

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 79/TT/2018**

**Coram:**

**Shri P.K Pujari, Chairperson  
Shri A. K. Singhal, Member  
Shri A. S. Bakshi, Member  
Shri M. K. Iyer, Member**

**Date of Order: 11.07.2018**

**In the matter of:**

Truing up of transmission tariff for 2009-14 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 and determination of transmission tariff for 2014-19 tariff period under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 for Asset A: 3 x 110 MVAR Switchable Line Reactor to be charged as Bus Reactor-1 at 765/400 kV Wardha S/S, Asset B: 3x110 MVAR Switchable Line Reactor to be charged as Bus Reactor 2 at 765/400 kV Wardha S/S, Asset C: 3x80 MVAR 765 kV Line reactor for 765 kV D/C Wardha-Aurangabad Line 1 Ckt#1 to be used as Bus Reactor at Aurangabad S/S, Asset D: 3x80 MVAR 765 kV Bus Reactor at Aurangabad S/S and Asset E: 765/400 kV 1500 MVA ICT-2 at Aurangabad S/S under "Transmission System Strengthening in Western part of WR for IPPs generation projects in Chhattisgarh (IPP-D)" in Western Region under Regulation 86 of Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999.



Order in Petition No. 79/TT/2018

**And in the matter of:**

Power Grid Corporation of India Ltd.  
"SAUDAMINI", Plot No-2,  
Sector-29, Gurgaon -122 001  
(Haryana)

**...Petitioner**

**Vs**

1. Madhya Pradesh Power,  
Management Company Ltd.,  
Shakti Bhawan, Rampur  
Jabalpur - 482 008.
  
2. Maharashtra State Electricity Distribution Co. Ltd.,

- Prakashgad, 4th Floor,  
Andheri (East), Mumbai - 400 052.
3. Gujarat Urja Vikas Nigam Ltd.,  
Sardar Patel Vidyut Bhawan,  
Race Course Road,  
Vadodara - 390 007.
  4. Electricity Department,  
Govt. of Goa,  
Vidyut Bhawan, Panaji,  
Near Mandvi Hotel, Goa - 403 001.
  5. Electricity Department,  
Administration of Daman & Diu,  
Daman - 396 210.
  6. Electricity Department,  
Administration of Dadra Nagar Haveli,  
U.T., Silvassa - 396 230.
  7. Chhattisgarh State Electricity Board  
P.O.Sunder Nagar, Dangania, Raipur  
Chhatisgaarh-492013
  8. Madhya Pradesh Audyogik Kendra,  
Vikas Nigam (Indore) Ltd.,



3/54, Press Complex, Agra-Bombay Road,  
Indore - 452 008  
Order in Petition No. 79/TT/2018

**.....Respondents**

- For Petitioner** : Shri Rakesh Prasad, PGCIL  
Shri M.M Mondal, PGCIL  
Shri S.K Venkatesan, PGCIL  
Shri V.P. Rastogi, PGCIL
- For Respondent** : Shri Gaurav Gupta, PSPCL

**ORDER**

The present petition has been filed by Power Grid Corporation of India Ltd. ("the

petitioner”) for trueing up of capital expenditure under Regulation 6 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009 (hereinafter referred to as “the 2009 Tariff Regulations”) based on actual capital expenditure for combined assets (5 nos.) for the period from COD of respective asset to 31.3.2014 and for determination of tariff under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”) for the period from 1.4.2014 to 31.3.2019 for combined assets under Transmission System Strengthening in Western part of WR for IPPs generation projects in Chhattisgarh (IPP D) in Western Region (hereinafter referred as “transmission asset”).

2. The brief facts of the case are as follows:-

(a) The investment approval for the project was accorded by Board of Directors of the petitioner company vide Memorandum No. C/CP/Chhattisgarh IPP (Part-B) dated 22.11.2011, at an estimated cost of ₹212751 lakh, which



included IDC of ₹13573 lakh (based on 2nd quarter 2011 price level). The Order in Petition No. 79/TT/2018 scope of the scheme was discussed and approved in the 29th Standing Committee Meeting (SCM) of Western Region. The transmission system was later discussed in the 30<sup>th</sup> SCM of WR constituents. The petitioner has submitted the Revised Cost Estimate (RCE-I) of the project dated 11.3.2016. As per RCE-I the cost has been revised and estimated as ₹261956 lakh, including IDC of ₹22169 lakh, based on August, 2015 price level. The petitioner has subsequently vide affidavit dated 17.4.2018 submitted Revised Cost Estimate-II. As per RCE-II, estimated cost is ₹273135 lakh, including

IDC of ₹26897 lakh based on April, 2017 price level. The petitioner has submitted the date of commercial operation of Asset A and Asset-B as 1.1.2014 and Asset-C, Asset-D and Asset-E as 1.3.2014.

