

**CENTRAL ELECTRICITY REGULATORY COMMISSION  
NEW DELHI**

**Petition No. 156/TT/2017**

**Coram:**

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

**Date of Order : 9.7.2018**

**In the matter of:**

Approval of transmission tariff for **Asset-I:** 2 Nos. of 400 kV GIS line bays at Nizamabad (PG) for the termination of Nizamabad-Yeddumailaram (Shankarpalli) 400 kV D/C line and **Asset-II:** 2 Nos. of 400 kV GIS line bays at Maheswaram (PG) for termination of Maheswaram (PG)–Mehboob Nagar 400 kV D/C Transmission line under "Provision of line bays for the Scheme-Connectivity lines for Maheshwaram (Hyderabad) 765/400 kV Pooling Station" in Southern Region from COD to 31.3.2019 under Regulation 86 of Central Electricity Regulatory Commission (Conduct of business) Regulations, 1999 and Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014.

**And in the matter of:**

Power Grid Corporation of India Limited  
"Saudamini", Plot No.2,  
Sector-29, Gurgaon -122 001

**.....Petitioner**

**Vs**

1. Karnataka Power Transmission Corporation Ltd. (KPTCL),  
Kaveri Bhawan, K. G. Road  
Bangalore—560 009.
2. Transmission Corporation of Andhra Pradesh Ltd. (APTRANSCO),  
Vidyut Soudha, Khairatabad,  
Hyderabad-500 082.
3. Kerala State Electricity Boards (KSEB),  
Vydyuthi Bhavanam,  
Thiruvananthapuram-695 004.
4. Tamilnadu Electricity Board (TNEB)  
NPKRR Maaligai, 800, Anna Salai,  
Cennai-600 002.



5. Electricity Department  
Government of Goa  
Vidyuti Bhawan, Panaji  
Goa-403 001.
6. Electricity Department,  
Government of Pondicherry,  
Pondicherry -605 001.
7. Eastern Power Distribution Company of Andhra Pradesh Limited (APEPDCL)  
APEPDCL, P&T Colony,  
Seethmmadhara, VISHAKHAPATNAM  
Andhra Pradesh.
8. Southern Power Distribution Company of Andhra Pradesh Limited (APSPDCL)  
Srinivasasa Kalyana Mandapam Backside,  
Tiruchanoor Road, Kesavayana Gunta,  
Tirupati-517 501, Chittoor District, Andhra Pradesh.
9. Central Power Distribution Company of Andhra Pradesh Limited (APCPDCL)  
Corporate Office, Mint Compound,  
Hyderabad-500 063.
10. Northern Power Distribution Company of Andhra Pradesh Limited (APNPDCL)  
NIT Petrol Pump  
Chaitanyapuri, Kazipet, WARANGAL – 506 004  
Andhra Pradesh
11. Bangalore Electricity Supply Company Ltd. (BESCOM)  
Corporate Office, K. R. Circle,  
Bangalore-560 009.
12. Gulbarga Electricity Supply Company Ltd. (GESCOM)  
Station Main Road, Gulbarga, Karnataka.
13. Hubli Electricity Supply Company Ltd. (HESCOM),  
P.B. Road, Nava Nagar Hubli,  
Karnataka.
14. Mangalore Electricity Supply Company Ltd. (MESCOM)  
Paradingm Plaza, A.B. Shetty Circle,  
Mangalore-575 001.
15. Chamundeshwari Electricity Supply Corp. Ltd. (CESC)  
927, L. J. Avenue, Ground Floor  
New Kantharaj Urs Road,  
Saraswathi Puram, Mysore-570 009.
16. Powergrid NM Transmission Ltd.  
B-9, Qutab Institutional Area,  
Katwaria Sarai,  
New Delhi-110016.



17. Transmission Corporation of Telangana Limited,  
Vidhyut Sudha, Khairatabad,  
Hyderabad, 500082

18. Maheshwaram Transmission Ltd.  
F-1, Mira Corporate Suits,  
1 & 2, Mathura Road, Ishwar Nagar,  
New Delhi-110065.

.....**Respondents**

**For Petitioner** : Shri Vivek Kumar Singh, PGCIL  
Shri S. S. Raju, PGCIL  
Shri B. Dash, PGCIL  
Shri Rakesh Prasad, PGCIL

**For Respondents** : None

### **ORDER**

The present petition has been filed by the petitioner, Power Grid Corporation of India Ltd. ("PGCIL") seeking approval of transmission tariff for **Asset-I:** 2 Nos. of 400 kV GIS line bays at Nizamabad (PG) for the termination of Nizamabad-Yeddumailaram (Shankarpalli) 400 kV D/C line and **Asset-II:** 2 Nos. of 400 kV GIS line bays at Maheshwaram (PG) for termination of Maheshwaram (PG)–Mehboob Nagar 400 kV D/C Transmission line (hereinafter referred to as "transmission assets") under "Provision of line bays for the Scheme-Connectivity lines for Maheshwaram (Hyderabad) 765/400 kV Pooling Station" in Southern Region (hereinafter referred to as "transmission system") for 2014-19 tariff period under Central Electricity Regulation Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

2. The Investment Approval (IA) for implementation of the transmission system i.e. "Provision of line bays for the Scheme-Connectivity lines for Maheshwaram (Hyderabad) 765/400 kV Pooling Station" was accorded by the Board of Directors of the petitioner vide the Memorandum Ref: C/CP/PA1617-08-0M-IA011 dated 31.8.2016 at an estimated cost of ₹8669 lakh including an IDC of



₹496 lakh (based on April, 2016 price level). The Empowered Committee on Transmission in the 32<sup>nd</sup> meeting held on 17.1.2014, recommended for implementation of transmission lines of the subject scheme through Tariff Based Competitive Bidding (TBCB) route. The line bays at Maheswaram 765/400 kV pooling station and Nizamabad 765/400 kV pooling station for the scheme was decided to be implemented by the petitioner.

