

CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 207/TT/2016

Coram:

Shri Gireesh B Pradhan, Chairperson

Shri A.K. Singhal, Member

Shri A.S. Bakshi, Member

Dr. M.K. Iyer, Member

Date of Order : 06.09.2017

In the matter of:

Approval of transmission tariff of **Asset-A:** 420 kV, 125 MVAR Bus Reactor at Raigarh Sub-station, (COD: 1.8.2014), **Asset-B:** 420 kV, 80 MVAR Switchable line Reactor at Solapur sub-station (COD: 26.11.2014) and **Asset-C:** 420 kV, 125 MVAR Bus Reactor at Aurangabad Sub-station (COD: 30.4.2014) under "Installation of Reactors in Western Region" in Western 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
"Soudamini", Plot No. 2, Sector 29
Gurgaon -122001

...Petitioner

Vs

1. Madhya Pradesh Power Management Company Limited,
Shakti Bhawan, Rampur, Jabalpur-482 008
2. Maharashtra State Electricity Distribution Company Limited,
Prakashgad, 4th Floor,
Andheri (East), Mumbai-400 052
3. Gujarat Urja Vikas Nigam Limited,
Sardar Patel Vidyut Bhawan,
Race Course Road,
Vadodara-390 007
4. Electricity Department,



Government of Goa,
Vidyut Bhawan, Panaji,
Near Mandvi Hotel, Goa-403 001

5. Electricity Department,
Administration of Daman and 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
Chhattisgarh-492 013

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

.....Respondents

For petitioner : Shri S.K. Venkatesan, PGCIL
Shri S.S. Raju, PGCIL
Shri Jasbir Singh, PGCIL
Shri Rakesh Prasad, PGCIL

For respondents : Shri Rajesh Kumar Gupta, MPPCL

ORDER

The present petition has been filed by Power Grid Corporation of India Limited (PGCIL) seeking approval of transmission charges for **Asset-A:** 420 kV, 125 MVAR Bus Reactor at Raigarh Sub-station, **Asset-B:** 420 kV, 80 MVAR Switchable line Reactor at Solapur sub-station and **Asset-C:** 420 kV, 125 MVAR Bus Reactor at Aurangabad Sub-station (hereinafter referred to as “transmission assets”) under “Installation of Reactors in Western Region” in Western Region, from the date of commercial operation to 31.3.2019 based on the Central Electricity Regulatory Commission (Terms and



Conditions of Tariff) Regulations, 2014 (hereinafter referred to as “the 2014 Tariff Regulations”).

2. This order has been issued after considering petitioner’s affidavits dated 5.4.2017 and 1.6.2017.

3. The petitioner has been entrusted with the implementation of “Installation of Reactors in Western Region”. The scheme was approved in the 33rd Standing Committee meeting of Western Region held on 21.10.2011. The transmission system was later discussed and agreed in the 21st WRPC meeting held on 9.11.2012. The Investment Approval (IA) was accorded by the Board of Directors of the petitioner vide Memorandum No. C/CP/WR-272 dated 7.8.2012 at an estimated cost of ₹8317 lakh including an IDC of ₹423 lakh (based on June, 2012 price level). The transmission system was scheduled to be commissioned within 24 months from the date of IA. Therefore, the scheduled date of commissioning of the transmission system was 6.8.2014. The scope of work covered under the scheme is broadly as follows:-

Sub-stations:

a) Installation of 400 kV, 125 MVAR Bus Reactor at

- i. Jabalpur
- ii. Khandwa
- iii. Shujalpur
- iv. Bhatapara
- v. Raigarh
- vi. Aurangabad 400 kV Sub-stations

b) Installation of 420 kV, 80 MVAR Switchable line Reactor at 400 kV Sholapur Sub-station.

4. Subsequently, the Revised Cost Estimate (RCE) of the transmission scheme was approved by the Board of Directors of the petitioner vide Memorandum No



C/CP/RCE/RCE-Reactor-WR dated 20.1.2016, issued for 324th meeting held on 12.1.2016, for ₹8317 lakh including an IDC of ₹331 lakh (based on June, 2015 price level). The revised scope of work covered under the scheme is broadly as follows:-

Sub-stations:

a) Installation of 400 kV, 125 MVAR Bus Reactors alongwith bays at

- i. Jabalpur
- ii. Khandwa
- iii. Shujalpur
- iv. Bhatapara
- v. Raigarh
- vi. Aurangabad 400 kV Sub-stations

b) Installation of 420 kV, 80 MVAR Switchable line Reactor alongwith bays at 400 kV Sholapur Sub-station (installed in Solapur-Karad (MSETCL) 400 kV S/C line).

5. The above scope of the scheme has been covered in different petitions. The details of assets covered in the instant scheme along with the petition numbers are given below:-

Scope as approved in RCE	COD	Petition No.	Order Date
Installation of 420 kV, 125 MVAR Bus Reactor at Shujalpur	2.8.2014	165/TT/2014	22.3.2016
Asset-1: Installation of 420 kV, 125 MVAR Bus Reactor at Jabalpur	1.4.2014	116/TT/2014	29.4.2016
Asset-2: Installation of 420 kV, 125 MVAR Bus Reactor at Khandwa	1.4.2014		
Asset-3: Installation of 420 kV, 125 MVAR Bus Reactor at Bhatapara	26.7.2014		
Asset-4: Installation of 420 kV, 125 MVAR Bus Reactor at Raigarh	1.8.2014		As directed, removed from 116/TT/2014 and included instant petition
Asset-5: Installation of 420 kV, 80 Switchable Line Reactor at Solapur	26.11.2014		
Asset-6: Installation of 420 kV, 125 MVAR Bus Reactor at Aurangabad	30.4.2014		