(b) The annual transmission charges for 2009-14 tariff period for the transmission assets were determined vide order dated 29.3.2016 in Petition No 47/TT/2014 in accordance with 2009 Tariff Regulations. The capital cost considered for 2009-14 tariff period is as under:-

(₹ in lakh)

Assets	Apportioned approved cost (FR)	Apportioned approved cost (RCE)	Capital cost allowed as on COD	Estimated completion cost (allowed)
Asset A	4254.70	3492.31	1948.88	2295.34
Asset B	4368.86	3406.81	1837.89	2282.83
Asset C	2854.82	3684.58	2830.37	3108.50
Asset D	2811.89	2780.52	1948.83	2031.28
Asset E	4972.91	5976.44	3583.91	4496.20

(c) The annual fixed charges determined vide order dated 29.3.2016 in Petition

No 47/TT/2014 was based on the above capital cost and additional capital



Order in Petition No 70/TT/2014 fixed charges allowed for the instant transmission

assets for 2009-14 period is as follows:-

(₹ in lakh)

Particulars	2013-14 ( pro-rata )				
	Asset A	Asset B	Asset C	Asset D	Asset E
Depreciation	27.23	26.44	12.74	8.49	17.22
Interest on Loan	32.01	33.07	14.98	10.11	21.11
Return on Equity	31.21	30.30	14.56	9.76	19.81
Interest on Working capital	3.27	3.26	1.36	1.05	2.01
O & M Expenses	22.91	22.91	7.64	7.64	13.09
<b>Total</b>	<b>116.63</b>	<b>115.98</b>	<b>51.28</b>	<b>36.97</b>	<b>73.24</b>

3. 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, 2003. MPPMCL, Respondent No. 1, has filed the reply vide affidavit dated 30.3.2018. MPPMCL has raised the issues of completion cost, initial spares, additional capital expenditure, wage revision of employees and taxes. The petitioner has filed rejoinder vide affidavit dated 17.4.2018 to the reply of MPPMCL. The objections raised by the respondent and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

4. Having heard the representatives of the petitioner on 24.4.2018 and perused the material on record, we proceed to dispose of the petition.

#### **Truing Up of Annual Fixed Charges for 2009-14 Tariff Period**

5. Clause (3) of Regulation 6 of the 2009 Tariff Regulations provides as under:-

“(3) The generating company or the transmission licensee, as the case may be, shall submit for the purpose of truing up, details of capital expenditure and additional capital expenditure incurred for the period from 1.4.2009 to 31.3.2014, duly audited and certified by the auditors”.



6. The petitioner has submitted the information as required under the 2009 Tariff Regulations for truing up of annual fixed charges for 2009-14 tariff period. The tariff for 2009-14 tariff period has been trued up in the subsequent paragraphs.

#### **Capital Cost**

7. Clause (1) of Regulation 7 of the 2009 Tariff Regulations provides that:-

“(1) Capital cost for a project shall include:

(a) the expenditure incurred or projected to be incurred, including interest during construction and financing charges, any gain or loss on account of foreign exchange risk variation during construction on the loan - (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, - up to the date of commercial operation of the project, as admitted by the Commission, after prudence check;

(b) capitalised initial spares subject to the ceiling rates specified in regulation 8; and

(c) additional capital expenditure determined under regulation 9:

Provided that the asset forming part of the project, but not in use shall be taken out of the capital cost.”

8. The petitioner has submitted the Auditor’s Certificates dated 19.8.2016 and 26.8.2015 certifying the actual capital cost as on CODs for all the assets. The petitioner has indicated the undischarged IDC as on CODs. Details of capital expenditure claimed by the petitioner are as under:-

(₹ in lakh)

Assets	Capital cost as on COD as per Auditor’s Certificate (Accrual Basis)	Capital cost as on COD after adjustment of undischarged IDC (Cash Basis)
Asset A	1955.95	1955.95
Asset B	1855.24	1855.24
Asset C	2974.85	2823.14
Asset D	2003.73	2000.08
Asset E	3597.74	3577.21



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9. We have considered the capital cost as on COD after adjustment of initial spares and IDC paid on cash basis.

### **IDC and IEDC**

10. The IDC and IEDC on cash basis as on COD of all the assets were adjusted in order dated 29.3.2016 and as such the adjustment of capital cost in respect of IDC and IEDC is not required.

## **Initial Spares**

11. Regulation 8 of 2009 Tariff Regulations provides that:-

“Initial spares shall be capitalised as a percentage of the original project cost, subject to following ceiling norms:

(iv) Transmission system

(a) Transmission line -0.75%

(b) Transmission Sub-station -2.5%

(c) Series Compensation devices and HVDC Station -3.5%.....”

12. The Commission vide order dated 29.3.2016 approved the initial spares considering the capital cost upto 31.3.2014 after deducting the amount pertaining to initial spares discharged after COD. In the instant petition, petitioner has claimed the amount pertaining to initial spares discharged upto cut-off date of the transmission assets. The petitioner has submitted the projected additional capital expenditure upto the cut-off date stipulated for 2014-19 tariff period. MPPMCL has submitted that the initial spares claimed by the petitioner in respect of Asset A are in excess of the ceiling limit specified in the 2009 Tariff Regulations. Assets consist of transmission line and

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sub-stations. MPPMCL has submitted that the petitioner has claimed initial spares for

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transmission line and sub-station as a whole whereas the same should be claimed and allowed separately for transmission line and sub-station. MPPMCL has further

submitted that there is no similarity of facts in Petition No. 33/TT/2013 and the case at hand as vide order dated 25.4.2013 in Petition No. 33/TT/2013 the excess amount claimed towards initial spares for Asset 2 was deducted and it was observed that the issue of claim towards initial spares shall be dealt with while truing up.

