CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 253/GT/2014

Coram:
Shri Gireesh B. Pradhan, Chairperson
Shri A.K.Singhal, Member
Shri A. S. Bakshi, Member
Dr. M. K. Iyer, Member

Date of Order: 26.9.2016

In the matter of

Approval of tariff in respect of NLC Thermal Power Station Stage-I (600 MW) for the period 2014-19

AND

Neyveli Lignite Corporation Limited
Neyveli House,
135, EVR Periyar Road,
Kilpauk, Chennai – 600010 **…Petitioner**

Vs

Tamil Nadu Generation and Distribution Company Ltd
800- Anna Salai
Chennai – 600002 **...Respondent**

Parties Present:

Ms. Anushree Bardhan, Advocate, NLC
Ms. Poorva Saigal, Advocate, NLC
Shri. J Dhanasekaran, NLC
Shri S Vallinayagam, Advocate, TANGEDCO
Shri. R.Jayaprakash, TANGEDCO

ORDER

This petition has been filed by the petitioner, NLC, for determination of tariff in respect of NLC, TPS-I (6 x 50 MW + 3 x 100 MW) (hereinafter referred to as "the generating station") for the period from 1.4.2014 to 31.3.2019, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter referred to as "the 2014 Tariff Regulations").

2. The generating station with a total capacity of 600 MW comprises of 6 units of 50 MW each and 3 units of 100 MW each. The date of commercial operation of the different units of the generating station is as under:

Units	Capacity (MW)	Date of commercial operation (COD)
Unit-I	50	23.5.1962
Unit-II	50	23.1.1963
Unit-III	50	11.6.1963
Unit-IV	50	27.10.1963
Unit-V	50	29.4.1964
Unit-VI	50	24.8.1965
Unit-VII	100	28.3.1967
Unit-VIII	100	12.2.1969
Unit-IX	100	21.2.1970

3. The Commission vide order dated 9.4.2012 in Petition No. 20/2010 had approved tariff for NLC-TPS-I (600 MW) for the period from 1.4.2009 to 31.3.2014, based on the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2009. Thereafter, the Commission by suo motu order dated 1.5.2012 corrected certain inadvertent clerical errors in order dated 9.4.2012. Aggrieved by order dated 9.4.2012, the petitioner sought review of the order in the Petition No. 13/RP/2012. Subsequently, the Commission vide order dated 7.6.2013 in Review Petition No.13/RP/2012 had observed as under:-

"23………..The petitioner has submitted that since the claims for minimum additional expenditure essentially required to run the generating station was claimed based on the directive of the Commission, subjecting the said claims to Regulation 9(2) and disallowing the same is an error apparent on the face of the order. We do not agree with the said submissions. Directing the petitioner to submit additional information in order to examine the same cannot be construed as a promise by the Commission to allow the same, especially considering the fact that the generating station had already completed useful life of more than 25 years and had undergone R&M and is to be phased out by the year 2014. Taking in to consideration that the expenditure claimed by the petitioner in respect of assets is considered necessary for compliance with statutory obligations and for sustenance of generation up to the year 2014 as per requirement of the respondent, TANGEDCO and keeping in view the absence of a provision for consideration of such expenditure under Regulation 9(2) of the 2009 Tariff Regulations and the need to maintain a balance between the bare minimum requirement for the generating station and at the same time minimize the financial burden on the respondent, the Commission by a conscious decision relaxed the provisions of Regulation 19 (e) of the 2009 Tariff Regulations particularly, the allowance meant for the generating station between 21 to 25 years of operation i.e 0.65 lakh/MW/year, to be made applicable for this generating station beyond 25 years of operation. We are of the considered view that issues which have been decided on merit cannot be

reopened by the petitioner in review proceedings. In view of this, there is no error apparent on the face of record and review on this count fails."

4. Accordingly, the tariff of the generating station for the period 2009-14 as determined vide order dated 9.4.2012 remained unchanged in the order dated 7.6.2013. Thereafter, the Commission vide order dated 26.5.2016 in Petition No. 472/GT/2014 had revised the tariff of the generating station for the period 2009-14 after truing-up exercise in terms of Regulation 6(1) of the 2009 Tariff Regulations. Accordingly, the annual fixed charges approved for the generating station for the period 2009-14 in the said order dated 26.5.2016 as under:

(₹ in lakh)

	2009-10	2010-11	2011-12	2012-13	2013-14
Return on Equity	2878	2402	1936	1498	1085
Interest on Loan	43	42	40	39	37
Depreciation	1991	1991	1991	1991	1991
Interest on Working Capital	2811	2853	2904	2948	3001
O & M Expenses	16200	17124	18108	19140	20238
Cost of secondary fuel oil	2417	2417	2423	2417	2417
Separate Compensation Allowance	390	390	390	390	390
Total	**26731**	**27219**	**27793**	**28422**	**29159**

