CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

<u>Petition No. 367/GT/2020</u>

Coram:

Shri P. K. Pujari, Chairperson
Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member

Date of Order: **9th June, 2022**

In the matter of:

Petition for truing-up of tariff of Circulating Fluidized Bed Combustion Technology based NLC Thermal Power Station-II Expansion Units I & II (500 MW) for the period from their actual date of commercial operation till 31.3.2019.

And

In the matter of:

NLC India Limited,
First Floor, No.8, Mayor Sathyamurthy Road,
FSD, Egmore Complex of Food Corporation of India, Chetpet,
Chennai-600031 **....Petitioner**

Vs

1. Tamil Nadu Generation and Distribution Corporation Limited,
   NPKRR Maaligai, 144, Anna Salai,
   Chennai – 600002

2. Power Company of Karnataka Limited,
   KPTCL Complex, Kaveri Bhavan,
   Bangalore – 560009

3. Bangalore Electricity Supply Company Limited,
   Krishna Rajendra Circle,
   Bangalore - 560 001

4. Mangalore Electricity Supply Company Limited,
   Corporate Office, MESCOM Bhavana, Bejai, Kavoor Cross Road,
   Mangalore 575 004

5. Chamundeshwari Electricity Supply Corporation Limited,
   Corporate Office No CA 29, Vijayanagar, 2nd Stage, Hinakal,
   Mysore -570017

6. Gulbarga Electricity Supply Company Limited,
   Station Main road,

Gulbarga -585 102, Karnataka

7. Hubli Electricity Supply Company Limited,
Corporate office, P.B.Road, Navanagar,
Hubli - 580 025

8. Kerala State Electricity Board Limited,
Vaidyuthi Bhavanam, Pattom,
Thiruvananthapuram-695004

9. Puducherry Electricity Department,
137, NSC Bose Salai,
Puducherry – 605 001 **….Respondents**

Parties Present:

Ms. Anushree Bardhan, Advocate, NLC
Ms. Srishti Khindaria, Advocate, NLC
Shri Nambirajan, NLC
Shri Srinivasan, NLC
Shri AK Sahani, NLC
Shri S. Vallinayagam, Advocate, TANGEDCO
Shri B. Rajeswari, TANGEDCO
Shri R. Ramalakshmi, TANGEDCO

ORDER

This petition has been filed by the Petitioner, NLC for truing-up of tariff of Circulating Fluidized Bed Combustion (CFBC) Technology based NLC Thermal Power Station-II (Expansion) (2 x 250 MW) (in short 'the project/generating station') for the period from their actual date of commercial operation (COD) of Unit-I & Unit-II till 31.3.2019, based on Regulation 8(1) of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2014 ('the 2014 Tariff Regulations').

2. The actual COD of Unit-I and Unit-II are 5.7.2015 and 22.4.2015 respectively. The installed capacity of the project is 500 MW with CFBC lignite boilers feeding to turbines. The Petitioner has entered into Power Purchase Agreements (PPA) with the Respondent beneficiaries and the Ministry of Power, GOI, has allocated the power generated from this project amongst the respondent beneficiaries. The allocation of

power from the generating station to the Respondents, as per the MOP, GOI letter dated 9.3.2004 is as under:

Name of the Beneficiaries	**Allocation (in %)**	**Allocation (in MW)**
Tamil Nadu	46	230
Karnataka	22	110
Kerala	14	70
Pondicherry	3	15
Un-allocated	15	75
Total	**100**	**500**

3. The Commission vide its order dated 24.7.2017 in Petition No. 146/GT/2015, had approved the tariff of the generating station for the period from COD of Unit-II to 31.3.2019. Aggrieved by the said order dated 24.7.2017, the Petitioner had filed Review Petition No. 39/RP/2017 and by order dated 19.12.2018, the Commission, while allowing the claim of the Petitioner with regard to the computation of interest on loan to be considered at the time of truing-up of tariff, also granted liberty to the Petitioner to raise the issue of initial spares, base lignite price and auxiliary power consumption at the time of truing up of tariff. The claims of the Petitioner with regard to the error on the issues of time overrun, consequential IDC and IEDC, Station Heat Rate and inclusion of cost of limestone for computing interest on working capital, were however rejected by the said order dated 19.12.2018. Against the orders dated 24.7.2017/19.12.2018, the Petitioner has filed appeal (Appeal No. 145 of 2019) before the Appellate Tribunal for Electricity ('the Tribunal') and the Tribunal has passed order dated 23.9.2019 and clarificatory order dated 1.6.2020, with regard to the maintainability of the said appeal. The appeal is pending for a final decision on merits and the Petitioner has filed this petition, without any prejudice to the appeal.