13. We have considered the submissions of the petitioner and respondent. We have considered the admissible initial spares by taking into account capital cost upto 31.3.2014 as per 2009 Tariff Regulations. The initial spares claimed by the petitioner has been allowed in terms of Regulation 8 of 2009 Tariff Regulations and are as follows:-

(₹ in lakh)					
Particulars	Asset A	Asset B	Asset C	Asset D	Asset E
Capital cost as on cut-off date	2882.53	2785.10	3995.38	2738.86	6427.62
Initial spares claimed	74.92	65.89	70.08	0	0
Initial spares allowed	71.99	65.89	70.08	0	0
Initial spares disallowed	2.93	0	0	0	0

14. The petitioner's claim of initial spares for Asset A is more than the ceiling limit specified in the 2009 Tariff Regulations by ₹2.96 lakh and accordingly it is restricted. The capital cost of the instant assets as on COD is considered as follows:-

(₹ in lakh)			
Assets	Capital cost on COD	Less: Excess initial spares	Capital cost as on COD
Asset A	1955.95	2.93	1953.02
Asset B	1855.24	-	1855.24
Asset C	2823.14	-	2823.13
Asset D	2000.08	-	2000.08
Asset E	3577.21	-	3577.21

### Additional Capital Expenditure

15. Regulation 9 (1) of 2009 Regulations provides that:-

“(1) The capital expenditure 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; (ii) Works deferred for execution; (iii) Procurement of initial capital spares within the original scope of work, subject to the provisions of regulation 8;
- (iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court; and (v) Change in law:



XXXX”

16. The petitioner has claimed additional capital expenditure towards balance and retention payments and the same has been certified by the Auditor vide certificate dated 1.1.2014. MPPMCL has submitted that the work has been executed before the cut-off date and payments are held up due to undischarged liability. The details furnished by the petitioner indicate the claim of expenditure after cut-off date is claimed for the delay caused by CGL and Alstom. MPPMCL has further submitted that the claim of the petitioner be allowed in true up on the basis of actual.

17. We have considered the submissions of the petitioner and respondent. The total capital expenditure during 2009-14 is within the total approved capital expenditure and the total cost as on 31.3.2014 is within the approved cost. The claim of additional capitalization falls within Regulation 9(1) of 2009 Tariff Regulations. The capital expenditure as on COD and additional capital expenditure from COD to 31.3.2014 is

allowed as follows:-  
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(₹ in lakh)

Assets	Apportioned approved cost as per RCE -2	Capital cost as on COD	Additional capital expenditure (2013-14)	Capital cost as on 31.3.2014
Asset A	3446.70	Approved in order dated 29.3.2014	346.46	2297.11
		As claimed by petitioner	344.09	
		Allowed in this order	344.09	
Asset B		As per order dated 29.3.2014	444.94	2298.98

	3374.79	As claimed by petitioner	443.74	
		Allowed in this order	443.74	
Asset C	4102.98	As per order dated 29.3.2014	278.13	3101.25
		As claimed by petitioner (₹146.90 plus discharges ₹131.22 lakh)	278.12	
		Allowed in this order (including discharges of ₹131.22 lakh)	278.12	
Asset D	3002.75	As per order dated 29.3.2014	82.45	2031.28
		As claimed by petitioner (₹79.39 plus discharges ₹3.06 lakh)	82.45	
		Allowed in this order	82.45	
Asset E	6832.12	As per order dated 29.3.2014	912.29	4496.20
		As claimed by petitioner (₹904.54 plus discharges ₹7.74 lakh)	912.28	
		Allowed in this order	912.28	

### Debt: Equity



18. Clauses 1 and 3 of Regulation 12 of the 2009 Tariff Regulations provide as

under:-

“(1) For a project declared under commercial operation on or after 1.4.2009, if the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

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

Provided further that the equity invested in foreign currency shall be designated in Indian rupees on the date of each invest.

.....

(3) Any expenditure incurred or projected to be incurred on or after 1.4.2009 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.”

19. The petitioner has claimed trued up Annual Fixed Charge based on debt- equity ratio of 70:30 admitted as on COD in order dated 29.3.2016. Since the claimed debt- equity ratio is in accordance with 2009 Tariff Regulations, the same is allowed.

### **Return on Equity (“ROE”)**

20. Clause (3), (4) and (5) of Regulation 15 of the 2009 Tariff Regulations provide follows:

“(3) The rate of return on equity shall be computed by grossing up the base rate with the Minimum Alternate/Corporate Income Tax Rate for the year 2008-09, as per the Income Tax Act, 1961, as applicable to the concerned generating company or the transmission licensee, as the case may be.

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

Rate of pre-tax return on equity = Base rate / (1-t)



Where “t” is the applicable tax rate in accordance with clause (3) of this regulation.  
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(5) The generating company or the transmission licensee, as the case may be, shall recover the shortfall or refund the excess Annual Fixed Charge on account of Return on Equity due to change in applicable Minimum Alternate/Corporate Income Tax Rate as per the Income Tax Act, 1961 (as amended from time to time) of the respective financial year directly without making any application before the Commission:

Provided further that Annual Fixed Charge with respect to the tax rate applicable to the generating company or the transmission licensee, as the case may be, in line with the provisions of the relevant Finance Acts of the respective year during the tariff period shall be trued up in accordance with Regulation 6 of these regulations.”