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

**Substation**

**a) Extension of Maheswaram (PG) pooling station**

i) 2 Nos. of 400 kV GIS line bays at Maheswaram (PG) for termination of Maheswaram (PG)-Mehboob Nagar 400 kV D/C line.

**b) Extension of Nizamabad substation**

i) 2 Nos. of 400 kV GIS line bays at Nizamabad (PG) for the termination of Nizamabad-Yeddumailaram (Shankarpalli) 400 kV D/C line.

4. The Commission vide order dated 5.10.2017 approved the Annual Fixed Charges (AFC) under Regulation 7(7) of the 2014 Tariff Regulations for inclusion in the PoC computation.

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

Asset-I	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Depreciation	61.07	151.83
Interest on Loan	57.50	135.46
Return on Equity	70.17	174.37
Interest on Working Capital	6.77	16.21
O&M Expenses	50.73	117.46
<b>Total</b>	<b>246.24</b>	<b>595.33</b>



(₹ in lakh)		
Asset-II	2017-18 (pro-rata)	2018-19
Depreciation	27.12	115.85
Interest on Loan	26.79	109.06
Return on Equity	31.09	132.72
Interest on Working Capital	3.60	13.94
O&M Expenses	33.31	117.46
<b>Total</b>	<b>121.91</b>	<b>489.03</b>

6. The details of the interest on working capital claimed by the petitioner are as under:-

(₹ in lakh)		
Asset-I	2017-18 (pro-rata)	2018-19
Maintenance Spares	17.05	17.62
O&M expenses	9.47	9.79
Receivables	91.97	99.22
<b>Total</b>	<b>118.49</b>	<b>126.63</b>
Interest	6.77	16.21
Rate of Interest	12.80%	12.80%

(₹ in lakh)		
Asset-II	2017-18 (pro-rata)	2018-19
Maintenance Spares	17.05	17.62
O&M expenses	9.47	9.79
Receivables	69.34	81.51
<b>Total</b>	<b>95.86</b>	<b>108.92</b>
Interest	3.60	13.94
Rate of Interest	12.80%	12.80%

7. No comments or suggestions have been received from the general public in response to the notices published by the petitioner under Section 64 of the Electricity Act. TANGEDCO has filed reply vide affidavit dated 18.9.2017 and the petitioner has filed rejoinder dated 13.3.2018 to the reply of TANGEDCO. The objections raised by the respondents and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

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



### **Date of Commercial Operation (COD)**

9. The petitioner vide affidavit dated 21.9.2017 has claimed the revised anticipated COD of the Assets as follows:-

<b>S. No.</b>	<b>Name of Asset</b>	<b>Schedule Commissioning as per IA</b>	<b>Anticipated COD</b>	<b>Revised Anticipated COD</b>
1	<b>Asset-I</b>	20.1.2018	1.7.2017	1.11.2017
2	<b>Asset-II</b>	20.1.2018	1.9.2017	1.11.2017

10. TANGEDCO vide affidavit dated 18.9.2017 has submitted that SCOD of the transmission lines as per TSA is 20.6.2018 and CEA had called for a meeting on 12.9.2017 to discuss the issue of advancement of the commissioning of the transmission lines. Since, TANGEDCO was studying the benefits and requirement of advancement of the transmission assets, no consent was given for such advancement which is mandatory as per TSA. Under these circumstances, the COD of the bays is dependent on the COD of the lines and hence advancement of COD of bays can only be decided based on the final decision with respect to transmission lines. Hence, a final decision is to be taken jointly by CEA and the beneficiaries.

11. The Commission vide provisional order dated 5.10.2017 has directed the petitioner to submit the (a) Actual COD and COD letter and all tariff forms for the instant assets; (b) RLDC certificate/Charging certificate for instant assets; (c) CEA certificate under Regulation 43 of CEA (Measures Related to Safety and Electricity supply) Regulations, 2010; (d) CMD Certificate as required under Grid Code; (e) Status of associated upstream/downstream transmission system and to confirm whether the instant assets have been put to use; and (f) Status of 400 kV D/C Nizamabad-Yeddumailaram line and 400 kV D/C Maheswaram (PG)-Mehboob Nagar line.



12. In response, the petitioner vide affidavit dated 13.2.2018 has submitted that the Assets – I and II were put under commercial operation on 21.10.2017 and 16.12.2017 respectively and submitted the self-declaration COD letters, RLDC certificate, CMD certificate and CEA certificate for the instant assets.

13. The petitioner has further submitted the details of upstream/downstream system at Nizamabad sub-station and Maheshwaram sub-station and are tabulated as under:-

Sl. No.	Name of Asset	Status	Remarks
<b>At Nizamabad Sub-station</b>			
1	765 kV D/C Nizamabad-Hyderabad (Maheshwaram) transmission line	COD on 31.8.2017	Upstream
2	765 kV D/C Nizamabad-Wardha transmission line	COD on 24.4.2017	Upstream
3	400 kV Nizamabad-Dichpalli transmission line	COD on 24.4.2017	Downstream system of STU network. The power is also flowing through switchyard of Ramagundam TPS through Hyderabad.
4	400 kV Nizamabad-Yeddumailaram (Shankarapalli) transmission line	COD on 21.10.2017	
<b>At Maheshwaram (Hyderabad) Sub-station</b>			
1	765 kV D/C Nizamabad-Hyderabad (Maheshwaram) transmission line	COD on 31.8.2017	Upstream
2	Hyderabad (Maheshwaram) - Kurnool 400 kV S/C transmission line	COD on 31.8.2017	Downstream
3	400 kV Maheshwaram-Hyderabad S/C transmission line	COD on 6.9.2017	Downstream
4	400 kV D/C Maheshwaram-Mehboobnagar transmission line	COD on 16.12.2017	Downstream Executed by TBCB (MTL). Connected with downstream system of STU network.
5	400 kV D/C Maheshwaram-Maheshwaram (TS) transmission line	COD on 6.9.2017	Downstream Executed by Telangana TS

