CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 127/TT/2014

Coram:

Shri A.K. Singhal, Member
Shri A.S. Bakshi, Member
Dr. M.K. Iyer, Member

Date of Hearing : 27.10.2015
Date of Order : 29.07.2016

In the matter of:

Approval of transmission tariff for LILO of both circuits of Tuticorin JV-Madurai 400 kV D/C (Quad) line at Tuticorin Pooling Station along with new 765 kV Pooling Station at Tuticorin (initially charged at 400 kV) including 1x80 MVAR, 400 kV Bus Reactor under "Transmission System associated with Common System associated with Coastal Energen Private Limited and Ind-Bharat Power (Madras) Limited LTOA Generation Projects in Tuticorin Area-Part-A" 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 Limited (KPTCL),
   Kaveri Bhawan, Bangalore-560 009

2. Transmission Corporation of Andhra Pradesh Limited (APTRANSCO),
   Vidyut Soudha,
   Hyderabad-500 082

3. Kerala State Electricity Board (KSEB),
   Vaidyuthi Bhavanam,
   Pattom, Thiruvananthapuram-695 004

4. Tamilnadu Electricity Board (TNEB)
   NPKRR Maaligai, 800, Anna Salai,
   Chennai-600 002

5. Electricity Department,
Government of Goa,
Vidyuti Bhawan, Panaji, Goa 403 001

6. Electricity Department,
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, Andhra Pradesh

10. Northern Power Distribution Company of Andhra Pradesh Limited (APNPDCL),
Opp. NIT Petrol Pump,
Chaitanyapuri, Kazipet,
Warangal-506 004, Andhra Pradesh

11. Bangalore Electricity Supply Company Limited (BESCOM),
Corporate Office, K.R. Circle,
Bangalore-560 001, Karnataka

12. Gulbarga Electricity Supply Company Limited (GESCOM),
Station Main Road,
Gulbarga, Karnataka

13. Hubli Electricity Supply Company Limited (HESCOM),
Navanagar, PB Road,
Hubli, Karnataka

14. MESCOM Corporate Office,
Paradigm Plaza, AB Shetty Circle,
Mangalore-575 001, Karnataka

15. Chamundeswari Electricity Supply Corporation Limited (CESC),
927, L J Avenue, Ground Floor,
New Kantharaj Urs Road, Saraswatipuram,
Mysore-570 009, Karnataka

16. Coastal Energen Private Limited,
5th Floor, Buhari Towers,
No.4, Moores Road, Chennai-600 006, Tamil Nadu

17. Ind-Bharath Power (Madras) Limited,
Pit No. 30-A, Road No.1
Film Nagar, Jubilee Hills,
Hyderabad-500 003, Andhra Pradesh …..**Respondents**

For Petitioner : Shri S.S. Raju, PGCIL
Shri M.M. Mondal, PGCIL
Shri S.K. Venkatesan, PGCIL

For Respondents : Shri S. Vallinayagam, Advocate for TANGEDCO
Ms. E. Shyamala, TANGEDCO
Shri R. Kathiravan, TANGEDCO

ORDER

The instant petition has been filed by Power Grid Corporation of India Limited (PGCIL) for approval of the transmission tariff for LILO of both circuits of Tuticorin JV-Madurai 400 kV D/C (Quad) line at Tuticorin Pooling Station along with new 765 kV Pooling Station at Tuticorin (initially charged at 400 kV) including 1x80 MVAR, 400 kV Bus Reactor (hereinafter referred to as "transmission assets") under "Transmission System associated with Common System associated with Coastal Energen Private Limited and Ind-Bharat Power (Madras) Limited LTOA Generation Projects in Tuticorin Area-Part-A" in Southern Region for the tariff block 2014-19, in terms of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter "the 2014 Tariff Regulations").

2. This order has been issued after considering petitioners' affidavit dated 21.10.2014, 19.10.2015 and 12.5.2016.

3. The petitioner was entrusted with the implementation of "Transmission System associated with Common System associated with Coastal Energen Private Limited and Ind-Bharat Power (Madras) Limited LTOA Generation Projects in Tuticorin Area-Part-A". The scope of the scheme was discussed and agreed in 29th and 30th SCM of Southern region Constituents held on 27.8.2009 and 13.4.2010 respectively. The Investment Approval (IA) for the project was accorded by the Board of Directors of the petitioner vide Memorandum No. C/CP/LTA-Tuticorin Part-A dated 12.12.2011 for 263rd meeting held on 5.12.2011, for Common System associated with Coastal Energen Private Limited and Ind-Bharat Power (Madras) Limited LTOA Generation Projects in Tuticorin Area (Part-A) at an estimated cost of ₹9044 lakh including IDC of ₹402 lakh (based on 3rd quarter, 2011 price level). The project was scheduled to be commissioned within 28 months from the date of IA of Board of Directors. Therefore, the scheduled date of commissioning of the transmission system was 11.4.2014. The Board of Directors of the petitioner company has accorded approval for Revised Cost Estimates (RCE) vide Memorandum No. C/CP/RCE-SR dated 23.2.2015 for 309th meeting held on 29.1.2015, at an estimated cost of ₹10320 lakh including IDC of ₹769 lakh (based on August 2014 price level).

4. The scope of work covered under the project approved vide Investment Approval dated 12.12.2011 has been modified vide RCE dated 23.2.2015. The revised scope of the project as per the RCE dated 23.2.2015 is as follows:-

<u>Transmission Line:</u>

(i) LILO of both circuits of Tuticorin JV-Madurai 400 kV D/C (Quad) line at Tuticorin Pooling Station;

Sub-Station:

(i) Establishment of 400 kV* Pooling Station at Tuticorin (initially charged at 400 kV) including 1x80 MVAR Bus Reactor.

(*in original investment approval, establishment of 765 kV Pooling Station was approved, but in RCE, it was revised as 400 kV).

5. The petitioner, initially claimed tariff for all the elements covered in the scope of the project as a single asset. However, LILO of the 1st circuit of Tuticorin JV-Madurai 400 kV line alongwith the Tuticorin Pooling Station was commissioned on 4.1.2015 and the LILO of the 2nd circuit was commissioned on 8.1.2015. The petitioner has claimed tariff for the LILOs separately, on the basis of actual date of commercial operation. Accordingly, tariff for the LILOs is computed separately on the basis of their COD. The details of instant assets and their COD are as follows:-

Particulars	Scheduled COD	Actual COD	Delay
Asset-1: LILO of one circuit of Tuticorin JV-Madurai 400 kV (Quad) line at Tuticorin Pooling Station along with new 765 kV pooling station at Tuticorin (initially charged at 400 kV) and 1x80 MVAR 400 kV Bus Reactor at Tuticorin Pooling Station	11.4.2014	4.1.2015	8 months and 23 days
Asset-2: LILO of 2nd circuit of Tuticorin JV-Madurai 400 kV (Quad) line at Tuticorin Pooling Station		8.1.2015	8 months and 27 days

6. Annual Fixed Charges for the instant asset (as a single asset) was approved vide order dated 19.9.2014, subject to adjustment as per Regulation 7 (7) (iii) and (iv) of the 2014 Tariff Regulations.