4. The capital cost and the annual fixed charges allowed by order dated 24.7.2017 in Petition No. 146/GT/2015, are as under:

Capital Cost allowed

(Rs. in lakh)

	2015-16		2016-17	2017-18	2018-19
	22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**			
Opening capital cost excluding IDC, normative IDC, liabilities	112530.65	238274.95	0.00	0.00	0.00
IDC allowed	27281.65	58661.76	0.00	0.00	0.00
Normative IDC allowed	5109.44	13340.58	0.00	0.00	0.00
Opening Capital Cost	144921.75	310277.29	316916.00	335354.26	335354.26
Discharge of Liabilities	0.00	6638.71	18438.26	0.00	0.00
Closing capital cost	**144921.75**	**316916.00**	**335354.26**	**335354.26**	**335354.26**

Annual Fixed Charges allowed

(Rs.in lakh)

	2015-16		2016-17	2017-18	2018-19
	22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**			
Depreciation	1535.38	12167.21	17089.48	17572.56	17572.56
Interest on Loan	2008.42	15480.57	19683.83	17099.73	14988.49
Return on Equity	1732.14	13726.42	19279.48	19824.47	19824.47
Interest on Working Capital	454.19	3619.70	4937.87	4954.88	5100.84
O&M Expenses	1296.86	9451.08	13564.19	14414.19	15319.19
Total	**7026.98**	**54444.98**	**74554.85**	**73865.84**	**72805.56**

Present Petition

5. Regulation 8(1) of the 2014 Tariff Regulations provides as under:

> *"8. Truing up*
>
> *(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2019, as admitted by the Commission after prudence check at the time of truing up:*
>
> *Provided that the generating company or the transmission licensee, as the case may be, shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17."*

6. In terms of Regulation 8(1) of the 2014 Tariff Regulations, the Petitioner has filed the present Petition for truing up of tariff of the generating station from actual COD of

the units till 31.3.2019 and has claimed the following capital cost and annual fixed charges:

Capital Cost claimed

(Rs. in lakh)

	2015-16		2016-17	2017-18	2018-19
	22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 31.3.2016 (Unit-I & Unit-II)			
Opening Capital Cost	144921.75	310277.29	316963.29	322181.29	322824.29
Add: Release of LD of A0-6 Package (50% reduced in the final order dated 24.7.2017)	0.00	0.00	0.00	0.00	276.49
Add: Cost of arbitration as awarded in arbitration order in A0-6 Arbitration	0.00	0.00	0.00	0.00	20.41
Add: Post award interest on total award amount as given in arbitration order in A0-6 Arbitration	0.00	0.00	0.00	0.00	201.80
Add: Interest on LD Withheld as given in arbitration order in A0-6 Arbitration	0.00	0.00	0.00	0.00	97.27
Discharge of Liabilities	0.00	6686.00	5218.00	643.00	255.86
Closing capital cost	**144921.75**	**316963.29**	**322181.29**	**322824.29**	**323676.27**
Average capital cost	144921.75	313620.29	319572.29	322502.79	323250.28

Annual Fixed Charges claimed

(Rs. in lakh)

	2015-16		2016-17	2017-18	2018-19
	22.4.2015 to 4.7.2015 (Unit-II) *	5.7.2015 to 31.3.2016 (Unit-I & Unit-II) *			
Depreciation	7588.97	16423.04	16734.72	16888.18	16912.85
Interest on Loan	9927.37	20888.53	19228.35	17167.54	15124.44
Return on Equity	8567.05	18539.66	18891.52	19064.75	19160.34
Interest on Working Capital	2198.23	5082.65	5205.00	5225.79	5380.92
O&M Expenses	6405.93	12904.82	13755.62	14732.48	15490.81
Total	**34687.56**	**73838.71**	**73815.21**	**73078.74**	**72069.35**

Annualized values

7. The Respondent, TANGEDCO and Respondent, KSEBL have filed their reply affidavits on 21.11.2020 and 20.7.2021 respectively. The Petitioner has filed its rejoinder affidavits, to the said replies, on 28.5.2021 and 30.8.2021 respectively. This Petition, along with Petition No. 111/GT/2020 (tariff of the generating station for the 2019-24 tariff period) was heard through video conferencing on 27.7.2021 and the

Commission, after directing the Petitioner, to submit certain additional information reserved its order in these petitions. In compliance to the directions, the Petitioner has filed the additional information vide affidavit dated 17.9.2021, after serving copies to the Respondents. Based on the submissions of the parties and documents available on record and after prudence check, we proceed for truing up the tariff of the generating station, in this petition, as stated in the subsequent paragraphs.

Capital Cost

8. Regulation 9(2) of the 2014 Tariff Regulations provides as under:

> *"The Capital cost of a new project shall include the following:*
> *(a) The expenditure incurred or projected to be incurred up to the date of commercial operation of the project;*
> *(b) Interest during construction and financing charges, on the loans (i) being equal to 70% of the funds deployed, in the event of the actual equity in excess of 30% of the funds deployed, by treating the excess equity as normative loan, or (ii) being equal to the actual amount of loan in the event of the actual equity less than 30% of the funds deployed;*
> *(c) Increase in cost in contract packages as approved by the Commission;*
> *(d) Interest during construction and incidental expenditure during construction as computed in accordance with Regulation 11 of these regulations;*
> *(e) Capitalised Initial spares subject to the ceiling rates specified in Regulation 13 of these regulations;*
> *(f) Expenditure on account of additional capitalization and de-capitalisation determined in accordance with Regulation 14 of these regulations;*
> *(g) Adjustment of revenue due to sale of infirm power in excess of fuel cost prior to the COD as specified under Regulation 18 of these regulations; and*
> *(h) adjustment of any revenue earned by the transmission licensee by using the assets before COD."*

9. The Commission vide its order dated 24.7.2017 in Petition No. 146/GT/2015 had approved the hard cost of Rs 238274.95 lakh, as on the COD of the generating station (5.7.2015) considering IDC of Rs 58661.76 lakh and Normative IDC of Rs 13340.58 lakh, thereby totalling to Rs. 310277.29 lakh, as on the COD of the generating station. The Petitioner, in compliance to the directions vide ROP of the hearing dated 27.7.2021 has furnished revised Form-B for the project, stating that an amount of Rs. 12670.28 lakh has been deducted, on account of adjustment towards liquidated damages. We, therefore, proceed to redetermine the capital cost as on COD of the units, as stated in the subsequent paragraphs.