6. The petitioner had earlier claimed tariff for the instant three assets in Petition No.116/TT/2014. However, tariff was not allowed for these assets as the petitioner did not furnish the Auditor Certificate in support of the capital cost and the petitioner was



directed vide order dated 29.4.2016 to file a fresh petition along with actual capital cost duly certified by the Auditor. Accordingly, the petitioner filed the instant petition has claiming AFC from the actual date of commercial operation of the instant transmission assets. The date of commercial operation, submitted in the petition and the details of the instant assets are as under:-

Particulars	Name of the Asset	COD		Delay
		Scheduled	Actual	
Asset-A	420 kV, 125 MVAR Bus Reactor at Raigarh Sub-station	6.8.2014	1.8.2014	No delay
Asset-B	420 kV, 80 MVAR Switchable line Reactor at Solapur Sub-station		26.11.2014	3 months 20 days
Asset-C	420 kV, 125 MVAR Bus Reactor at Aurangabad Sub-station		30.4.2014	No delay

7. Annual Fixed Cost was granted for the instant transmission assets vide order dated 15.3.2017 under the first proviso to Regulation 7(7) of the 2014 Tariff Regulations, subject to proviso (iii) and (iv) of the said Regulation.

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

(₹ in lakh)

Particulars	Asset-A				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	32.67	54.03	61.02	65.99	65.99
Interest on Loan	41.50	63.66	66.86	67.12	60.71
Return on Equity	37.08	61.22	69.24	75.01	75.01
Interest on Working Capital	4.78	7.56	8.09	8.46	8.44
O & M Expenses	40.20	62.30	64.37	66.51	68.71
Total	156.23	248.77	269.58	283.09	278.86
Particulars	Asset-B				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	11.61	36.60	40.47	42.99	42.99
Interest on Loan	14.79	44.59	46.36	45.86	41.66
Return on Equity	13.03	41.38	46.14	49.31	49.31
Interest on Working Capital	2.07	6.26	6.62	6.85	6.88
O & M Expenses	20.94	62.30	64.37	66.51	68.71



Total	62.44	191.13	203.96	211.52	209.55
Particulars	Asset-C				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	28.63	33.58	35.47	37.23	37.23
Interest on Loan	35.94	39.08	38.34	37.25	33.61
Return on Equity	32.26	37.95	40.28	42.47	42.47
Interest on Working Capital	5.30	5.99	6.18	6.37	6.40
O & M Expenses	55.44	62.30	64.37	66.51	68.71
Total	157.57	178.90	184.64	189.83	188.42

9. The details submitted by the petitioner in support of its claim for interest on working capital are as under:-

(₹ in lakh)

Particulars	Asset-A				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	39.06	41.46	44.93	47.18	46.48
Total	53.14	56.00	59.95	62.70	62.52
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	4.78	7.56	8.09	8.46	8.44
Particulars	Asset-B				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	3.15	9.35	9.66	9.98	10.31
O & M expenses	1.75	5.19	5.36	5.54	5.73
Receivables	10.43	31.86	33.99	35.25	34.93
Total	15.33	46.40	49.01	50.77	50.97
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	2.07	6.26	6.62	6.85	6.88
Particulars	Asset-C				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	28.56	29.82	30.77	31.64	31.40
Total	42.64	44.36	45.79	47.16	47.44
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	5.76	5.99	6.18	6.37	6.40

10. 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. M.P. Power Management Company Limited, (MPPMCL), Respondent No. 1 has filed reply dated 30.1.2017. MPPMCL has submitted that time over-run in case of Asset-B should not be condoned and accordingly IDC and IEDC be disallowed. MPPMCL has further submitted that the petitioner has claimed additional capital expenditure in respect of instant assets without providing proper details and justification and accordingly the claim may be disallowed. The petitioner has filed rejoinder dated 10.2.2017 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.

11. Having heard the representatives of the petitioner and perused the material available on record we proceed to dispose of the petition.

Capital cost

12. 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;”

(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.”

13. The details of the revised approved apportioned capital cost, capital cost as on the date of commercial operation and estimated additional capital expenditure incurred or projected to be incurred for the transmission assets as submitted by the petitioner are as given hereunder:-

Particulars	Approved apportioned cost as per FR	Approved apportioned cost (RCE)	Cost as on COD	Additional capital expenditure incurred/projected to be incurred			Total estimated completion cost
				2014-15	2015-16	2016-17	
Asset-A	1561.90	1281.47	889.82	112.90	75.93	196.44	1275.09
Asset-B	832.24	866.92	610.74	75.19	44.60	107.67	838.20
Asset-C	1023.17	796.11	562.16	80.53	4.76	74.37	721.82

Capital cost is as per Auditors' Certificate dated 8.9.2016, 17.8.2016 and 18.8.2016 for the Assets A, B and C respectively, based on Audited statement of Accounts of PGCIL Western Region, Nagpur.

Cost over-run

14. The estimated completion cost of instant assets is lower than the apportioned cost approved in the RCE. Thus, there is no cost over-run, in the case of instant assets. However, it is observed that there is a wide variation of ₹553.27 lakh in completion cost of Bus Reactors at Raigarh Sub-station and Aurangabad Sub-station, though they are of the same configuration. Further, the cost of CT, PT and switchgear claimed by the petitioner (in Form-5B) in case of the said two assets is much higher. The petitioner has



not submitted any change in reconfiguration of switchyard or any specific or detailed reasons for such a wide variation in estimated completion cost between Asset-A and Asset-C.

15. It is also observed that the estimated completion cost of Asset-B, 420 kV, 80 MVAR Switchable line Reactor at Solapur Sub-station, is higher than the FR cost and lesser than the RCE. As regards the increase in completion cost of Asset-B when compared to the FR cost, the petitioner has submitted in the petition that for procurement, open competitive bidding route is followed and by providing equal opportunity to all eligible firms, lowest possible market prices for required product/services is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. The best competitive bid prices against tenders may happen to be lower or higher than the cost estimate depending upon prevailing market conditions. Further, regarding variation in cost of individual item in sub-station packages, contract of sub-station package are awarded in totality which includes number of items. Multiple bids were received from different vendors through Open Competitive Bidding and award is made to the lowest evaluated bidder for the sub-station package as a whole. The item wise comparison of different items under one package with respective cost estimates does not give appropriate results, as the actual prices of various items under sub-station package solely depend on how the bifurcation of the total price has been made by the vendor while quoting the prices for different items under complete package.