7. The petitioner has claimed transmission charges for the instant asset as under:-

(₹ in lakh)

Particulars	Asset-1				
	2014-15 (Pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Depreciation	63.77	298.58	330.33	336.47	336.47
Interest on Loan	108.98	482.01	498.58	475.88	443.46
Return on equity	98.94	456.21	498.24	506.82	506.82
Interest on Working Capital	8.70	38.93	41.36	41.53	41.16
O & M Expenses	44.35	189.41	195.70	202.21	208.89
Total	**324.74**	**1465.14**	**1564.21**	**1562.91**	**1536.80**
Particulars	**Asset-2**				
	2014-15 (Pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Depreciation	11.45	52.71	55.61	55.61	55.61
Interest on Loan	14.97	66.01	64.76	59.32	53.89
Return on equity	12.97	60.24	63.73	63.73	63.73
Interest on Working Capital	2.48	11.14	11.49	11.61	11.73
O & M Expenses	28.44	127.11	131.33	135.70	140.18
Total	**70.31**	**317.21**	**326.92**	**325.97**	**325.14**

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

(₹ in lakh)

Particulars	Asset-1				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Maintenance Spares	27.50	28.41	29.36	30.33	31.33
O & M expenses	15.28	15.78	16.31	16.85	17.41
Receivables	223.72	244.19	260.70	260.49	256.13
Total	**266.50**	**288.38**	**306.37**	**307.67**	**304.87**
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	**35.98**	**38.93**	**41.36**	**41.54**	**41.16**
Particulars	**Asset-2**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Maintenance Spares	18.45	19.07	19.70	20.36	21.03
O & M expenses	10.25	10.59	10.94	11.31	11.68
Receivables	50.69	52.87	54.49	54.33	54.19
Total	**79.39**	**82.53**	**85.13**	**86.00**	**86.90**
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	**10.72**	**11.14**	**11.49**	**11.61**	**11.73**

9. 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. Tamil Nadu Generation and Distribution Corporation Limited, (TANGEDCO), a subsidiary of TNEB Limited and one of the successor entities to the erstwhile Tamil Nadu Electricity Board (TNEB), Respondent No. 4 has filed reply dated 13.1.2015. TANGEDCO has submitted that the cost be checked prudently and has raised other issues of additional RoE, claim of initial spares, interest on loan, return on equity, additional capitalisation, delay in commissioning, claim for revision in O&M Expenses with reference to any wage hike, license fee, service tax etc. The petitioner has filed rejoinder to the reply of TANGEDCO vide affidavit dated 13.2.2015. TANGEDCO vide reply dated 9.2.2016, to the rejoinder of the petitioner, has further submitted that the instant assets have been commissioned without commissioning the other elements of the common transmission system associated with Respondent No. 16 and 17 raised and the instant asset cannot be practically put to use and is in violation of the connectivity regulations. As such, the instant petition should be dismissed. TANGEDCO filed additional reply vide affidavit dated 15.6.2016 and has reiterated the issue raised vide reply dated 13.2.2015 and has submitted that the instant asset is redundant until the Salem Pooling Station, Madhugiri Pooling Station and upstream connectivity is also put under commercial operation as all these are part of the transmission system associated with Respondent No. 16 and 17. The issues raised by TANGEDCO and the clarification given by the petitioner are addressed in the relevant paragraphs of this order.

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

Date of Commercial operation (COD)

11. The petitioner has claimed the date of the commercial operation of the Asset-1 and Asset-2 as 4.1.2015 and 8.1.2015 respectively. The petitioner was directed to submit RLDC certificate for charging of the instant assets, CEA certificate under Regulation 43 of CEA (Measures Related to Safety & Electricity Supply) Regulations, 2010 and the Investment Approval/Standing Committee approval/RPC approval for Bus Reactor claimed in the instant petition. In response, the petitioner vide affidavit dated 12.5.2016 has submitted the self declaration COD certificate, RLDC trial operation certificate and CEA certificate for instant assets. The petitioner has further submitted that under the present scheme, 1x80 MVAR bus reactor has been implemented at its Tuticorin Pooling, which is also in line with accepted practice of having at least one bus reactor for voltage control. The transmission project was approved way back in 2010-11, wherein the main transmission elements were agreed. As per the prevailing practice at that time reactive compensation was evolved by CTU and no specific approval from Standing Committee/RPC was taken. However, the scheme as a whole was discussed and agreed in 29th and 30th Standing Committee on Power System Planning of Southern Region held on 27.8.2009 and 13.4.2010, 29th Standing Committee Meeting of Western Region held on 10.9.2009 and 28th Standing Committee of Northern Region on 23.2.2010. Further, the scheme was approved by Southern Region beneficiaries in 11th SRPC meeting held on 17.9.2009.

12. We have considered the submissions made by the petitioner and the RLDC certificates for commissioning of the instant assets and allow the commercial operation dates of Asset-1 and Asset-2 as 4.1.2015 and 8.1.2015 respectively.

Capital cost

13. 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.

14. The petitioner has submitted Auditors' Certificate dated 15.10.2015, for the instant assets (i.e. after being split), for the capital cost claimed by the petitioner as on actual COD and estimated additional capital expenditure projected to be

incurred. The capital cost claimed by the petitioner and considered for determination of tariff is as given below:-

(₹ in lakh)

<table>
<tr><th rowspan="2">Particulars</th><th colspan="2">Approved apportioned cost</th><th rowspan="2">Cost incurred up to actual COD</th><th colspan="3">Estimated additional capital expenditure</th><th rowspan="2">Total estimated completion cost</th></tr>
<tr><th>Original</th><th>Revised</th><th>COD to 31.3.2015</th><th>2016-17</th><th>2017-18</th></tr>
<tr><td>Asset-1</td><td rowspan="2">9044.00</td><td>8858.00</td><td>6750.85</td><td>400.74</td><td>1131.51</td><td>290.45</td><td>8573.55</td></tr>
<tr><td>Asset-2</td><td>1462.00</td><td>956.92</td><td>11.80</td><td>109.38</td><td>-</td><td>1078.10</td></tr>
<tr><td>Total</td><td>9044.00</td><td>10320.00</td><td>7707.77</td><td>412.54</td><td>1240.89</td><td>290.45</td><td>9651.65</td></tr>
</table>

<u>Cost over-run</u>

15. TANGEDCO has submitted that there is increase in the capital cost of the instant assets and it should be allowed after prudence check. TANGEDCO has further submitted that the petitioner needs to be directed to furnish details of RCE, if any.

16. The petitioner, vide affidavit dated 19.10.2015 has submitted the RCE and the total estimated completion cost of ₹9651.65 lakh is within the revised approved apportioned cost of ₹10320 lakh. Hence, there is no cost over-run in the instant assets.

<u>Time over-run</u>

17. The project was scheduled to be commissioned within 28 months from the date of Investment Approval of 12.12.2011. Accordingly, the scheduled date of commercial operation works out to 11.4.2014 against which, the Asset-1 and Asset-2 have been commissioned on 4.1.2015 and 8.1.2015 respectively. Thus, there is time over-run of 8 months 23 days and 8 months and 27 days in the commissioning of Asset-1 and Asset-2 respectively.

18. The petitioner in the petition has submitted that optimistic commissioning schedule of 28 months (less than 32 months time line specified in the 2009 Tariff Regulations for such work) was kept in Investment Approval considering small line length of 10 km. The petitioner has further submitted that marginal delay of 3.5 months (from optimistic schedule) is due to the late award of the package which was placed on 25.3.2013 (almost after 15 months from Investment Approval). Initially, Letter of Award (LOA) was placed on 17.1.2012 on the lowest evaluated bidder Siemens. However, Siemens did not start the work even after lot of follow up and persuasion and the award had to be cancelled. Subsequently, retendering was done and award was placed on lowest evaluated bidder L&T on 25.3.2013. This caused a delay of around 15 months. As such, it was unable to start construction works due to absence of award of contract and accordingly fund flow could not be started. However, best efforts were made to expedite and complete the work in 16 months i.e. by 31.7.2014. The marginal delay of 3.5 months with actual completion time of 32 months is very much within the time line of 36 months specified in the 2014 Tariff Regulations for such work and hence additional RoE of 0.5% may be allowed.

19. The petitioner was directed, vide letter dated 27.8.2014, to submit the details of costs, if any, recovered from the lowest evaluated bidder Siemens, on which, LOA was placed on 17.1.2012 and to submit reason for waiting 15 months to place fresh tender when the lowest evaluated bidder was not starting the work.