14. We have considered the submissions of the petitioner and TANGEDCO. In support of commercial operation the petitioner has submitted the RLDC Certificates, the CEA Certificates under Regulation 43 of CEA (Measures Related to Safety and Electricity Supply) Regulations, 2010 and the CMD



certificate as required under Grid Code. It is further observed that the upstream and downstream assets have been put into commercial operation on or before the COD of the instant assets. Accordingly, the COD of Assets – I and II is approved as 21.10.2017 and 16.12.2017

### **Capital Cost**

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

“(1) The Capital cost as determined by the Commission after prudence check in accordance with this regulation shall form the basis of determination of tariff for existing and new projects.”

(2) The Capital Cost of a new project shall include the following:

(a) the expenditure incurred or projected to be incurred up to the date of commercial operation of the project;

(b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;

(c) Increase in cost in contract packages as approved by the Commission;

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

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

(f) expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations; 39

(g) adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and

(h) adjustment of any revenue earned by the transmission licensee by using the assets before COD.

16. The details of apportioned approved cost, capital cost claimed as on COD and projected additional capital expenditure as per Auditor certificate dated 29.11.2017 and 23.1.2018 are summarized as under:-





Particulars	Apportioned cost	As per Auditor Certificate				
		Capital cost up to COD	2017-18	2018-19	2019-20	Projected Completion cost
<b>Asset I</b>	5471.61	2470.51	335.55	144.39	76.48	<b>3026.93</b>
<b>Asset II</b>	3197.40	1493.97	536.75	323.99	219.64	<b>2574.35</b>
<b>Total</b>	<b>8669.01</b>	<b>3964.48</b>	<b>872.3</b>	<b>468.38</b>	<b>296.12</b>	<b>5601.28</b>

17. TANGEDCO has submitted that the petitioner has failed to exercise due diligence in estimating the capital investment cost.

18. We have considered the submissions of the petitioner and TANGEDCO. It is observed that the projected completion cost of ₹5601.28 lakh is within the approved apportioned cost of ₹8669.01 Hence, there is no cost over-run.

### **Cost Variation**

19. The petitioner vide affidavit dated 27.6.2017 has submitted the reasons with regard to cost variation between the approved cost and projected completed cost as on COD.

20. The petitioner has submitted that through open competitive bidding process, the lowest possible market prices for required product/services as per detailed designing is obtained and contracts are awarded on the basis of lowest evaluated eligible bidder. However, the best competitive bid prices against tenders may vary as compared to the cost estimate depending upon prevailing market conditions, design and site requirements. The estimates are prepared by the petitioner as per well-defined procedures for cost estimate. The FR cost estimate is broad indicative cost worked out generally on the basis of average unit rates of recently awarded contracts/general practice. The cost estimate of the project is on the basis of April, 2016 price level.

**Asset-I:**

a) There is reduction of about ₹736 lakh in completion cost of sub-station. Cost variation of supply period (2016) is mainly attributable to lowest prices prevalent during the execution of project and the market forces prevailing at the time of bidding process of various packages. The price variation is bifurcated into two parts i.e., one from FR to Award of various Contracts and other from Contracts to final execution. As regards price variation from FR to award, the Contracts for various packages under this project were awarded to the lowest evaluated and responsive bidder, on the basis of Open Competitive Bidding. The award prices represent the lowest prices available at the time of bidding of various packages, thus capturing the price level at the bidding stage. The price variation from Award to final execution is mainly on the basis of PV based on indices as per provision of respective contracts.

b) There is reduction of around ₹1050 lakh on account of overheads, IDC and tax and duties with respect to FR due to early completion of assets.

c) The FR costs of ₹473 lakh were envisaged during preparation of FR for initial spares and communication system. The same were not incurred on actual execution of the asset.

**Asset-II**

a) There is reduction of about ₹140 lakh in completion cost of sub-station. Cost variation of supply period (2016) is mainly attributable to lowest prices prevalent during the execution of project and also market forces prevailing at the time of bidding process of various packages.



b) There is reduction of around ₹263 lakh on account of overheads, IDC with respect to FR due to early completion of assets.

21. TANGEDCO has submitted that the petitioner has not followed the uniform “Nomenclature of the Assets for the similar nature of works such as 765 kV, 400 kV, 200 kV lines”. The comparison of prices adopted by the petitioner in various petitions indicates that the petitioner has not followed the uniform rates for the same control period and also standard description of the item. The adoption of different rates for same elements in different schemes executed in same period by the petitioner is illegal since the final award cost is a pass through on the consumers. TANGEDCO has further submitted that in the instant petition, the investment approval was accorded on 20.7.2016 based on April, 2016 price level and communicated on 31.8.2016, whereas the petitioner in Form-5A states that the construction, supply and service packages were awarded on 25.7.2016. There are many contradictions in the statements made by the petitioner in the present petition. It raises apprehension over the transparency in tendering followed by the petitioner. The petitioner is liable to answer the following:-

(i) The reason for awarding the contract with huge escalation from the estimate cost without negotiations since the investment approval is based on April, 2016 price level.

(ii) The reason for awarding some of the works which are not covered in the original investment approval.