16. We have considered the submissions made by the petitioner. The reasons given by the petitioner for increase in completion cost are of standard nature, which are submitted by the petitioner in all petitions. The petitioner has not submitted any reason for huge variation in completion cost of Assets A and C, though they are of same configuration. Further, the petitioner has not explained as to why the completion cost of Asset-B, which is of lower configuration, is higher than the completion cost of Asset-C. As the petitioner has not explained the variation in completion cost of Assets-A and C and Assets-B and C, we restrict the cost of Assets-A and B to the cost of Asset-C. However, the petitioner is given the liberty to explain the reasons for such huge variation in cost of Assets-A and C and the reasons for higher cost of Asset-B when compared to Asset-C at the time of truing-up and the same will be reviewed at the time of truing-up.

Time over-run

17. The project was scheduled to be commissioned within 24 months from the date of investment approval of 7.8.2012. Accordingly, the scheduled COD works out to 6.8.2014, against which the Asset-A and Asset-C were put into commercial operation on 1.8.2014 and 30.4.2014 respectively. However, Asset-B was put into commercial operation on 26.11.2014. Thus, there is time over-run of 3 months and 20 days in putting the Asset-B into commercial operation.

18. MPPMCL has submitted that the petitioner has explained the delay on account of inadequate clearance, the modification and re-orientation of existing structure etc. MPPMCL has further submitted that such works should have been taken up just after



the date of Investment approval and the delay is only on account of faulty planning and erroneous implementation, for which the petitioner is solely responsible. Hence, the delay should not be condoned and resultant IDC and IEDC should be disallowed.

19. The petitioner has submitted that the 400 kV Solapur-Karad transmission line shutdown was not granted despite its continuous efforts for 9 months. The petitioner has further submitted that on approval of shutdown, work for installation of reactor was taken up and the Asset-B was put under commercial operation on 26.11.2014 with a over-run of 3 months and 20 days. The petitioner has submitted chronology of events of application/efforts for shut down and the date for which it was granted as under:-

Srl. No.	Date	Event	Description
1	7.8.2012	Investment approval accorded	
2	13.2.2014	456 th OCC meeting	Approached WRPC for shut down of 400 kV Solapur-Karad transmission line for installation of 80 MVAR SLR at Solapur Sub-station. It was denied.
3	11.3.2014	457 th OCC meeting	
4	11.8.2014	462 nd OCC meeting	
5	12.9.2014	463 rd OCC meeting	
6	13.10.2014	464 th OCC meeting	Again approached WRPC for shut down of 400 kV Solapur-Karad transmission line for installation of 80 MVAR SLR at Solapur Sub-station. The shutdown was approved from 24.10.2014 to 7.11.2014.
7	26.11.2014	400 kV, 80 MVAR Switchable Line Reactor commissioned	

20. We have considered the submissions of the respondent and the petitioner. The petitioner approached WRPC for shut down of 400 kV Solapur-Karad line for installation of 80 MVAR Switchable line reactor at Solapur Sub-station and the petitioner discussed the issue at various OCC meetings of Western Region [456, 457, 462, 463 and 464]. The petitioner made continuous efforts for 9 months (13.2.2014-13.10.2014) and finally WRPC approved the shutdown from 24.10.2014 to 7.11.2014. It is observed thought the



petitioner approached WRPC six months ahead of the scheduled date of commissioning of 6.8.2014, the shutdown was granted more than two months after the scheduled date of commissioning. We are of the view that the time over-run of 3 months and 20 days was due to delay in grant of shutdown and not attributable to the petitioner. Accordingly, the time over-run of 3 months and 20 days is condoned.

Treatment of IDC and IEDC

21. The petitioner has claimed Interest During Construction (IDC) of ₹49.04 lakh ₹57.34 lakh and ₹30.74 lakh for Asset-A, Asset-B and Asset-C respectively. It is observed that the loan amount indicated for Bond XLVI in the IDC statement, and Form-C and Form-12B, submitted by the petitioner do not match. Therefore, we have considered the loan drawn upto actual COD (as per Form-9C and Form-12B) to compute the actual IDC on cash basis. The petitioner has also submitted the details of discharge of IDC as follows:-

(₹ in lakh)

Particulars	Asset-A	Asset-B	Asset-C
Upto COD	47.44	45.67	18.54
2014-15	1.60	1.90	12.20
2015-16	-	9.77	-

22. Accordingly, IDC, as on respective COD, considered for the purpose of tariff determination in this order is as under:-

(₹ in lakh)

Particulars	IDC as on COD		
	Claimed	Disallowed	Allowed
Asset-A	49.04	1.60	47.44
Asset-B	57.34	11.67	45.67
Asset-C	30.74	12.20	18.54

23. Similarly, the petitioner has claimed IEDC of (₹12.27) lakh, ₹0.39 lakh and (₹8.74) lakh, as on COD, in respect of Assets-A, B and C respectively. The IEDC amount



claimed is within the percentage on Hard Cost as submitted in the Abstract Cost Estimate. Thus, the amount of (₹12.27) lakh, ₹0.39 lakh and (₹8.74) lakh for Asset-A, Asset-B and Asset-C respectively has been considered, for the purpose of tariff in this order.