21. ROE has been worked out by considering year wise MAT rate submitted by the petitioner in accordance with Regulation 15 of the 2009 Tariff Regulations. The tax rate for the year 2009-14 applicable to the petitioner for the purpose of grossing up of ROE is as under:-

Year	MAT Rate	Grossed up ROE (Base rate/(1-t))
2009-10	16.995	18.674
2010-11	19.931	19.358
2011-12	20.008	19.377
2012-13	20.008	19.377
2013-14	20.961	19.610

22. We have considered the submissions of the petitioner and have approved ROE in accordance with the provisions of 2009 Tariff Regulations. Accordingly, the ROE as trued up in accordance with 2009 Tariff Regulations is as follows:-

Particulars	(₹ in lakh)				
	Asset A	Asset B	Asset C	Asset D	Asset E
Opening Equity	585.91	556.57	846.94	600.02	1073.16
Add: Addition due to ACE	103.23	133.12	83.44	24.74	273.68
<b>Closing Equity</b>	<b>689.13</b>	<b>689.69</b>	<b>930.38</b>	<b>624.76</b>	<b>1346.85</b>
Average Equity	637.52	623.13	888.66	612.39	1210.01
Pre-tax rate of Return on Equity	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity (pro-rated)</b>	<b>30.83</b>	<b>30.13</b>	<b>14.80</b>	<b>10.20</b>	<b>20.15</b>



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### **Interest on Loan ("IOL")**

23. Regulation 16 of 2009 Tariff Regulations provides the methodology for working out weighted average rate of interest on loan. Any change in the rates of interest during the tariff period will be considered at the time of true up. The petitioner has submitted the weighted average rate of IOL based on its actual loan portfolio and rate of interest.

24. We have considered the submissions of the petitioner and accordingly, calculated the IOL based on actual interest rate submitted by the petitioner, in accordance with Regulation 16 of the 2009 Tariff Regulations which is as follows:-

- a) The gross normative loan corresponding to approved debt-equity ratio, as on respective COD, works out to ₹1367.11 lakh, ₹1298.67 lakh, ₹1976.19 lakh, ₹1400.06 lakh and ₹2504.05 lakh relating to Assets A, B, C, D and E, respectively.
- b) Cumulative repayment as on respective COD has been considered as 'nil'.
- c) Depreciation allowed for the period under consideration has been considered as repayment.
- d) Average net loan is calculated as average of opening and closing.
- e) WAROI has been computed based on details of loan and interest as provided in the petition



25. Order in Petition No: 79/TT/2018  
The details of weighted average rate of interest allowed under Regulation 16 of 2009 Tariff Regulations are as follow:-

Particulars	(₹ in lakh)				
	Asset A	Asset B	Asset C	Asset D	Asset E
Gross Normative Loan	1367.11	1298.67	1976.19	1400.06	2504.05
Cumulative repayment	0.00	0.00	0.00	0.00	0.00
<b>Net Loan Opening</b>	<b>1367.11</b>	<b>1298.67</b>	<b>1976.19</b>	<b>1400.06</b>	<b>2504.05</b>
Addition due to ACE	240.86	310.62	194.68	57.72	638.60
Repayment of loan during the period	26.89	26.29	12.96	8.82	17.52
<b>Net Loan Closing</b>	<b>1581.09</b>	<b>1582.99</b>	<b>2157.92</b>	<b>1448.95</b>	<b>3125.12</b>
Average Loan	1474.10	1440.83	2067.05	1424.50	2814.59
WAROI	9.454%	9.256%	8.676%	8.730%	8.984%
<b>Interest on Loan (pro-</b>	<b>34.36</b>	<b>32.88</b>	<b>15.23</b>	<b>10.56</b>	<b>21.48</b>

rated)					
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### **Depreciation**

26. Clause (42) of Regulation 3 of the 2009 Tariff Regulations defines useful life as follows:-

“useful life” in relation to a unit of a generating station and transmission system from the COD shall mean the following, namely:- .....

- |                              |           |
|------------------------------|-----------|
| (c) AC and DC sub-station    | 25years   |
| (d) Hydro generating station | 35 years  |
| (e) Transmission line        | 35 years” |

27. Clause (4) of Regulation 17 of the 2009 Tariff Regulations provide as follows:-

"17. Depreciation:

...

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

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

28. The petitioner has claimed depreciation considering weighted average rate of depreciation (WAROD) of 5.13% for Assets A and B, 5.15% for Asset C, 5.09% for

Asset D and 5.11% for Asset E for the 2009-14 tariff period. However, considering the rates of depreciation specified in Appendix-II to 2009 Tariff Regulations, WAROD works out to 5.1320%, 5.1339%, 5.1508%, 5.0866% and 5.1143%, for Assets A, B, C, D and E respectively and the same is considered for the purpose of tariff. The depreciation has been worked out as per the methodology provided in the Regulation 17 of the 2009 Tariff Regulations which is as follows:-

(₹ in lakh)