5. The annual fixed charges claimed by the petitioner for the period 2014-19 are as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	847	966	1018	1027	955
Interest on Loan	35	34	32	31	29
Depreciation	76	221	358	542	1013
Interest on Working Capital	5130	5232	5325	5431	5547
O & M Expenses	22872	24312	25842	27468	29196
Cost of secondary fuel oil	0	0	0	0	0
Compensation allowance	600	600	600	600	600
Total	**29560**	**31364**	**33175**	**35098**	**37340**

6. In response to the directions of the Commission, the petitioner has submitted the additional information and has served copies on the respondents. The respondent TANGEDCO has filed its reply and the petitioner has filed its rejoinder to the said reply. The matter was heard on 5.1.2016 and the Commission after directing the petitioner to file certain additional information reserved its order in the petition. Based on the submissions of the parties and the documents available on record, we proceed

to determine the tariff of the generating station for the period 2014-19 as stated in the subsequent paragraphs.

Opening Capital Cost as on 1.4.2014

7. Clause (1) of Regulation 9 of the 2014 Tariff Regulations provides that 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. Clause (3) of Regulation 9 provides as under:

> *"9(3) The Capital cost of an existing project shall include the following:*
>
> *(a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;*
> *(b) xxxx*
> *(c) xxxx*

8. Clause 2 of Regulation 48 of the 2014 Tariff Regulations provides as under:

> *"The tariff of the existing generating stations of Neyveli Lignite Corporation Ltd, namely, TPS-I and TPS-II (Stage I & II) and TPS-I (Expansion) and Badarpur TPS of NTPC Ltd., whose tariff for the tariff periods 2004-09 and 2009-14 has been determined by following the Net Fixed Assets approach, shall continue to be determined by adopting Net Fixed Assets approach"*

9. The petitioner has claimed the opening capital cost of ₹46868 lakh as on 1.4.2014 based on the Net Fixed Asset (NFA) methodology adopted for determination of tariff for the generating station for 2014-19. The Commission in order dated 26.5.2016 in Petition No.472/GT/2014 had approved the closing capital cost of ₹46867.55 lakh as on 31.3.2014. This has been considered as the opening capital cost as on 1.4.2014 for determination of tariff for the period 2014-19

Projected Additional Capital Expenditure (2014-19)

10. Clause (3) of Regulation 7 of the 2014 Tariff Regulations provides that the application for determination of tariff shall be based on admitted capital cost including any additional capital expenditure already admitted upto 31.3.2014 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2014-15 to 2018-19. Regulation 14 (3) of the 2014 Tariff Regulations provides as under:

“14.(3) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts after the cut-off date, may be admitted by the Commission, subject to prudence check:

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;

(ii) Change in law or compliance of any existing law;

(iii)Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies or statutory authorities responsible for national security/internal security;

(iv) Deferred works relating to ash pond or ash handling system in the original scope of work;

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;

(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal / lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;

(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolesce of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and

(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014

Provided further that any capital expenditure other than that of the nature specified above in (i) to (iv) in case of coal/lignite based station shall be met out of compensation allowance:

Provided also that if any expenditure has been claimed under Renovation and Modernisation (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation."

11. The projected additional capital expenditure towards capital additions claimed by the petitioner for the period 2014-19 is as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Direct Asset Addition	494.62	92.00	123.00	0.00	0.00
Common Asset Addition	349.00	349.00	349.00	349.00	349.00
Total additional capital expenditure	**843.62**	**441.00**	**472.00**	**349.00**	**349.00**

12. The detailed break-up of the projected additional capital expenditure claimed by the petitioner vide affidavit dated 25.5.2016 for the period 2014-19 is as under:

(₹ in lakh)

Direct Assets	Regulations	Projected Additional Capital Expenditure					
		2014-15	2015-16	2016-17	2017-18	2018-19	Total
Smoke Detector for Cable galleries	14(3)(ii) 14(3)(iii)	61.00	-	-	-	-	61.00
Magnetic Separator	14(3)(iii)	40.00	-	-	-	-	40.00
145 KV CTs (9 Nos)	14(3)(iii)	19.08	-	-	-	-	19.08
Retro fitting of 12 KV MOCBs	14(3)(iii)	11.34	-	-	-	-	11.34
Unit Safe shut down system	14(3)(iii)	10.00	-	-	-	-	10.00
220 KV CTs (6 Nos.) & 33 KV CTs (6 Nos)	14(3)(iii)	20.00	-	-	-	-	20.00
Strengthening of ACD Bund and providing of Additional surplus weir and well	14(3)(iv)	150.00	-	-	-	-	150.00
Providing New pipe line for Drinking of LHS Area	14(3)(ii)	10.00	-	-	-	-	10.00
On line Monitoring of stack emissions & Effluent Treatment and uploading online data to TNPCB & CPCB	14(3)(ii)	50.20	-	-	-	-	50.20
RLA Study for Unit 1	14(3)(iii)	16.00	-	-	-	-	16.00
RLA Study for Unit 9	14(3)(iii)	28.00	-	-	-	-	28.00
MOH of Turbo generator in connection with RLA Study of Unit 1	14(3)(iii)	38.00	-	-	-	-	38.00