20. In response to it, the petitioner, vide affidavit dated 21.10.2014, has submitted that Siemens neither signed the contract agreement nor submitted the contract performance guarantee (CPG) within the prescribed time frame, the award

was annulled and the bid security of ₹10191000/- was encashed in May, 2012, credit of which has been given in IEDC. The petitioner further submitted that in line with various circulars and guidelines of Central Vigilance Commission (CVC), it had commenced switch over from Single Stage Single Envelope (SSSE) to Single Stage Two Envelope (SSTE) Bidding Procedure progressively for procurement of different packages under domestic funding. Accordingly, after the annulment of the said bidding process in May, 2012, fresh bids for the subject package were immediately invited. However, by this time, it had completely switched over to SSTE bidding procedure. Accordingly, invitation for bids (IFB) for the subject package was published on 12.6.2012 under SSTE Bidding Procedure and under the SSTE bidding procedure, the Second Envelope (i.e., the price part of the bid) is opened only in case of those bidders, whose bids are found responsive to the specified requirements and who are assessed to have the requisite capability and capacity to execute the contract in the event of award. As such, in line with the provisions of the bidding documents and the extant policy and procedure, determination of substantial responsiveness of bids received as well as the assessment of capability and capacity of all the bidders, is to be carried out at the first envelope stage itself. Whereas, under SSSE bidding procedure, this exercise is largely limited to 2 to 4 short bids and to only the lowest evaluated bidder in respect of capacity and capability analysis assessment. In addition, the SSTE procedure also involves opening of the second envelope by inviting the responsive bidders and allowing them sufficient time to attend the bid opening of second envelope. This also adds to the time taken under SSTE system. In the instant case, assessment of capability and capacity of two of the bidders/JV partner were involved, which took considerable time. Subsequent to the same, the award was placed on March 25,

2013. Completion schedule was, however compressed to 18 months. Thus, the annulment of bidding process and again starting the bidding process afresh under SSTE bidding procedure has caused an unavoidable initial delay of 15 months and work could be physically started after March, 2013. TANGEDCO has submitted that there is time over-run in commissioning of the instant assets by the petitioner.

21. We have considered the submissions of the petitioner and the respondent. The original schedule for the project start date is 12.12.2011 and completion date is 11.4.2014. However, work started in case of Asset-1 and Asset-2 on 26.3.13 and 400 kV Tuticorin New Sub-station on 16.12.2011 and finally completed on 4.1.2015 and 8.1.2015 respectively, i.e. the original schedule of project was planned to be completed within 28 months as per investment approval but actual completion took 37 months. Therefore, there is delay of 8 months and 23 days in case of Asset-1 and 8 months and 27 days in case of Asset-2. As per the petitioners' submission, the time over-run of about 9 months in commissioning of the instant assets is due to the late award of the package, annulment and rebidding. The annulment of bidding process and again starting the bidding process afresh under SSTE bidding procedure has caused an initial delay of 15 months and work could be started after March, 2013. However, the petitioner has not submitted any documents to substantiate its claim and to show that there was tendering and retendering in the case of instant assets. It is not possible for us to come to the conclusion whether the reasons attributed by the petitioner for time over-run are within or beyond the control of the petitioner on the basis of the documents available on record. Accordingly, the time over-run in case of the instant assets is not condoned. However, the petitioner is directed come up with the reasons for time over-run

alongwith documentary proof at the time of truing up.

Treatment of IDC and IEDC

22. The petitioner has claimed Interest During Construction (IDC) of ₹647.16 lakh and ₹33.10 lakh for Asset-1 and Asset-2 respectively on accrual basis as per Auditors' Certificate dated 15.10.2015. The petitioner has submitted a statement showing IDC computation, wherein, the IDC discharged upto COD has been indicated to be ₹647.16 lakh and ₹23.60 lakh, as having been discharged as on COD, for Asset-1 and Asset-2 respectively.

23. The petitioner, vide affidavit dated 12.5.2016, has submitted the details of segregated amount of IDC as under:-

(₹ in lakh)

Particulars	**IDC From the date of infusion of debt fund up to SCOD (i.e. 12.4.2014)**	**IDC from SCOD up to actual COD**	**Total IDC claimed up to actual COD**
	1	2	3=(1+2)
Asset-1	201.38	445.78	647.16
Asset-2	1.41	31.69	33.10

24. However, as per the IDC statement submitted by the petitioner, the date of debt fund infusion vide Bond XXXIV in case of Asset-1 has been indicated as 21.10.2010, which falls before the Investment Approval date (i.e. 12.12.2011). Therefore, the Investment Approval date is considered, as fund infusion date for Bond XXXIV for IDC computation. In case of Asset-2, it is observed that as per the IDC Statement submitted by the petitioner, the loan amount mentioned for Bond XLVI (i.e. ₹326.84 lakh) is not matching with the loan amount mentioned in Form 12B (i.e. ₹320.19 lakh). Thus, the amount specified in Form-12B has been considered for IDC computation.

25. It is also observed, from the IDC statement provided by the petitioner that in case of Asset-2, actual funds infusion (i.e. for SBI on 1.5.2014 and for Bond XLVI on 4.9.2014) started only after the scheduled COD of 12.4.2014. Thus, the entire IDC for Asset-2, relates to the period of delay in commissioning i.e. from 13.4.2014 to 8.1.2015.

26. The delay of 8 months 23 days and 8 months 27 days in case of Asset-1 and Asset-2 respectively, has not been condoned. Accordingly, the petitioner is entitled for IDC only up to scheduled COD (i.e. 12.4.2014). As such, based on available information, IDC has been worked out for the period, from the date of infusion of funds till the SCOD for instant assets as under:-

(₹ in lakh)

Particulars	**IDC Claimed**	**IDC disallowed for delay period**	**IDC allowed on cash basis**
Asset-1	647.16	187.77	459.39
Asset-2	33.10	33.10	-

27. In case of Asset-2, the entire delay has not been condoned and as the entire IDC belongs to delay period, the entire IDC of ₹33.10 lakh has been disallowed. Further, the IDC indicated by the petitioner for the period upto SCOD and from SCOD to actual COD does not match with the fund infusion details submitted in the IDC statement. Accordingly, the petitioner is directed to submit the reason for variation and details of undischarged IDC after COD at the time of truing-up.

28. Similarly, the petitioner has claimed Incidental Expenditure During Construction (IEDC) of ₹908.16 lakh and ₹31.36 lakh for Asset-1 and Asset-2 respectively as per Auditors' Certificate dated 15.10.2015. Further, the petitioner, vide affidavit dated 12.5.2016, has submitted the details of segregated amount of

IEDC as follows:-

(₹ in lakh)

Particulars	IEDC upto SCOD (i.e. 12.4.2014)	IEDC from SCOD upto actual COD	Total IEDC claimed up to actual COD
	1	2	3=(1+2)
Asset-1	485.76	422.40	908.16
Asset-2	1.32	30.04	31.36

29. The delay of 8 months 23 days and 8 months 27 days in case of Asset-1 and Asset-2 respectively has not been condoned. Accordingly, the petitioner is entitled for IEDC only up to scheduled COD (i.e. 11.4.2014). The percentage on Hard Cost as indicated in the RCE has been considered as the allowable limit of IEDC. In the instant petition, 10.01% of the Hard Cost is the maximum limit for allowing IEDC. Thus, maximum allowable limit of ₹520.03 lakh and ₹89.33 lakh for Asset-1 and Asset-2 respectively has been worked out. However, the IEDC claimed by the petitioner, upto SCOD is ₹485.76 lakh and ₹1.32 lakh for Asset-1 and Asset-2 respectively, which are within the allowable limit and have been allowed. The details of IEDC claimed and allowed in this order are under:-

(₹ in lakh)

Particulars	IEDC Claimed	IEDC disallowed for delay period	IEDC allowed
Asset-1	908.16	422.40	485.76
Asset-2	31.36	30.04	1.32

<u>Initial Spares</u>

30. 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 breakup of head wise IDC & IEDC in its tariff application.