Liquidated Damages

10. The Commission vide its order dated 24.7.2017 in Petition No. 146/GT/2015, while determining the tariff on projection basis for 2014-19 tariff period had prorated the total withheld amount of Rs.1917.88 lakh towards LD corresponding to the total delay of 77 months and already deducted Rs.646.45 lakh to the extent of time overrun of 56 months condoned for Unit-I and 42.5 months condoned for Unit-II of the generating station. The relevant para is extracted below:

> *"43. The petitioner has further submitted that the LD amount of Rs. 1917.88 lakh withheld is in the custody of the petitioner and based on the decision which is yet to be taken, the amount will be either refunded or accounted as LD. We are of the considered view that since the petitioner has kept an amount of Rs.1917.88 Lakh in his possession as on date of COD of the generating station, the same needs to be adjusted in the capital cost to the extent the time overrun has been allowed in Unit-I and Unit-II respectively. The total LD amount of Rs. 1917.88 lakh withheld is for the total delay of 77 months, and hence the same is to be prorated for the time overrun allowed for 56 months for Unit-I and 42.5 months for Unit-II. However, the adjustment of LD will be done at the time of truing up exercise."*

11. The Commission vide ROP of the hearing dated 27.7.2021 with respect to LD had directed the Petitioner to furnish the following details

> *"Details of the adjustment of Liquidated Damages adjustment, in line with directions of the Commission in para 43 of the order dated 24.7.2017 in Petition NO.146/GT/2015."*

12. In response, the Petitioner vide affidavit dated 17.9.2021 has stated that the deducted LD amount of Rs.12670.28 lakh has been accounted for and adjusted in the capital cost. The details of the LD deducted and LD status as on 12.8.2021, as furnished by the Petitioner is as under:

Sl. No.	Package	Description	Name of Firm	LD amount withheld (in Rs.) as on 31.3.2016 submitted and considered in 146/GT/2015 (A)	LD amount withheld (in Rs.) as submitted in instant Petition (B)	LD amount Discharged (in Rs.) as submitted in instant Petition (C)	Total (in Rs.) (B+C)
1	A01	Main Plant	BHEL	114341148	0.00	1143411480	1143411480
2	A03	Ash Handling system	ENERGO	1609490	17704500	0.00	17704500
3	A04	Circulating water system	SPML	3324706	3324706	0.00	3324706
4	A06	Chimney + Cooling tower	GAMMON	55297890	0.00	0.00	0.00
5	A08	Switch Yard	BHEL	8678107	0.00	84112506	84112506
6	B01	DG Station	Jeevan Diesels	357089	0.00	0.00	0.00
7	C02	Roads & Drains- Phase-II- Gr-II	NSK Builders Pvt. Ltd.	107310	6555973	0.00	6555973
8	C02	Gen. Civil works - Phase-II- Gr-I	ECCI	1499876	0.00	9696074	9696074
9	C02	Gen. Civil works-Phase-II	RS Development & Co.	6246988	0.00	0.00	0.00
10	C02	Gen. Civil works- Phase-II- Gr-III	Diamond Infra Construction	325000	0.00	2222915	2222915
Total				**191787604**	**27585179**	**1239442975**	**1267028154**

13. It is observed from the Petitioner's RoP reply dated 17.9.2021 that LD amount of Rs.12670.28 lakh has been deducted from the capital cost in the revised Form 5B (consisting of Rs.124.83 Cr in Plant and Machinery Cost, Rs.0.66 Cr in Roads and Drains and Rs.1.19 Cr in Civil works). The liquidated damages of Rs.12670.28 lakh corresponds to total delay of 77 months and 71 months for Unit-I and Unit-II respectively. Hence, this LD amount has been prorated to the extent of the time overrun of 56 months and 42.5 months condoned for Unit-I and Unit-II respectively, which works out to Rs.8399.54 lakh (Rs.4607.38 lakh for Unit-I and Rs.3792.16 lakh for Unit-II). Accordingly, based on the delay in completion of each unit, Rs.3792.16 lakh and Rs.8399.54 lakh has been adjusted as on the COD of Unit-II and Station COD respectively.

14. It is further observed that the Petitioner has not submitted revised Form 9 E, after revision of Form 5B and therefore, the opening capital cost as on COD of each unit, has been worked out on the basis of the total capital cost considered in the order dated 24.7.2017 in Petition No. 146/GT/2015 and the adjustment of Rs. 646.45 lakh in lieu of LD in the aforesaid order has been reversed and the revised deduction of Rs.8399.54 Lakh has been made as discussed in paragraph 10.