Particulars	Asset A	Asset B	Asset C	Asset D	Asset E
Average capital cost	2125.07	2077.11	2962.19	2041.31	4033.35
Freehold land included above	0.00	0.00	0.00	0.00	0.00
Depreciable value	1912.56	1869.40	2665.97	1837.17	3630.02
Remaining depreciable value	1912.56	1869.40	2665.97	1837.17	3630.02
<b>Depreciation</b> (pro-rated)	26.89	26.29	12.96	8.82	17.52

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

29. Clause (g) of Regulation 19 of 2009 Tariff Regulations specifies the norms for O&M Expenses for the transmission system. O&M Expenses were allowed in order dated 29.3.2016 as per Regulation 19 of the 2009 Tariff Regulations. The petitioner has claimed the same amount of O&M Expenses for the 2013-14 period and the same has been allowed. The normative O&M Expenses are not required to be trued up. Accordingly, the total allowable O&M Expenses for the instant assets have been considered and allowed based on norms of O&M Expenses and the same are as follows:-


Assets	2013-14 (Pro-rata)
<b>Asset A</b>	
Approved in previous order	22.91
Claimed by the petitioner	22.91
<b>Allowed in this order</b>	<b>22.91</b>
<b>Asset B</b>	
Approved in previous order	22.91
Claimed by the petitioner	22.91
<b>Allowed in this order</b>	<b>22.91</b>
<b>Asset C</b>	
Approved in previous order	7.64
Claimed by the petitioner	7.64
<b>Allowed in this order</b>	<b>7.64</b>

<b>Asset D</b>	
Approved in previous order	7.64
Claimed by the petitioner	7.64
<b>Allowed in this order</b>	7.64
<b>Asset E</b>	
Approved in previous order	13.09
Claimed by the petitioner	13.09
<b>Allowed in this order</b>	<b>13.09</b>

### **Interest on Working Capital (“IWC”)**

30. Sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations provides the components of the working capital for the transmission system and clause (3) of Regulation 18 of the 2009 Tariff Regulations provides for the rate of IWC.

31. The petitioner submitted the rate of IWC as 13.20% for the period from COD to 31.3.2014 as per Clause (3) of Regulation 18 of the 2009 Tariff Regulations and the components of working capital are also considered in accordance with sub-clause (c) of clause (1) of Regulation 18 of the 2009 Tariff Regulations.

32.  Rate of IWC is considered on normative basis in accordance with Clause (3) of Order in Petition No. 79/TT/2018 Regulation 18 of the 2009 Tariff Regulations. It is calculated based on the State Bank of India Base Rate as on 1.4.2012 plus 350 basis points. State Bank of India Base Rate on 1.4.2013 was 9.70%. Therefore, interest rate of 13.20% (9.70% plus 350 basis points) has been considered to work out the interest on working capital in the instant case.

33. The IWC trued up is as under:-

(₹ in lakh)					
<b>Particulars</b>	<b>Asset A</b>	<b>Asset B</b>	<b>Asset C</b>	<b>Asset D</b>	<b>Asset E</b>
Maintenance Spares	3.44	3.44	1.15	1.15	1.96
O&M Expenses	1.91	1.91	0.64	0.64	1.09



Receivables	19.72	19.24	8.67	6.38	12.38
<b>Total</b>	<b>25.06</b>	<b>24.59</b>	<b>10.45</b>	<b>8.17</b>	<b>15.43</b>
Rate of interest	13.200%	13.200%	13.200%	13.200%	13.200%
<b>IWC (pro-rated)</b>	<b>3.31</b>	<b>3.25</b>	<b>1.38</b>	<b>1.08</b>	<b>2.04</b>

### **Annual Fixed Charges for 2009-14 Tariff Period**

34. The detailed computation of the various components of the trued up annual fixed charges for the instant transmission assets for the tariff period 2009-14 is summarized below:-

(₹ in lakh)

Particulars	Asset A	Asset B	Asset C	Asset D	Asset E
Depreciation	26.89	26.29	12.96	8.82	17.52
Interest on Loan	34.36	32.88	15.23	10.56	21.48
Return on Equity	30.83	30.13	14.80	10.20	20.15
Interest on working capital	3.31	3.25	1.38	1.08	2.04
O&M expenses	22.91	22.91	7.64	7.64	13.09
<b>Total</b>	<b>118.30</b>	<b>115.47</b>	<b>52.01</b>	<b>38.30</b>	<b>74.27</b>

### **Determination of Annual Fixed Charges for 2014-19 Tariff Period**

35. The petitioner has combined all the five assets and has claimed a combined tariff for them for 2014-19 tariff period. The petitioner has submitted effective COD for the Combined Assets for computation of tariff as 1.2.2014. However, the petitioner has not

submitted the detailed computation of effective COD in line with Regulation 27 of the Order in Petition No. 79/TT/2018

2014 Tariff Regulations. As a provisional measure, we have considered the effective COD as submitted by the petitioner i.e. 1.2.2014 for tariff computation. The petitioner is directed to submit detailed computation for determination of effective COD at the time of truing up.