31. TANGEDCO has submitted that the petitioners claim exceeds the norms for initial spares specified in the 2014 Tariff Regulations. The petitioner has claimed initial spares amounting to ₹130.20 lakh and ₹30.44 lakh pertaining to sub-station for Asset-1 and Asset-2 respectively. The initial spares claimed for Asset-1 are within the norms specified in the 2014 Tariff Regulations and hence, are allowed. However, the claim of initial spares for Asset-2 exceeds the norms specified in the 2014 Tariff Regulations by an amount of ₹3.73 lakh. Therefore, in case of Asset-2, an amount of ₹3.73 lakh has been reduced from the capital cost as on COD.

Capital cost as on COD

32. Accordingly, the details of capital cost as on the date of commercial operation for the instant transmission assets after adjustment of IDC/IEDC and initial spares allowed is considered as per Regulation 9 (2) of the 2014 Tariff Regulations and are as below:-

(₹ in lakh)

Particulars	Capital cost as on COD claimed	Disallowed as on COD		Excess initial spares disallowed	Capital cost as on COD considered for tariff calculation
		IDC	IEDC		
	1	2	3	4	5=1-(2+3+4)
Asset-1	6750.85	187.77	422.40	-	6140.68
Asset-2	956.92	33.10	30.04	3.73	890.05

33. Accordingly, the element wise break-up of capital cost as on COD is as under:-

(₹ in lakh)

Particulars	Asset-1	
	Capital cost as on COD as per Auditor's certificate dated 15.10.2015	Capital Cost allowed as on COD
Freehold Land	1492.37	1492.37
Leasehold Land	-	-
Building & Other Civil Works	1324.34	1170.67
Transmission Line	600.95	531.22
Sub-Station Equipments	3114.33	2752.96
PLCC	218.86	193.46
Total	**6750.85**	**6140.68**
Particulars	**Asset-2**	
	Capital cost as on COD as per Auditor's certificate dated 15.10.2015	**Capital Cost allowed as on COD**
Freehold Land	-	-
Leasehold Land	-	-
Building & Other Civil Works	60.99	56.73
Transmission Line	442.68	411.75
Sub-Station Equipments	408.94	380.36
PLCC	44.31	41.21
Total	**956.92**	**890.05**

Projected additional capital expenditure

34. 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.

35. 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;"

36. The cut-off date in the case of instant transmission asset is 31.3.2018.

37. The petitioner has submitted claim of additional capital expenditure incurred/projected to be incurred during 2014-15, 2015-16 and 2016-17 in case of Asset-1 and during 2014-15 and 2015-16 for Asset-2. The details are as follows:-

(₹ in lakh)

Particulars	Asset-1		
	2014-15	2015-16	2016-17
Freehold Land	-	-	-
Leasehold Land	-	-	-
Building & Other Civil Works	126.91	445.27	157.96
Transmission Line	1.57	29.80	0.00
Sub-Station Equipments	272.18	643.08	132.49
PLCC	0.08	13.36	0.00
Total	**400.74**	**1131.51**	**290.45**
Particulars	**Asset-2**		
	2014-15	**2015-16**	**2016-17**
Freehold Land	-	-	-
Leasehold Land	-	-	-
Building & Other Civil Works	8.65	24.91	-
Transmission Line	1.57	33.11	-
Sub-Station Equipments	1.48	45.67	-
PLCC	0.10	5.69	-
Total	**11.80**	**109.38**	**-**

38. TANGEDCO has submitted that the petitioner has not furnished the details with regard to balance and retention payment indicated as liabilities. Hence, the petitioner should furnish details to establish the necessity of these liabilities. The additional capital expenditure incurred/projected to be incurred for the instant assets is on account of balance/retention payments and is within cutoff date and the same is allowed as per 2014 Tariff Regulations upto 2016-17 period in case of Asset-1 and upto 2015-16 period in case of Asset-2.

Capital cost as on 31.3.2019

39. Based on the above, capital cost as on 31.3.2019 has been considered as per details as under:-

(₹ in lakh)

Particulars	Asset-1				
	As on COD	Add Cap			As on 31.3.2019
		2014-15	2015-16	2016-17	
Freehold Land	1492.37	-	-	-	1492.37
Leasehold Land	-	-	-	-	-

Building & Other Civil Works	1170.67	126.91	445.27	157.96	1900.81
Transmission Line	531.22	1.57	29.80	-	562.59
Sub-Station Equipments	2752.96	272.18	643.08	132.49	3800.71
PLCC	193.46	0.08	13.36	-	206.90
Total	**6140.68**	**400.74**	**1131.51**	**290.45**	**7963.38**
Particulars	**Asset-2**				
	As on COD	**Add Cap**			**As on 31.3.2019**
		2014-15	**2015-16**	**2016-17**	
Freehold Land	-	-	-	-	-
Leasehold Land	-	-	-	-	-
Building & Other Civil Works	56.73	8.65	24.91	-	90.29
Transmission Line	411.75	1.57	33.11	-	446.43
Sub-Station Equipments	380.36	1.48	45.67	-	427.51
PLCC	41.21	0.10	5.69	-	47.00
Total	**890.05**	**11.80**	**109.38**	**-**	**1011.23**

Debt-Equity Ratio

40. 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"

41. 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 in respect of instant assets as on the date of commercial operation and 31.3.2019 considered on normative basis are as under:-

(₹ in lakh)

Particulars	**Asset-1**					
	As on COD	**Add-cap for period 2014-19**			**As on 31.3.2019**	
	Amount	**Amount**	**Amount**	**Amount**	**Amount**	**% age**
		2014-15	**2015-16**	**2016-17**		
Debt	4298.48	280.52	792.06	203.32	5574.37	70.00
Equity	1842.20	120.22	339.45	87.14	2389.01	30.00
Total	**6140.68**	**400.74**	**1131.51**	**290.45**	**7963.38**	**100.00**
Particulars	**Asset-2**					
	As on COD	**Add-cap for period 2014-19**			**As on 31.3.2019**	
	Amount	**Amount**	**Amount**	**Amount**	**Amount**	**% age**
		2014-15	**2015-16**	**2016-17**		
Debt	623.04	8.26	76.57	-	707.86	70.00
Equity	267.01	3.54	32.81	-	303.37	30.00
Total	**890.05**	**11.80**	**109.38**	**-**	**1011.23**	**100.00**

Return on equity

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

> " 24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.
>
> (2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:
>
> Provided that:
>
> (i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:
>
> (ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

(iii) additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

(iv) the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

(v) as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

(vi) additional RoE shall not be admissible for transmission line having length of less than 50 kilometers."

"25. Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non generation or non transmission business, as the case may be) shall not be considered for the calculation of "effective tax rate".

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

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

Where "t" is the effective tax rate in accordance with Clause (1) of this regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT), "t" shall be considered as MAT rate including surcharge and cess."

43. The petitioner has submitted that RoE has been calculated at the rate of 20.243% after grossing up the RoE with MAT rate of 20.961% based on the rate prescribed as per illustration under Regulation 25 (2) (i) of the 2014 Tariff Regulations. The petitioner has further submitted that the grossed up RoE is subject

to truing up based on the actual tax paid along with any additional tax or interest, duly adjusted for any refund of tax including the interest received from IT authorities, pertaining to the tariff period 2014-19 on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up RoE after truing up shall be recovered or refunded to the beneficiaries on year to year basis.

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

45. TANGEDCO has submitted that the petitioner is well aware of the tax structure under which it is covered at the time of filing the petition as such the petitioner be directed to refund the excess tax collected on normative basis alongwith interest to the beneficiaries. The petitioner in the rejoinder has reiterated its submissions made in the petition.