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:

(d) Transmission system

(i) Transmission line -1.00%

(ii) Transmission Sub-station (Green Field)-4.00%

(iii) Transmission Sub-station (Brown Field)-6.00%

(iv) Series Compensation devices and HVDC Station-4.00%

(v) Gas Insulated Sub-station (GIS)-5.00%

(vi) Communication system-3.5%

Provided that:

(i) where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:

(ii) -----

(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 petitioner has not claimed initial spares for Asset-A. The initial spares claimed by the petitioner for Assets-B and C (being brown field) are as under:-

(₹ in lakh)

Particulars	Sub-station		
	Plant and Machinery Cost (excluding IDC and IEDC, land cost and cost of civil works (as per Auditors' Certificate))	Initial spares	Initial spares as % of capital cost
Asset-A	1173.80	-	-
Asset-B	715.12	40.46	6.00
Asset-C	654.38	32.25	5.18

26. Initial spares in respect of Assets-B and C are within the ceiling limit as specified in the 2014 Tariff Regulations and thus are allowed for tariff purpose in this order. The petitioner has also submitted year wise discharge of liability for initial spares. Accordingly, it has been considered on cash basis as under:-

(₹ in lakh)

Particulars	Total claimed	Upto COD	2014-15	2015-16	2016-17
Asset-B	40.46	25.55	8.27	-	6.64
Asset-C	32.25	20.36	6.60	-	5.29

27. Accordingly, capital cost as on the date of commercial operation for the instant transmission assets after adjustment of IDC and IEDC and initial spares is considered as per Regulation 9(2) of the 2014 Tariff Regulations. However, as discussed above, capital cost of Assets-A and B have been restricted as per details given hereinafter:-

(₹ in lakh)

Particulars	Cost claimed as on COD	IDC disallowed as on COD	Capital cost considered as on COD
Asset-A	721.82	1.60	720.22
Asset-B	584.16	11.67	572.49
Asset-C	538.07	12.20	525.87



In view of the liberty being given in para 16, the capital cost as on COD shall be reviewed at the time of truing-up.

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”.

Provided that the cut-off date may be extended by the Commission if it is proved on the basis of documentary evidence that the capitalisation could not be made within the cut-off date for reasons beyond the control of the project developer;”

30. The cut-off date in the case of instant transmission assets is 31.3.2017.



31. The petitioner has claimed additional capital expenditure in respect of instant assets to be on account of retention and balance payments. The details of additional capital expenditure claimed by the petitioner are as under:-

Particulars	From COD to 31.3.2015	2015-2016	2016-2017	(₹ in lakh)
				Total estimated add cap
Asset-A	112.9	75.93	196.44	385.27
Asset-B	75.19	44.60	107.67	227.46
Asset-C	80.53	4.76	74.37	159.66

32. MPPMCL has submitted that the petitioner has claimed additional capitalization for instant assets on account of balance and retention payments, but has not provided proper details and justification and as such, the petitioner's claim for additional capital expenditure may be disallowed.

33. The petitioner was directed to submit proper details. The petitioner has submitted, vide affidavit dated 5.4.2017, the details of total liabilities and break-up of actual discharge of liabilities stated to be duly certified by the Auditors, as under:-

Particulars	Total liabilities		
	Asset-A	Asset-B	Asset-C
Gross block as per books	1275.09	773.66	774.58
Undischarged liabilities as on COD	385.27	162.92	212.42
Expenditure upto COD as per Auditor Certificate*	889.82	610.74	562.16

Particulars	Year wise break-up of discharge		
	Asset-A	Asset-B	Asset-C
2014-15	112.90	75.19	80.53
2015-16	75.93	44.60	4.76
2016-17	17.57	-	8.60
Balance to be discharged	178.87	43.13	118.53
Total	385.27	162.92	212.42



34. We have considered the submissions of the respondent and the petitioner. The additional capitalization incurred and projected to be incurred for instant assets is on account of Balance & Retention Payments and with-in cut-off date and is covered under Regulation 14(1) (i) of the 2014 Tariff Regulations. The actual discharge on account of IDC, and liabilities for initial spares, after COD but upto cut-off date has been considered as additional capitalization. Further, as mentioned earlier, the capital cost as on COD shall be reviewed at the time of truing-up. Accordingly, the capital cost and additional capital expenditure considered for the purpose of computation of tariff is as follows:-

Particulars	Cost allowed as on COD	Total add-cap restricted and allowed upto cut-off date			Total Capital cost allowed as on 31.3.2019
		2014-15	2015-16	2016-17	
Asset-A	720.22	-	-	-	720.22
Asset-B	572.49	85.36	52.30	-	710.15
Asset-C	525.87	99.33	4.76	13.89	643.85*

*Balance cost of ₹65.77 lakh will be considered on submission of actual discharge. The petitioner has not submitted the year in which it is expected to be discharged.

Debt- Equity ratio

35. 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.”

36. The capital cost on the dates of commercial operation arrived at as above and additional capitalization allowed have been considered in the normative debt-equity ratio of 70:30. The details of debt-equity as on dates of commercial operation, add-cap and as on 31.3.2019 considered on normative basis are as under:-

(₹ in lakh)				
Asset-A	As on COD		As on 31.3.2019	
Particulars	Amount	% age	Amount	% age
Debt	504.15	70.00	504.15	70.00
Equity	216.07	30.00	216.07	30.00
Total	720.22	100.00	720.22	100.00
Asset-B	As on COD		As on 31.3.2019	
Particulars	Amount	% age	Amount	% age
Debt	400.74	70.00	497.10	70.00
Equity	171.75	30.00	213.04	30.00
Total	572.49	100.00	710.15	100.00
Asset-C	As on COD		As on 31.3.2019	
Particulars	Amount	% age	Amount	% age
Debt	368.11	70.00	450.69	70.00
Equity	157.76	30.00	193.19	30.00
Total	525.87	100.00	643.85	100.00

Return on equity

37. Clause (1) and (2) of Regulation 24 and Clause (1) and (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.”

38. 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.

39. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the transmission



licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, 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:-

(₹ in lakh)

Particulars	Asset-A				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Opening Equity	216.07	216.07	216.07	216.07	216.07
Addition due to Additional Capitalization	0.00	0.00	0.00	0.00	0.00
Closing Equity	216.07	216.07	216.07	216.07	216.07
Average Equity	216.07	216.07	216.07	216.07	216.07
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-Tax)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre-Tax)	28.21	42.37	42.37	42.37	42.37
Particulars	Asset-B				
	2014-15 (pro-rata)	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	171.75	197.35	213.04	213.04	213.04
Addition due to Additional Capitalization	25.61	15.69	0.00	0.00	0.00
Closing Equity	197.35	213.04	213.04	213.04	213.04
Average Equity	184.55	205.20	213.04	213.04	213.04
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-Tax)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre-Tax)	12.49	40.24	41.78	41.78	41.78

Particulars	Asset-C				
	2014-15 (pro-rata)	2015-16 (pro-rata)	2016-17	2017-18	2018-19
Opening Equity	157.76	187.56	188.99	193.15	193.15
Addition due to Additional Capitalization	29.80	1.43	4.17	0.00	0.00
Closing Equity	187.56	188.99	193.15	193.15	193.15
Average Equity	172.66	188.27	191.07	193.15	193.15
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%



Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-Tax)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity (Pre-Tax)	31.17	36.92	37.47	37.88	37.88

Interest on Loan (IoL)

40. Regulation 26 of the 2014 Tariff Regulations with regard to Interest on Loan specifies as under:-

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

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

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.

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

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

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

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

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



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

(a) 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;

(b) The yearly repayment for the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for that year;

(c) Notwithstanding moratorium availed by the transmission licensee, the repayment of the loan shall be considered from the first year of commercial operation of the project and shall be equal to the annual depreciation allowed;

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

(e) As per Regulation 26(5) only actual loans have been considered for computation of weighted average rate of interest.

42. The petitioner has submitted that the interest on loan has been considered on the basis of rate prevailing as on 1.4.2014 and the change in interest due to floating rate of interest applicable, if any, for the project needs to be claimed/adjusted over the tariff block 2014-19. We would like to clarify that the interest on loan has been calculated on the basis of rate prevailing as on the date of



commercial operation. Any change in rate of interest subsequent to the date of commercial operation will be considered at the time of truing-up.

43. Detailed calculations in support of interest on loan have been calculated as given at Annexure I to Annexure III of this order.

44. The details of Interest on Loan calculated are as under:-

(₹ in lakh)					
Particulars	Asset-A				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	504.15	504.15	504.15	504.15	504.15
Cumulative Repayment upto Previous Year	0.00	24.82	62.11	99.39	136.68
Net Loan-Opening	504.15	479.33	442.05	404.76	367.47
Addition due to Additional Capitalisation	0.00	0.00	0.00	0.00	0.00
Repayment during the year	24.82	37.29	37.29	37.29	37.29
Net Loan-Closing	479.33	442.05	404.76	367.47	330.19
Average Loan	491.74	460.69	423.40	386.12	348.83
Weighted Average Rate of Interest on Loan	9.6431%	9.5192%	9.4619%	9.4294%	9.3993%
Interest on Loan	31.57	43.85	40.06	36.41	32.79
Particulars	Asset-B				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Normative Loan	400.74	460.49	497.10	497.10	497.10
Cumulative Repayment upto Previous Year	0.00	11.13	46.63	83.41	120.18
Net Loan-Opening	400.74	449.37	450.47	413.70	376.93
Addition due to Additional Capitalisation	59.75	36.61	0.00	0.00	0.00
Repayment during the year	11.13	35.51	36.77	36.77	36.77
Net Loan-Closing	449.37	450.47	413.70	376.93	340.15
Average Loan	425.06	449.92	432.09	395.31	358.54
Weighted Average Rate of Interest on Loan	9.6672%	9.6433%	9.6459%	9.6232%	9.6083%
Interest on Loan	14.18	43.39	41.68	38.04	34.45
Particulars	Asset-C				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19



Gross Normative Loan	368.11	437.64	440.97	450.69	450.69
Cumulative Repayment upto Previous Year	0.00	27.64	60.26	93.35	126.80
Net Loan-Opening	368.11	410.00	380.71	357.34	323.89
Addition due to Additional Capitalisation	69.53	3.33	9.72	0.00	0.00
Repayment during the year	27.64	32.62	33.09	33.45	33.45
Net Loan-Closing	410.00	380.71	357.34	323.89	290.44
Average Loan	389.06	395.36	369.03	340.62	307.17
Weighted Average Rate of Interest on Loan	9.6982%	9.6223%	9.6019%	9.5752%	9.5557%
Interest on Loan	34.73	38.04	35.43	32.61	29.35

Depreciation

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

"27. Depreciation:

(1) Depreciation shall be computed from the date of commercial operation of 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.”

46. The petitioner has claimed actual depreciation. In our calculations, depreciation has been calculated in accordance with Regulation 27 extracted above.

47. The transmission assets were put under commercial operation during 2014-15. 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.

48. The details of the depreciation worked out are as under:-

(₹ in lakh)

Particulars	Asset-A				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block as on COD	720.22	720.22	720.22	720.22	720.22
Addition during 2014-19 due to	0.00	0.00	0.00	0.00	0.00



