CENTRAL ELECTRICITY REGULATORY COMMISSION

NEW DELHI

Petition No. 222/TT/2016

Coram:

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

Date of Order : 14.05.2018

In the matter of:

Approval of transmission tariff for 1x125 MVAR Bus Reactor at 400 kV Nagapattinam GIS along with associated bays and equipment under Transmission System associated with Common Transmission Scheme associated with ISGS Projects in Nagapattinam/Cuddalore Area of Tamil Nadu Part-A1(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-122001
Haryana **….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. Tamil Nadu 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-560 001.

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 Mysore),
Corporate Office, 927, L. J. Avenue, Ground Floor
New Kantharaj Urs Road,
Saraswathi Puram, Mysore-570 009.

16. Transmission Corporation of Telangana Limited,
Vidhyut Sudha, Khairatabad,
Hyderabad, 500082 **….Respondents**

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

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

ORDER

The present petition has been filed by Power Grid Corporation of India Ltd. ("PGCIL") seeking approval of transmission tariff for 1x125 MVAR Bus Reactor at 400 kV Nagapattinam GIS along with associated bays and equipment (hereinafter referred to as "transmission assets") under Transmission System associated with Common Transmission Scheme associated with ISGS Projects in Nagapattinam/Cuddalore Area of Tamil Nadu Part-A1(a) 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 "Common Transmission Scheme associated with ISGS Projects in Nagapattinam/Cuddalore Area of Tamil Nadu Part-A1(a)" was accorded by the Board of Directors of the petitioner vide the Memorandum Ref.: C/CP/NAGAPATTINAM-PART-A1(a) dated 28.1.2013 at an estimated cost of ₹18280 lakh including an IDC of ₹1026 lakh (based on Quarter of 2012 price level). The instant transmission system was scheduled to be commissioned within 21 months from the date of IA. The

transmission asset was scheduled to be commissioned within 21 months from the date of approval of Board of Directors i.e. 3.1.2013.

3. The Revised Cost Estimate (RCE) for the transmission system was accorded by the Board of Directors of the petitioner vide the Memorandum Ref C/CP/PA1617-09-00-RCE003 dated 21.9.2016 at revised cost estimate of ₹16993 lakh including IDC of ₹647 lakh (based on February, 2016 price level).

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

Transmission Lines:

(i) LILO of Neyveli-Trichy 400 kV S/C line at Nagapattinam Pooling Station for initial arrangement which later shall be bypassed.

Sub-Station:

(i) New 400 kV GIS Pooling Station at Nagapattinam with sectional arrangement to control short circuit MVA (provision of establishing a 765/400 kV Sub-station in future in the same switchyard).

Reactive Compensation

Bus Reactor (400 kV)

1x125 MVAR Bus Reactors at Nagapattinam Pooling Station.

5. The details of the assets covered under the instant transmission system are summarised below:-

Asset	COD	Petition No.	Order date
LILO of Neyveli-Trichy 400 kV Line at Nagapattinam Pooling Station for initial arrangement which later shall be bypassed	3.5.2014	36/TT/2014	31.5.2016
New 400 kV GIS pooling station at Nagapattinam	1.4.2015	416/TT/2014	22.8.2016
1x125 MVAR Bus Reactor at 400 kV Nagapattinam GIS along with associated bays and equipment	1.8.2016	Instant petition	

6. The petitioner claimed combined tariff for the instant asset in Petition No.416/TT/2014 alongwith New 400 kV GIS at Nagapattinam on the basis of the anticipated COD. However, the instant asset was put into commercial operation on 1.8.2016 and the New 400 kV GIS at Nagapattinam was put into commercial operation on 1.4.2015. The tariff for the New 400 kV GIS at Nagapattinam was allowed vide order dated 22.8.2016 in Petition No. 416/TT/2014 and the petitioner was directed to submit a fresh petition for 1x125 MVAR Bus Reactor at Nagapattinam after its COD. Accordingly, the instant petition has been filed by the petitioner. With the commissioning of the instant asset, entire scope of the instant transmission system has been completed.

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

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	91.54	172.85	185.72
Interest on Loan	101.43	180.81	180.05
Return on Equity	102.79	193.79	208.14
Interest on working capital	8.37	14.91	15.58
O & M Expenses	36.68	56.84	58.73
Total	**340.81**	**619.20**	**648.22**

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

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Maintenance Spares	8.25	8.53	8.81
O & M Expenses	4.59	4.74	4.89
Receivables	85.20	103.20	108.04
Total	**98.04**	**116.47**	**121.74**
Rate of Interest	12.80%	12.80%	12.80%
Interest	8.35	14.91	15.58

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. TANGEDCO, Respondent No. 4 has filed reply vide affidavit dated 2.12.2016. In response, the petitioner has filed its rejoinder to the reply of TANGEDCO vide affidavit dated 12.1.2017. The objections raised by the TANGEDCO and the clarifications given by the petitioner are addressed in the relevant paragraphs of this order.

10. The AFC was allowed under Regulation 7(7) of the 2014 Tariff Regulations for the instant asset vide order dated 23.12.2016 for inclusion in the PoC computation.

Date of commercial operation

11. Regulation 4(1) of the 2014 Regulations provides the methodology for declaration of commercial operation date and Regulation 5 of the 2014 Tariff Regulations provides the trial operation of the transmission system. As per these Regulations and the Indian Electricity Grid Code, the commercial operation of the transmission system shall fulfill the following requirements:-

a) successful charging of the transmission system or an element thereof for 24 hours at continuous flow of power;

b) transmission of communication signal from the sending end to the receiving end and with requisite metering system, telemetry and protection system in service;

c) Concerned Regional Load Despatch Centre shall certify the above requirements;

d) CMD/CEO/MD of the Company shall certify that the transmission line, sub-station and communication system conform to the relevant Grid Standard and Grid Code, and are capable of operation to their full capacity;

e) An element shall be declared to have achieved COD only after all the elements which are pre-required to achieve COD as per the Transmission Services Agreement are commissioned.

12. The petitioner has claimed the date of commercial operation of the instant transmission asset as on 1.8.2016. In support of the commercial operation, the petitioner has submitted RLDC certificate dated 30.9.2016 issued by SRLDC. The petitioner has also submitted the CEA inspection certificate dated 28.7.2016.

13. Taking into considerations the submissions made by the petitioner and the RLDC and CEA certificates submitted by the petitioner in support of trial operation, date of commercial operation of the instant asset is approved as 1.8.2016. However, the petitioner has not submitted the certificate of the CMD as required under Regulation 6.3(A)(4)(vi) of the Indian Electricity Grid Code. The

petitioner must ensure all documents as required in regulations are submitted. In the instant case, CMD certificate must be furnished at the time of truing up.

Capital cost

14. 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.