MOH of Turbo generator in connection with RLA Study of Unit 9	14(3)(iii)	41.00	-	-	-	-	41.00
145 KV CTs (6 Nos)	14(3)(iii)	-	13.00	-	-	-	13.00
Fire Extinguishers	14(3)(ii) 14(3)(iii)	-	10.00	-	-	-	10.00
RLA Study for Unit 7	14(3)(iii)	-	28.00	-	-	-	28.00
MOH of Turbo generator in connection with RLA Study of Unit 7	14(3)(iii)	-	41.00	-	-	-	41.00
RLA Study for Unit 2	14(3)(iii)	-	-	16.00	-	-	16.00
RLA Study for Unit 8	14(3)(iii)	-	-	28.00	-	-	28.00
MOH of Turbo generator in connection with RLA Study of Unit 2	14(3)(iii)	-	-	38.00	-	-	38.00
MOH of Turbo generator in connection with RLA Study of Unit 8	14(3)(ii)	-	-	41.00	-	-	41.00
Total		494.62	92.00	123.00	0.00	0.00	709.62

13. The respondent, TANGEDCO vide affidavit dated 26.5.2016, has mainly submitted that the petitioner has claimed these expenditure under Regulation 14 (2) of the 2014 Tariff Regulations which relates to capital expenditure in respect of new projects and not those expenditures which pertain to the existing projects which are in service and are beyond the cut-off date. It is further submitted that expenditure of ₹40.00 lakh claimed towards magnetic separator, ₹11.34 lakh towards retro fitting of 12 kV MOCBs, ₹10.00 lakh towards new pipeline for drinking in LHS area may be met out from O&M expenses under Regulation 29 (1) (d) of the 2014 Tariff Regulations. With regard to expenditure of ₹61.00 lakh towards smoke detector for cable galleries, the petitioner has not furnished any certificates in support of its claim. In addition, expenditure of ₹10.00 lakh claimed towards fire fighting equipment is of minor in nature and does not fall under the scope of Regulation 14 of the 2014 Tariff Regulations. Accordingly, it has prayed that the claim of the petitioner under Regulation 14 (2) of the 2014 Tariff Regulations may not be allowed.

14. We have examined the submissions. It is observed that all the units of the generating station have completed more than 44 years and have undergone extensive R&M activities and life extension

of another 15 years during April, 1992 to March, 1999 after normal useful life of 25 years. All the units are in depleted condition and considering the acute power shortage in the state of Tamil Nadu and persistent demand by the state, it was proposed to operate the generating station till 2014 with the consent of the respondent TANGEDCO (sole beneficiary of the generating station) under the life extension program and the generating station was proposed to be phased out by 2014.

15. The Commission vide order dated 9.4.2012 in Petition No. 20/2010 relating to the tariff of the generating for the period 2009-14 had taken a conscious view not to allow any additional capital expenditure for this generating station, as the same was to be phased out by the year 2014. However, considering the need to maintain a balance between the bare minimum requirement for the generating station and at the same time minimize the financial burden on the respondent, compensation allowance was allowed to the generating station by invoking the power to relax provision with the following observations:

> *"18. The claims of the petitioner for additional capitalization has been considered against the provisions of Regulation 9(2) and it is found that the expenditure cannot be allowed under any of the provisions of Regulation 9(2) of the 2009 Tariff Regulations. These expenditures are required for the successful operation of the generating station. In the 2004 Tariff Regulations applicable for the period 2004-09, Regulation 18(2)(iv) provided for the consideration of capital expenditure in respect of any additional works/services which have become necessary for efficient operation of the generating station, but not included in the original project cost. This provision was however not continued under the 2009 Tariff Regulations. However, in order to meet the expenses on new assets of capital nature including in the nature of minor assets, the Commission under Regulation 19(e) of the 2009 Tariff Regulations has provided for a separate compensation allowance following the year of completion of 10, 15 or 20 years of useful life of the generating station.*
>
> *19. As stated, the claim of the petitioner for capitalization of expenditure for 2009- 14 in respect of assets/works do not fall under any of the provisions of Regulation 9(2) of the 2009 Tariff Regulations. Regulation 19(e) of the 2009 Tariff Regulations, provide for a normative compensation allowance for generating stations which have completed 10, 15 or 20 years of useful life. Admittedly, the generating station has completed useful life of 25 years and had also undergone R&M for life extension and is to be phased out by the year 2014. The expenditure claimed by the petitioner in respect of the assets is considered necessary for compliance with statutory obligations and for sustenance of generation upto the year 2014 as per requirement of the respondent, TANGEDCO. Hence, keeping in view the absence of a provision for consideration of such expenditure under Regulation 9(2) of the 2009 Tariff Regulations and considering the need to maintain a balance between the bare minimum requirement for the generating station and at the same time minimize the financial burden on the respondent, we are of the view that the said expenditure should be allowed by relaxing the provisions of Regulation 19(e) of the 2009 Tariff Regulations, particularly, the allowance meant for the generating station between 21 to 25 years of operation, to be made applicable for this generating station beyond 25 years of operation. Accordingly, in exercise of power under Regulation 44 of the 2009 Tariff Regulations, we relax the provisions of Regulation 19(e) of the 2009 Tariff Regulations to allow compensation allowance @0.65 lakh/MW/year for this generating station for the period 2009-14, in lieu of additional capitalization."*

