 and bay corresponding to Circuit-II is yet to be commissioned. Accordingly, prayed for approval of COD of the instant assets as 26.4.2017 under the second proviso of Regulation 4(3) of the 2014 Tariff Regulations. The said regulation provides as under:-

“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:

xxxxxxxxx

(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:

Provided that:

- (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.”

14. An element of transmission system can be declared as having attained commercial operation only if it has been charged successfully, after successful trial operation and is in regular service. In the instant case the petitioner has submitted the RLDC charging certificate dated 31.5.2017 on “no load condition”, the certificate from CEA dated 20.4.2017 and its CMD’s certificate in support of its claim for COD. As per RLDC charging certificate dated 31.5.2017, 765 kV Sundergarh-NTPC Darlipalli was antitheft charged for full length of line upto gantry of NTPC Darlipalli and successfully completed trial run for ckt 1 and ckt 2 on 24.4.2017. Due to non-commissioning of associated bays at the Darlipalli end under the scope of NTPC, the instant assets were charged on “no load condition”. Circuit 1 of the instant transmission line was put into regular service on 7.6.2017 when the bay corresponding to Circuit 1 was put into regular service by NTPC on 7.6.2017 and Circuit 2 is yet to be put into regular service for want of the corresponding bays at Darlipalli STPP under the scope of NTPC.

15. We are of the view that the COD of the 765 kV Sundergarh-NTPC Darlipalli line alongwith line bays at Jharsuguda cannot be considered as 26.4.2017 as it was not put to regular service from the said date because of non-commissioning of the associated bays at Darlipalli end under the scope of NTPC. Only Circuit-I of the instant transmission line was put to regular service from 7.6.2017 i.e the

date on which the associated bay at Darlipalli end was commissioned. Accordingly, the COD of the Circuit-I, along with one bay associated with Circuit-I at Jharsuguda (Sundergarh), has been considered as 7.6.2017. However, considering the fact that the petitioner has completed its scope of work with respect to Circuit-I along with one bay at Jharsuguda (Sundergarh) by 26.4.2017, the IDC and IEDC from 26.4.2017 till 6.6.2017 shall be borne by NTPC. The COD of the Circuit 2 along with the associated bay at Jharsuguda (Sundergarh) shall be considered only after the commissioning of associated bay at the Darlipalli STPP end which is under the scope of NTPC. Accordingly, tariff is allowed for Circuit 1 of the 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station transmission line alongwith one 765 kV line Bays at Jharsuguda (Sundergarh) Pooling Station.

Capital cost

16. 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; 39

(g) 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.”

17. The petitioner vide affidavit dated 28.6.2017 has submitted revised tariff forms for the subject asset and has claimed the tariff based on actual/estimated expenditure to be incurred up to COD and additional capitalization projected to be incurred from COD to 31.3.2019 in respect of the instant asset and it is supported by Auditor Certificate dated 22.6.2017. The details of the capital cost claimed by the petitioner are given hereunder:-

(₹ in lakh)				
Apportioned cost as per FR	Estimated cost on COD	Estimated Add Cap from COD to 31.3.2018	Estimated Add Cap 1.4.2018 to 31.3.2019	Total estimated cost
18704.00	8054.28	2731.90	500.00	11286.18

18. Against the total apportioned approved cost of ₹18704 lakh, the estimated completion cost is ₹11286.18 lakh. So, there is no cost over-run when compared to the apportioned cost. The petitioner has submitted that the decrease in the capital cost is due to decrease in line length from 37 km (as per FR) to 20.54 km (as per actual).