15. The petitioner has submitted CA Certificate dated 29.9.2016 which shows the capital cost claimed by the petitioner as on actual COD and estimated additional capitalization projected to be incurred for Asset-I. The summary of apportioned approved cost as per Investment Approval and as per RCE and the

actual capital cost claimed by the petitioner vide Auditor certificate are given below:-

(₹ in lakh)

Approved apportioned cost as per IA	**Approved cost as per RCE (as per Form 6 of affidavit dated 31.1.2017)**	**Expenditure upto COD (1.8.2016)**	**Projected expenditure from COD to 31.3.2017**	**Projected expenditure from 1.4.2017 to 31.3.2018**	**Estimated completion cost**
3489.45	3591.61	2260.60	797.50	479.83	3537.93

16. According to Auditor certificates, the expenditure up to 31.3.2016 has been certified based on the audited statement of accounts of PGCIL, SRTS-II Bangalore. The projected expenditure is on the basis of details furnished by the Management of the petitioner. The petitioner vide affidavit dated 31.1.2017 has confirmed the apportioned approved cost as per RCE for the instant asset as ₹3591.61 lakh. Thus, the estimated completion cost is within the apportioned approved cost as per apportioned cost of RCE.

Time Over-run

17. As per investment approval, the instant assets were to be put into commercial operation on 3.10.2014. However, the instant asset was put into commercial operation on 1.8.2016. Hence, there is a time over-run of 21 months 30 days in case of the instant asset.

18. The petitioner has submitted the following reasons for time over run:-

(i) Delay in getting possession of land for sub-station from State Government. Application for about 25 ha of land for GIS sub-station at Nagapattinam was submitted to Government of Tamil Nadu in November, 2011 much before the date of Investment approval of the project in January, 2013. Notification under Section-IV(1) and Section-VI of Land Acquisition

Act, 1894 were issued in November, 2012. After finalization of land value proposal by Commissioner (Land Acquisition), Government of Tamil Nadu in February, 2013, court cases were filed by land owners before Madras High Court. Finally, the case was dismissed by the High Court in August, 2013. The land could be taken over by the petitioner only in August, 2013 after court order. Accordingly, the entire process involved about 21 months from the date of application and the land could be made available to the petitioner after 7 months from the date of investment approval.

(ii) This contributed to delay in awarding the sub-station package and consequently delayed the activities of supply and erection of GIS equipment for establishment of Nagapattinam Sub-station. Further, the tendering process of sub-station package and bus reactor was initiated much in advance. However, the award was kept under hold considering the delay in land acquisition. Sub-station package for Nagapattinam was awarded in July, 2013 at the time when it emerged that possession of land would be given to the petitioner for establishment of sub-station.

(iii) The Commission vide order dated 22.8.2016 in Petition No. 416/TT/2014 has already taken into cognizance that the delay due to land acquisition and court cases is beyond the control of the petitioner, which resulted in delay in awarding the sub-station package which consequently delayed the activities of supply and erection of GIS equipment for establishment of GIS sub-station.

(iv) As regards delay in completion of 125 MVAr bus reactor at Nagapattinam, only 1 no. 400 kV reactor was envisaged. Hence, considering the economical procurement and also due to contractual exigencies, the said reactor was clubbed with other projects under implementation at that point of time. Accordingly, based on the schedule of other projects, contract could be awarded in January, 2015. The work completed within 18 months from the issue of LOA.

(v) There is a time over-run in commissioning of the instant asset and the infusion of fund has only started from 20.10.2014 (after 21 months from the date of Investment Approval) and thus the IDC of the delay period shall not be an additional burden on the beneficiaries. The Investment Approval time-line for completion of the project is 21 months, whereas, a total period of only 22 months from the date of infusion of fund upto the commissioning of the last element of the project has been taken.

19. We have considered the submissions of the petitioner. The time over-run of 5 months 28 days in case of Bay-1 and 8 months 26 days in case of Bay-2 in Nagapattinam Sub-station was condoned by the Commission vide order dated 22.8.2016 in Petition No. 416/TT/2014 as it was due to delay in getting possession of land. As the delay in getting possession of land for the Nagapattinam Sub-station was not attributable to the petitioner, the time over-run was condoned. The relevant portion of the order is as under:-

> "37 (i) Delay occurred in handing over possession of land for sub-station by the State Government Authorities. Application for allotment of land was submitted on 11.11.2011 and after the receipt of letter from RDO for payment dated 3.4.2012, payment of tentative cost of Rs.363 lakh was made on 7.4.2012. However, handing over possession of land was completed in August, 2013 after a delay of nearly one and half year. This contributed to delay in awarding the sub-station package and consequently delayed the activities of supply and erection of GIS equipment for establishment of Nagapattinam substation.
>
> (ii) Tendering process of sub-station package was initiated much in advance, however, the award was kept on hold considering the delay in land acquisition.

Sub-station package for Nagapattinam could be awarded in August, 2013 i.e. at the time when it emerged that possession of land would be given very soon for establishment of sub-station. Accordingly, as per the LOA, Nagapattinam GIS Sub-station was scheduled to be completed by February, 2015, but, the same has been commissioned on 1.4.2015. Thus, even though there was delay of more than 1.5 years in land acquisition, the total overall delay was reduced to 6 months only. As such, the delay was beyond its control.

(iii) Land acquisition problem, as land owners filed case in Hon'ble High Court of Madras vide WP No.35096 of 2012 for 10.36 acres and WP No. 4618 of 2013 for 13.017 acres, in which the Hon'ble High Court of Madras had ordered interim stay for 4 weeks for dispossession of land vide order dated 27.6.2012 and 22.2.2013 respectively. The cases continued till 1.8.2013. On 2.8.2013, the cases were dismissed by the Hon'ble High Court of Madras.

38. We have considered the submissions of TANGEDCO and the petitioner. It is observed that the time over-run in commissioning of the instant assets is due to the delay occurred in handing over possession of land for sub-station by the State Government Authorities. Application for allotment of land was submitted on 11.11.2011 and after making payment of tentative cost, within three days of the receipt of letter from RDO, possession of land was completed in August, 2013, after a delay of nearly one and half year, which resulted in delay in awarding the substation package which, consequently delayed the activities of supply and erection of GIS equipment for establishment of Nagapattinam Sub-station. In our opinion, the delay due to land acquisition and court cases is beyond the control of the petitioner. Hence, we are inclined to condone the delay of 5 months and 28 days in case of Asset-1 (Bay-1) and 8 months and 26 days in case of Asset-2 (Bay-2) respectively."

20. In the instant case, there is a time over-run of 21 months and 30 days. The petitioner has submitted that for economical procurement of reactors, the procurement of the instant reactor was clubbed with other projects under implementation at that point of time. Consequently, the contract for procurement of bus reactors was awarded in the month of January, 2015. The date of Investment Approval was 3.1.2013 and scheduled date of COD of the asset was 3.10.2014 and actual COD was 1.8.2016. It is observed that the petitioner after ensuring that the possession of the land for Nagapattinam Sub-station would be given in August, 2013, placed award for the sub-station package in July, 2013. However, the award for the instant package was placed only in January, 2015 much after the scheduled COD of 3.10.2014. We are of the view that the

petitioner should have placed the award for the instant Bus Reactor alongwith the award for sub-station package soon after land was handed over i.e. in July, 2013. As per the petitioner's submission, the award was placed for the instant Bus Reactor in January, 2015 to avail the benefits of combined procurement of the reactors. However, the petitioner has not submitted the details of the benefits accrued due to the combined procurement of the reactors. If the petitioner had placed the award for instant Bus Reactor in July, 2013 alongwith the sub-station package, the instant Bus Reactor may have been put into commercial operation alongwith the bays. The petitioner being aware of the scheduled COD of the instant reactor, had taken a conscious decision to postpone the date of placing the award for the instant reactor which has resulted in delay. Accordingly, we are of the view that the cost of delay in placing the award for the instant asset should be borne by the petitioner and could not be passed on to the beneficiaries of the instant assets. Therefore, we are not inclined to condone the time over-run from the date of the COD of the second Bay at Nagapattinam Sub-station on 28.6.2015 to the actual COD of the instant Bus Reactor on 1.8.2016, which is 13 months and 4 days. Accordingly, the IDC and IEDC for the period 28.6.2015 to 1.8.2016 are not allowed to be capitalised. To sum up, the time over-run of 13 months and 4 days is not condoned and as stated in para 19 of this order, time over-run of 8 months and 26 days is condoned.