16. The projected additional capital expenditure claimed by the petitioner has been considered in line with the decision taken by the Commission in order dated 9.4.2012 in Petition No. 20/2010 while approving the tariff of the generating station for the period 2009-14. In view of the above decision, the petitioner has not been allowed any additional capital expenditure and compensation allowance for the period 2014-19.

17. However, the petitioner is granted liberty to claim replacement of any components/ system on need basis for the period 2014-19 under capital spares as per the proviso under Regulation 29(2) of the 2014 Tariff Regulations and the same can be claimed at the time of truing up of tariff with appropriate justification for incurring such expenditures.

18. With regard to claim of the petitioner towards capital additions for common assets, the Commission in its various orders for the period 2009-14 had not allowed the same, since, the normative O&M expenditure allowed to the generating station also include corporate office expanses which would also include common office assets. On similar grounds, the common office expenditure for the period 2014-19 is not allowed as the same is included in normative O&M allowed to the generating station.

Capital Cost

19. As stated, the closing capital cost of ₹46867.55 as on 31.3.2014 as allowed by the Commission vide order dated 26.5.2016 in Petition No. 472/GT/2014, has been considered as the opening capital cost as on 1.4.2014 for determination of tariff for the period 2014-19. Accordingly, the capital cost allowed for the purpose of tariff for the period 2014-19 is as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening Capital Cost	46867.55	46867.55	46867.55	46867.55	46867.55
Additional Capital Expenditure	0.00	0.00	0.00	0.00	0.00
Closing Capital Cost	46867.55	46867.55	46867.55	46867.55	46867.55

Return on Equity

20. Regulation 24 of the 2014 Tariff Regulations provides 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.

21. Regulation 25 of the 2014 Tariff Regulations provides as under:

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.

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year 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 income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term transmission customers/DICs as the case may be on year to year basis.

22. The base rate of ROE has been grossed up with the MAT rate (20.961%) for the year 2013-14. Accordingly, in terms of the above regulations, Return on Equity has been computed as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Average Equity	3706	3788	3870	3952	4034
Rate of ROE (pre-tax)	19.610%	19.610%	19.610%	19.610%	19.610%
Return on Equity	**727**	**743**	**759**	**775**	**791**

23. The petitioner is directed to furnish on affidavit, the effective tax rates along with the Tax Audit Report for the period 2015-19 at the time of truing-up exercise in respect of the generating station in terms of the 2014 Tariff Regulations.

Interest on loan

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

***26. Interest on loan capital**: (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 up to the date of de-capitalization 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.

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such re-financing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

(8) The changes to the terms and conditions of the loans shall be reflected from the date of such re-financing.

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute:

Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.

25. The Commission vide order dated 9.4.2012 in Petition No. 20/2010 observed as under:

"26. The petitioner has adopted the Net Fixed Asset methodology. As per loan agreement, KFW was to extend to the borrower a loan not exceeding DM 65,000,000 in two portions namely:
Portion - I - DM 32,500,000
Portion - II - DM 32,500,000.

27. As per the repayment schedule, Portion -II was to be repaid on 30.6.2006 and the repayment with regard to Portion -I was to commence in 30.12.2006, which would continue till 30.6.2036, well beyond the expiry of LEP of the plant i.e 31.3.2014. Thus, there is a mismatch between LEP and the repayment of the loan. In response to query regarding the treatment of the outstanding loan as on 31.3.2014, the petitioner has clarified that the repayment obligation of the portion of outstanding KFW loan as on 31.3.2014 i.e. after the closure of TPS-I, would be made by debiting the loan account and crediting the bank account and the Interest and Foreign Exchange thereon will be taken to the general profit and loss account. Therefore, along with other expenses, the outstanding loan as on 31.3.2014 is to be paid by the petitioner from its own resources."

26. Considering the above view, Commission observed that the position of actual loan outstanding as on 31.3.2019 or closure of the plant whichever is earlier shall be paid by the petitioner from its own resources.