36. The transmission charges claimed by the petitioner for 2014-19 tariff period are as under:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	798.77	879.55	920.83	958.71	966.81

Interest on Loan	950.12	982.29	948.94	906.37	826.44
Return on Equity	922.03	1018.66	1070.32	1116.93	1126.11
Interest on Working Capital	88.13	93.84	96.12	98.03	97.57
O&M Expenses	482.40	498.40	514.97	532.06	549.71
<b>Total</b>	<b>3241.45</b>	<b>3472.73</b>	<b>3551.18</b>	<b>3612.11</b>	<b>3566.64</b>

37. The details submitted by the petitioner in support of its claim for interest on working capital are given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses	40.20	41.53	42.91	44.34	45.81
Maintenance Spares	72.36	74.76	77.25	79.81	82.46
Receivables	540.24	578.79	591.86	602.02	594.44
Total working capital	652.80	695.08	712.02	726.16	722.71
Rate of Interest	0.14	0.14	0.14	0.14	0.14
Interest on working capital	88.81	94.54	96.92	98.86	98.40
Pro rata Interest on working capital	88.81	94.54	96.92	98.86	98.40

### Capital Cost

38. Clause (1) and (3) of Regulation 9 of the 2014 Tariff Regulations specify as follows:-



“(1) The Capital cost as determined by the Commission after prudence check in Order in Petition No. 79/2014 shall form the basis of determination of tariff for existing and new projects.”

“(3) The Capital cost of an existing project shall include the following:

- (a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;
- (b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulation 14; and
- (c) expenditure on account of renovation and modernization as admitted by this Commission in accordance with Regulation 15.”

39. The petitioner has combined all the assets for claiming tariff during 2014-19 tariff

period. The capital cost claimed by the petitioner is summation of capital cost claimed for Assets A, B, C, D and E. As against the claimed capital cost of ₹14272.29 lakh as on 1.4.2014 the combined capital cost as admitted above as on 31.3.2014 is ₹14269.36 lakh. Accordingly, ₹14269.36 lakh has been considered as opening capital cost as on 1.4.2014.

### **Additional Capital Expenditure**

40. 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 recognized 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 of law; and
- (v) Change in law or compliance of any existing law:

XXX”



41. Clause 13 of Regulation 3 of the 2014 Tariff Regulations defines “cut-off” as Order in Petition No. 79/TT/2018

follows:-

“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 a year, the cut - off date shall be 31st March of the year closing after three years of the year of commercial operation.”

42. The cut-off date is 31.3.2017 for all five assets covered in instant petition. The petitioner has claimed additional capital expenditure for 2014-19 tariff period under Regulation 14(1) for year 2014-15, 2015-16 and 2016-17 and 14(2) (iv) for year 2017-18 of the 2014 Tariff Regulations.

43. The petitioner has furnished the following details of the expenditure party-wise after the cut-off date:-

(₹ in lakh)					
Assets	COD	Expenditure after cut-off date	Part	Party's name	Remarks/ Justification
Asset A	1.1.14	57.44	SS	CGL & Alstom	There is delay in release of balance payment due to non-supply of 33 kV pin insulators and delay in attending pending punch list point after commissioning. After completion of entire scope of work, balance payment is proposed to be released in 2017-18.
Asset B	1.1.14	70.32	SS		
Asset C	1.3.14	10.00	SS		There is delay in release of payment due to delay in attending punch points and contract closing in commissioned asset mentioned. After completion of entire scope of work, balance payment is proposed to be released in 2017-18.
Asset D	1.3.14	58.66	SS		
Asset E	1.3.14	115.97	SS		

44. The additional capital expenditure claimed by the petitioner is as under:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Additional capital expenditure as per audit certificate Due in petition No. 79/TT/2018	2767.07	484.25	1272.00	312.39	0.00
Add: Discharges of un-discharges liabilities corresponding to IDC	33.88	0.00	0.00	0.00	0.00
Additional capital expenditure claimed	2800.94	484.25	1272.00	312.39	0.00

45. We have considered the submissions of the petitioner with regard to estimated capital expenditure during 2014-19. The aforementioned additional capital expenditure is towards balance and retention payments and the same has been certified by the Auditor vide certificate dated 23.12.2017 for all the assets. Discharges of outstanding liabilities made during 2014-15 are of ₹33.88 lakh and same was allowed. Further, the

total capital cost for all the assets as on 31.3.2019 is within the approved apportioned cost of the project. Thus, the same is allowed for the purpose of revision of tariff in accordance with Regulation 14(1) and 14(2) of the 2014 Tariff Regulations. The additional capital expenditure allowed is shown as below:-

(₹ in lakh)						
Asset	Capital cost as on 1.4.2014	Additional capital 2014-15	Additional capital 2015-16	Additional capital 2016-17	Additional capital 2017-18	Additional capital 2018-19
Combined Asset	14269.36	2800.94	484.25	1272.00	312.39	0.00

### Debt: Equity

46. Clause 3 of Regulation 19 of the 2014 Tariff Regulations specifies as under:-

“(3) In case of the generating station and the transmission system declared under commercial operation prior to 1.4.2014, debt-equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.”