Treatment of IDC

21. The petitioner has claimed IDC of ₹122.73 lakh for instant asset on accrual basis in Auditor Certificate dated 29.9.2016. The petitioner has further submitted that, out of ₹122.73 lakh, the amount of IDC discharged up to COD is ₹53.44 lakh and balance IDC of ₹61.45 lakh and ₹7.84 lakh has been discharged during

2016-17 and 2017-18 respectively. Taking into consideration the period of time over-run condoned and not condoned, the IDC allowable has been worked out as ₹7.01 lakh and the IDC disallowed is ₹115.72

Treatment of Incidental Expenditure During Construction (IEDC)

22. The petitioner has claimed IEDC of ₹320.75 lakh. The IEDC as per the abstract cost estimate mentioned in Investment Approval dated 3.1.2013, is 10.75% of the estimated hard cost. As discussed above, IEDC from 29.6.2015 to 31.7.2016 is disallowed. Considering the IEDC percentage on hard cost indicated in the abstract cost estimate and the time over-run not condoned, the allowable IEDC for tariff purpose has been worked out on pro-rata basis as ₹135.56 lakh. Hence, the disallowed IDC of ₹185.19 lakh has been reduced from the capital cost. The same shall be reviewed at the time of trueing-up based on the actual completion cost.

Initial Spares

23. The petitioner has not claimed any initial spare for the instant asset.

Capital cost as on COD

24. Details of the capital cost considered on COD for computing tariff are given below:-

(₹ In lakh)

Capital cost as on COD claimed by the petitioner	**IDC disallowed**	**IEDC disallowed**	**Capital cost as on COD considered for tariff calculation**
1	2	3	4 = (1-2-3)
2260.60	115.72	185.19	1959.68

Additional capital expenditure

25. 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."

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

> "cut-off date" means 31^{st} 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^{st} March of the year closing after three years of the year of commercial operation".

27. The cut-off date in the case of instant combined transmission asset is 31.3.2019.

28. The petitioner has submitted that the additional capitalization incurred/projected to be incurred is on account of balance/retention payments. The additional capital expenditure claimed by the petitioner for the instant assets are summarized hereunder:-

(₹ in lakh)

Particulars	2016-17	2017-18
As per Auditor Certificate	797.50	479.83
Discharge of IDC liability	61.45	7.84
Total ACE Claimed in Form 7 under Regulation 14(1)	858.95	487.67

29. As the IDC has been restricted due to the time over-run and adjusted in COD cost, the additional capital expenditure claimed towards discharge of IDC liability has not been considered. Accordingly, the following projected additional capital expenditure of ₹797.50 lakh and ₹479.83 lakh during 2016-17 and 2017-18 respectively as claimed in Auditor certificate has been considered for tariff purpose which is subject to true up.

30. Based on the above, the summary of capital cost considered for the purpose of tariff computation from COD to 31.3.2019 is given below:-

(₹ in lakh)

Capital cost allowed as on COD	Add cap for 2016-17	Add cap for 2017-18	Total estimated completion cost as on 31.3.2019
1959.68	797.50	479.83	3237.01

Debt-Equity Ratio

31. 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."

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

(₹ in lakh)

Particulars	**Capital cost as on COD**		**Capital cost as on 31.3.2019**	
	Amount	**%**	**Amount**	**%**
Debt	1371.78	70.00	2265.91	70.00
Equity	587.90	30.00	971.10	30.00
Total	**1959.68**	**100.00**	**3237.01**	**100.00**

Return on Equity

33. 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."

34. The petitioner has submitted that it is liable to pay income tax at MAT rate, the RoE has been calculated @ 20.243% after grossing up the RoE with MAT rate of 20.961% as provided under Regulation 25(2)(i) of the 2014 Tariff Regulations. As per Regulation 25(3) of the 2014 Tariff Regulations, the grossed up rate of RoE at the end of the financial year shall be trued up based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the IT authorities pertaining to the 2014-19 period on actual gross income of any financial year. Any under-recovery or over-recovery of grossed up ROE after truing up shall be recovered or refunded to the beneficiaries on year to year basis. The petitioner has further submitted that adjustment due to any additional tax demand including interest duly adjusted for any refund of the tax including interest received from IT authorities shall be recoverable/adjustable after completion of income tax assessment of the financial year. BRPL has submitted that effective tax rate should be allowed as per Regulation 25 of the 2014 Tariff Regulations and the petitioner should submit the details of working of effective tax rate.

35. We have considered the submissions made by 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. Accordingly, the MAT rate applicable during 2013-14 has been considered for the purpose of return on equity, which shall be trued up with actual tax rate in accordance with

Regulation 25 (3) of the 2014 Tariff Regulations. Accordingly, the RoE allowed is as follows:-

(₹ in lakh)

Particulars	**2016-17 (pro-rata)**	**2017-18**	**2018-19**
Opening Equity	587.90	827.15	971.10
Addition due to Additional Capitalisation	239.25	143.95	0.00
Closing Equity	827.15	971.10	971.10
Average Equity	707.53	899.13	971.10
Return on Equity (Base Rate)	15.50%	15.50%	15.50%
Tax rate for the year 2013-14 (MAT)	20.961%	20.961%	20.961%
Rate of Return on Equity (Pre-tax)	19.610%	19.610%	19.610%
Return on Equity (Pre-tax)	**92.37**	**176.32**	**190.43**

Interest on loan

36. 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."

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

(i) Gross amount of loan, repayment of instalments & rate of interest and weighted average rate of interest on actual average loan have been considered as per Form 9C given in the petition;

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

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

38. The petitioner has submitted that it be allowed to bill and adjust impact on Interest on Loan due to change in interest due to floating rate of interest applicable during 2014-19, if any, from the respondents. The interest on loan has been calculated on the basis of rate prevailing as on the tariff date of commercial operation. Any change in rate of interest subsequent to the tariff date of commercial operation will be considered at the time of truing- up.