(iii) The reason for including the cost of the items like future line bays and Tie modules which are not at all relevant to this work and not executed.

(iv) The reason for not following uniform description of items in all the schemes.

22. In response the petitioner vide affidavit dated 13.3.2018 has submitted that the cost estimate is prepared based on SOR and the actual cost is obtained through competitive bidding process. Being extension package for an already



existing GIS sub-station, most of the systems are established and therefore could be completed ahead of schedule and utilizing the already existing man power leading to lesser IDC and IEDC. The difference in Custom Duty is also due to reduction in the GIS equipment cost obtained during competitive bidding process and also due to charging of reduced CD.

23. With regard to adoption of different rates for same elements in different schemes executed in same period, the petitioner has submitted that different package cannot be compared as total equipments/ items for different packages are different and award is placed for the overall project as against individual item. Accordingly, lowest bid price received for the overall project is awarded wherein price for a particular item may happen to be higher than the price for the same item awarded in a different package. With regard to description of the item, it is submitted that different projects have different item requirement. Nomenclature followed by different vendors is different and thus description provided in the LOA is considered for a particular project.

24. As regards inclusion of the cost of future items, the petitioner has submitted that the Gas Insulated Switchgear (GIS) at Nizamabad and Maheshwaram is of one and half breaker scheme. Unlike in AIS, the GIS modules for the complete diameter have to be installed to comply with one and half breaker scheme for connectivity with both the main buses 1 and 2. In case of GIS, even though the construction is modular, it does not mean that it can be charged module-wise in an installation. The GIS being of compact design, the area requirement of GIS is very less as compared to Air insulated switchgears. The compact design has its own unique problems as well. As in instant case if only the bus connected with diameter which is presently utilized for power flow is charged and the remaining



part of bus is not going to be charged, necessary end pieces shall be required to insulate it from other part which is difficult to plan for each instance. Each additional end piece would in turn require additional space which will increase the land requirement adversely impacting the benefits of the GIS.

25. The petitioner has further submitted that in case the GIS is planned bay-wise, it would increase the requirement of end piece, extension piece etc. leading to adverse impact of the cost in addition to the fact that whenever additional bus or bays are to be connected, the required HV Test would need to be done which would unnecessarily expose the existing GIS to harsh HV test. Each GIS equipment can only be exposed to HV test for a limited number of times only. Thus, it is not practical to carry out HV test with each increasing number of bays. Repeated opening for extension will increase the vulnerability of GIS for exposure to faults which may be caused due to ingress of dust, moisture etc. In addition, each extension and HV test would require the shutdown of complete station which may not be practical each time.

26. We have considered the submissions of the petitioner with respect to the capital cost. As per Auditor Certificate, there is reduction in cost of about 35.38% compared with apportioned approved cost given under FR. In support of the cost variation as per FR, the petitioner has submitted that the cost variation was mainly due to actual site conditions and other associated factors which were beyond control of petitioner as detailed below:-

### **Asset-I**

The price variation from Award to final execution is mainly on the basis of PV based on indices as per provision of respective contracts. There is reduction of around ₹1050 lakh on account of overheads, IDC and tax and



duties with respect to FR due to early completion of assets. Accordingly, the FR costs of ₹473 lakh were envisaged during preparation of FR for Initial spares and Communication system and the same were not incurred on actual execution of the asset. Therefore, there is reduction of ₹2259 lakh (₹736 lakh + ₹1050 lakh + ₹473 lakh) in capital cost.

### **Asset-II**

There is reduction of about ₹140 lakh in cost of sub-station and reduction of around ₹263 lakh on account of overheads, IDC with respect to FR due to early completion of assets. Therefore, there is reduction ₹403 lakh in capital cost. The estimated completion cost is ₹5793.50 lakh. Therefore, the cost variation has been considered for the purpose of tariff. The capital cost as on COD has been allowed as under:-

Assets	(₹ in lakh)	
	Approved cost (As per FR)	Expenditure upto COD
Asset-I	5471.61	2470.51
Asset-II	3197.40	1493.97
<b>TOTAL</b>	<b>8669.01</b>	<b>3964.48</b>

27. As per Investment Approval, the commissioning schedule of the project is 18 months from the date of approval of Board of Directions i.e. 20.7.2016. The schedule date of commercial operation was 20.1.2018 against which instant assets were put under commercial operation on 21.10.2017 and 16.12.2017. Hence, there is no time over-run.

### **Interest During Construction (IDC)**

28. The allowable IDC has been worked out considering the information submitted by the petitioner. The loan details submitted in Form-9C for period 2014-19 and date of drawl submitted in IDC statement has been perused for the

purpose of calculating IDC for the asset. Accordingly, the IDC allowed for tariff has been summarised as under:-

(₹ in lakh)

Particulars	Total IDC (As per Auditor's certificate) up to COD	Entitled IDC up to COD as worked out	IDC disallowed due to computation difference	Undischarged portion of entitled IDC as on COD*	IDC allowed on cash basis
a	b	c	D=(b-c)	e	F = (c-e)
Asset-I	83.89	82.44	1.45	82.44	0.00
Asset-II	39.21	39.00	0.21	15.89	23.11
<b>Total</b>	<b>123.10</b>	<b>121.44</b>	<b>1.66</b>	<b>98.33</b>	<b>23.11</b>

\* The un-discharged IDC as on COD has been considered as ACE during the year in which it has been discharged.