19. We have considered the submission of the petitioner regarding capital cost. It is observed that the investment approval was for line length of 37 km but the actual line length is reduced to 20.54 km. The approved apportioned cost of the instant asset is ₹18704.00 lakh which is inclusive of ₹16234.65 lakh and ₹2469.35 lakh of transmission line and sub-station cost respectively. Thus, the



apportioned approved cost of 37 km of transmission line is ₹16234.65 lakh. Accordingly, the apportioned approved cost for 20.54 km of transmission line works out to ₹9012.43 lakh on pro-rata basis. Against this, the petitioner has incurred ₹9961.50 lakh on construction of transmission line as per Auditor certificate dated 22.6.2017. Accordingly, there is cost over-run of ₹949.07 lakh in construction of 20.54 km of transmission line. The petitioner has not explained this increase in the cost of the transmission line. Accordingly, the cost of 20.54 km of the instant transmission line is restricted to ₹9012.43 lakh. The capital cost allowed for the instant transmission will be reviewed at the time of truing up on submission of the reasons for increase in the cost of per km cost of the instant transmission line.

20. The capital cost of Circuit-I is considered as 50% of the claimed capital cost of the said line for the purpose of computation of tariff. Since separate capital cost for one circuit is not available, the petitioner is directed to submit the actual details at the time of truing up. In view of the above deliberations, the completed capital cost of Circuit 1 along with one bay at Jharsuguda (Sundergarh) Pooling Station is approved and considered for the purpose of tariff is worked out as follows:-

Name of the element	Transmission Line	Sub-station + PLCC	(₹ in lakh)
			Total
Approved cost	9012.43	1324.68	10337.11
Circuit 1 (1/2 of above)	4506.22	662.34	5168.56

21. As per the Investment Approval dated 12.1.2016, the instant assets were scheduled to be commissioned within 29 months from the date of Investment

Approval, i.e. by 11.6.2018. The COD of the Circuit 1 is considered as 7.6.2017.
As such there is no time over-run.

Interest During Construction (IDC)

22. The petitioner has claimed ₹107.46 lakh and ₹89.62 lakh towards IDC and IEDC respectively for the instant transmission line and it is supported by the Auditor Certificate. Accordingly, the IDC claimed for Circuit 1 works out to ₹53.73 lakh, out of which 0.22 lakh of undischarged IDC of ₹0.22 lakh is disallowed and ₹53.51 lakh of IDC discharged is allowed.

Incidental Expenditure During Construcion (IEDC)

23. The petitioner's claim of IEDC as on COD in respect of the Circuit 1 has been worked out as ₹89.62 lakh and it is within the percentage on Hard Cost as indicated in the Abstract Cost Estimate. Accordingly, it is allowed.

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

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%

(i) 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 initial spares claimed by petitioner for both the circuits of the instant transmission line are as follows:-

		(₹ in lakh)
Capital Cost (plant and machinery excluding IDC, IEDC, land cost and cost of civil works)		Initial spares claimed by the petitioner
Transmission line	9794.03	96.00 (0.98%)
Sub-station	1295.07	52.00 (4.01%)

26. The initial spares claimed by the petitioner for Circuit 1 of the instant transmission line is within the allowable limit of 1%. However, the petitioner's claim of initial spares for the sub-station (one bay only) is more than the ceiling limit of 4% specified in the 2014 Tariff Regulations. Accordingly, the initial spares allowable as per the 2014 Tariff Regulations for Circuit 1 of the transmission line and one bay is as follows:-

				(₹ in lakh)
Asset	Initial spares claimed	Initial spares allowed*	Initial spares disallowed*	
Transmission line	96.00	96.00	0.00	
Sub Station	52.00	51.79	0.21	

* The computation is for both circuits. However, the same has been adjusted for one circuit in capital cost arrived in Para 27.



Capital Cost allowed as on CoD

27. As per the Auditor Certificate dated 22.6.2017, the capital cost as on COD of the 765 kV D/C Transmission Line and 2 Nos. of bays is ₹8054.28 lakh. As tariff is allowed for Circuit 1 and the associated bays, the capital cost considered for the purpose of tariff as on COD works out to ₹4130.04 lakh. Since commercial date of operation of asset has been considered as 7.6.2017 instead of 26.4.2017, the proportionate expenditure (for the period 26.4.2017 to 7.6.2017) of add-cap claimed for the period from 26.4.2017 to 31.3.2017 has been capitalized. The proportionate amount has been worked out to ₹137.05. Accordingly, capital cost is considered as follows:-

(₹ in lakh)			
Capital cost as on COD	Add: Proportionate Add Cap	Less: Undischarged IDC	Capital cost as on COD
4026.82	137.05	33.83	4130.04

Additional Capital Expenditure

28. 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.”