39. Detailed calculation of the weighted average rate of interest has been given in **Annexure** to this order.

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

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Gross Normative Loan	1371.78	1930.03	2265.91
Cumulative Repayment upto Previous Year	0.00	82.28	239.59
Net Loan-Opening	1371.78	1847.75	2026.32
Addition due to Additional Capitalisation	558.25	335.88	0.00
Repayment during the year	82.28	157.31	169.98
Net Loan-Closing	1847.75	2026.32	1856.34
Average Loan	1609.77	1937.04	1941.33
Weighted Average Rate of Interest on Loan	8.5054%	8.4972%	8.4957%
Interest	**91.15**	**164.59**	**164.93**

Depreciation

41. 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."

42. The petitioner has claimed actual depreciation as a component of annual fixed charges. Depreciation has been allowed in accordance with Regulation 27 of the 2014 Tariff Regulations. The instant assets were put under commercial operation during 2016-17. Accordingly, it 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.

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

(₹ in lakh)

Particulars	**2016-17 (pro-rata)**	**2017-18**	**2018-19**
Opening Gross Block	1959.68	2757.18	3237.01
Additional Capital expenditure	797.50	479.83	0.00
Closing Gross Block	2757.18	3237.01	3237.01
Average Gross Block	2358.43	2997.10	3237.01
Rate of Depreciation	5.2403%	5.2488%	5.2511%

Depreciable Value	2122.59	2697.39	2913.31
Remaining Depreciable Value	2122.59	2615.11	2673.72
Depreciation	**82.28**	**157.31**	**169.98**

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

44. 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.

45. 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.

46. The O&M Expenses claimed by the petitioner for the instant asset are as follows:-

(₹ in lakh)

2016-17 (pro-rata)	2017-18	2018-19
36.68	56.84	58.73

47. The O&M norms specified for the instant asset for the 2014-19 tariff period in Regulation 29(4) of the 2014 Tariff Regulations are as follows:-

(₹ in lakh)

Element	2014-15	2015-16	2016-17	2017-18	2018-19
400 kV GIS	51.54	53.25	55.02	56.84	58.73

48. The O&M Expenses for the instant assets have been calculated as per Regulation 29(4)(a) of the 2014 Tariff Regulations and it is as given below:-

(₹ in lakh)

2016-17 (pro-rata)	**2017-18**	**2018-19**
36.62	56.84	58.73

<u>Interest on Working Capital (IWC)</u>

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

"**28. Interest on Working Capital**

(1) The working capital shall cover:

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

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

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

(iii) Operation and maintenance expenses for one month"

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

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

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

(i) Receivables

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

(ii) Maintenance spares

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

(iii) O & M Expenses

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

(iv) Rate of interest on working capital

As per proviso 3 of Regulation 28 of the 2014 Tariff Regulation, SBI Base rate 9.30% as on 1.4.2014 plus 350 Bps i.e. 12.80% has been considered as the rate of interest on working capital.

51. The interest on working capital as determined is shown in the table given below:-

(₹ in lakh)

Particulars	**2016-17 (pro-rata)**	**2017-18**	**2018-19**
Maintenance Spares	8.26	8.53	8.81
O & M expenses	4.59	4.74	4.89
Receivables	77.66	94.82	99.77
Total	90.51	108.08	113.47
Interest (12.80%)	**7.71**	**13.83**	**14.52**

Transmission charges

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

(₹ in lakh)

Particulars	2016-17 (pro-rata)	2017-18	2018-19
Depreciation	82.28	157.31	169.98
Interest on Loan	91.15	164.59	164.93
Return on equity	92.37	176.32	190.43
Interest on Working Capital	7.71	13.83	14.52
O & M Expenses	36.68	56.84	58.73
Total	**310.20**	**568.90**	**598.59**

Filing Fee and Publication Expenses

53. The petitioner has sought reimbursement of fee paid by it for filing the petition and publication expenses, in terms of Regulation 52 of the 2014 Tariff Regulations. The petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with clause (1) of Regulation 52 of the 2014 Tariff Regulations.

Licence Fee and RLDC Fees and Charges

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

Sharing of Transmission Charges

55. TANGEDCO vide affidavit dated 2.12.2016 has made the following submissions:-

a) NSL Power Pvt. Ltd. (NSLPPL), PEL Power Ltd. (PELPL) and IL&FS Tamil Nadu Power Co. Ltd have applied for LTA of 800 MW, 987 MW and 1150 MW respectively.

b) As per the terms of BPTA/LTA, the operationalisation of LTA could be done only on completion of the essential common transmission system designed for that purpose. However, the petitioner operationalised the part LTA through implementation of the interim arrangement and the contingency scheme in respect of evacuation of power from IL&FS.

c) The assets are part of the common transmission scheme associated with ISGS exclusively designed for IPPs. As PELPL and IL&FS entered into BPTA with the petitioner, the petitioner should have claimed the transmission charges from the concerned IPPs till the beneficiaries are firmed up. Further, the petitioner has not impleaded IL&FS and PELPL in the instant petition and in Petition No. 214/TT/2016.

d) TANGEDCO has entered into Power Purchase Agreement only with IL&FS for 540 MW and it does not have any PPA with other two IPPs. Further, the other two IPPs have not firmed up till date.

e) The original scheme was designed for evacuation of 2937 MW (LTOA) from the three IPPs. The 765 kV system along with line and bus reactors to limit the system voltage were approved. But, with only one generation having firmed up and other two generators having stalled their projects, the need for 765 kV systems should have been reviewed. If the petitioner had real intention of commissioning the system at 400 kV level, then there would not be any necessity for 125 MVAR bus Reactor. The asset is redundant. The petitioner has violated the Transmission Planning Criteria of CEA.

f) In the absence of target beneficiaries, drawl points in ISTS and long term PPA to be executed by generation projects, the petitioner should have revisited the transmission scheme and approached the Commission for approval.

g) In the Standing Committee and SRPC forums, the southern regional beneficiaries i.e., DICs have agreed upon the original schemes based on the commitment given by the petitioner that the transmission capacity will be built only for the firmed up capacity and the transmission charges will be borne by the IPPs till firming up of the beneficiaries. But, to the contrary, the petitioner has arbitrarily changed the entire scope of the scheme without the knowledge of the beneficiaries.

h) The petitioner has erected 400 kV bays for terminating the 765 kV lines. The two bays at each substation are intended for terminating the 765 kV D/C line between Nagapattinam Pooling Station and Salem Pooling Station (intended to be charged initially at 400 kV). The two reactors are intended for 765 kV System. But, the petitioner has erected 400 kV bays with associated control circuits instead of 765 kV bays for terminating the 765 kV lines which makes the 765 kV system permanently derated to 400 kV level and makes the establishment of 765/400 kV Pooling station technically infeasible.

i) In the absence of both generation as well as target beneficiaries, the intended transmission system will not serve its purpose rather will pileup the financial burden on the existing DICs. There is no upstream connectivity at 765 kV level and no target beneficiary at Salem Pooling Station or beyond. This condition makes the instant asset redundant and uneconomical.

j) The petitioner has not impleaded the LTA customers, who are actually the primary respondents responsible for payment of the transmission charges.

56. PGCIL in its rejoinder dated 12.1.2017 has made the following submissions:-

(a) The petitioner vide affidavit dated 7.1.2016 in Petition No. 36/TT/2014 has submitted that, the Unit-I of IL&FS was put into commercial operation from September, 2015. Whereas, the instant asset has been declared under commercial operation on 1.8.2016 and assets in Petition No. 214/TT/2016 has been declared under COD on 23.10.2016 i.e. after operationalisation of LTA of IL&FS which was duly acknowledged by the Commission in Petition No. 214/TT/2016, and accordingly, the transmission charges for these assets are included in PoC Computation.