27. As the Net Fixed Asset methodology has been considered in case of the generating station of the petitioner, the actual loan, actual repayment and the actual rate of interest has been considered for the purpose of calculation of interest on loan. The weighted average rate of interest on loan for the period 2014-19, @ 1.95%, has been considered for the calculation of interest on loan, as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Gross Normative Loan	3896	3896	3896	3896	3896
Cumulative Repayment	2042	2124	2206	2288	2370
Net Loan-Opening	1854	1772	1690	1608	1526
Repayment during the year	82	82	82	82	82
Addition due to Additional Capitalization	0	0	0	0	0
Net Loan-Closing	1772	1690	1608	1526	1444
Average Loan	1813	1731	1649	1567	1485
Weighted Average Rate of Interest	1.95%	1.95%	1.95%	1.95%	1.95%
Interest on Loan	**35**	**34**	**32**	**31**	**29**

Depreciation

28. Since the entire depreciable value has been depreciated as on 31.3.2014 vide order dated 26.5.2016 in Petition No. 472/GT/2014 and with additional capitalization allowed for the period 2014-19 is NIL, the remaining depreciable value and depreciation for the period 2014-19 is NIL.

O & M Expenses

29. Regulation 29(1) (d) of the 2014 Tariff Regulations, provides the following O&M expense norms for NLC TPS-I, Lignite fired generating station:

(₹ in lakh/MW)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
38.12	40.52	43.07	45.78	48.66

30. Accordingly, the O&M expenses allowed for the period 2014-19 are as under:

(₹ in lakh)

2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
22872	24312	25842	27468	29196

Water Charges

31. As per Regulation 29(2) of the 2014 Tariff Regulations, the water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The petitioner has claimed water charges for the period 2014-19 as under:

(₹in crore)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total Amount
Raw water charges on account of drawl from lake	0.18	0.18	0.18	0.18	0.18	0.90
Water cess paid to Tamil Nadu Pollution Control Board	0.040	0.040	0.040	0.040	0.040	0.1998
Annual Water consent fee	0.015	0.015	0.015	0.015	0.015	0.0736
Total	**0.235**	**0.235**	**0.235**	**0.235**	**0.235**	**1.1734**

32. Respondent TANGEDCO vide affidavit dated 26.5.2015 has submitted that petitioner has abundant water resources and is utilizing the underground water for condenser cooling and boiler and that the petitioner is self sufficient in water resources, no need arises to pay any charges to external agencies towards water charges. Hence, the claim towards water charges does not arise. It is further submitted that the expenditure per annum furnished by the petitioner is approximately ₹23.50 lakh only and cumulatively for the tariff period 2014-19 comes around to ₹117 lakh per annum which is not correct as per the water charges statement furnished by the petitioner.

33. In response, the petitioner in rejoinder to the reply of TANGEDCO, vide affidavit dated 4.3.2016 has submitted that there was an inadvertent mistake and the water charges may be considered as ₹117.34 lakh per annum.

34. Further, the petitioner vide affidavit dated 25.5.2016 in reply to the additional information as directed by the Commission, have submitted as under:

Description	Remarks
Type of Plant	Coal/lignite
Type of cooling water system	Induced draft cooling tower
Consumption of water in 2013-14	16790989 kl/Annum
Rate of water charges in 2013-14	₹0.5418 /kl
Total water charges in 2013-14	₹9097693

35. The petitioner vide affidavit dated 25.5.2016 has further clarified in their submission, that contracted quantum of water is not applicable as the water required are sourced from Mines and in-house bore wells. It is submitted that all the turbines of the generating station are of condensing type with induced draft closed circuit cooling system. The petitioner had submitted the actual water consumption and rate of water charges for the last 5 years i.e from 2009-10 to 2013-14 as under:

Year Ending	Consumption Quantity in (KL) (A)	Pumping Charges (B)	Water Cess/ Consent fee (C)	Total Water Charges (₹ in lakh) (D=B+C)	Rate of Water Charges (₹/KL) (E=D/A)
31.3.2010	21896692	8233156	3975467	12208623	0.5576
31.3.2011	19689708	7403330	3290660	10693990	0.5431
31.3.2012	19889482	7478445	3299261	10777706	0.5419
31.3.2013	17223347	6475978	2859857	9335835	0.5420
31.3.2014	16790989	6313412	2784281	9097693	0.5418

Water charges for 2014-19

36. We have examined the matter. The petitioner is not paying any water charges based on any Water Agreement with the State Govt. agency. However, the petitioner has claimed water charges on the basis of pumping charges and water cess/ consent fee, it is paying to the statutory body on the quantum of water the plant has consumed.