46. We have considered the submissions made by TANGEDCO and the petitioner. Regulation 24 read with Regulation 25 of the 2014 Tariff Regulations provides for grossing up of return on equity with the effective tax rate for the purpose of return on equity. It further provides that in case the generating company or transmission licensee is paying Minimum Alternative Tax (MAT), the MAT rate including surcharge and cess will be considered for the grossing up of return on equity. The petitioner has submitted that MAT rate is applicable to the petitioners' company. 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 determined is as follows:-

(₹ in lakh)

Particulars	Asset-1				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Equity	1842.20	1962.42	2301.87	2389.01	2389.01
Addition due to Additional Capitalization	120.22	339.45	87.14	-	-
Closing Equity	1962.42	2301.87	2389.01	2389.01	2389.01
Average Equity	1902.31	2132.15	2345.44	2389.01	2389.01
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)	**88.92**	**418.11**	**459.94**	**468.48**	**468.48**
Particulars	**Asset-1**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Equity	267.01	270.55	303.37	303.37	303.37
Addition due to Additional Capitalization	3.54	32.81	-	-	-
Closing Equity	270.55	303.37	303.37	303.37	303.37
Average Equity	268.78	286.96	303.37	303.37	303.37
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)	**11.99**	**56.27**	**59.49**	**59.49**	**59.49**

47. The petitioner has also claimed additional RoE of 0.5% for commissioning the instant assets within the timeline specified in the 2014 Tariff Regulations. TANGEDCO has submitted that the instant petition covers only part of the transmission system associated with Coastal Energen Private Limited (CEPL) and Ind-Bharat Power (Madras) Limited (IBPL) and the petitioner has also not submitted approval of the Regional Power Committee (RPC)/National Power Committee (NPC) stating that the particular element will benefit the system and as such additional RoE may not to be allowed. The petitioner in its rejoinder has submitted that the claim for additional RoE was made in the original petition with reference to

anticipated schedule of completing the work by 31.7.2014. However, the instant assets have been commissioned after a delay of 5 months as compared to the timeline specified.

48. We have considered the submissions of TANGEDCO and the petitioner. It is observed that although the entire scope of the project approved under the Investment Approval has been completed within 37 months approximately as against the timeline of 38 months specified in Appendix-I of the 2014 Tariff Regulations. The length of the instant LILO line is approximately 10 km. As per Regulation 24(vi) of the 2014 Tariff Regulations, additional RoE is admissible for transmission lines of more than 50 kilometers. As the instant line is approximately 10 km, it does not qualify for additional RoE 0.5%.

<u>Interest on loan</u>

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

> "(1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.
>
> (2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.
>
> (3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of decapitalisation of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of decapitalisation of such asset.
>
> (4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.
>
> (5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:

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

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

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

50. 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:-

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

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

(iii) Notwithstanding moratorium period 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;

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

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

51. 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 of 5 years directly from the beneficiaries. TANGEDCO has submitted that the interest on loan be allowed to be recovered alongwith truing-up without any further interest liability thereon.

52. We have considered the submissions of the petitioner and the respondent. 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.

53. Detailed calculations in support of the weighted average rates of interest have been given at Annexure-I and Annexure-II to this order.

54. Based on the above, interest on loan has been calculated are given as under:-

(₹ in lakh)

Particulars	**Asset-1**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross Normative Loan	4298.48	4579.00	5371.05	5574.37	5574.37
Cumulative Repayment upto Previous Year	-	55.80	324.87	625.70	932.67
Net Loan-Opening	4298.48	4523.20	5046.18	4948.67	4641.70
Addition due to Additional Capitalization	280.52	792.06	203.32	-	-
Repayment during the year	55.80	269.07	300.83	306.97	306.97
Net Loan-Closing	4523.20	5046.18	4948.67	4641.70	4334.73
Average Loan	4410.84	4784.69	4997.42	4795.18	4488.22
Weighted Average Rate of Interest on Loan	9.319%	9.289%	9.281%	9.257%	9.231%
Interest	**97.97**	**444.45**	**463.79**	**443.90**	**414.30**
Particulars	**Asset-2**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross Normative Loan	623.04	631.30	707.86	707.86	707.86
Cumulative Repayment upto Previous Year	-	10.59	60.05	112.18	164.32

Net Loan-Opening	623.04	620.71	647.82	595.68	543.55
Addition due to Additional Capitalization	8.26	76.57	-	-	-
Repayment during the year	10.59	49.46	52.14	52.14	52.14
Net Loan-Closing	620.71	647.82	595.68	543.55	491.41
Average Loan	621.88	634.27	621.75	569.62	517.48
Weighted Average Rate of Interest on Loan	9.781%	9.771%	9.771%	9.771%	9.771%
Interest	**13.83**	**61.98**	**60.75**	**55.66**	**50.57**

Depreciation

55. Regulation 27 of the 2014 Tariff Regulations provide 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 68 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."

56. The Asset-1 and Asset-2 were put under commercial operation during 2014-15. Accordingly, these 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.

57. Based on the above, the depreciation has been considered are as under:-

(₹ in lakh)

Particulars	**Asset-1**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Gross Block	6140.68	6541.42	7672.93	7963.38	7963.38
Additional Capital Expenditure	400.74	1131.51	290.45	-	-
Closing Gross Block	6541.42	7672.93	7963.38	7963.38	7963.38
Average Gross Block	6341.05	7107.17	7818.15	7963.38	7963.38
Rate of Depreciation	3.6918%	3.7859%	3.8478%	3.8547%	3.8547%
Depreciable Value	4363.81	5053.32	5693.20	5823.91	5823.91
Remaining Depreciable Value	4363.81	4997.52	5368.33	5198.20	4891.24
Depreciation	**55.80**	**269.07**	**300.83**	**306.97**	**306.97**
Particulars	**Asset-2**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Gross Block	890.05	901.85	1011.23	1011.23	1011.23
Additional Capital Expenditure	11.80	109.38	-	-	-
Closing Gross Block	901.85	1011.23	1011.23	1011.23	1011.23
Average Gross Block	895.95	956.54	1011.23	1011.23	1011.23

Rate of Depreciation	5.1962%	5.1706%	5.1556%	5.1556%	5.1556%
Depreciable Value	806.36	860.89	910.11	910.11	910.11
Remaining Depreciable Value	806.36	850.30	850.06	797.93	745.79
Depreciation	**10.59**	**49.46**	**52.14**	**52.14**	**52.14**

<u>Operation & Maintenance Expenses (O&M Expenses)</u>

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

Element	2014-15	2015-16	2016-17	2017-18	2018-19
400 kV bay (₹ lakh/km)	60.30	62.30	64.37	66.51	68.71
Double Circuit (Bundled Conductor with four or more sub-conductors) (₹ lakh/km)	1.062	1.097	1.133	1.171	1.210

59. The O&M Expenses claimed by the petitioner are as under:-

Particulars	2014-15 (pro-rata)	2015-16	2016-17	2017-18	2018-19
Asset-1	44.35	189.41	195.70	202.21	208.89
Asset-2	28.44	127.11	131.33	135.70	140.18

60. Accordingly, the petitioner's entitlement to O&M Expenses has been worked out and the allowable O&M expenses for the instant assets are as follows:-

(₹ in lakh)

Element	Asset-1				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
2.2845 km 400 kV D/C T/L	0.571	2.506	1.478	1.528	1.578
3 Nos. 400 kV bays	42.62	186.90	193.11	199.53	206.13
Total	**43.19**	**189.40**	**194.58**	**201.05**	**207.70**
Element	**Asset-2**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
2 Nos. 400 kV bays	27.09	124.60	128.74	133.02	137.42

2.2845 km 400 kV D/C T/L	0.311	1.432	1.478	1.528	1.578
Total	**27.40**	**126.032**	**130.218**	**134.548**	**138.99**

61. 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 w.e.f. 1.1.2017 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.