Initial Spares

15. Regulation 13 of the 2014 Tariff Regulations provides as under:

> *"13. Initial Spares**:** Initial spares shall be capitalised as a percentage of the Plant and Machinery cost upto cut-off date, subject to following ceiling norms:*
> *(a) Coal-based/lignite-fired thermal generating stations - 4.0%*
> *(b) Gas Turbine/Combined Cycle thermal generating stations - 4.0%*
>
> *Provided that:*
> *i. where the benchmark norms for initial spares have been published as part of the benchmark norms for capital cost by the Commission, such norms shall apply to the exclusion of the norms specified above:*
>
> *iv. for the purpose of computing of initial the cost spares, plant and machinery cost shall be considered as project cost as on cut-off date excluding IDC, IEDC, Land Cost and cost of civil works. The transmission licensee shall submit the break-up of head wise IDC & IEDC in its tariff application."*

16. The Petitioner has, in original Form-5B of the main petition and revised Form 5B (submitted in response to ROP dated 27.7.2021) submitted that initial spares for Rs. 7951.00 lakh has been procured and capitalized as on the station COD and upto the cut-off date (31.3.2018). The Petitioner has also furnished the item-wise breakup of the initial spares (which comprises of 4 major items), procured and capitalised as initial spares. The Petitioner has accordingly prayed to allow the capitalisation of initial spares of Rs. 7951.00 lakh claimed as on COD and as on the cut-off date, in view of the uniqueness of this generating station and the consequent criticality of initial spares.

17. The Commission vide its order dated 24.7.2017 in Petition No. 146/GT/2015, had disallowed the excess claim of Rs 1745.48 lakh in initial spares, as on the station COD, based on the following observation: -

"38. The total Plant and Machinery cost including taxes and duties as per Form-5B is Rs.155138.00 lakh. Further, the petitioner has capitalized initial spares of Rs.7951.00 lakh as on COD of the generating station (5.7.2015). Accordingly, the initial spares capitalized for Rs.7951 lakh works out to 5.125% of the Plant and Equipment cost which is beyond the ceiling limit of 4% (Rs.6205.52 lakh) specified under the said regulations. Hence, initial spares have been restricted to Rs.6205.52 lakh upto COD of the generating station with deduction of Rs. 1745.48 lakh as on COD of the generating station. The petitioner is directed to furnish the details of additional capital expenditure along with the break-up of actual plant & machinery cost up to cut-off date and the details of initial spares capitalized up to the cut-off date at the time of truing-up of tariff in terms of the Regulation 8 of the 2014 Tariff Regulations."

18. In order dated 19.12.2018 in Review Petition No. 39/RP/2017, the Commission had observed that,

"29….it is clear that deduction of initial spares of Rs 17.45 Cr was strictly in terms of Regulation 13 of the 2014 Tariff Regulations. However, the petitioner was directed by the Commission to furnish details of capital expenditure including plant & machinery up to cut off date (31.3.2018) and initial spares capitalized up to cut off date. Therefore, at the time of true-up of tariff the initial spares would be revisited. Hence, there is no error apparent on the face of the order regarding the reduction of Rs 17.45 Cr of initial spares"

19. We have considered the matter. The Plant & Machinery cost as on the station COD (5.7.2015) allowed vide order 24.7.2017 in Petition No.146/GT/2015 is Rs.155138 lakh, and the same is claimed in the present petition. The initial spares on projection basis, allowed at 4% of the Plant & Machinery cost, works out as Rs. 6205.52 lakh, as on the station COD. However, the Plant & Machinery cost, as on cut-off date (31.3.2018) has been revised as Rs. 142652.28 lakh, on account of deduction of LD of Rs.12485.72 lakh from the Plant & Machinery cost (i.e., Rs.155138.00-Rs.12485.72= Rs.142652.28) in the revised Form 5B submitted by the Petitioner. Further, based on the prudence check Commission has allowed discharge of liabilities amounting to Rs.5262.78 lakh pertaining to plant and machinery in 2015-18 period Hence, the allowable initial spares, as on cut-off date, at 4% of the Plant & Machinery cost is revised to Rs. 5916.60 lakh. Accordingly, the excess initial spares disallowed is Rs.2034.46 lakh as on the cut-off date.

20. Accordingly, the opening capital cost, as on the COD of the units of the generating station are approved as under:

(Rs. in lakh)

	Unit II COD (22.4.2015)	Station COD (5.7.2015)
Capital cost including IDC, Normative IDC and Liabilities	185536.99	389398.64
Less: Liabilities	12538.5	25076.97
Capital cost including IDC and Normative IDC excluding Liabilities	172998.49	364321.67
Less: IDC	39512.39	79551.02
Less: Normative IDC	17218.51	38267.03
Capital cost excluding IDC, Normative IDC and Liabilities	116267.59	246503.62
Less: Pro-rata reduction on overhead expenses IEDC	2479.27	5836.74
Less: Initial spares beyond 4% of plant and machinery	1017.23	2034.46
Total Opening Capital cost excluding IDC, Normative IDC, Liabilities	108978.93	230232.89
Add: IDC allowed	27281.65	58661.76
Add: Normative IDC allowed	5109.44	13340.58
Less: Adjustment of LD Recovered	3792.16	8399.54
Opening Capital Cost	**141370.02**	**302235.23**

Additional Capital Expenditure

21. Regulations 14 of the 2014 Tariff Regulations provides as under:

"14. Additional Capitalization and De-capitalization:

(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) Un-discharged liabilities recognized 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 of law; 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.

(2) The capital expenditure incurred or projected to be incurred in respect of the new project on the following counts within the original scope of work 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) Deferred works relating to ash pond or ash handling system in the original scope of work; and

(iv) 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.

(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 of 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 Modernization (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation.