Projected Additional Capitalisation					
Gross Block as on 31 st March	720.22	720.22	720.22	720.22	720.22
Average Gross Block	720.22	720.22	720.22	720.22	720.22
Rate of Depreciation	5.1770%	5.1770%	5.1770%	5.1770%	5.1770%
Depreciable Value	648.20	648.20	648.20	648.20	648.20
Remaining Depreciable Value	648.20	623.38	586.09	548.80	511.52
Depreciation	24.82	37.29	37.29	37.29	37.29
Particulars	Asset-B				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block as on COD	572.49	657.85	710.15	710.15	710.15
Addition during 2014-19 due to Projected Additional Capitalisation	85.36	52.30	0.00	0.00	0.00
Gross Block as on 31 st March	657.85	710.15	710.15	710.15	710.15
Average Gross Block	615.17	684.00	710.15	710.15	710.15
Rate of Depreciation	5.2390%	5.1910%	5.1783%	5.1783%	5.1783%
Depreciable Value	553.65	615.60	639.13	639.13	639.13
Remaining Depreciable Value	553.65	542.53	507.02	470.25	433.47
Depreciation	11.13	35.51	36.77	36.77	36.77
Particulars	Asset-C				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Gross Block as on COD	525.87	625.20	629.96	643.85	643.85
Addition during 2014-19 due to Projected Additional Capitalisation	99.33	4.76	13.89	0.00	0.00
Gross Block as on 31 st March	625.20	629.96	643.85	643.85	643.85
Average Gross Block	575.53	627.58	636.90	643.85	643.85
Rate of Depreciation	5.2165%	5.1981%	5.1961%	5.1952%	5.1952%
Depreciable Value	517.98	564.82	573.21	579.46	579.46
Remaining Depreciable Value	517.98	490.34	457.72	424.63	391.18
Depreciation	27.64	32.62	33.09	33.45	33.45

Operation & Maintenance Expenses (O&M Expenses)

49. O&M Expenses allowed for the instant assets as provided under Regulation 29(4)(a) of the 2014 Tariff Regulations are as under:-

Assets	(₹ in lakh)				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Asset-A	40.2	62.3	64.37	66.51	68.71
Asset-B	20.98	62.3	64.37	66.51	68.71
Asset-C	55.51	62.3	64.37	66.51	68.71



50. The petitioner has submitted that O&M Expenses for the tariff period 2014-19 had been arrived at 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 is due during 2014-19 and actual impact of wage hike effective from a future date has not been factored in fixation of the normative O&M rates specified for the tariff block 2014-19. The petitioner has submitted that it would approach the Commission for suitable revision in norms for O&M Expenses for claiming the impact of wage hike during 2014-19, if any.

51. 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

52. Clause 1 (c) and 3 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;”

53. The interest on working capital is worked out in accordance with Regulation 28 of the 2014 Tariff Regulations. The rate of interest on working capital considered is 13.50% (SBI Base Rate of 10% plus 350 basis points). The interest on working capital as determined is shown in the table below:-

(₹ in lakh)

Particulars	Asset-A				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.06	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	32.29	32.02	31.73	31.49	31.26
Total	46.38	46.55	46.75	47.01	47.29
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	4.17	6.28	6.31	6.35	6.38
Particulars	Asset-B				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.10	9.35	9.66	9.98	10.31
O & M expenses	5.05	5.19	5.36	5.54	5.73
Receivables	29.34	31.27	31.82	31.58	31.35
Total	43.49	45.81	46.84	47.10	47.38
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	2.03	6.18	6.32	6.36	6.40
Particulars	Asset-C				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Maintenance Spares	9.05	9.35	9.66	9.98	10.31
O & M expenses	5.03	5.19	5.36	5.54	5.73
Receivables	27.93	29.30	29.39	29.42	29.25
Total	42.00	43.84	44.41	44.94	45.28
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	5.22	5.92	6.00	6.07	6.11



Transmission charges

54. The transmission charges allowed for the transmission assets are summarized as under:-

(₹ in lakh)

Particulars	Asset-A				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	24.82	37.29	37.29	37.29	37.29
Interest on Loan	31.57	43.85	40.06	36.41	32.79
Return on Equity	28.21	42.37	42.37	42.37	42.37
Interest on Working Capital	4.17	6.28	6.31	6.35	6.38
O & M Expenses	40.20	62.30	64.37	66.51	68.71
Total	128.97	192.09	190.40	188.92	187.54

Particulars	Asset-B				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	11.13	35.51	36.77	36.77	36.77
Interest on Loan	14.18	43.39	41.68	38.04	34.45
Return on Equity	12.49	40.24	41.78	41.78	41.78
Interest on Working Capital	2.03	6.18	6.32	6.36	6.40
O & M Expenses	20.94	62.30	64.37	66.51	68.71
Total	60.77	187.62	190.92	189.46	188.11

Particulars	Asset-C				
	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Depreciation	27.64	32.62	33.09	33.45	33.45
Interest on Loan	34.73	38.04	35.43	32.61	29.35
Return on Equity	31.17	36.92	37.47	37.88	37.88
Interest on Working Capital	5.22	5.92	6.00	6.07	6.11
O & M Expenses	55.51	62.30	64.37	66.51	68.71
Total	154.27	175.80	176.36	176.52	175.50

Filing Fee and the Publication Expenses

55. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the



beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC fees and Charges

56. 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

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

58. This order disposes of Petition No. 207/TT/2016.

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)

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	SBI					
	Gross loan opening	422.15	422.15	422.15	422.15	422.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	38.38	76.75
	Net Loan-Opening	422.15	422.15	422.15	383.77	345.40
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	38.38	38.38	38.38
	Net Loan-Closing	422.15	422.15	383.77	345.40	307.02
	Average Loan	422.15	422.15	402.96	364.58	326.21
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	43.27	43.27	41.30	37.37	33.44
	Rep Schedule	22 HY Instalments from 31.8.2016				
2	BOND XLI					
	Gross loan opening	61.62	61.62	61.62	61.62	61.62
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	5.14	10.27
	Net Loan-Opening	61.62	61.62	61.62	56.49	51.35
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	5.14	5.14	5.14
	Net Loan-Closing	61.62	61.62	56.49	51.35	46.22
	Average Loan	61.62	61.62	59.05	53.92	48.78
	Rate of Interest	8.85%	8.85%	8.85%	8.85%	8.85%
	Interest	5.45	5.45	5.23	4.77	4.32
	Rep Schedule	12 Annual instalments from 19.1.2016				
3	BOND XLIII					
	Gross loan opening	75.01	75.01	75.01	75.01	75.01
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	6.25
	Net Loan-Opening	75.01	75.01	75.01	75.01	68.76
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	6.25	6.25
	Net Loan-Closing	75.01	75.01	75.01	68.76	62.51
	Average Loan	75.01	75.01	75.01	71.88	65.63
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	5.95	5.95	5.95	5.70	5.20
	Rep Schedule	12 Annual instalments from 20.5.2017				
4	Bond XLVI					
	Gross loan opening	0.00	1.12	1.12	1.12	1.12