37. From the submissions and details available it is observed that the payment of pumping charges @ ₹0.376/ KL and water cess @5.00 paise/KL is made by the petitioner in compliance with the notification of MOEF dated 6.5.2003. as per TNPCB letter dated 26.2.2011 it is observed that the water consent fee for the year 2011-12 paid by the petitioner was ₹7.36 lakh. Accordingly, we have considered the projected water consent fee as ₹7.36 lakh per annum for the period 2014-19.

38. In absence of any contracted quantum of water and in order to examine the reasonableness of the Consumptive water based on norms of CEA report on minimization of water requirement (for 500 MW unit size-3 M3/Hr/MW), a norm of 3.5 m^3/hr/MW has been considered for the generating station considering the smaller size units which works out to 18.39 million KL per annum (i.e. 3.5x600x8760).

The average of actual water consumption in the generating station during 2009-14 has been worked out as 19.10 million KL per annum which is higher than 18.39 million KL per annum. And actual water consumption in the station has been found minimum of 16.79 million KL per annum in the year 2013-14 which is within 18.39 million KL. It is further observed from the actual consumption of water for the period 2009-14 that consumption of water was maximum during 2009-10 and minimum during 2013-14. The petitioner has not furnished any reason regarding the variation in the quantity of water. Considering the CEA report on minimization of water requirement, the water charges has been allowed for the period 2014-19 based on water consumption of 16790989 KL during 2013-14. Accordingly, the projected water charges based on the rate of pumping charges of ₹0.376/KL, water cess of ₹0.05/KL and annual water consent fee of ₹736042 for the period 2014-19 is worked out as under:

Year	Projected Quantity Considered (KL) (1)	Pumping Charges (₹0.376/KL) (2)=(1)x0.376	Water cess Rate (₹0.05/KL) (3)=(1)x0.05	Water Consent Fee (Rs/Annum) (4)	Projected Water charge Allowed (₹ in lakh) (5)= (2)+(3)+(4)
2014-15	16,790,989	6313411.864	839549.45	736042	78.89
2015-16	16,790,989	6313411.864	839549.45	736042	78.89
2016-17	16,790,989	6313411.864	839549.45	736042	78.89
2017-18	16,790,989	6313411.864	839549.45	736042	78.89
2018-19	16,790,989	6313411.864	839549.45	736042	78.89

39. The water charges allowed as above is subject to truing-up at the end of the tariff period for which the petitioner is directed to place on record all relevant information.

40. The total O&M expenses including water charges as allowed for tariff purpose for the period 2014-19 is as under:

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
O&M Expenses as allowed	22872	24312	25842	27468	29196	129690
Water Charges as allowed	78.89	78.89	78.89	78.89	78.89	78.89
O&M Expenses as allowed	**22950.89**	**24390.89**	**25920.89**	**27546.89**	**29274.89**	**130084.45**

Statutory fees for General Hospital

41. The petitioner as per the notice issued by TNPCB to General hospital/NLC, has claimed consent fee of ₹143880 and water cess of ₹22995 for the year 2014-15 for prevention & control of pollution and fees & charges towards the compliance of Bio medical wastes towards the renewal of Consent order under the Water (P&CP) Act 1974 as amended and Air (P&CP) Act 1981 under GO Ms No 71 and 72 Environment and Forests (EC.1) department dated 26.5.2010.

42. The petitioner has further submitted that in compliance with the Bio Medical Water Rule, 1998, the petitioner has to dispose of the bio medical waste. In addition, petitioner has submitted that the collection and disposal activities have been outsourced and the cost of outsource is ₹830375 per annum and this amount is not covered under normative O&M expenses. Accordingly, the petitioner may be permitted to recover the same from the beneficiaries on pro rata basis.

43. The respondent TANGEDCO vide affidavit dated 26.5.2015 has submitted that the petitioner has not mentioned the regulation under which the claim for disposal of Bio medical waste is made also there is no provision for inclusion of the same under the 2014 Tariff Regulations. The respondent TANGEDCO has further submitted that the Commission in its order dated 7.6.2013 in Petition No 13/RP/2012 has disallowed the additional capital expenditure claim of the petitioner towards hospital purpose. Hence, the claim of the petitioner is beyond the scope of the regulations and liable to be rejected in limine.

44. We have considered the submission. In above background, we are not in the agreement with the submissions made by the petitioner. The normative O&M expenses allowed to the generating station is worked out after considering the actual O&M expenses of the generating station during 2008-09 to 2012-13. Similar expenditure is also incurred by NTPC & other generating stations and is not claimed separately. The expenditure claimed by the petitioner cannot be allowed beyond normative O&M expenses allowed to the generating station.