(4) In case of de-capitalisation of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of de-capitalisation shall be deducted from the vale of gross fixed asset and corresponding loan as well as equity shall be deducted from the outstanding loan and the equity respectively in the year such de-capitalisation takes place, duly taking into consideration the year in which it was capitalised."

22. The Petitioner, in Petition No. 146/GT/2015, had not claimed any projected additional capital expenditure and had submitted that the same will be claimed at the time of truing-up of tariff. Accordingly, the Commission vide its order dated 24.7.2017 observed as under:

"35. The petitioner has not furnished the additional capital expenditure claimed in a year-wise chronological order. Accordingly, the petitioner was directed vide ROP of the hearing dated 2.8.2016 to submit the details as per the Form-9A of the 2014 Tariff Regulations and also to fill up the form in chronological order year-wise along with detailed justification clearly indicating the necessity and the benefits of such capitalization. In response, the petitioner vide affidavit dated 31.8.2016 has submitted that the additional capital expenditure for the period 2014-19 has not been envisaged now and the same would be claimed at the time truing up of tariff in terms of 2014 Tariff Regulations. In view of the submissions of the petitioner, no additional capital expenditure has been considered in this order. The claim of the petitioner at the time of truing up shall however be considered based on the justification and documents furnished by the petitioner in terms of the provisions of the 2014 Tariff Regulations."

23. The Petitioner, in the present petition, has not claimed any actual additional capital expenditure for the period 2015-19. However, the revision of the capital cost of the generating station is mainly on account of discharge of liabilities and the reversal of LD.

<u>Discharges of Liabilities</u>

24. The Commission vide its order dated 24.7.2017 in Petition No. 146/GT/2015, had allowed projected discharge of liabilities of Rs.6638.71 lakh in 2015-16 and

18438.26 lakh in 2016-17, out of the total projected undischarged liability of Rs.25077 lakh as on COD. The Petitioner, in Form-9A of the petition, has submitted the additional capital expenditure claimed under discharge of liabilities. The Petitioner has submitted that the actual discharge of undischarged liabilities is Rs.12803 lakh as on 31.3.2018 (cut-off date) as against the projected undischarged liabilities of Rs. 25077 lakh, as on COD. It has further stated that the remaining discharge of Rs.12274 lakh, on account of balance payments to Package contractors, would be carried out before 31.3.2020, i.e after the cut-off date. The Petitioner has therefore prayed that the cut-off date may accordingly be extended up to 31.3.2020, in exercise of the power to relax.

25. The Respondent TANGEDCO has submitted that 'power to relax' must be exercised reasonably and for valid recorded reasons. In response the Petitioner, has submitted that CFBC based 250 MW size power plant is first of its kind in South East Asia and they have faced considerable technical difficulties with their main contractor M/s BHEL and some PG tests are pending as on 2019 also. Accordingly, the Petitioner has submitted that the discharge of undischarged of liabilities as contemplated could not be made within the cut-off date.

26. We have considered the matter. According to us, the discharge of liabilities is always allowed on cash basis, for works which have already been allowed on accrual basis, as per Regulation 14(1)(i), Regulation 14(2)(iv) and Regulation 14(3)(v) of the 2014 Tariff Regulations. Therefore, there is no need for extension of cut-off date as prayed for by the Petitioner. Accordingly, the discharge of liabilities of Rs.6686 lakh in 2015-16, Rs.5218 lakh in 2016-17, Rs.643 lakh in 2017-18 and Rs.256 lakh in 2018-19 is considered for further scrutiny.

27. It is noticed that the Petitioner, has, claimed discharge of liabilities, as additional capital expenditure in Form-9A. However, on prudence check, it is observed

that the Petitioner has not submitted the corresponding liability flow statement (Form 18) matching to the above discharges. Hence, many items claimed under discharge of liabilities in Form 9A, could not be ascertained as to whether they relate to discharges of the earlier allowed items/heads and could not also be reconciled with revised Form 5B furnished, as on the cut-off date. Accordingly, only those items which could be reconciled with the heads as in Form 5B, have been allowed and the remaining items claimed as discharge of liabilities for additional capitalisation, have been disallowed in the respective years, as detailed below:

a. **2015-16:** The Petitioner has claimed discharge of liabilities of Rs.6686.71 lakh for items in the main plant package, lignite handling system, ash handling system, cooling water system, effluent plant, civil works etc. The same is in order with Form 5B and is therefore allowed.

b. **2016-17:** The Petitioner has claimed discharge of liabilities of Rs 5218.28 lakh, which consists of items like Ash handling system, shed near cooling tower, flooring way approach, lean roofing to diesel, cementory rocks to canteen etc. It is observed that. except for discharge of liability of Rs. 2762.82 lakh claimed under Ash handling system, the remaining items could not be reconciled, as the Petitioner has neither submitted Form 18 (liability flow statement), nor it could be reconciled with revised Form 5B. In view of this, we allow the discharge of liability for Rs. 2762.82 lakh pertaining to Ash handling system and the balance unreconciled discharge of liability is not allowed.

2017-18: The Petitioner has claimed discharge of liabilities of Rs 643.00 lakh which consists of items like bed material store shed, extension of scooter shed, BT roads, RCC roads, rail track road, culverts, duct banks, RCC drains, retaining wall cum drain, portable high frequency induction heater, portable high frequency induction heater, infra-red thermal imaging camera, pedestal fan 18 inch, PVC chairs 150 nos, RO units with UV system, battery operated industrial trolley vehicles 2 nos, etc. It is observed that for items like BT roads, RCC roads, rail track road, culverts, duct banks, RCC drains, retaining wall cum drain, falling under the head of civil works could be reconciled with the previously recognised liabilities by the Commission in order dated 24.7.2017 in petition 146/GT/2015 and hence are allowed. However, the remaining items that could not be reconciled with Form 5B are disallowed. Accordingly, discharge of liabilities amounting to Rs. 364.31 lakh is allowed.