(b) As regards the TANGEDCO's attempts of highlighting the viability of investments and sharing of transmission charges vis-a-vis restricting the liability to bear transmission charges only upon the generator and keep higher security mechanism from generators for securing investments of petitioner, it is submitted that such issues pertain to regulatory and policy amendments and cannot be addressed in Standing Committee Meetings. It is further submitted that the petitioner had filed a petition seeking regulatory approval from the Commission in Petition No. 233 of 2009 wherein the issues of seeking higher security mechanism and manner of sharing of transmission charges were duly deliberated and argued. TANGEDCO was a party to that petition and should have highlighted these issues in that petition, which was prior to the implementation of instant transmission assets. Once the assets are commissioned, the respondent cannot raise regulatory issues of determination of transmission charges, as there cannot be any deviation from the existing regulations at this juncture.

(c) The petitioner has submitted that, the issue of PELPL and commissioning of the assets at 400 kV have already been discussed and addressed by the Commission in its orders in Petition Nos. 36/TT/2014, 51/TT/2014 and 416/TT/2014.

57. During the hearing on 7.2.2017, learned counsel for TANGEDCO submitted that the transmission system was not approved by the SRPC and Standing Committee on Power System Planning. He submitted that the system was evolved in the 31st meeting of the Standing Committee on Power System Planning exclusively for power evacuation from three IPPs namely NSLPPL, PELPL and IL&FS. The transmission system has been executed specifically for these three IPPs and it has no beneficial use to the other respondents. With only one committed IPP out of three IPPs, the need for 765 kV system, was to be reviewed by the petitioner, which the petitioner failed to do despite its assurance in the special meeting of SRPC held on 25.11.2010.

58. Taking into consideration the submissions made by TANGEDCO, the Commission directed Chief (Engineering), to look into the issues raised by TANGEDCO with reference to various applicable regulations and submit a report. In pursuance of the directions of the Commission, a meeting with the representative of the petitioner, CTU, TANGEDCO and SRPC was held on 10.7.2017 and a report was submitted. A copy of the said report was provided to

all the respondents in the present proceedings and they were directed to provide their comments. The brief of the conclusion of report is as follows:-

> "10. The Commission vide order dated 19.09.2017 in petition No 235/TT/2016 has held that the transmission charges for Tuticorin Pooling Station-Salem Pooling Station 765 kV D/C line (initially charged at 400 kV) along with Bay extensions at Salem PS and Tuticorin Pooling Station and 80 MVAR Line Reactors at each end of both circuits of Tuticorin Pooling Station-Salem Pooling Station 765 kV D/C line (initially charged at 400 kV) shall be recovered through PoC mechanism. From the above, it is observed that the transmission charges shall be borne by IL&FS from the date of COD of the instant assets till operationalisation of LTA of IL&FS and it shall not be included in the computation of PoC charges. LTA of IL&FS was operationalised on 29.9.2015. From 29.09.2015 the transmission charges shall be considered in PoC pool. The instant petition covers 1X125 MVAR bus Reactor at Nagapattinam Sub-station and was declared COD on 1.08.2016. Since Nagapattinam Sub-station is already in PoC pool since 29.09.2015, the asset is form part of meshed network and therefore the transmission charges of the instant asset shall be included in PoC pool."

59. TANGEDCO in its comments on the report, vide affidavit dated 29.11.2017, has made the following submissions:-

(a) The Commission in its order 13.12.2011 in Petition No. 154/MP/2011 has directed as follows:-

> "In that case, the implementation of the elements under this scheme, which are part of HCPTC-XI, should be implemented in time frame of synchronization of NEW grid with SR grid, the balance elements of this corridor should be implemented in phases matching with the progress of the generating units."

The petitioner has failed to comply with the provisions of Regulations as well as directions of the Commission.

(b) The Commission vide its order dated 12.7.2016 in Petition No. 315/MP/2013 has observed as follows:-

> "32. CTU should take periodic review of progress of generating projects and its transmission system and re-plan/review the transmission plans in case there is adverse progress in generation projects. The review of transmission system would depend upon status of execution of transmission system. In case works for execution of transmission system has not been awarded, CTU can re-plan according to system studies at Standing Committee Meeting. In case works for execution of transmission project has been awarded and need

arises to replan, CTU should discuss the same at Standing Committee Meeting and endeavour to ensure that transmission system required for the system conveying different meaning is only built and beneficiaries not to be saddled with charges of the system which is not required. It is also noted that PGCIL never brought difficulties faced by the generators for which evacuation systems were planned by CEA and CTU to the notice of the Commission. In our view, PGCIL has not discharged the vital responsibilities assigned to it under the Act with respect to transmission planning"

The above observation of the Commission proves that the petitioner has not followed the detailed procedure mandated under Connectivity Regulations.

(c) The failure on the part of the LTA customers to implement the generation projects cannot be a reason for socializing the cost of the transmission assets.

60. In response, PGCIL vide affidavit dated 13.2.2018 made the following submissions:-

(a) The petitioner has complied with the all the prevailing provisions of applicable regulations. As regards the excerpts from the order granting regulatory approval for the instant transmission scheme, the petitioner has not only been diligent but also cautious of the status of the generation and has approached the commission for revision and annulment of the instant scheme when the system utilization was getting difficult due to relinquishment and order of NGT.

(b) The petitioner has implemented the instant transmission project as a part of Greenfield project. The Commission while granting regulatory approval had categorically stated that the system should be implemented even if one generation is under commissioning. In the instant case IL&FS has commissioned its Unit 1 and the power from that generating unit is being procured by TANGEDCO.

61. We have considered the submissions of the petitioner and TANGEDCO. On the basis of the submissions made, the following question arises for our consideration:-

(i) Whether the burden of the transmission system will be borne by the DIC's in the event of the failure of LTA customers to implement their generation projects?

(ii) Whether the petitioner should recover the transmission charges through PoC mechanism or from defaulting LTOA customers/generators?

62. As regards the first issue, CTU has submitted that about 7260 MW generation capacity was envisaged in Nagapattinam area from six number of IPPs- namely NSLPPL, PELPL, IL&FS, Sindya Power, Chettinad Power and Empee power. These IPP's applied for about 6258 MW LTA of which CTU granted LTA to NSLPPL, PELPL and IL&FS for about 2937 MW of which 1542 MW was towards SR, 842 MW towards WR and 553 MW towards NR. CTU submitted that the transmission system was initially planned with high capacity transmission corridor from Nagapattinam to Padghe via Salem, Madhugiri, Narendra, Kolhapur at the rated voltage of 765 kV. The Madhugiri-Narendra-Padghe section was dropped from the present scheme. TANGEDCO has submitted that the original scheme was designed for evacuation of 2937 MW (LTOA) from the three IPPS i.e. NSLPPL, PELPL and IL&FS. It remarked that when only one generation has firmed up and other two generators have stalled their projects then the need for 765 kV system should have been reviewed.