47. The petitioner has considered debt : equity ratio as 70:30 as on 31.3.2014. The ~~admitted debt : equity ratio of 70:30 after true-up for the tariff period ending 31.3.2014~~

has been considered as opening debt : equity ratio as on 1.4.2014. The details of the debt : equity as on 1.4.2014 considered for the purpose of tariff for the 2014-19 tariff period is as follows:-

Particulars	Capital cost	(%)	Additional capital expenditure during 2014-19	(%)	Total cost as on 31.3.2019	(%)
Debt	9988.55	70.00	3408.71	70.00	13397.26	70.00
Equity	4280.81	30.00	1460.87	30.00	5741.68	30.00
<b>Total</b>	<b>14269.36</b>	<b>100.00</b>	<b>4869.58</b>	<b>100.00</b>	<b>19138.94</b>	<b>100.00</b>

### Return on Equity (“ROE”)

48. 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”

“25. Tax on Return on Equity:

(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.”

49. The petitioner has claimed return on equity by grossing-up base rate of 15.50% with MAT rate for 2013-14. Accordingly, the MAT rate of 2013-14 has been considered

for the purpose of ROE, which shall be trued up with actual tax rate in accordance with

 Order in Petition No. 79/TT/2018

Clause (3) of Regulation 25 of the 2014 Tariff Regulations. The ROE has been worked

out and allowed as follows:-

	(₹ in lakh)				
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity	4280.81	5121.09	5266.37	5647.97	5741.68
Add: Addition due to ACE	840.28	145.28	381.60	93.72	0.00
<b>Closing Equity</b>	<b>5121.09</b>	<b>5266.37</b>	<b>5647.97</b>	<b>5741.68</b>	<b>5741.68</b>
Average Equity	4700.95	5193.73	5457.17	5694.82	5741.68
Pre-tax rate of ROE	19.610%	19.610%	19.610%	19.610%	19.610%
<b>Return on Equity</b>	<b>921.86</b>	<b>1018.49</b>	<b>1070.15</b>	<b>1116.75</b>	<b>1125.94</b>

**Interest on Loan (“IOL”)**

50. Clause 5 and 6 of Regulation 26 of the 2014 Tariff Regulations are reproduced as under:-

“(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.”

51. We have considered the weighted average rate of IOL on the basis of prevailing rate as on 1.4.2014. The petitioner has submitted that change in interest rate due to the floating rate of interest applicable, if any, during 2014-19 tariff period will be adjusted. Accordingly, the floating rate of interest, if any, shall be considered at the time of true up of tariff. Accordingly, the IOL has been worked out in accordance with Regulation 26 of 2014 Tariff Regulations. The normative interest on loan has been computed as under:-



a) The gross normative loan amounting to ₹9988.55 lakh as stated above Order in Petition No. 79/TT/2018

has been considered as on 1.4.2014.

b) Cumulative repayment of ₹92.48 lakh, considered as on 31.3.2014 has been retained as on 1.4.2014.

c) Depreciation allowed for the period under consideration has been considered as repayment.

d) Average net loan is calculated as average of opening and closing.

- e) The petitioner has claimed interest on normative loan considering WAROI of 9.07%, 9.10%, 9.03%, 8.96% and 8.92% for the year 2014-15, 2015-16, 2016-17, 2017-18 and 2018-19, respectively. The IOL has been worked out and allowed subject to true-up and the same is as follows:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	9988.55	11949.21	12288.19	13178.59	13397.26
Cumulative repayment	92.48	891.09	1770.48	2691.16	3649.72
<b>Net Loan Opening</b>	<b>9896.07</b>	<b>11058.12</b>	<b>10517.70</b>	<b>10487.42</b>	<b>9747.54</b>
Addition due to ACE	1960.66	338.98	890.40	218.67	0.00
Repayment of loan during the year	798.61	879.39	920.68	958.56	966.65
<b>Net Loan Closing</b>	<b>11058.12</b>	<b>10517.70</b>	<b>10487.42</b>	<b>9747.54</b>	<b>8780.88</b>
Average Loan	10477.09	10787.91	10502.56	10117.48	9264.21
WAROI	9.067%	9.104%	9.034%	8.957%	8.920%
<b>Interest on Loan</b>	<b>949.95</b>	<b>982.13</b>	<b>948.79</b>	<b>906.24</b>	<b>826.32</b>

### Depreciation

52. Clause (2), (5) and (6) of Regulation 27 of the 2014 Tariff Regulations provide as follows:-

#### "27. Depreciation:-

(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"

"(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."

53. The petitioner has computed depreciation considering the weighted average rate



of depreciation (WAROD) of 5.1%, 5.08%, 5.06% and 5.05% for the years 2014-15, 2015-16, 2016-17 and for the period 2017-19, respectively.

54. We have considered the submission of the petitioner. The depreciation has been worked out considering the rates of depreciation as annexed at Appendix-II to the 2014 Tariff Regulations. The WAROD works out to 5.096% for the year 2014-15, 5.080% for the year 2015-16, 5.061% for the year 2016-17, 5.050% for the year 2017-18 and 5.051% for the year 2018-19, the same has been considered subject to true-up. The details of the depreciation allowed are given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Average capital cost	15669.83	17312.43	18190.55	18982.75	19138.94
Freehold land included above	0.00	0.00	0.00	0.00	0.00
Depreciable value	14102.85	15581.18	16371.50	17084.47	17225.05
Remaining depreciable value	14102.85	14782.57	14693.49	14485.79	13667.81
<b>Depreciation</b>	<b>798.61</b>	<b>879.39</b>	<b>920.68</b>	<b>958.56</b>	<b>966.65</b>