	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	1.12	1.12	1.12	1.12
	Additions during the year	1.12	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	1.12	1.12	1.12	1.12	1.12
	Average Loan	0.56	1.12	1.12	1.12	1.12
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	0.05	0.10	0.10	0.10	0.10
	Rep Schedule	3 equal instalments from 4.9.2019				
5	BOND XLVI					
	Gross loan opening	62.97	62.97	62.97	62.97	62.97
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	62.97	62.97	62.97	62.97	62.97
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	62.97	62.97	62.97	62.97	62.97
	Average Loan	62.97	62.97	62.97	62.97	62.97
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	5.86	5.86	5.86	5.86	5.86
	Rep Schedule	3 equal instalments from 4.9.2019				
6	BOND XLVIII					
	Gross loan opening	0.00	79.03	79.03	79.03	79.03
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	79.03	79.03	79.03	79.03
	Additions during the year	79.03	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	79.03	79.03	79.03	79.03	79.03
	Average Loan	39.52	79.03	79.03	79.03	79.03
	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest	3.24	6.48	6.48	6.48	6.48
	Rep Schedule	4 equal instalments from 23.1.2020				
7	BOND LI					
	Gross loan opening	0.00	0.00	53.15	53.15	53.15
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	53.15	53.15	53.15
	Additions during the year	0.00	53.15	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	53.15	53.15	53.15	53.15
	Average Loan	0.00	26.58	53.15	53.15	53.15
	Rate of Interest	8.40%	8.40%	8.40%	8.40%	8.40%
	Interest	0.00	2.23	4.46	4.46	4.46
	Rep Schedule	12 equal instalments from 14.9.2019				



Total Loan					
Gross loan opening	621.75	701.90	755.05	755.05	755.05
Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	43.51	93.28
Net Loan-Opening	621.75	701.90	755.05	711.54	661.77
Additions during the year	80.15	53.15	0.00	0.00	0.00
Repayment during the year	0.00	0.00	43.51	49.76	49.76
Net Loan-Closing	701.90	755.05	711.54	661.77	612.01
Average Loan	661.83	728.48	733.29	686.66	636.89
Rate of Interest	9.643%	9.519%	9.462%	9.429%	9.399%
Interest	63.82	69.35	69.38	64.75	59.86



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	SBI					
	Gross loan opening	0.00	0.00	31.22	31.22	31.22
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	2.84	5.68
	Net Loan-Opening	0.00	0.00	31.22	28.38	25.54
	Additions during the year	0.00	31.22	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	2.84	2.84	2.84
	Net Loan-Closing	0.00	31.22	28.38	25.54	22.70
	Average Loan	0.00	15.61	29.80	26.96	24.12
	Rate of Interest	0.00%	10.25%	10.25%	10.25%	10.25%
	Interest	0.00	1.60	3.05	2.76	2.47
	Rep Schedule	22 HY instalments from 31.8.2016				
2	SBI					
	Gross loan opening	271.00	271.00	271.00	271.00	271.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	24.64	49.27
	Net Loan-Opening	271.00	271.00	271.00	246.36	221.73
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	24.64	24.64	24.64
	Net Loan-Closing	271.00	271.00	246.36	221.73	197.09
	Average Loan	271.00	271.00	258.68	234.05	209.41
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	27.78	27.78	26.51	23.99	21.46
	Rep Schedule					
3	BOND XLI					
	Gross loan opening	40.00	40.00	40.00	40.00	40.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	3.33	6.67
	Net Loan-Opening	40.00	40.00	40.00	36.67	33.33
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	3.33	3.33	3.33
	Net Loan-Closing	40.00	40.00	36.67	33.33	30.00
	Average Loan	40.00	40.00	38.33	35.00	31.67
	Rate of Interest	8.85%	8.85%	8.85%	8.85%	8.85%
	Interest	3.54	3.54	3.39	3.10	2.80
	Rep Schedule	12 equal instalments from 19.10.2016				
4	BOND XLIII					
	Gross loan opening	48.03	48.03	48.03	48.03	48.03
	Cumulative Repayment upto	0.00	0.00	0.00	0.00	4.00



	DOCO/previous year					
	Net Loan-Opening	48.03	48.03	48.03	48.03	44.03
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	4.00	4.00
	Net Loan-Closing	48.03	48.03	48.03	44.03	40.03
	Average Loan	48.03	48.03	48.03	46.03	42.03
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	3.81	3.81	3.81	3.65	3.33
	Rep Schedule	12 Annual Instalment from 20.5.2017				
5	Bond XLVI					
	Gross loan opening	0.00	1.33	1.33	1.33	1.33
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	1.33	1.33	1.33	1.33
	Additions during the year	1.33	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	1.33	1.33	1.33	1.33	1.33
	Average Loan	0.67	1.33	1.33	1.33	1.33
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	0.06	0.12	0.12	0.12	0.12
	Rep Schedule	3 equal instalments from 4.9.2019				
6	BOND XLVI					
	Gross loan opening	0.00	0.00	6.84	6.84	6.84
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	6.84	6.84	6.84
	Additions during the year	0.00	6.84	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	6.84	6.84	6.84	6.84
	Average Loan	0.00	3.42	6.84	6.84	6.84
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	0.00	0.32	0.64	0.64	0.64
	Rep Schedule	3 equal instalments from 4.9.2019				
7	BOND XLVI					
	Gross loan opening	60.32	60.32	60.32	60.32	60.32
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	60.32	60.32	60.32	60.32	60.32
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	60.32	60.32	60.32	60.32	60.32
	Average Loan	60.32	60.32	60.32	60.32	60.32
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	5.61	5.61	5.61	5.61	5.61
	Rep Schedule	3 equal instalments from 4.9.2019				