63. We have considered the submissions of the petitioner and TANGEDCO. It is observed that the Commission took note of the status of the generation projects related to the HCPTC XI in order dated 13.12.2011 in Petition No.154/MP/2011 and it is as under:-

"19. The petitioner has submitted the following with regard to the progress of work on corridor XI:

a) IPPs who have been granted LTA in the Nagapattinam/Cuddalore area and have signed BPTA and submitted Bank Guarantee are IL&FS Power Company Ltd (1200 MW) with LTA of 1150 MW and PEL Power Ltd (1050 MW) with LTA of 987 MW. Besides these, grant of Connectivity/LTA to two more generation projects viz. NSL Nagapatnam Power & Infratech (1320 MW) with LTA of 800 MW and PPN Power (1080 MW) with LTA of 360 MW has been finalized in the 12thConnectivity/LTA meeting held on 08.06.2011 at New Delhi.

b) BPTAs for the subject transmission system were signed by the petitioner before 5 January 2011. However, in line with the decisions of the Empowered Committee, the trunk transmission corridor is proposed to be developed under the Tariff based bidding and the pooling stations/Substations along with their interconnection with the grid would be implemented by the petitioner under cost plus basis.

c) The RFQ for package-A of the trunk transmission corridor viz. Nagapattinam - Salem 765 kV D/c line and Salem–Maduhgiri 765 kV S/c line for implementation through tariff based competitive bidding has already been issued and bids have been opened.

d) The time schedule specified in the RFQ for the scheme has been given as 36 months from the effective date as per the TSA approved by MOP. Therefore, assuming that the RFP process and effective transfer to IPTC is achieved by March, 2012, then the likely commissioning date for the system would be March, 2015.

e) The petitioner shall implement the associated substations/pooling stations and their interconnection to the grid matching with the above time schedule.

f) The studies for evolution of transmission system was discussed and finalised in consultation with CEA, generation developers and various utilities. It was agreed that the charges of the transmission system would be borne by the generation developers till the time beneficiaries are firmed up and agree to bear its transmission charges

g) As the synchronous operation of SR and NEW grid by 2013-14 through Raichur–Sholapur 765 kV 2xS/c lines is being achieved, it is desirable that Narendra–Kolhapur 765 kV D/c link should be available by that timeframe for smooth synchronization. Accordingly, the Narendra–Kolhapur section alongwith necessary interconnections has been decided to be delinked from generation development in the Cuddalore/Nagapattinam area and is being taken up separately as regional system strengthening scheme (SRSS-XVII). The 765 kV operation of this link shall be undertaken matching with the progress of generation projects in Cuddalore/Nagapattinam area.

h) The subject transmission system is required to be taken up for implementation immediately.

20. The petitioner has submitted that as per the report of site visit of the IPPs, in case of one generating station out of four power plants, i.e. IL&FS, physical activities like, construction of site office, construction of sub station for construction power etc. are under progress. In other three cases, there is no physical activity except fencing work at PEL Power Ltd. EPC orders were awarded by IL&FS and PPN Power, and in the other two cases, it is under process.

21. It is observed that the work of IL&FS (1200 MW) is in progress and there is possibility of implementation of PPN Power (1080 MW). Total LTA granted in this corridor is 3297 MW. Keeping in view the petitioner's submission that this transmission system would be required even if one generation project is materialized and the RFQ process for one of the trunk lines has already been started, the implementation of HCPTC-XI be taken up by the petitioner."

64. The petitioner has filed the instant petition for determination of tariff for 1 No 125 MVAr bus reactor at Nagapattinam GIS Sub-station. The Nagapattinam Pooling Station formed part of the High Capacity Power Transmission Corridors XI (HCPTC-XI) i.e. Transmission System associated with IPP Projects in Nagapattinam/Cuddalore Area of Tamil Nadu. The regulatory approval for HCPTC XI was granted by the Commission vide order dated 13.12.2011 in Petition No.154/MP/2011. While granting regulatory approval, the Commission made the following observations:-

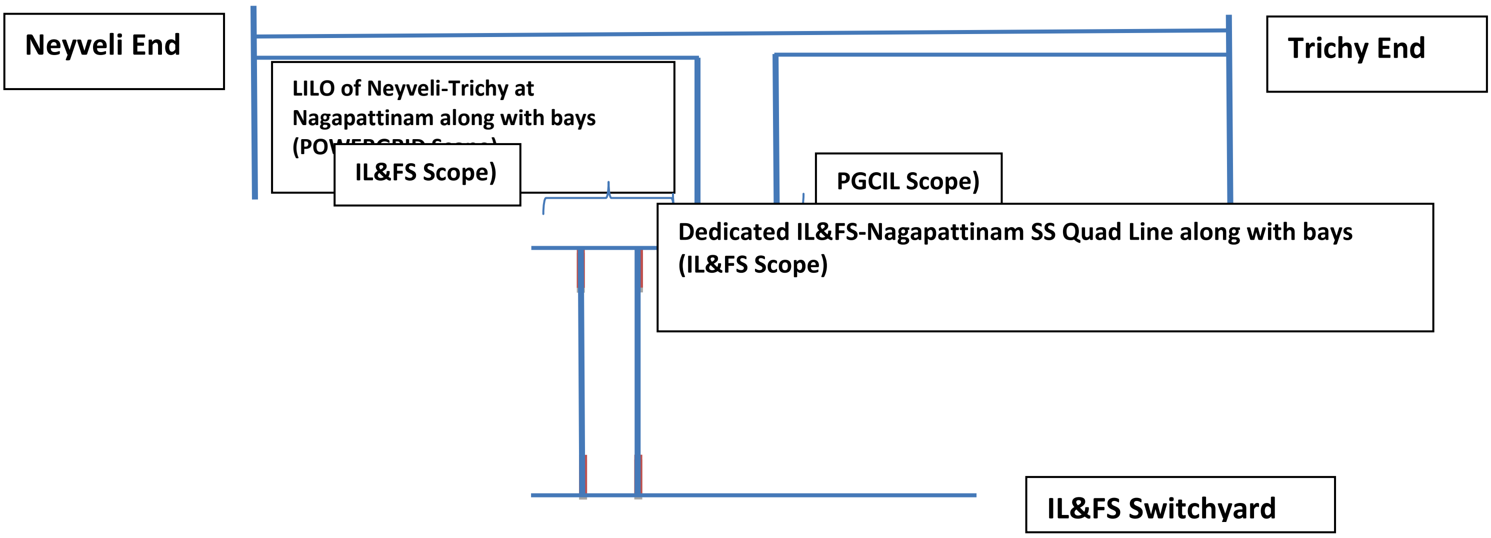
"21…….. Keeping in view the petitioner's submission that this transmission system would be required even if one generation project is materialized and the RFQ process for one of the trunk lines has already been started, the implementation of HCPTC-XI be taken up by the petitioner………"

65. It is clear that the Commission took into consideration that the instant transmission system is required even if one generation project is materialized and accordingly granted approval for construction of the HCPTC XI.