62. TANGEDCO has submitted that the 2014 Tariff Regulations do not provide for revising the normative O&M expenses based on actuals. In response, the petitioner has submitted that norms for O& M Expenditure specified under Regulation 29(3) (a) of the tariff block 2014-19 have 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 being a CPSU, the scheme of wage revision of employees is binding on it, which 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.

63. We have considered the submissions of TANGEDCO and 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

64. 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:
>
> (a)-------
>
> (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;"

65. 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 as follows:-

(₹ in lakh)

Particulars	Asset-1				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Maintenance Spares	27.18	28.41	29.19	30.16	31.16
O & M expenses	15.10	15.78	16.22	16.75	17.31
Receivables	205.47	226.26	243.01	243.26	239.39
Total	**247.75**	**270.45**	**288.41**	**290.17**	**287.85**
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	**7.97**	**36.51**	**38.94**	**39.17**	**38.86**
Particulars	**Asset-2**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Maintenance Spares	18.07	18.90	19.53	20.18	20.85
O & M expenses	10.04	10.50	10.85	11.21	11.58
Receivables	48.49	50.76	52.29	52.19	52.10
Total	**76.60**	**80.17**	**82.68**	**83.58**	**84.53**
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest	**2.35**	**10.82**	**11.16**	**11.28**	**11.41**

Transmission charges

66. The transmission charges being allowed for the transmission assets are as follows:-

(₹ in lakh)

Particulars	Asset-1				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Depreciation	55.80	269.07	300.83	306.97	306.97
Interest on Loan	97.97	444.45	463.79	443.90	414.30
Return on equity	88.92	418.11	459.94	468.48	468.48
Interest on Working Capital	7.97	36.51	38.94	39.17	38.86
O & M Expenses	43.19	189.40	194.58	201.05	207.70
Total	**293.85**	**1357.54**	**1458.07**	**1459.58**	**1436.31**
Particulars	**Asset-2**				
	2014-15 (pro-rata)	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Depreciation	10.59	49.46	52.14	52.14	52.14
Interest on Loan	13.83	61.98	60.75	55.66	50.57
Return on equity	11.99	56.27	59.49	59.49	59.49
Interest on Working Capital	2.35	10.82	11.16	11.28	11.41
O & M Expenses	27.40	126.03	130.22	134.55	138.99
Total	**66.16**	**304.56**	**313.76**	**313.12**	**312.59**

67. The petitioner has submitted that the claim for transmission charges and other charges is exclusive of incentive, late payment surcharge, FERV, any statutory taxes, levies, duties, cess, filing fees, license fee, RLDC fees and charges or any other kind of impositions or surcharges etc. The same if imposed shall be borne and additionally paid by the respondents. The petitioner can make claims as per the prevailing regulations. We have allowed transmission tariff as per the 2014 Tariff Regulations.

Filing fee and the publication expenses

68. 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

69. The petitioner has requested to allow the petitioner to bill and recover License fee and RLDC fees and charges, separately from the respondents. TANGEDCO has submitted that in their replies to various petitions, it has requested not to allow the claim of the petitioner for recovery of license fee and hence it should be negated. We are of the view that the petitioner shall be entitled for reimbursement of licence fee and RLDC fees and charges in accordance with Clause (2)(b) and (2)(a), respectively, of Regulation 52 of the 2014 Tariff Regulations.

Service tax

70. The petitioner has made a prayer to be allowed to bill and recover the service tax on transmission charges separately from the respondents, if at any time service tax on transmission is withdrawn from negative list at any time in future. TANGEDCO has submitted that the Government of India has exempted transmission services from the purview of levy of service tax and hence the petitioner is not entitled to any claim in this regard. The petitioner has further prayed that if any taxes and duties including cess etc. are imposed by any statutory/Government/municipal authorities, it shall be allowed to be recovered from the beneficiaries. We consider petitioner's prayer pre-mature and accordingly this prayer is rejected.

Deferred Tax Liability

71. The petitioner has sought recovery of deferred tax liability accrued before 1.4.2009 from the beneficiaries or long term consumers/DICs as and when materialized under Regulation 49 of the 2014 Tariff Regulations. However, Asset-1 and Asset-2 were commissioned on 4.1.2015 and 8.1.2015. Hence, the petitioner's prayer is infructuous.

Sharing of Transmission Charges

72. We have considered the submissions of TANGEDCO, which have been earlier discussed at para-9 of this order. We are of the view that the LILO of the Tuticorin JV-Madurai 400 kV D/C line at Tuticorin Pooling station is redundant and it is of no use to the beneficiaries, unless and until the pooling stations and upstream connectivity is put under operation. Hence, the claim of the petitioner is totally

baseless and there is no provision in the Regulations for allowing tariff for any transmission element without any beneficial use.

73. The SLD of the instant assets is given at Annexure-III to this order. The moot question is who would bear the transmission charges if upstream/downstream transmission system is not ready? In this regard, we have perused the minutes of 30th SCM held on 5.5.2010, in which the assets covered in the instant petition were planned and implemented to evacuate power from CEPL and IBPL. The relevant extract of meeting is as under:-

> "5.0 **Transmission System Associated with the Coastal Energen Pvt. Ltd (2×660 MW) and IND Barath Power Ltd (2×660 MW) projects in Tuticorin area of Tamil Nadu:**
>
> 5.1 Chief Engineer, CEA explained that the Tuticorin Pooling Station-Tuticorin JV Station (of NLC) 400kV D/C Quad Line was inter-alia agreed as part of the transmission system associated with the Coastal Energen Pvt. Ltd (2x600 MW) and IND Barath Power Ltd (2x660 MW) projects in Tuticorin area of Tamil Nadu. Later, NLC informed that they could spare only one bay at their Tuticorin JV station. As such, considering space constraint and better capacity utilization of the 400kV quad D/C line, it is now proposed that instead of the Tuticorin Pooling Station of Tuticorin DV Station 400kV D/C line, both the circuits of Tuticorin JV-Madurai 400kV Quad D/C line may be LILOed at Tuticorin Pooling Station.
>
> ---------------------------------
>
> 5.2 After discussions, the above proposed modifications in the transmission system for the Coastal Energen Pvt. Ltd (2x600 MW) and IND Barath Power Ltd (2x660 MW) projects in Tuticorin area of Tamil Nadu were agreed."

74. We have also perused the RLDC certificate dated 16.2.2015 whereby one circuit is indicated as LILO of Madurai Coastal Energen. On perusing the minutes of 38th SCM dated 23.3.2015, it is observed that one Ckt. of Madurai-NTPL has actually been LILOed at Coastal Energen which, is again LILOed at Tuticorin Pooling Station. The relevant extract of meeting of 38th SRSCM dated 7.3.2015 is as under:-

> **"23.0 ATS Tuticorin JV (2x500 MW) TPS of M/s NTPL**

30.1 Director, CEA stated for power evacuation from the Tuticorin JV TPS, a 400 kV Tuticorin JV TPS-Chekkanurani (Madurai) D/C Quad line with 2 x 315 MVA, 400 kV/220 kV ICT at Tuticorin JV TPS had been agreed. Accordingly, M/s. PGCIL has erected 2 nos. of 400kV NTPL-Madurai DC Quad feeder lines. For evacuation of power from Coastal Energen, LILO of one circuit of the NTPL-Madurai D/C line was agreed as an interim arrangement.

30.2 Further, as per NTPL's letter M/s. PGCIL is scheduled to commission 400kV system of its 400kV/765kV pooling station at Ettayapuram, near Tuticorin shortly with 4 nos. of 400 KV bays. The existing 400kV NTPL-Madurai and 400kV Coastal Energen-Madurai feeders will be shifted to pooling station. However, the 400kV tie between NTPL and M/s Coastal Energen would continue. So, with only 2 nos. of 400kV Ettayapuram PS-Madurai feeders being available, stability of power evacuation system of NTPL would be of concern.