29. 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”.

30. Accordingly, the “cut-off” date in case of Circuit 1 and the associated bay of the instant asset is 31.3.2019.

31. The petitioner has claimed the following additional capitalization for the instant transmission line from 26.4.2017 to 31.3.2018 towards balance and retention payment under Regulation 14(i) of the 2014 Tariff Regulations:-

(₹ in lakh)			
Period	Transmission Line	Substation + PLCC	Total Add Cap claimed
COD to 31.3.2018	2267.48	464.42	2731.90
2018-19	400.00	100	500.00

32. As tariff is approved only for Circuit 1 and the associated bay, the Add Cap is allowed is allowed for the period from 7.6.2017 to 31.3.2018, subject to ceiling of completion cost as ₹5168.56 lakh due to reduced line length, under Regulation 14(i) of the 2014 Tariff Regulations is as follows:-

(₹ in lakh)			
Period	Transmission Line	Substation + PLCC	Total Add Cap allowed
COD (7.6.2017) to 31.3.2018	762.91	206.23	969.14
2018-19	0	50.00	50.00

33. The capital cost approved for Circuit 1 and the associated bay of the instant transmission line and considered for the purpose of computation of tariff is as follows:-

(₹ in lakh)			
Capital cost as on COD	Add Cap during 8.6.2017 to 31.3.2018	Add Cap during 2018-19	Estimated completion cost as on 31.3.2019
4130.04	969.14	50.01	5149.19

Debt-Equity Ratio

34. Clause 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.”

35. The petitioner has claimed debt:equity ratio of 70:30 as on the date of commercial operation. The debt:equity ratio of 70:30 is considered as provided in Regulation 19 of the 2014 Tariff Regulations. The details of debt:equity ratio in respect of the instant assets as on the date of commercial operation and as on 31.3.2019 are as under:-

(₹ in lakh)

Particulars	%	Capital cost as on tariff COD	Add Cap during 2016-17 to 2018-19	Capital cost as on 31.3.2019
		Amount	Amount	Amount
Debt	70.00	2891.03	713.40	3604.43
Equity	30.00	1239.01	305.74	1544.76
Total	100.00	4130.04	1019.15	5149.19

Return on Equity (RoE)

36. 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.”

37. The petitioner has submitted that RoE has been calculated at the rate of 19.61% after grossing up the RoE with MAT rate of 20.96%, as per the above Regulations. The petitioner has further submitted that as per Regulation 25(3) of the 2014 Tariff Regulations, 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. 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.

38. We have considered the submissions of the petitioner. 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 RoE. It further provides that in case the transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of RoE. Accordingly, the MAT rate applicable during 2013-14 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. Accordingly, the RoE allowed is given below:-

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Opening Equity	1239.01	1529.75
Addition due to Additional Capitalisation	290.74	15.00
Closing Equity	1529.75	1544.76
Average Equity	1384.38	1537.26
Return on Equity (Base Rate)	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%
Return on Equity (Pre-tax)	221.64	301.46

Interest on Loan (IoL)

39. Regulation 26 of the 2014 Tariff Regulations are 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 decapitalization 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.”

40. In these calculations, interest on loan has been worked out as hereinafter:-

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

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

(iii) Weighted average rate of interest on actual average loan worked out as per (i) above is applied on the notional average loan during the year to arrive at the interest on loan.

41. Based on above, details of IoL calculated are as follows:-

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Gross Normative Loan	2891.03	3569.43
Cumulative Repayment upto Previous Year	0.00	198.97
Net Loan-Opening	2891.03	3370.46
Addition due to Additional Capitalisation	678.40	35.00
Repayment during the year	198.97	270.65
Net Loan-Closing	3370.46	3134.81
Average Loan	3130.74	3252.64

Weighted Average Rate of Interest on Loan	7.9201%	7.9202%
Interest	202.44	257.62

Depreciation

42. Regulation 27 of the 2014 Tariff Regulations with regard to depreciation specifies as below:-

"27. Depreciation:

(1) 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) 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 as provided in the agreement signed by the developers with the State Government for development of the Plant:

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

Provided also that any depreciation disallowed on account of lower availability of the generating station or 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.