66. As regards the second issue, TANGEDCO has submitted that the petitioner has erected 400 kV bays for terminating the 765 kV lines. The two bays at each

sub-station are intended for terminating the 765 kV D/C line between Nagapattinam PS and Salem PS. The two reactors are intended for 765 kV System. The petitioner has erected 400 kV bays with associated control circuits instead of 765 kV bays for terminating the 765 kV lines which makes the 765 kV system permanently derated to 400 kV level. TANGEDCO also submitted that only one generation is firmed up and other two generators having stalled their projects the need for 765 kV system should have been reviewed. Further, as the petitioner has intended to commission the system at 400 kV level, there was no necessity of 125 MVAr bus reactor.

67. The original scheme diagram is as follows:-



68. It is observed that the LILO of ckt-1 of Neyveli-Trichy Line was declared under deemed COD on 3.5.2014 by connecting it to the dedicated ILFS Nagapattinam Quad line bypassing the Nagapattinam Sub-station (as the same was not ready then) on the request of IL&FS as per transmission agreement and the same is covered in Petition No 36/TT/2014. This LILO was energized on 22.1.2015 and start up power was drawn by IL&FS from 22.1.2015 from Neyveli

and Trichy. On 1.4.2015, Nagapattinam Sub-station along with Neyveli and Trichy bays at Nagapattinam was charged and the Trichy portion of the LILO (which was connected to dedicated IL&FS -Nagapattinam Sub-station Quad line) was terminated at the Nagapattinam Sub-station i.e. Nagapattinam-Trichy was connected on 1.4.2015. However, IL&FS bays at Nagapattinam Sub-station for the dedicated IL&FS-Nagapttinam Sub-station quad line was not ready in April, 2015 and in order to provide the start-up power to IL&FS, connection of the Neyveli portion (i.e. Neyveli-dedicated IL&FS-Nagapattinam line) remained unchanged and the start-up power to IL&FS was provided through this Neyveli-dedicated IL&FS-Nagapattinam line only.

69. The Neyveli bay at Nagapattinam was charged on 1.4.2015 along with the Trichy Bay but in order to provide start-up power to IL&FS, Neyveli portion of the LILO was not terminated on this bay. However, dedicated IL&FS-Nagapattinam Sub-station quad line (which was earlier connected to the Trichy portion of the LILO) was terminated to this bay in order to complete the power flow.

70. The IL&FS bays at Nagapattinam were ready only in June, 2015. Thus the dedicated IL&FS-Nagapattinam Quad line was terminated at Nagapattinam in June, 2015 and subsequently, Neyveli portion of the LILO was connected to its desired bay and thus RLDC certificate for this bay has been issued with date as 27.6.2015.

71. With regard to the sharing of the transmission charges, the Commission in order dated 20.7.2016 in Petition No. 51/TT/2015 gave the following directions:-

> "67. TANGEDCO has submitted that the petitioner has stated that as per the approval of the Standing Committee and SRPC during 36th and 23rd meetings respectively, the transmission scheme has been evolved as a contingency plan for

evacuation of power from IL&FS till such time of completion of original scheme for evacuation of power from IL&FS. The transmission charges have to be borne by IL&FS. It has been stated that on commissioning of Nagapattinam-Salem 765 kV line and Salem-Madhugiri 764 kV line, the tariff of instant assets covered under contingency plan will be included in the PoC charges and shared by the respondents of this petition. Therefore, it is submitted that on commissioning of Nagapattinam-Salem 765 kV line and Salem-Madhugiri 764 kV line, the assets covered under the instant petition will become redundant and the respondents need not pay the charges. Hence, it is requested that the petitioner be directed to claim the tariff from IL&FS and any other beneficiary availing LTA for the life time of the asset.

68. PELPL has submitted that the transmission system including the pooling station has been planned and envisaged to be established by the petitioner with the full knowledge that the PELPL would not be utilising the pooling station in question and with full knowledge that the generating station would not come up to use the system. Further, as per the suggestion of the petitioner itself, the 2nd pooling station may be proposed which may be utilised and the said proposal was accepted by PELPL. The pooling station and associated facilities in question has been proposed to be established much after PELPL had stated that it would not be requiring the present pooling station as the generating station is delayed due to force majeure conditions, and hence PELPL should not have been arrayed as a respondent to the present proceedings or be levied with transmission charges for the pooling station in question. In the circumstances, the question of continued use of open access and payment of transmission charges does not arise.

69. IL&FS has submitted that TANGEDCO had contended that on commissioning of Nagapattinam-Salem and Salem-Madhugiri 765 KV lines, the instant assets will become redundant and the respondents need not pay the transmission charge since the scheme was evolved as a contingency plan for evacuation of power till completion of original scheme for evacuation of power from IL&FS. Thus, the transmission tariff is to be claimed by the petitioner from IL&FS and any other beneficiaries availing LTA for the life time of the instant assets. However, it is evident that under the present scenario, only one generation project of IL&FS (1150MW) is functional and the likelihood of any further generation projects in the vicinity in the near future is uncertain in Nagapattinam/Cuddalore area and as stated by the petitioner, the LILO arrangement identified in the contingency plan and common transmission system shall provide additional reliability to the grid, therefore, it becomes a part of main transmission system. As such, the petitioner has stated that AFC shall be shared as per Regulation 43 of the 2014 Tariff Regulations and these charges shall be recovered on monthly basis and shall be borne by IL&FS from the date of commissioning till such date when the transmission charges for the system is included under the billing, collection and disbursement of transmission charges to be governed by provision of Central Electricity Regulatory Commission (Sharing of inter-State Transmission Charges and Losses) Regulations, 2010 (2010 Sharing Regulations). IL&FS has submitted that that CTU granted the operationalisation of LTA of 540 MW to its generation project subject to completion of LILO of 2nd Circuit of Neyveli-Trichy 400 kV D/C line covered under the contingency scheme. The petitioner commissioned the LILO of 2nd circuit of Neyveli-Trichy covered under the contingency scheme and operationalised the LTA of 540 MW from IL&FS generation project to TANGEDCO and on the same day of the operationalisation of the LTA, IL&FS generation project commenced the power supply to TANGEDCO. Further, as advised by the petitioner and in compliance with the requirement of 2010 Sharing Regulations

IL&FS is paying the PoC charges as applicable for withdrawal zone in Tamil Nadu since the date from operationalisation of LTA i.e. 29.9.2015 for 540 MW and has established letter of credit in favour of the petitioner towards payment security. The instant assets are implemented by the petitioner on the direction of Commission due to delay in implementation of main trunk line viz. Nagapattinam-Salem and Salem Madhugiri 765 kV Transmission lines by NMTNL, (a wholly owned subsidiary of the petitioner). IL&FS has submitted that the petitioner has amply clarified that LILO arrangement identified in the contingency plan and common transmission system shall provide additional reliability to the grid, therefore, it becomes a part of main transmission system. IL&FS has requested to include the transmission charges for the instant assets in the PoC charges under 2010 Sharing Regulations.