2018-19: The Petitioner has claimed discharge of liabilities of Rs 255.86 lakh for A01 - Main Plant Package - Unit II, A01-Main Plant Package- Unit-I, plasma cutting machine, OFC cable joining splicing machine, 5 HP 3 ph centrifugal self-priming monobloc pump set, morpho smart 300 series fingerprint sensor, 2nos UHD 65-inch smart monitor, 4 nos. UHD 55-inch smart monitor, 65-inch smart monitor, TPS IIE reciprocating air compressor, etc**.** It is noticed that only two items i.e. A01 - Main Plant Package - Unit II, A01-Main Plant Package- Unit-I fall under the package of Plant & Equipment and is therefore reconciled and allowed for Rs 22.36 lakh. However, the remaining items could not be reconciled with Form 5B and are accordingly disallowed.

<u>Reversal of Liquidated Damages</u>

28. The Petitioner has claimed reversal of LD in 2018-19 under the following heads:

	Liquidated Damages claimed	**Amount** ***(Rs. in lakh)***
A	Release of LD of A0-6 Package (50% reduced in the final order for 2014-19 dated 24.7.2017, so only 50% is being claimed)	276.49
B	Cost of arbitration as awarded in arbitration order in A0-6 Arbitration	20.41
C	Post award interest on total award amount as given in arbitration order in A0-6 Arbitration	201.80
D	Interest on LD withheld awarded as per arbitration order in A0-6 Arbitration	97.27
E	**Total (A+B+C+D)**	**595.97**

29. It is observed from the details of the LD deducted as furnished by the Petitioner, that the LD against the package mentioned in the table above is ‘nil’. Further, the Petitioner has not submitted any documentary proof of the arbitration award etc. In case the arbitration proceedings are pending, the Petitioner is at liberty to approach the Commission after finalisation and the same will be considered in accordance with law. In view of this, the additional capital expenditure claimed under this head, is not allowed.

30. Accordingly, the discharges of liabilities claimed by the Petitioner and allowed is as under:

(Rs. in lakh)

		2015-16	2016-17	2017-18	2018-19	Total
A	Allowed vide order dated 24.7.2017 in Petition No. 146/ GT/ 2015	6638.71	18438.26	0.00	0.00	25076.97
B	Claimed liabilities corresponding to additional capital expenditure	6686.71	5218.28	643.00	255.86	12803.00
C	Liabilities corresponding to additional capital expenditure allowed during the year	6686.71	2762.82	364.31	22.36	9836.20

Capital cost allowed for the 2014-19 tariff period

31. Based on above, the capital cost allowed for the purpose of tariff is as under:

(Rs. in lakh)

Sl. No.		2015-16		2016-17	2017-18	2018-19
		22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 3 1.3.2016 (Unit-I & Unit-II)			
A	Opening Capital Cost	141370.02	302235.23	308921.93	311684.75	312049.06
B	Additional Capital Expenditure	0.00	6686.71	2762.82	364.31	22.36
C	Closing Capital Cost (A+B)	**141370.02**	**308921.93**	**311684.75**	**312049.06**	**312071.42**
D	Average Capital Cost [(A+C)/2]	141370.02	305578.58	310303.34	311866.91	312060.24

Debt-Equity Ratio

32. Regulation 19 of the 2014 Tariff Regulations provides as under:

"19.(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.

(2) The generating Company or the transmission licensee shall submit the resolution of the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilisation made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system as the case may be.

(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014 debt equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.

(4) In case of generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014 but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014 the Commission shall approve the debt: equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.

(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."

33. The gross normative loan and equity amounting to Rs. 216975.36 lakh and Rs. 93083.19 lakh respectively as on 5.7.2015 was allowed vide order dated 24.7.2015 in Petition No. 146/GT/2015. In paragraph 55 of the order dated 19.12.2018 in Petition No. 39/RP/2017 in Petition No. 146/GT/2015, the Commission decided as under:

"55. While computing interest on loan, it is noticed that the net loan closing figure of the previous year has inadvertently not been carried forward to the net loan opening figure for the next year. Thus, there is an error apparent on the face of the record and the same is required to be corrected. Accordingly, review on this ground is allowed which shall be rectified at the time of truing up."

34. Accordingly, the opening loan has been revised as Rs. 214307.45 lakh and the additional capital expenditure approved as above, is allocated to debt and equity in the ratio of 70:30 as under:

	As on Station COD (5.7.2015)		Net additional capital expenditure		As on 31.3.2019	
	Amount (Rs. in lakh)	**(in %)**	**Amount (Rs. in lakh)**	**(in %)**	**Amount (Rs. in lakh)**	**(in %)**
Debt	211564.66*	70%	6885.34	70%	218450.00	70%
Equity	90670.57*	30%	2950.86	30%	93621.43	30%
Total	**302235.23***	**100%**	**9836.20**	**100%**	**312071.42**	**100%**

**After adjustment of LD deduction and initial spares deduction*

Return on Equity

35. 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 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 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 requirement 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 kilometres."