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

55. The petitioner has computed normative O&M Expenses as per sub-clause (a) of clause (4) of Regulation 29 of the 2014 Tariff Regulations. Norms specified in respect of the elements covered in the instant asset are as under:-

(₹ in lakh)					
Norms for Sub-station (in ₹ lakh per bay)	2014-15	2015-16	2016-17	2017-18	2018-19
765 kV bays	84.42	87.22	90.12	93.11	96.20
400 kV bays	60.30	62.30	64.37	66.51	68.71

56. The O&M Expenses claimed by the petitioner for combined assets are as below:-

(₹ in lakh)				
2014-15	2015-16	2016-17	2017-18	2018-19
482.40	498.40	514.97	532.06	549.71

57. The petitioner's entitlement to O&M Expenses for the instant transmission assets has been worked out as given hereunder:-

(₹ in lakh)					
Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
765 kV bays:					
No of bays	5	5	5	5	5
Norms(₹ lakh/bay)	84.42	87.22	90.12	93.11	96.20
400 kV bays:					
No of bays	2	2	2	2	2
Norms(₹ lakh/bay)	60.30	62.30	64.37	66.51	68.71
<b>Total</b>	<b>482.40</b>	<b>498.40</b>	<b>514.97</b>	<b>532.06</b>	<b>549.71</b>

58. The petitioner has further submitted that the wage revision of the employees of the petitioner 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

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Expenses for claiming the impact of such increase. MPPMCL has submitted that the petitioner is a profit making Public Sector Company, therefore, respondents are not liable to bear the burden on this count. MPPMCL has placed reliance on Office Memorandum dated 26.11.2008 issued by Ministry of Heavy Industries & Public Enterprises which, inter alia, instructs the CPSE concerned to bear their additional financial implications on account of pay revision from their own resources and no budgetary supported will be provided to them. In view of this, the request for revision of O&M rates should not be allowed.

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59. We have considered the submissions made by the petitioner and respondent. 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)**

60. Clause 1 (c) of Regulation 28 and Clause 5 of Regulation 3 of the 2014 Tariff Regulations specifies as follows:

**“28. Interest on Working Capital**

- (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.”~~  
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61. The petitioner has submitted that it has computed interest on working capital for the tariff block 2014-19 considering the SBI Base Rate plus 350 basis points as on 1.4.2014. The rate of interest on working capital considered is 13.50%.

62. The IWC is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of IWC considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The IWC is given below:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	72.36	74.76	77.25	79.81	82.46
O&M Expenses	40.20	41.53	42.91	44.34	45.81
Receivables	540.16	578.71	591.78	601.94	594.36
<b>Total</b>	<b>652.72</b>	<b>695.00</b>	<b>711.94</b>	<b>726.09</b>	<b>722.63</b>
Rate of interest	13.500%	13.500%	13.500%	13.500%	13.500%
<b>IWC</b>	<b>88.12</b>	<b>93.82</b>	<b>96.11</b>	<b>98.02</b>	<b>97.56</b>


### Annual Transmission Charges

63. The detailed computation of the various components of the annual fixed charges for the transmission asset for the tariff period 2014-19 is summarized below:-

(₹ in lakh)

Particulars	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	798.61	879.39	920.68	958.56	966.65
Interest on Loan	949.95	982.13	948.79	906.24	826.32
Return on Equity	921.86	1018.49	1070.15	1116.75	1125.94
Interest on working capital	88.12	93.82	96.11	98.02	97.56
O&M expenses	482.40	498.40	514.97	532.06	549.71
<b>Total</b>	<b>3240.93</b>	<b>3472.23</b>	<b>3550.70</b>	<b>3611.64</b>	<b>3566.19</b>

### Filing Fee and the Publication Expenses

64. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses in terms of Regulation 52(1) of the 2014 Tariff Regulations. The  Order in Petition No. 79/TT/2018 petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 52 (1) of the 2014 Tariff Regulations.

### Licence Fee & RLDC Fees and Charges

65. The petitioner shall be entitled for reimbursement of licence fee in accordance with Regulation 52 (2) (b) of the 2014 Tariff Regulations for 2014-19 tariff period. The petitioner shall also be entitled for recovery of RLDC fee & charges in accordance with

Regulations 52 (2) (a) of the 2014 Tariff Regulations for 2014-19 tariff period.


### **Service Tax**

66. The Petitioner has sought to recover service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list in future. We have considered the submission of the petitioner. Service tax is not levied on transmission. Further, service tax is subsumed by GST and hence Petitioner's prayer has become infructuous.

### **Goods & Service Tax**

67. The petitioner has prayed for reimbursement of tax, if any, on account of proposed implementation of GST. MPPMCL has submitted that GST is not applicable on electricity sector and as such the demand of GST be disallowed. We are of the view that petitioner's prayer qua GST is premature.

### **Sharing of Transmission Charges**

68. The billing, collection and disbursement of the transmission charges approved  Order in Petition No. 79/TT/2018 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.

69. This order disposes of Petition No.79/TT/2018.

sd/-  
**(Dr. M. K. Iyer)**  
Member

sd/-  
**(A.S. Bakshi)**  
Member

sd/-  
**(A.K. Singhal)**  
Member

sd/-  
**(P.K Pujari)**  
Chairperson



Order in Petition No. 79/TT/2018