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

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in **Appendix-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.

(6) 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.”

43. The instant asset was put under commercial operation on 7.6.2017. Accordingly, they will complete 12 years after 2018-19. As such, depreciation has been calculated annually based on Straight Line Method at the rates specified in Appendix-II to the 2014 Tariff Regulations.

44. Details of the depreciation allowed are as under:-

(₹ in lakh)		
Particulars	2017-18 (pro-rata)	2018-19
Opening Gross Block	4130.04	5099.18
Additional Capital expenditure	969.14	50.01
Closing Gross Block	5099.18	5149.19
Average Gross Block	4614.61	5124.18
Rate of Depreciation	5.28%	5.28%
Depreciable Value	4153.15	4611.77
Remaining Depreciable Value	4153.15	3954.18
Depreciation	198.97	270.65

Operation & Maintenance Expenses (O & M Expenses)

45. The petitioner has claimed O&M Expenses of ₹195.67 lakh and ₹217.25 lakh for the 765 kV D/C Darlipalli TPS (NTPC)-Jharsuguda (Sundergarh) Pooling Station transmission line alongwith 02 nos. of 765 kV line Bays at Jharsuguda (Sundergarh) PS for the year 2017-18 and 2018-19. As per Regulation 29(4) of the 2014 Tariff Regulations, the O&M Expenses norms specified for the assets covered in the instant petition are as under:-

(₹ in lakh)		
Element	2017-18	2018-19
Double circuit (Bundled conductor with four or more sub-conductors)	1.171	1.210
765 kV Bay	93.11	96.20

46. The O&M Expenses allowed for Circuit 1 and associated bay as per Regulation 29(4) of the 2014 Tariff Regulations are as follows:-

(₹ in lakh)		
Element	2017-18 (pro-rata)	2018-19
Asset-I (a) (COD : 7.06.2017)		
Circuit –I of 20.54 km 765 kV D/C Transmission Line	$20.54 \times 1.171 \times 298 / (365 \times 2) = 9.818$	$20.54 \times 1.210 / 2 = 12.42$
1 no 765 kV bay	$93.11 \times 298 / 365 = 76.018$	96.20
Total	85.836	108.62

47. The petitioner has submitted that norms for O&M Expenses for the tariff period 2014-19 have been arrived on the basis of normalized actual O&M Expenses during the period 2008-09 to 2012-13. The petitioner has further submitted that the wage revision of the employees of the petitioner Company is due during the 2014-19 tariff period and actual impact of wage hike, which will be effective at a future date, has not been factored in fixation of the normative O&M rate specified for the tariff period 2014-19. The petitioner has prayed to be allowed to approach the Commission for suitable revision in the norms of O&M Expenses for claiming the impact of such increase.

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

Interest on Working Capital (IWC)

49. 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) 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.

“(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;”

50. 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

Operation and maintenance expenses have been considered for one month as a component of working capital. The petitioner has claimed O&M expenses for 1 month of the respective year as claimed in the petition. This has been considered in the working capital.

(iv) Rate of interest of IWC

As per Regulation 28(3) of the 2014 Tariff Regulations, SBI Base rate as on 1.4.2016 plus 350 Bps i.e. 12.80% has been considered for working out the rate of interest on working capital for the instant assets.

51. The IWC allowed for the instant assets is shown in the table given below:-

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Maintenance Spares	12.88	16.29
O & M expenses	7.15	9.05
Receivables	121.16	160.35
Total	141.19	185.70
Interest	18.07	23.77

Transmission charges

52. The transmission charges being allowed for the instant assets are summarized hereunder:-

Particulars	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Depreciation	198.97	270.65
Interest on Loan	202.44	257.62
Return on equity	221.64	301.46
Interest on Working Capital	18.07	23.77

O & M Expenses	85.84	108.62
Total	726.96	962.11

Filing Fee and Publication Expenses

53. 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. Rajasthan Discoms has submitted that filing fee and other expenses may not be allowed. 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.