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

"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.

Illustration.
(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 20.96% including surcharge and cess: Rate of return on equity = 15.50/(1-0.2096) = 19.610%
(ii) In case of generating company or the transmission licensee paying normal corporate tax including surcharge and cess:
(a)Estimated Gross Income from generation or transmission business for FY 2014-15 is Rs 1000 crore.
(b)Estimated Advance Tax for the year on above is Rs 240 crore.
(c) Effective Tax Rate for the year 2014-15 = Rs 240 Crore/Rs 1000 Crore = 24%
(d)Rate of return on equity = 15.50/ (1-0.24) = 20.395%

(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."

37. The Petitioner has claimed tariff considering the rate of return on equity of 19.706% in 2015-18 and 19.758% in 2018-19. The Petitioner has worked out these rates, after grossing up the base rate of return on equity of 15.50% with the MAT rate of 21.342% in 2015-18 and 21.549% in 2018-19. Accordingly, the rate of return on equity considered for the purpose of tariff works out to 19.705% for 2015-18 and 19.758% for 2018-19. Accordingly, return on equity has been worked out as under:

(Rs. in lakh)

	2015-16		2016-17	2017-18	2018-19
	22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**			
Normative Equity-Opening (A)	42411.01	90670.57	92676.58	93505.43	93614.72
Addition of Equity due to additional capital expenditure (B)	0.00	2006.01	828.85	109.29	6.71
Normative Equity-Closing (C)=(A+B)	**42411.01**	**92676.58**	**93505.43**	**93614.72**	**93621.43**
Average Normative Equity D=[(A+C)/2]	42411.01	91673.57	93091.00	93560.07	93618.07
Return on Equity (Base Rate) (E)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate (F)	21.342%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-Tax) (G)=[E/(1-F)]	19.705%	19.705%	19.705%	19.705%	19.758%
Return on Equity (Pre-Tax) – (For the Period) (H)= (D*G)	1689.68	13375.46	18343.58	18436.01	18497.06

Interest on Loan

38. 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 de-capitalization 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 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."

39. Interest on loan has been computed as under:

i) The gross notional loan for the purpose of tariff has been considered as 70% of the revised opening capital cost as determined in paragraph 17 above.

ii) Repayment has been considered as depreciation allowed during the period;

iii) Accordingly, the net normative opening loan works out Rs.98959.01 lakh as on 22.4.2015 and to Rs. 210071.80 lakh as on 5.7.2015;

(iv) Addition to normative loan on account of additional capital expenditure approved above have been considered. The Petitioner has claimed interest on loan considering weighted average rate of interest (WAROI) of 9.867% in 2015-16, 9.774% in 2016-17, 9.627% in 2017-18 and 9.365% in 2018-19 and the same has been considered

40. Interest on loan has been worked out as under:

(Rs. in lakh)

	2015-16		**2016-17**	**2017-18**	**2018-19**
	22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**			
Gross opening loan (A)	**98959.01**	**211564.66**	**216245.35**	**218179.33**	**218434.34**
Cumulative repayment of loan up to previous year (B)	0.00	1492.86	13310.24	29517.03	45805.47
Net Loan Opening (C)=(A-B)	**98959.01**	**210071.80**	**202935.11**	**188662.30**	**172628.87**
Addition due to additional capital expenditure (D)	0.00	4680.69	1933.97	255.02	15.65
Repayment of loan during the year (E)	1492.86	11817.39	16206.78	16288.45	16298.54
Net Loan Closing (F)=(C+D-E)	**97466.16**	**202935.11**	**188662.30**	**172628.87**	**156345.98**
Average Loan (G)=[(F+C)/2]	98212.59	206503.45	195798.70	180645.58	164487.42

	2015-16		2016-17	2017-18	2018-19
	22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**			
Weighted Average Rate of Interest of loan (H)	9.8670%	9.8670%	9.7735%	9.6270%	9.3650%
Interest on Loan (I=H*G)	**1959.31**	**15086.92**	**19136.39**	**17390.75**	**15404.25**

Depreciation

41. Regulation 27 of the 2014 Tariff Regulations provides as under:

"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.

(7) The generating company or the transmission license as the case may be shall submit the details of proposed capital expenditure during the fag end of the project (five years before the useful life) along with justification and proposed life extension. The Commission based on prudence check of such submissions shall approve the depreciation on capital expenditure during the fag end of the project.

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the decapitalized asset during its useful services."

42. The Petitioner has claimed weighted average rate of depreciation of 5.24% as allowed in order dated 24.7.2017 in Petition No.146/GT/2015. However, the depreciation rate, based on the information furnished by the Petitioner, works out to 5.22% as detailed in the Annexure-I to this order, and the same has been considered. Necessary calculations in support of depreciation are as under:

(Rs. in lakh)

	2015-16		**2016-17**	**2017-18**	**2018-19**
	22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**			
Average capital cost (A)	141370.02	305578.58	310303.34	311866.91	312060.24
Value of freehold land included above (B)	0.00	0.00	0.00	0.00	0.00
Aggregated depreciable value (C) = [(A-B) x 90%]	127233.02	275020.72	279273.01	280680.22	280854.22
Remaining Aggregate Depreciable value at the beginning of the year (D) = [(C) – (cumulative depreciation upto previous year)	127233.02	273527.86	265962.76	251163.19	235048.74
Weighted average rate of depreciation	5.2229%	5.2229%	5.2229%	5.2229%	5.2229%
Depreciation for the period (E)	**1492.86**	**11817.39**	**16206.78**	**16288.45**	**16298.54**
Cumulative depreciation at the end of the year, before adjustment of de-capitalization adjustment	**1492.86**	**13310.24**	**29517.03**	**45805.47**	**62104.02**