30.3 PGCIL informed that as per the agreed scope of power evacuation system of Costal Energen is to construct a 400kV Quad D/C line from its switchyard to Tuticorin Pooling Station. As an interim arrangement, this line has been part completed by making LILO of one circuit of the NTPL-Madurai D/C line. After commissioning of the Costal Energen-Tuticorin P.S. 400kV Quad D/C line, the NTPL-Madurai/ Tuticorin Pooling Station D/C line would be restored.

30.4 Accordingly, the NTPL apprehension regarding the tie line between NTPL-Coastal Energen line, it was clarified that this tie line would be disconnected after commissioning of Costal Energen-Tuticorin P.S. 400kV Quad D/C line."

75. The LILO was agreed in SCMs where TANGEDCO also participated. Further, regarding the apprehension of TANGEDCO that NTPL will be backed down, it is directed that CTU/RLDC should take care while granting access to /scheduling CEPL that NTPL is not backed down due to scheduling for CEPL due to interim arrangement. It is also observed that in 38th SCM, LILO of Madhurai-NTPL at Coastal is agreed as interim arrangement. In this regard, we have already directed, vide order dated 7.10.2015 in Petition No. 112/TT/2013, as follows:-

"65 The associated transmission lines were to be constructed by the generation developer matching with the transmission system to be developed by the petitioner and the LILOs constructed by generation developers which were temporary arrangement were to be replaced by the associated transmission system. It is noticed that some of the generation developers have not commissioned the dedicated lines and are continuing to evacuate power through the temporary LILO arrangements. We direct the petitioner to discuss the issue in the Standing Committee Meeting on Transmission and finalize the timeline for replacement of the LILOs of generation developer by dedicated transmission lines within a period of six months from the date of connection of LILO of the petitioner."

Accordingly, we direct that the interim LILO by CEPL be removed within 6 month from the date of issue of this order.

76. We agree with the submission of TANGEDCO that the petitioner should have completed up-stream system i.e. Tuticorin-Salem and Tuticorin-Madurai line as per scheduled timeline so that all the assets provide their intended benefits. We direct the petitioner to complete the construction of these assets expeditiously. However, LILO has been declared commercial by the petitioner under the 2014 Tariff Regulation and to deal with such situation, in a similar case of Petition No. 112/TT/2013 we have decided as follows:-

> "Since the generation developers have failed to construct the dedicated transmission lines due to which assets created by the petitioner covered under the present petition are not serving the intended purpose, we are of the view, that the tariff for these assets shall be borne by the generators till operationalisation of their LTA as required under Regulation 8(5) of the 2010 Sharing Regulations as stated in para 60 herein. Till such time, the tariff for the assets shall be excluded from PoC pool."

77. Thus, drawing analogy from above, we are of the view that CEPL and IBPL shall pay transmission charges for the instant assets till the dedicated transmission line upto the Tuticorin Pooling Station are constructed and declared under commercial operation and put to regular use by the concerned generating station. If one of the generating stations commissions the dedicated transmission line, in that case 50% of the charges of LILO will be included under PoC and the balance 50% of the transmission charges shall be borne by the generating which has not commissioned the dedicated transmission line. After both the generating stations commission the dedicated transmission lines, 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.

78. In case of non-payment of the charges by the generators, CEPL and IBPL, the petitioner shall be entitled to claim the same by en-cashing the Bank Guarantee given by these generators.

79. This order disposes of Petition No. 127/TT/2014.

sd/-	sd/-	sd/-
(M. K. Iyer)	**(A.S. Bakshi)**	**(A.K. Singhal)**
Member	**Member**	**Member**

Annexure-I

(₹ in lakh)

	CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN					
	Details of Loan	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
1	**Bond XXXIV**					
	Gross loan opening	463.00	463.00	463.00	463.00	0.00
	Cumulative Repayment upto DOCO/previous year	38.58	38.58	77.16	115.74	154.32
	Net Loan-Opening	424.42	424.42	385.84	347.26	308.68
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	38.58	38.58	38.58	38.58
	Net Loan-Closing	424.42	385.84	347.26	308.68	270.10
	Average Loan	424.42	405.13	366.55	327.97	289.39
	Rate of Interest	8.84%	8.84%	8.84%	8.84%	8.84%
	Interest	37.52	35.81	32.40	28.99	25.58
	Rep Schedule	12 annual instalments from 21.10.2014				
2	**Bond XLIX**					
	Gross loan opening	0.00	100.00	100.00	100.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	100.00	100.00	100.00	100.00
	Additions during the year	100.00	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	100.00	100.00	100.00	100.00	100.00
	Average Loan	50.00	100.00	100.00	100.00	100.00
	Rate of Interest	8.15%	8.15%	8.15%	8.15%	8.15%
	Interest	4.08	8.15	8.15	8.15	8.15
	Rep Schedule	3 equal annual instalments on 9.3.2020, 9.3.2025 & 9.3.2030				
3	**Bond XXXVII**					
	Gross loan opening	1293.00	1293.00	1293.00	1293.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	107.75	215.50	323.25
	Net Loan-Opening	1293.00	1293.00	1185.25	1077.50	969.75
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	107.75	107.75	107.75	107.75
	Net Loan-Closing	1293.00	1185.25	1077.50	969.75	862.00
	Average Loan	1293.00	1239.13	1131.38	1023.63	915.88
	Rate of Interest	9.25%	9.25%	9.25%	9.25%	9.25%
	Interest	119.60	114.62	104.65	94.69	84.72
	Rep Schedule	12 annual installments from 26.12.2015.				
4	**Bond XLVIII**					
	Gross loan opening	742.44	922.97	922.97	922.97	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	742.44	922.97	922.97	922.97	922.97
	Additions during the year	180.53	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	922.97	922.97	922.97	922.97	922.97
	Average Loan	832.71	922.97	922.97	922.97	922.97
	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest	68.28	75.68	75.68	75.68	75.68
	Rep Schedule	4 equal instalments on 23.01.2020, 23.01.2024,23.1.2025 & 23.1.2030				
5	**SBI (21.03.2012)**					
	Gross loan opening	894.00	**894.00**	**894.00**	**894.00**	**0.00**
	Cumulative Repayment upto DOCO/previous year	0.00	**0.00**	**0.00**	**81.27**	**162.54**
	Net Loan-Opening	894.00	894.00	894.00	812.73	731.46
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	81.27	81.27	81.27
	Net Loan-Closing	894.00	894.00	812.73	731.46	650.19
	Average Loan	894.00	894.00	853.37	772.10	690.83
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	91.64	91.64	87.47	79.14	70.81
	Rep Schedule	22 half yearly instalment from 31.08.2016				
6	**SBI (21.03.2012)**					
	Gross loan opening	500.00	500.00	500.00	500.00	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	45.45	90.90
	Net Loan-Opening	500.00	500.00	500.00	454.55	409.10
	Additions during the year	0.00	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	45.45	45.45	45.45
	Net Loan-Closing	500.00	500.00	454.55	409.10	363.65
	Average Loan	500.00	500.00	477.28	431.83	386.38
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	51.25	51.25	48.92	44.26	39.60
	Rep Schedule	22 half yearly instalment from 31.08.2016				
7	**Bond XLVI**					
	Gross loan opening	833.16	833.16	833.16	833.16	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	833.16	833.16	833.16	833.16	833.16
	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	833.16	833.16	833.16	833.16	833.16
	Average Loan	833.16	833.16	833.16	833.16	833.16
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	77.48	77.48	77.48	77.48	77.48
	Rep Schedule	3 equal annual instalments on 4.09.2019, 4.09.2024 & 4.09.2029				
	Total Loan					
	Gross loan opening	4725.60	5006.13	5006.13	5006.13	0.00
	Cumulative Repayment upto DOCO/previous year	38.58	38.58	184.91	457.96	731.01