8	BOND XLVII					
	Gross loan opening	0.00	52.63	52.63	52.63	52.63
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	52.63	52.63	52.63	52.63
	Additions during the year	52.63	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	4.39
	Net Loan-Closing	52.63	52.63	52.63	52.63	48.24
	Average Loan	26.32	52.63	52.63	52.63	50.44
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	2.35	4.70	4.70	4.70	4.50
	Rep Schedule	12 equal instalments from 20.10.2018				
	Total Loan					
	Gross loan opening	419.35	473.31	511.37	511.37	511.37
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	30.81	65.62
	Net Loan-Opening	419.35	473.31	511.37	480.56	445.75
	Additions during the year	53.96	38.06	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	30.81	34.81	39.20
	Net Loan-Closing	473.31	511.37	480.56	445.75	406.55
	Average Loan	446.33	492.34	495.97	463.15	426.15
	Rate of Interest	9.667%	9.643%	9.646%	9.623%	9.608%
	Interest	43.15	47.48	47.84	44.57	40.95



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN OF ASSET C

(₹ in lakh)

	Details of Loan	2014-15	2015-16	2016-17	2017-18	2018-19
1	SBI					
	Gross loan opening	290.00	290.00	290.00	290.00	290.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	26.36	52.73
	Net Loan-Opening	290.00	290.00	290.00	263.64	237.27
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	26.36	26.36	26.36
	Net Loan-Closing	290.00	290.00	263.64	237.27	210.91
	Average Loan	290.00	290.00	276.82	250.45	224.09
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	29.73	29.73	28.37	25.67	22.97
	Rep Schedule					
2	BOND XLI					
	Gross loan opening	42.00	42.00	42.00	42.00	42.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	3.50	7.00
	Net Loan-Opening	42.00	42.00	42.00	38.50	35.00
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	3.50	3.50	3.50
	Net Loan-Closing	42.00	42.00	38.50	35.00	31.50
	Average Loan	42.00	42.00	40.25	36.75	33.25
	Rate of Interest	8.85%	8.85%	8.85%	8.85%	8.85%
	Interest	3.72	3.72	3.56	3.25	2.94
	Rep Schedule	12 equal instalments from 19.10.2016				
3	BOND XLIII					
	Gross loan opening	52.00	52.00	52.00	52.00	52.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	4.33
	Net Loan-Opening	52.00	52.00	52.00	52.00	47.67
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	4.33	4.33
	Net Loan-Closing	52.00	52.00	52.00	47.67	43.33
	Average Loan	52.00	52.00	52.00	49.83	45.50
	Rate of Interest	7.93%	7.93%	7.93%	7.93%	7.93%
	Interest	4.12	4.12	4.12	3.95	3.61
	Rep Schedule	19 equal instalments from 20.5.2017				
4	Bond XLVI					



	Gross loan opening	0.00	8.54	8.54	8.54	8.54
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	8.54	8.54	8.54	8.54
	Additions during the year	8.54	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	8.54	8.54	8.54	8.54	8.54
	Average Loan	4.27	8.54	8.54	8.54	8.54
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	0.40	0.79	0.79	0.79	0.79
	Rep Schedule	3 equal instalments from 4.9.2019				
5	BOND XLVI					
	Gross loan opening	0.97	0.97	0.97	0.97	0.97
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.97	0.97	0.97	0.97	0.97
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.97	0.97	0.97	0.97	0.97
	Average Loan	0.97	0.97	0.97	0.97	0.97
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	0.09	0.09	0.09	0.09	0.09
	Rep Schedule	3 equal instalments from 4.9.2019				
6	BOND XLVII					
	Gross loan opening	0.00	32.46	32.46	32.46	32.46
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	32.46	32.46	32.46	32.46
	Additions during the year	32.46	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	2.71
	Net Loan-Closing	32.46	32.46	32.46	32.46	29.76
	Average Loan	16.23	32.46	32.46	32.46	31.11
	Rate of Interest	8.93%	8.93%	8.93%	8.93%	8.93%
	Interest	1.45	2.90	2.90	2.90	2.78
	Rep Schedule	12 equal instalments from 20.10.2018				
9	BOND XLIII					
	Gross loan opening	0.00	23.91	23.91	23.91	23.91
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	23.91	23.91	23.91	23.91
	Additions during the year	23.91	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	23.91	23.91	23.91	23.91	23.91



	Average Loan	11.96	23.91	23.91	23.91	23.91
	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest	0.98	1.96	1.96	1.96	1.96
	Rep Schedule	12 equal instalments from 20.5.2017				
10	BOND LI					
	Gross loan opening	0.00	0.00	3.33	3.33	3.33
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	0.00	3.33	3.33	3.33
	Additions during the year	0.00	3.33	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Closing	0.00	3.33	3.33	3.33	3.33
	Average Loan	0.00	1.67	3.33	3.33	3.33
	Rate of Interest	8.40%	8.40%	8.40%	8.40%	8.40%
	Interest	0.00	0.14	0.28	0.28	0.28
	Rep Schedule	12 equal instalments from 14.9.2015				
	Total Loan					
	Gross loan opening	384.97	449.88	453.21	453.21	453.21
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	29.86	64.06
	Net Loan-Opening	384.97	449.88	453.21	423.35	389.15
	Additions during the year	64.91	3.33	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	29.86	34.20	36.90
	Net Loan-Closing	449.88	453.21	423.35	389.15	352.25
	Average Loan	417.43	451.55	438.28	406.25	370.70
	Rate of Interest	9.698%	9.622%	9.602%	9.575%	9.556%
	Interest	40.48	43.45	42.08	38.90	35.42