Licence Fee and RLDC Fees and Charges

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

Sharing of Transmission Charges

55. The transmission charges from 7.6.2017 till date of start of LTA shall be borne by NTPC under Regulation 8(8) of the connectivity Regulation and thereafter the transmission charges shall be considered under POC. The transmission charges allowed in this order shall be shared by the respondents as per Regulation 43 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014. The billing, collection and disbursement of transmission charges shall be governed by provision of Central Electricity

Regulatory Commission (Sharing of Interstate Transmission Charges and Losses) Regulations, 2010 as amended from time to time.

56. This order disposes of Petition No. 70/TT/2017.

sd/-
(M.K. Iyer)
Member

sd/-
(A.S. Bakshi)
Member

sd/-
(A.K. Singhal)
Member

sd/-
(Gireesh B. Pradhan)
Chairperson



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)				
Sl. no.	Name of loan	Particulars	2017-18	2018-19
1	Bond LIII	Net opening loan	412.00	412.00
		Add: Addition during the period		
		Less: Repayment during the period	-	
		Net Closing Loan	412.00	412.00
		Average Loan	412.00	412.00
		Rate of Interest	8.1300%	8.1300%
		Interest	33.50	33.50
	Rep Scheduled			
2	Bond LVII	Net opening loan	1433.00	1433.00
		Add: Addition during the period		
		Less: Repayment during the period		
		Net Closing Loan	1433.00	1433.00
		Average Loan	1433.00	1433.00
		Rate of Interest	7.2000%	7.2000%
		Interest	103.18	103.18
	Rep Scheduled			
3	Bond LIV	Net opening loan	118.00	118.00
		Add: Addition during the period		
		Less: Repayment during the period		-
		Net Closing Loan	118.00	118.00
		Average Loan	118.00	118.00
		Rate of Interest	7.9700%	7.9700%
		Interest	9.40	9.40
	Rep Scheduled			
4	Bond LVIII	Net opening loan	933.00	933.00
		Add: Addition during the period		
		Less: Repayment during the period		
		Net Closing Loan	933.00	933.00
		Average Loan	933.00	933.00
		Rate of Interest	7.8900%	7.8900%
		Interest	73.61	73.61
	Rep Scheduled			
4	SBI	Net opening loan	933.00	933.00
		Add: Addition during the period		
		Less: Repayment during the period		
		Net Closing Loan	933.00	933.00
		Average Loan	933.00	933.00
		Rate of Interest	8.9000%	8.9000%
		Interest	83.04	83.04
	Rep Scheduled			
1	SBI	Net opening loan	1761.63	1761.63



		Add: Addition during the period	-	
		Less: Repayment during the period		
		Net Closing Loan	1761.63	1761.63
		Average Loan	1761.63	1761.63
		Rate of Interest	7.9500%	7.9500%
		Interest	140.05	140.05
1	SBI	Net opening loan	-	47.30
		Add: Addition during the period	47.30	
		Less: Repayment during the period		
		Net Closing Loan	47.30	47.30
		Average Loan	23.65	47.30
		Rate of Interest	7.9500%	7.9500%
		Interest	1.88	3.76
5	SBI	Net opening loan	-	-
		Add: Addition during the period	-	0.07
		Less: Repayment during the period		
		Net Closing Loan	-	0.07
		Average Loan	-	0.04
		Rate of Interest	0.0000%	7.9500%
		Interest	-	0.00
	Rep Scheduled			
	Gross Total	Net opening loan	5590.63	5637.93
		Add: Addition during the period	47.30	0.07
		Less: Repayment during the period	0.00	0.00
		Net Closing Loan	5637.93	5638.00
		Average Loan	5614.28	5637.97
		Rate of Interest	7.9201%	7.9202%
		Interest	444.66	446.54