### **Incidental Expenditure During Construction (IEDC)**

29. The allowable IEDC has been determined by considering the percentage of IEDC on hard cost as indicated in the abstract cost estimate as per original investment approval, which is 10.75% for the instant asset. The details of claimed and allowed IEDC is as under:-

(₹ in lakh)

Asset	IEDC	
	Claimed as per Auditor's certificate	Allowed
Asset-I	50.98	50.98
Asset-II	49.23	49.23
<b>Total</b>	<b>100.21</b>	<b>100.21</b>

### **Initial spares**

30. Regulation 13(d) 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:

(a) 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) xxx

(iii) Once the transmission project is commissioned, the cost of initial spares shall be restricted on the basis of plant and machinery cost corresponding to the transmission project at the time of truing up:

(iv) for the purpose of computing the cost of initial spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the breakup of head wise IDC and IEDC in its tariff application.”

31. TANGEDCO vide affidavit dated 18.9.2017 has submitted that the petitioner in Form-5 has stated that the cost of initial spares as per original estimate is ₹473.69 lakh and the cost incurred is Nil with respect to Asset-I, whereas the original cost of initial spares for Asset-II is ₹452.73 lakh and the completion cost is ₹150.98 lakh. This exceeds the allowable limit of 5% as specified under Regulation 13 of the 2014 Tariff Regulations.

32. The Commission vide ROP for hearing dated 20.3.2018 directed the petitioner to submit the clarification as to whether entire liability pertaining to initial spares has been discharged as on COD, if no, then year-wise detail of discharging of the same, for both the assets. In response, the petitioner vide affidavit dated 16.4.2018 has submitted the following details of year-wise discharging of initial spares as under:-

(₹ in lakh)

Assets	Total Spares as per Certificate	Year wise discharge	
		2017-18	2018-19
Asset-I	70.41	62.80	7.60
Asset-II	139.24	51.74	87.50

33. The initial spares claimed and allowed are given below:-





(₹ in lakh)

Assets	Element	Cost of plant & machinery as on cut-off date	Initial spares claimed	Ceiling limits as per the 2014 Tariff Regulations	Initial spares worked out	Total excess Initial spares	Initial spares allowed
Asset-I	Sub-station	2796.57	70.41	5.00%	143.48	0.00	70.41
Asset-II	Sub-station	2485.91	139.24	5.00%	123.51	15.73	123.51

34. Based on the discharge details provided by the petitioner, the excess initial spare has been adjusted from the additional capital expenditure during the year 2018-19.

### **Capital cost allowed as on COD**

35. Based on the above, the capital cost allowed as on COD under Regulation 9(2) of the 2014 Tariff Regulations is summarized as under:-

(₹ in lakh)

Particulars	Capital cost as on COD claimed by Petitioner	Disallowed IDC due to computation difference	Undischarged IDC as on COD	Capital Cost as on COD considered for tariff calculation
1	2	3	4	5= (2-3-4)
Asset-I	2470.51	1.45	82.44	2386.62
Asset-II	1493.97	0.21	15.89	1477.87
<b>Total</b>	<b>3964.48</b>	<b>1.66</b>	<b>98.33</b>	<b>3864.49</b>

### **Additional Capital Expenditure**

36. 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.”

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

“cut-off date” means 31<sup>st</sup> 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 31<sup>st</sup> March of the year closing after three years of the year of commercial operation.”

38. The cut-off date for instant assets is 31.3.2020.

39. The petitioner has claimed Additional Capital Expenditure (ACE) based on the cost certified by Auditor. In addition, the petitioner has claimed the ACE towards discharge of IDC liability. The ACE claimed is summarized as under:-

Particulars	Regulation	(₹ in lakh)			
		Asset I		Asset II	
		2017-18	2018-19	2017-18	2018-19
Discharge of liabilities on other than IDC <b>(1)</b>	14(1)(i)	304.06	71.96	<b>535.13</b>	<b>71.83</b>
Additional capital expenditure towards works deferred for execution (by addition into gross block) <b>(2)</b>	14(1)(ii)	31.50	72.44	1.62	252.16
Total additional capital expenditure as per Auditor certificate (excluding discharge of IDC liability) <b>[(3) = (1+2)]</b>		335.55	144.40	536.75	323.99
Discharge of IDC Liability <b>(4)</b>	14(1)(i)	69.91	13.96	1.62	14.48
<b>Total additional capital expenditure claimed as per Form 7 [(5) = (3+4)]</b>		<b>405.47</b>	<b>158.36</b>	<b>538.37</b>	<b>338.47</b>

40. We have considered the submissions of the petitioner. The additional capitalization incurred/projected to be incurred for Asset-I and II is on account of contract closing and final settlement of bills against the balance and retention



payment of contractors and are within cut-off date and is covered under Regulation 14(1) (i) and (ii) of the 2014 Tariff Regulations. The petitioner vide affidavit dated 6.4.2018 and audited certificate dated 29.11.2017 has claimed additional capital expenditure for the year 2019-20. Since, the Tariff Regulations is for the period 2014-19, the additional capital expenditure claimed for the period 2019-20 is not considered and shall be dealt as per applicable Tariff Regulations. Accordingly, the additional capital expenditure worked out and allowed is as under:-

Particulars	Regulation	(₹ in lakh)			
		Asset I		Asset II	
		2017-18	2018-19	2017-18	2018-19
Discharge of liabilities on other than IDC	14(1)(i)	304.04	71.96	535.13	71.83
Additional capital expenditure towards works deferred for execution (by addition into gross block)	14(1)(ii)	31.50	72.44	1.62	252.16
Discharge of IDC Liability	14(1)(i)	69.91	12.53	1.62	14.27
<b>Total additional capital expenditure allowed</b>		<b>405.45</b>	<b>156.93</b>	<b>538.37</b>	<b>338.26</b>
Less: Excess Initial spare		0.00	0.00	0.00	15.73
<b>Net additional capital expenditure allowed</b>		<b>405.45</b>	<b>156.93</b>	<b>538.37</b>	<b>322.52</b>