Norms of Operation

45. The petitioner has considered the following parameters in respect of NLC - Thermal Power Station-I for computation of tariff for the period 2014-19:

Target Availability	%	72
Auxiliary Energy Consumption	%	12
Gross Station Heat Rate	kCal/kWh	4000
Specific Fuel Oil Consumption	ml/kWh	1.50

Target Availability

46. Regulation 36(A) (b) of the 2014 Tariff Regulations provides the target availability of Lignite-fired Thermal generating stations of Neyveli Lignite Corporation Ltd. as under:

"36 (A) Normative Annual Plant Availability Factor (NAPAF)
(b) Following Lignite-fired Thermal generating stations of Neyveli Lignite Corporation Ltd:

TPS-I	*72%*
TPS-II Stage I & II	*75%*
TPS-I (Expansion)	*80%*

47. Hence, the Target Availability norm of 72% considered by the petitioner for the period 2014-19 is in order and is allowed.

Auxiliary Power Consumption

48. Regulation 36(E)(d)(iii) of the 2014 Tariff Regulations, provides Auxiliary Energy Consumption of the generating station as under:

"36 (E) Auxiliary Energy Consumption
(d) Lignite-fired thermal generating stations:
(iii) TPS-*I, TPS-I (Expansion) and TPS-II Stage-I&II of Neyveli Lignite Corporation Ltd.:*

TPS-I	*12.00%*
TPS-II Stage I & II	*10.00%*
TPS-I (Expansion)	*8.50%*

49. Hence, the Auxiliary Energy Consumption of 12% considered by the petitioner is as per norms and is allowed.

Heat Rate (kcal/kwh)

50. Regulation 36(C)(a)(v) of the 2014 Tariff Regulations, provides Gross Station Heat Rate for the generating station as under:-

"36 (C) Gross Station Heat Rate
(a) Existing Thermal Generating Station
(v) TPS-I and TPS-II (Stage I & II) of Neyveli Lignite Corporation Ltd:

TPS I	*4000 kCal/kWh*
TPS II	*2900 kCal/kWh*
TPS I (Expansion)	*2750 kCal/kWh*

51. Hence, the Heat rate of 4000 kCal/kWh considered by the petitioner is as per norms and is allowed.

Specific Oil Consumption

52. Regulation 36(D)(b)(ii) of the 2014 Tariff Regulations, provides Secondary fuel oil Consumption of 1.50 ml/kWh for the generating station. Hence, the Secondary fuel oil Consumption considered by the petitioner is as per norms and is allowed.

Interest on Working capital

O&M expenses for 1 month

53. Regulation 28(a)(vi) of Tariff Regulations, 2014 provides operation and maintenance expenses for one month for coal-based/ lignite fired generating station. The One (1) month O&M expenses including water charges as allowed for tariff purpose is as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1913	2033	2160	2296	2440

Maintenance spare

54. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulation provides for maintenance spares @ 20% of the operation & maintenance expenses. The maintenance spares @ 20 % of the O&M expenses including water charges is as under:

(₹ in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
4590	4878	5184	5509	5855

Fuel component for working capital

55. The petitioner has claimed the following cost for fuel component in working capital:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of lignite for 45 days	10934	10934	10934	10934	10934
Cost of secondary fuel oil for 2 months	490.64	491.98	490.64	490.64	490.64

56. The cost of lignite in working capital as above has been calculated by the petitioner based on the weighted average price of ₹1567/tonne and GCV of 2670 kCal/Kg for lignite during the months of January, 2014, February, 2014 and March, 2014. The cost of secondary oil is based on price & GCV of secondary oil for the preceding three months of January, 2014, February, 2014 and March, 2014.

57. It is observed that the petitioner vide affidavit dated 23.5.2015 in Petition No.149/MP/2015 has sought for revision of Lignite transfer price for the period 2009-14 based on the Ministry of Coal, GOI guidelines dated 11.6.2009 on account of truing up of additional capital expenditure for the period 2009-14, O&M expenses in mines, Income tax interest & ROE, FERV etc as follows:-

(₹ in lakh)

Year/Mines	2009-10	2010-11	2011-12	2012-13 Up to 9.5.2012	2012-13 from 10.5.2012	2013-14
Mine-I (₹/Tonne)	1168	1245	1329	1443	1453	1535

58. However, the revision of lignite transfer price of the petitioner is pending for consideration. However, the lignite transfer price approved by the Commission in order dated 5.2.2014 in Petition No.167/MP/2011 is as under:-

(₹ in lakh)

Year/Mines	2009-10	2010-11	2011-12	2012-13	2013-14
Mine-I (₹/Tonne)	1067	1140	1229	1326	1434

59. In case of the generating stations of the petitioner, the price of fuel for the preceding three months i.e. January, 2014, February, 2014 and March, 2014 would mean the price of lignite for the year 2013-14. The lignite transfer price for the generating station for the year 2013-14 as allowed by the Commission in order dated 5.2.2014 in Petition No.167/MP/2011 was ₹1434/tonne. Hence, the lignite transfer price of ₹1434 for the year 2013-14 as approved by the Commission in the said dated 5.2.2014 has been considered for computing fuel components and 2 months energy charges in working capital. The price & GCV of lignite and secondary oil as adopted by the petitioner and considered by the Commission are as under.