	Net Loan-Opening	4687.02	4967.55	4821.22	4548.17	4275.12
	Additions during the year	280.53	0.00	0.00	0.00	0.00
	Repayment during the year	0.00	146.33	273.05	273.05	273.05
	Net Loan-Closing	4967.55	4821.22	4548.17	4275.12	4002.07
	Average Loan	4827.29	4894.39	4684.70	4411.65	4138.60
	Rate of Interest	9.3188%	9.2889%	9.2805%	9.2573%	9.2309%
	Interest	449.85	454.63	434.76	408.40	382.03

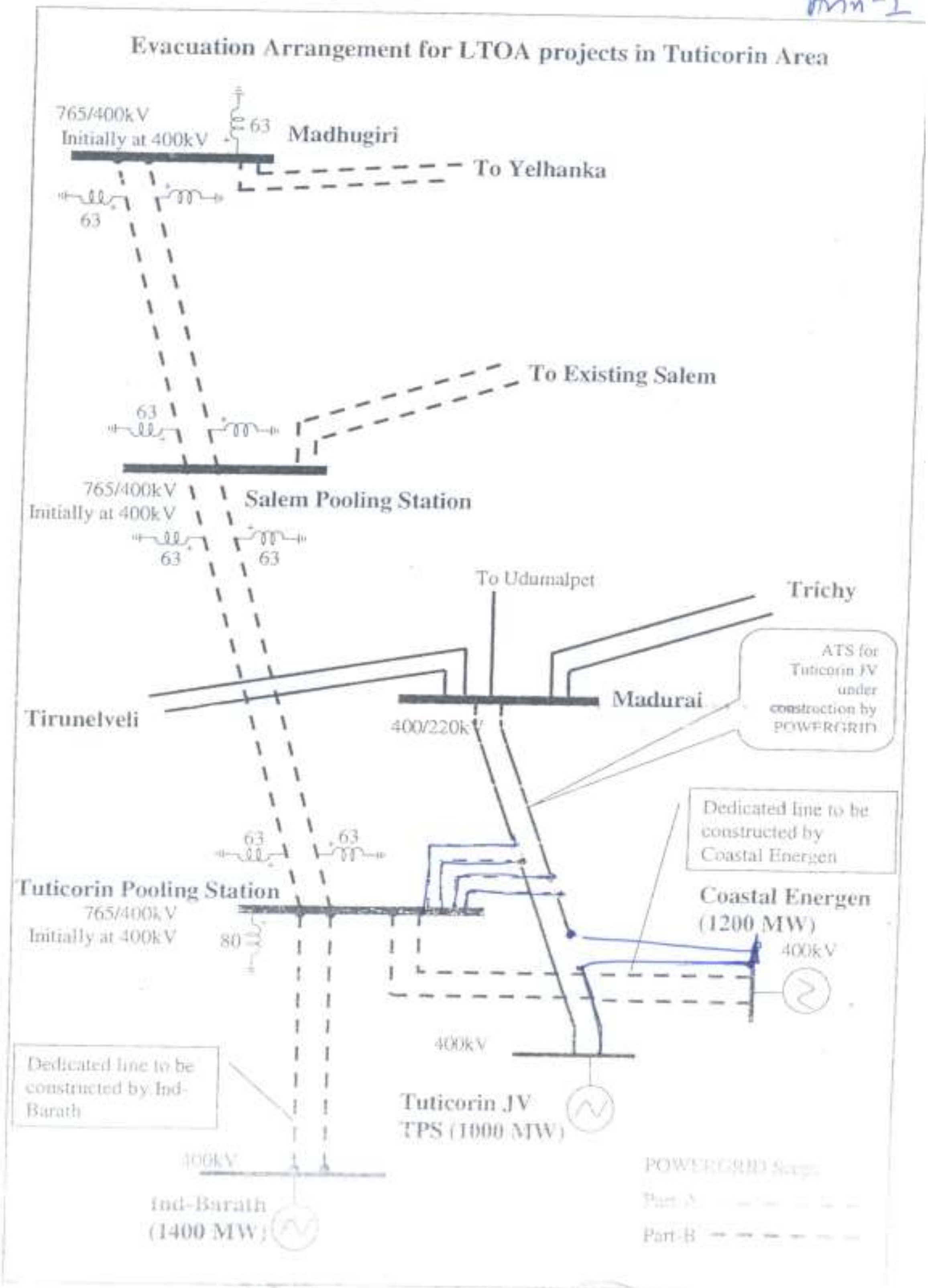
Annexure-II

(₹ in lakh)

	CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN					
	Details of Loan	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**
1	**Bond XLVIII**					
	Gross loan opening	0.00	8.26	8.26	8.26	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	0.00	8.26	8.26	8.26	8.26
	Additions during the year	8.26	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	8.26	8.26	8.26	8.26	8.26
	Average Loan	4.13	8.26	8.26	8.26	8.26
	Rate of Interest	8.20%	8.20%	8.20%	8.20%	8.20%
	Interest	0.34	0.68	0.68	0.68	0.68
	Rep Schedule	4 equal instalments on 23.01.2020, 23.01.2024,23.1.2025 & 23.1.2030				
2	**SBI (21.03.2012)**					
	Gross loan opening	343.00	**343.00**	**343.00**	**343.00**	**0.00**
	Cumulative Repayment upto DOCO/previous year	0.00	**0.00**	**0.00**	**0.00**	**0.00**
	Net Loan-Opening	343.00	343.00	343.00	343.00	343.00
	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	343.00	343.00	343.00	343.00	343.00
	Average Loan	343.00	343.00	343.00	343.00	343.00
	Rate of Interest	10.25%	10.25%	10.25%	10.25%	10.25%
	Interest	35.16	35.16	35.16	35.16	35.16
	Rep Schedule	22 half yearly instalment from 31.08.2016				
3	**Bond XLVI**					
	Gross loan opening	320.19	320.66	320.66	320.66	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	320.19	320.66	320.66	320.66	320.66
	Additions during the year	0.47	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	320.66	320.66	320.66	320.66	320.66
	Average Loan	320.43	320.66	320.66	320.66	320.66
	Rate of Interest	9.30%	9.30%	9.30%	9.30%	9.30%
	Interest	29.80	29.82	29.82	29.82	29.82
	Rep Schedule	3 equal annual instalments on 4.09.2019, 4.09.2024 & 4.09.2029				
	Total Loan					
	Gross loan opening	663.19	671.92	671.92	671.92	0.00
	Cumulative Repayment upto DOCO/previous year	0.00	0.00	0.00	0.00	0.00
	Net Loan-Opening	663.19	671.92	671.92	671.92	671.92
	Additions during the year	8.73	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	671.92	671.92	671.92	671.92	671.92
	Average Loan	667.56	671.92	671.92	671.92	671.92
	Rate of Interest	**9.7813%**	**9.7714%**	**9.7714%**	**9.7714%**	**9.7714%**
	Interest	**65.30**	**65.66**	**65.66**	**65.66**	**65.66**

Ann-I


Evacuation Arrangement for LTOA projects in Tuticorin Area
765/400kV
Initially at 400kV
63
Madhugiri
To Yelhanka
63
To Existing Salem
63
765/400kV
Initially at 400kV
Salem Pooling Station
63
63
To Udumalpet
Trichy
Tirunelveli
Madurai
400/220kV
ATS for Tuticorin JV under construction by POWERGRID
Dedicated line to be constructed by Coastal Energen
63
63
Tuticorin Pooling Station
765/400kV
Initially at 400kV
80
Coastal Energen
(1200 MW)
400kV
400kV
Dedicated line to be constructed by Ind-Barath
Tuticorin JV
TPS (1000 MW)
400kV
Ind-Barath
(1400 MW)
Part-B