### Capital Cost summary from COD to 31.3.2019

41. Based on the above, the capital cost as on COD and the additional capital expenditure considered for tariff computation for instant assets is summarized as below:-

Particulars	(₹ in lakh)			
	Capital Cost as on COD considered for tariff calculation	Additional capital expenditure for 2017-18	Additional capital expenditure for 2018-19	Total admitted cost as on 31.3.2019
Asset-I	2386.62	405.45	156.93	2949.00
Asset-II	1477.87	538.37	322.52	2338.76
<b>Total</b>	<b>3864.49</b>	<b>943.82</b>	<b>479.45</b>	<b>5287.76</b>

### Debt- Equity Ratio

42. Clause 1 and 5 of Regulation 19 of the 2014 Tariff Regulations provide as under:-



“(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.ii

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as maybe 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.”

43. The capital cost on the dates of commercial operation arrived at as above and additional capital expenditure allowed have been considered in the normative debt-equity ratio of 70:30. Accordingly, the Debt-Equity Ratio for the instant assets is as under:-

(₹ in lakh)

Asset-I				
Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	1670.63	70.00	2064.30	70.00
Equity	715.99	30.00	884.70	30.00
<b>Total</b>	<b>2386.62</b>	<b>100.00</b>	<b>2949.00</b>	<b>100.00</b>

(₹ in lakh)

Asset-II				
Particular	Capital cost as on COD		Capital cost as on 31.3.2019	
	Amount	%	Amount	%
Debt	1034.51	70.00	1637.14	70.00
Equity	443.36	30.00	701.63	30.00
<b>Total</b>	<b>1477.87</b>	<b>100.00</b>	<b>2338.76</b>	<b>100.00</b>



## **Return on Equity (ROE)**

44. Clause 2 of Regulation 24 and Clause (2) of Regulation 25 of the 2014

Tariff Regulations specify as under:-

“24. Return on Equity:(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.”

45. The petitioner has claimed ROE at the rate of 19.61% for the 2017-19 period after grossing up the ROE of 20.961% with MAT rate as per the above said Regulation. 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.

46. The ROE has been worked out in accordance with Regulations 24 and 25 of the 2014 Tariff Regulations. The rate of pre-tax return on equity for all the financial year during 2014-19 period has been determined by grossing up the base rate of 15.50% with effective tax rate of 20.961%. This rate of pre-tax return on equity is subject to true up based on the effective tax rate of respective financial year applicable to the petitioner company. Accordingly, the RoE allowed is as follows:-

Asset-I	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Opening Equity	715.99	837.62
Addition due to Additional Capitalization	121.64	47.08
Closing Equity	837.62	884.70
Average Equity	776.80	861.16
Return on Equity (Base Rate )	<b>15.50%</b>	<b>15.50%</b>
MAT rate for the Financial year 2013-14	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.611%	19.611%
<b>Return on Equity (Pre-tax)</b>	<b>67.61</b>	<b>168.88</b>

Asset-II	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Opening Equity	443.36	604.87
Addition due to Additional Capitalization	161.51	96.76
Closing Equity	604.87	701.63



Average Equity	524.12	653.25
Return on Equity (Base Rate )	<b>15.50%</b>	<b>15.50%</b>
MAT rate for the Financial year 2013-14	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.611%	19.611%
<b>Return on Equity (Pre-tax)</b>	<b>29.85</b>	<b>128.11</b>

### **Additional RoE**

47. The petitioner has submitted that the assets covered in the instant petition were put into commercial operation within the timeline specified in the 2014 Tariff Regulations and has prayed for grant of additional RoE of 0.5%. The petitioner has further submitted that SRPC has also certified that the total time taken for completion of instant assets is 15 months and 16 months 25 days, which is within the time specified in the 2014 Tariff Regulations.

48. The SRPC has certified that the instant assets fulfill the requirements of Regulation 24(2)(iii) of the 2014 Tariff Regulations.

49. In the instant petition, the assets are extension of the sub-station works at Nizamabad and Maheshwaram. As per the 2014 Tariff Regulations, additional RoE is not granted for extension works. Therefore, additional RoE is not applicable for the assets covered in the instant petition.

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

50. Regulation 26 of the 2014 Tariff Regulations are provides as under:-

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

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

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



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

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

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

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

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

51. In these calculations, IOL has been worked out as under:-

(i) The gross normative loan has been considered as per the loan amount determined based on the debt equity ratio applied on the allowed capital cost.

(ii) The depreciation allowed has been considered as normative repayment of loan;

(iii) The weighted average rate of interest on actual loan portfolio has been worked out by considering the gross amount of loan, repayment and rate of interest as mentioned in the petition;

(iv) Weighted average rate of interest on actual average loan worked out is applied on the normative average loan during the year to arrive at the interest on loan.