Description	**As adopted by Petitioner**	**As considered by Commission**
Price of Lignite (₹/Tonne)	1567	1434
GCV of Lignite (Kcal/kg.)	2670	2670.334
Price of Secondary fuel oil (₹/KL)	51860	51859.95
GCV of Sec. Fuel oil (Kcal./Kg)	9769	9769.284

60. Based on the weighted average GCV and price of fuels and in terms of Regulation 28(1)(a) of the 2014 Tariff Regulations, cost for fuel components in working capitals and 2 months energy charge works out as under:

(₹ in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Cost of Lignite for 45 days	9985.21	9985.21	9985.21	9985.21	9985.21
Cost of Secondary Fuel oil for 2 months	490.64	491.98	490.64	490.64	490.64
Energy Charges for 2 months	13989.16	14027.48	13989.16	13989.16	13989.16

Energy Charge Rate (ECR)

61. The petitioner has claimed an Energy Charge Rate (ECR) of 2.751 ₹/kWh based on the weighted average price, GCV of Lignite & Oil procured and burnt for the preceding three months as per the 2014 Tariff Regulations.

62. The ECR worked out based on operational norms specified in 2014 Regulations and price and GCV of fuels as above, and as given below, has been allowed:

	Unit	2014-19
Capacity	MW	(6x50 + 3x100) = **600**
Gross Station Heat Rate	Kcal/kWh	4000
Aux. Energy Consumption	%	12
Weighted average GCV of oil	Kcal/lit	9769.284
Weighted average GCV of Lignite	Kcal/kg	2670.334
Weighted average price of oil	Rs/KL	51859.95
Weighted average price of Lignite	Rs/MT	1434
Rate of energy charge ex-bus	Rs/kWh	2.520

63. The ECR as computed above may be considered for computing 2 months energy charge in working capital.

64. Month to month ECR shall be calculated based on formula given in Regulation 30(6) (a) of the 2014 Tariff Regulation, due to monthly variation in actual GCVs as the Lignite Transfer Price (Primary Fuel) determined on year-wise.

65. The petitioner has claimed Foreign Exchange Rate Variation on guarantee fee, interest and loan repayment. As such, FERV on interest on loan and repayment loan shall be recoverable from the respondent in accordance with Regulation 50 of the 2014 Tariff Regulation.

Interest on working Capital

66. The Interest on working capital has been worked out as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expense	1913	2033	2160	2296	2440
Receivables	18246	18542	18777	19067	19376
Maintenance Spare	4590	4878	5184	5509	5855
Secondary Fuel oil cost	491	492	491	491	491
Fuel Stock	10124	10152	10124	10124	10124
Total Working Capital	**35364**	**36097**	**36736**	**37487**	**38285**
Interest Rate	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	**4774**	**4873**	**4959**	**5061**	**5168**

Annual Fixed Charges for 2014-19

67. The annual fixed charges for the period 2014-19 in respect of the generating station is summarized as under:

(₹ in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	727	743	759	775	791
Interest on Loan	35	34	32	31	29
Depreciation	-	-	-	-	-
Interest on Working Capital	4774	4873	4959	5061	5168
O & M Expenses	22951	24391	25921	27547	29275
Total	**28487**	**30041**	**31671**	**33413**	**35263**

Application Fee and Publication Expenses

68. The petitioner has sought the reimbursement of filing fee and also the expenses incurred towards publication of notices for application of tariff for the period 2014-19. The petitioner has deposited tariff filing fees of ₹2640000/- for the period 2014-15 in terms of the provisions of the Central Electricity Regulatory Commission (Payment of Fees) Regulations, 2012. The petitioner vide affidavit dated 30.9.2014 has submitted that it has incurred ₹353474/- as charges towards publication of the said tariff petition in the newspapers. Accordingly, in terms of Regulation 52 of the 2014 Tariff Regulations and in line with the decision in Commission's order dated 6.1.2016 in Petition No.232/GT/2014, the petitioner shall be entitled to recover the filing fees for the year 2014-15 and the expenses incurred on publication of notices for the period 2014-19 directly from the respondents. The filing fees for the remaining years of the tariff period 2015-19 shall be recovered pro rata after deposit of the same and production of documentary proof.

69. The annual fixed charges approved for the period 2014-19 as above are subject to truing-up in terms of Regulation 8 of the 2014 Tariff Regulations.

70. Petition No. 253/GT/2014 is disposed of in terms of the above.

-Sd/-	***-Sd/-***	***-Sd/-***	***-Sd/-***
(Dr. M.K.Iyer)	**(A.S Bakshi)**	**(A.K.Singhal)**	**(Gireesh B Pradhan)**
Member	**Member**	**Member**	**Chairperson**