70. The petitioner vide affidavit dated 27.5.2015 has submitted that no specific agreement is signed w.r.t. instant assets and with regard to the date from which the LILO of Neyveli-Trichy line and Nagapattinam Sub-station shall be considered in the pool for sharing of transmission charges, the following need to be considered:-
a) In the absence of specific agreement regarding the payment of transmission charges for these assets, the same shall have to be considered in the pool for sharing transmission charges from the COD.

b) The LILO of the 2nd circuit of the Neyveli-Trichy D/C Line at Nagapattinam PS is executed exclusively for evacuation of power from IL&FS. Hence, the same has to be considered as dedicated line constructed for IL&FS. In such case the charges are payable by the generator as per Clause 5 of Regulation 8 of 2010 Sharing Regulations.

71. We have considered the submissions of the petitioner, TANGEDCO, PELPL and IL&FS. LTA of IL&FS was operationalised on 29.9.2015. Asset-1 was also commissioned on 29.9.2015 and hence Asset-I shall be considered in POC pool from 29.9.2015 and Asset-2 from 9.11.2015. Accordingly 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 from date of COD of assets."

72. With regard to the sharing of the transmission charges, the Commission vide order dated 31.5.2016 in Petition No. 36/TT/2014 gave the following directions:-

"57. The approved transmission charges from the date of COD to 28.9.2015 shall be billed to and paid by IL&FS. Thereafter, w.e.f. 29.9.2015, 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."

73. With regard to the sharing of the transmission charges, the Commission vide order dated 22.8.2016 in Petition No 416/TT/2014 gave the following directions:-

> "83. The petitioner, vide RoP dated 24.11.2014 was directed to submit a copy of LTA agreement and the date from which the LILO of Neyveli-Trichy line and Nagapattinam Sub-station shall be considered in the pool for sharing of transmission charges. The petitioner, in response, vide affidavit dated 20.2.2015, has submitted that as per Regulation 8(6) of (Sharing of Interstate Transmission Charges and losses), Regulations, 2010, the transmission charges for these assets shall become part of the PoC as and when the first unit of the generation station of IL&FS will be put under commercial operation. The petitioner has further submitted that the generating company has agreed to bear the transmission charges for advancing the commissioning of Nagapattinam Sub-station and LILO of one circuit of 400 kV Neyveli-Trichy D/C Line at Nagapattinam PS.
>
> 84. We have considered the submissions of TANGEDCO which have been earlier discussed at para-11 to para-12 of this order and of the petitioner. While granting AFC under Regulation 7(7) of the 2014 Tariff Regulations for the instant assets, it was observed that the transmission charges will be borne by IL&FS from the commissioning of the transmission assets till the date it becomes regional asset. The relevant portion of order dated 11.5.2015 is extracted hereunder:-
>
> "6...............However, the transmission charges allowed will not be included in the PoC charges at this stage. The transmission charges for the instant asset shall be borne by IL&FS from the date of commissioning till it becomes regional asset and thereafter it will be included in the PoC computation. The petitioner is directed to submit the Indemnification/Implementation Agreement, if any, with IL&FS, status of project and the date from which the transmission line would be included in the PoC computation."
>
> 85. We are of the view that the transmission charges approved in this order shall be borne by IL&FS from the date of COD of the instant assets till operationalisation of LTA of IL&FS and it shall not be included in the computation of PoC charges. Thereafter, 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."

74. The instant petition covers 1X125 MVAR bus Reactor at Nagapattinam Sub-station and was declared COD on 1.8.2016. Since Nagapattinam Sub-station is already in PoC pool since 29.9.2015, the asset forms part of meshed network and, therefore, the transmission charges of the instant asset shall be included in PoC pool from date of COD as per directions in orders quoted above.

75. Accordingly, the transmission charges shall be recovered on monthly basis in accordance with Regulation 43 of Central Electricity Regulatory Commission (Terms and Condition of Tariff) Regulations, 2014 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.

76. This order disposes of Petition No. 222/TT/2016.

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

Annexure

CALCULATION OF WEIGHTED AVERAGE RATE OF INTEREST ON LOAN

(₹ in lakh)

	Details of Loan	2016-17	2017-18	2018-19
1	**SBI Loan10000 (1.5.2014)**			
	Gross loan opening	147.41	**147.41**	**147.41**
	Cumulative Repayment upto COD/previous year	0.00	**0.00**	**0.00**
	Net Loan-Opening	147.41	147.41	147.41
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	147.41	147.41	147.41
	Average Loan	147.41	147.41	147.41
	Rate of Interest	9.55%	9.55%	9.55%
	Interest	14.08	14.08	14.08
	Rep Schedule	22 semiannual installments from 15.6.2019		
2	**Bond XLVII**			
	Gross loan opening	54.99	**54.99**	**54.99**
	Cumulative Repayment upto COD/previous year	0.00	**0.00**	**0.00**
	Net Loan-Opening	54.99	54.99	54.99
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	4.58
	Net Loan-Closing	54.99	54.99	50.41
	Average Loan	54.99	54.99	52.70
	Rate of Interest	8.93%	8.93%	8.93%
	Interest	4.91	4.91	4.71
	Rep Schedule	Annual installments from 20.10.2018		
3	**Bond L**			
	Gross loan opening	492.80	**492.80**	**492.80**
	Cumulative Repayment upto COD/previous year	0.00	**0.00**	**0.00**
	Net Loan-Opening	492.80	492.80	492.80
	Additions during the year	0.00	0.00	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	492.80	492.80	492.80
	Average Loan	492.80	492.80	492.80
	Rate of Interest	8.40%	8.40%	8.40%
	Interest	41.40	41.40	41.40
	Rep Schedule	12 annual installments from 27.5.2019		
4	**Bond LI**			
	Gross loan opening	779.56	**779.56**	**779.56**
	Cumulative Repayment upto COD/previous year	0.00	**0.00**	**0.00**
	Net Loan-Opening	779.56	779.56	779.56
	Additions during the year	0.00	0.00	0.00

	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	779.56	779.56	779.56
	Average Loan	779.56	779.56	779.56
	Rate of Interest	8.40%	8.40%	8.40%
	Interest	65.48	65.48	65.48
	Rep Schedule	12 annual installments from 14.9.2019		
5	**Bond LIV**			
	Gross loan opening	59.16	**102.17**	**107.66**
	Cumulative Repayment upto COD/previous year	0.00	**0.00**	**0.00**
	Net Loan-Opening	59.16	102.17	107.66
	Additions during the year	43.01	5.49	0.00
	Repayment during the year	0.00	0.00	0.00
	Net Loan-Closing	102.17	107.66	107.66
	Average Loan	80.67	104.92	107.66
	Rate of Interest	7.97%	7.97%	7.97%
	Interest	6.43	8.36	8.58
	Rep Schedule	3 equal installments on 15.7.2021,15.7.2026 and 15.7.2031		
	Total Loan			
	Gross loan opening	1533.92	1576.93	1582.42
	Cumulative Repayment upto COD/previous year	0.00	0.00	0.00
	Net Loan-Opening	1533.92	1576.93	1582.42
	Additions during the year	43.01	5.49	0.00
	Repayment during the year	0.00	0.00	4.58
	Net Loan-Closing	1576.93	1582.42	1577.84
	Average Loan	1555.43	1579.68	1580.13
	Rate of Interest	8.5054%	8.4972%	8.4957%
	Interest	132.30	134.23	134.24