52. Detailed calculation of the weighted average rate of interest has been given in **Annexure-I to II** to this order.





53. Based on above, details of IOL calculated are as follows:-

Asset-I	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Gross Normative Loan	1670.63	1954.45
Cumulative Repayment upto previous Year	0.00	60.74
Net Loan-Opening	1670.63	1893.71
Addition due to Additional Capitalization	283.82	109.85
Repayment during the year	60.74	151.80
Net Loan-Closing	1893.71	1851.76
Average Loan	1782.17	1872.73
Weighted Average Rate of Interest on Loan	7.2312%	7.2324%
<b>Interest on Loan</b>	<b>57.20</b>	<b>135.44</b>

Asset-II	(₹ in lakh)	
	2017-18 (pro-rata)	2018-19
Gross Normative Loan	1034.51	1411.37
Cumulative Repayment upto previous Year	0.00	26.88
Net Loan-Opening	1034.51	1384.49
Addition due to Additional Capitalization	376.86	225.77
Repayment during the year	26.88	115.43
Net Loan-Closing	1384.49	1494.82
Average Loan	1209.50	1439.66
Weighted Average Rate of Interest on Loan	7.5588%	7.5484%
<b>Interest on Loan</b>	<b>26.55</b>	<b>108.67</b>

### **Depreciation**

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

#### **"27. Depreciation:**

(1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

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

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall



be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

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

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

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

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

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

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

55. The petitioner has claimed actual depreciation as a component of Annual Fixed Charges. Depreciation has been calculated in accordance with Regulation 27 (5) of the 2014 Tariff Regulations which provides as under:-

“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:

56. The instant assets have been put under commercial operation on 21.10.2017 and 16.12.2017 respectively. The asset will complete 12 years beyond the tariff period 2014-19. Accordingly, the depreciation for entire tariff period i.e. 2014-19 has been worked out based on Straight Line Method and at

rates specified in Appendix-II to 2014 Tariff Regulations.

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

(₹ in lakh)		
Asset-I	2017-18 (pro-rata)	2018-19
Opening Gross Block	2386.62	2792.07
Additional Capital expenditure	405.45	156.93
Closing Gross Block	2792.07	2949.00
Average Gross Block	2589.35	2870.53
Rate of Depreciation	5.2855%	5.2881%
Depreciable Value	2330.41	2583.48
Remaining Depreciable Value	2330.41	2522.74
<b>Depreciation</b>	<b>60.74</b>	<b>151.80</b>

(₹ in lakh)		
Asset-II	2017-18 (pro-rata)	2018-19
Opening Gross Block	1477.87	2016.24
Additional Capital expenditure	538.37	322.52
Closing Gross Block	2016.24	2338.76
Average Gross Block	1747.06	2177.50
Rate of Depreciation	5.2980%	5.3011%
Depreciable Value	1572.35	1959.75
Remaining Depreciable Value	1572.35	1932.87
<b>Depreciation</b>	<b>26.88</b>	<b>115.43</b>

### Operation and Maintenance Expenses (O&M Expenses)

58. The O&M Expenses claimed by the petitioner vide affidavit dated 13.2.2018 for 2014-19 are as under:-

(₹ in lakh)				
Element	2015-16	2016-17	2017-18	2018-19
Asset-I	0.00	0.00	50.73	117.46
Asset-II	0.00	0.00	33.31	117.46

59. 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.

60. The petitioner has claimed the O&M Expenses for the assets covered in the instant petition as per norms specified in the 2014 Tariff Regulations. The O&M expenses for the instant assets covered for 2017-18 in the instant petition are not in accordance with the norms specified in the 2014 Tariff Regulations and same has been restricted as per norms specified in the 2014 Tariff Regulations.

61. The O&M Expenses allowed is as under:-

(₹ in lakh)					
Element	2014-15	2015-16	2016-17	2017-18	2018-19
<b>Asset-I</b>					
400 kV GIS Bays at Nizamabad Sub-station	0.00	0.00	0.00	50.45	117.46
<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>50.45</b>	<b>117.46</b>
<b>Asset-II</b>					
400 kV GIS Bays at Maheshwaram Sub-station	0.00	0.00	0.00	33.01	117.46
<b>Total</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>33.01</b>	<b>117.46</b>

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

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

#### **“28. Interest on Working Capital**

(1) The working capital shall cover:

(c) Hydro generating station including pumped storage hydro electric generating station and transmission system including communication system:

(i) Receivables equivalent to two months of fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses specified in regulation 29; and

(iii) Operation and maintenance expenses for one month”

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 in which the generating station or a unit thereof or the transmission system including communication system or element



thereof, as the case may be, is declared under commercial operation, whichever is later.

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

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

**(a) Receivables**

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

**(b) Maintenance spares**

Regulation 28 of the 2014 Tariff Regulations provides for maintenance spares @ 15% per annum of the O&M Expenses. The value of maintenance spares has accordingly been worked out.

**(c) O&M expenses**

O&M Expenses have been considered for one month of the allowed O&M Expenses.

**(d) Rate of interest on working capital**

As per proviso 3 of Regulation 28 of the 2014 Tariff Regulation, SBI Base rate of 9.10% as on 1.4.2017 plus 350 Bps i.e. 12.60% has been considered for the asset, as the rate of IWC.

64. Accordingly, the IWC is summarized as under:-



(₹ in lakh)

Asset-I	2017-18 (pro-rata)	2018-19
Maintenance Spares	17.05	17.62
O & M expenses	9.47	9.79
Receivables	91.09	98.24
Total	117.62	125.64
Interest	<b>6.58</b>	<b>15.83</b>

(₹ in lakh)

Asset-II	2017-18 (pro-rata)	2018-19
Maintenance Spares	17.05	17.62
O & M expenses	9.47	9.79
Receivables	68.74	80.55
Total	95.26	107.95
Interest	<b>3.49</b>	<b>13.60</b>

### Annual Transmission charges

65. The annual transmission charges allowed for the instant assets are summarized hereunder:-

(₹ in lakh)

Asset-I	2017-18 (pro-rata)	2018-19
Depreciation	60.74	151.80
Interest on Loan	57.20	135.44
Return on Equity	67.61	168.88
Interest on Working Capital	6.58	15.83
O&M Expenses	50.45	117.46
<b>Total</b>	<b>242.58</b>	<b>589.41</b>

(₹ in lakh)

Asset-II	2017-18 (pro-rata)	2018-19
Depreciation	26.88	115.43
Interest on Loan	26.55	108.67
Return on Equity	29.85	128.11
Interest on Working Capital	3.49	13.60
O&M Expenses	33.01	117.46
<b>Total</b>	<b>119.78</b>	<b>483.27</b>

### Filing Fee and Publication Expenses

66. 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**

67. 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.

#### **Service Tax**

68. 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. Service Tax has been subsumed by GST and hence the petitioner's prayer has become infructuous.

#### **Goods and Services Tax**

69. The petitioner has prayed for reimbursement of tax, if any, on account of proposed implementation of GST. The petitioner has submitted that the Commission should allow to recover GST from the beneficiaries, if imposed on transmission charges under the proposed GST when implemented by Government of India. We are of the view that petitioner's prayer is premature.

#### **Sharing of Transmission Charges**

70. The transmission charges shall be recovered on monthly basis in accordance with Regulation 43 of the 2014 Tariff Regulations and shall be

shared by the beneficiaries and long term transmission customers in Central Electricity Regulatory Commission (Sharing of Inter State Transmission Charges and Losses) Regulations, 2010 as amended from time to time.

71. This order disposes of Petition No. 156/TT/2017.

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

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

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

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





<b>CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN</b>			
<b>Asset - I</b>			
(₹ in lakh)			
	<b>Details of Loan</b>	<b>2017-18</b>	<b>2018-19</b>
<b>1</b>	<b>Bond LVII</b>		
	Gross loan opening	<b>1166.00</b>	<b>1166.00</b>
	Cumulative Repayment upto COD/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	1166.00	1166.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1166.00	1166.00
	Average Loan	1166.00	1166.00
	Rate of Interest	7.20%	7.20%
	Interest	83.95	83.95
	Rep Schedule	Annual	
<b>2</b>	<b>Bond LIX</b>		
	Gross loan opening	<b>504.63</b>	<b>504.63</b>
	Cumulative Repayment upto COD/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	504.63	504.63
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	504.63	504.63
	Average Loan	504.63	504.63
	Rate of Interest	7.30%	7.30%
	Interest	36.84	36.84
	Rep Schedule	Annual	
<b>3</b>	<b>Bond LIX</b>		
	Gross loan opening	<b>0.00</b>	<b>48.95</b>
	Cumulative Repayment upto COD/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	48.95
	Additions during the year	48.95	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	48.95	48.95
	Average Loan	24.48	48.95
	Rate of Interest	7.30%	7.30%
	Interest	1.79	3.57
	Rep Schedule	Annual	
<b>4</b>	<b>Bond LIV</b>		
	Gross loan opening	<b>0.00</b>	<b>0.00</b>
	Cumulative Repayment upto COD/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	9.78
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	9.78
	Average Loan	0.00	4.89
	Rate of Interest	7.30%	7.30%
	Interest	0.00	0.36
	Rep Schedule	Annual	
	<b>Total Loan</b>		



	Gross loan opening	1670.63	1719.58
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	1670.63	1719.58
	Additions during the year	48.95	9.78
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1719.58	1729.36
	Average Loan	1695.11	1724.47
	Rate of Interest	<b>7.2312%</b>	<b>7.2324%</b>
	<b>Interest</b>	122.58	124.72



CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN			
Asset - II			
(₹ in lakh)			
	Details of Loan	2017-18	2018-19
<b>1</b>	<b>SBI (2017-2018) (Q1)</b>		
	Gross loan opening	500.00	500.00
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	500.00	500.00
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	500.00	500.00
	Average Loan	500.00	500.00
	Rate of Interest	7.95%	7.95%
	Interest	39.75	39.75
	Rep Schedule	Monthly	
<b>2</b>	<b>Bond LIX</b>		
	Gross loan opening	56.64	56.64
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	56.64	56.64
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	56.64	56.64
	Average Loan	56.64	56.64
	Rate of Interest	7.30%	7.30%
	Interest	4.13	4.13
	Rep Schedule	Annual	
<b>3</b>	<b>Bond LX</b>		
	Gross loan opening	477.87	477.87
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	477.87	477.87
	Additions during the year	0.00	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	477.87	477.87
	Average Loan	477.87	477.87
	Rate of Interest	7.20%	7.20%
	Interest	34.41	34.41
	Rep Schedule	Annual	
<b>4</b>	<b>Bond LX</b>		
	Gross loan opening	0.00	52.88
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	0.00	52.88
	Additions during the year	52.88	0.00
	Repayment during the year	0.00	0.00
	Net Loan-Closing	52.88	52.88
	Average Loan	26.44	52.88
	Rate of Interest	7.20%	7.20%
	Interest	1.90	3.81
	Rep Schedule	Annual	
<b>5</b>	<b>Bond LX</b>		



	Gross loan opening	<b>0.00</b>	<b>0.00</b>
	Cumulative Repayment upto COD/previous year	<b>0.00</b>	<b>0.00</b>
	Net Loan-Opening	0.00	0.00
	Additions during the year	0.00	10.13
	Repayment during the year	0.00	0.00
	Net Loan-Closing	0.00	10.13
	Average Loan	0.00	5.07
	Rate of Interest	7.20%	7.20%
	Interest	0.00	0.36
	Rep Schedule		
	<b>Total Loan</b>		
	Gross loan opening	1034.51	1087.39
	Cumulative Repayment upto COD/previous year	0.00	0.00
	Net Loan-Opening	1034.51	1087.39
	Additions during the year	52.88	10.13
	Repayment during the year	0.00	0.00
	Net Loan-Closing	1087.39	1097.52
	Average Loan	1060.95	1092.46
	Rate of Interest	<b>7.5588%</b>	<b>7.5484%</b>
	<b>Interest</b>	80.20	82.46