Operation & Maintenance Expenses

43. Regulation 29(1)(a) of the 2014 Tariff Regulations specifies the following O&M expense norms for 250 MW Circulating Fluidised Bed Combustion (CFBC) technology generating stations:

(Rs. in lakh)

2015-16	2016-17	2017-18	2018-19
25.40	27.00	28.70	30.51

44. The Commission in its order dated 24.7.2017 in Petition No. 146/GT/2015 had allowed the following O&M expenses for the generating station of the Petitioner:

(Rs. in lakh)

	2015-16		2016-17	2017-18	2018-19
	22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 31.3.2016 (Unit-I & Unit-II)			
O&M expenses allowed under Regulation 29(1)(a)	1283.88	9403.55	13500.00	14350.00	15255.00
Water charges allowed under Regulation 29(2)	12.98	47.53	64.19	64.19	64.19
Total O&M expenses allowed	**1296.86**	**9451.08**	**13564.19**	**14414.19**	**15319.19**

45. The O&M expenses claimed by the Petitioner are as under:

(Rs. in lakh)

	2015-16		2016-17	2017-18	2018-19 (up to 4.7.2018)	2018-19 (from 5.7.2018 to 31.3.2019)
	22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 31.3.2016 (Unit-I & Unit- II)				
O&M expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	6350.00*	12700.00*	13500.00	14350.00	15255.00	15255.00
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations (Water charges)	55.93	204.82	255.62	382.48	99.81	283.66
Total O&M expenses	**1295.19**	**9,55.21**	**13755.62**	**1432.48**	**3996.46**	**11494.35**

**Annualized values*

46. The normative O&M expenses claimed by the Petitioner are in terms of Regulation 29(1)(a) of the 2014 Tariff Regulations and is therefore allowed.

Water Charges

47. The first proviso to Regulation 29(2) of the 2014 Tariff Regulations provide as under:

> *"29(2) The Water Charges and capital spares for thermal generating stations shall be allowed separately:*
>
> *Provided that 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 details regarding the same shall be furnished along with the petition:*
>
> *xxxxxx."*

48. The water charges allowed on projected basis, by order dated 24.7.2017 in Petition No. 146/GT/2015 are as under:

(Rs. in lakh)

2015-16		**2016-17**	**2017-18**	**2018-19**
22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**			
12.98	47.53	64.19	64.19	64.19

49. In terms of the first proviso to Regulation 29(2) of the 2014 Tariff Regulations, water charges are to be allowed based on water consumption, depending upon type of plant, type of cooling water system etc., subject to prudence check. However, as stated in 24.7.2017 in Petition No. 146/GT/2015, the Petitioner is not paying water charges, in the absence of any Water Agreement with the State Government agency.

50. The Petitioner has claimed water charges consisting of pumping cost incurred by ground water control and storm water control for the year, consent fee and water cess payable to the Government and Personnel charges. The Petitioner has furnished the Auditor certificate in respect of the water charges claimed for the 2014-19 tariff period and has sought permission to recover the water charges incurred at actuals from the beneficiaries. The details of the water charges claimed are as under:

Period	Water Quantity	Pumping charges (Rs.0.376/ KL)	Water Cess	Water Consent Fee	Personnel Charges	Water Charges	Water Charges
	(KL)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs.)	(Rs. in lakh)
	1	2	3	4	5	6=(2+3+4+5)	
2015-16	14053110	5283969	2806970	0	17984301	26075240	260.75
2016-17	12089801	4545765	3460072	0	17555974	25561811	255.62
2017-18	17168102	6455206	2979713	0	28812659	38247578	382.48
2018-19	24985700	9394623	0	1147324	27804858	38346805	383.47

51. The Respondent TANGEDCO and Respondent KSEBL have submitted that the Petitioner may be directed to furnish the details in respect of water charges such as contracted quantum of water and allocated quantity, actual annual water consumption for the last 5 years (2014-19) along with the copy of the notification(s) for water charges. The Respondent TANGEDCO has also submitted that personnel charges claimed may be disallowed, as the Statement of Object and Reasons (SOR) to the 2014-19 Tariff Regulations stipulates that water charges are not inclusive of employee and other testing charges. In response, the Petitioner submitted that it has not been procuring water from outside and is utilizing the aquifer water beneath the lignite seam, which is being pumped out to facilitate lignite extraction. The Petitioner has also submitted that it has claimed only the pumping charges, statutory charges and personnel charges. It has also clarified that contracted quantum of water is not applicable for the Petitioner. As regards personnel charges, the Petitioner has submitted details of personnel charges incurred towards the personnel deployed in the raw water group and other charges pertaining to the water analysis charges along with documentary evidence.

52. We have considered the matter. As regards personnel charges claimed, we notice from record that these charges are actually being paid to the own employees of the Petitioner, which according to us, are covered under the normative O&M expenses allowed to the generating station. Hence, the claim of the Petitioner, under this head is

not allowed. As regards pumping charges, the Petitioner has clarified that these are incurred for pumping water to the power station from the lake above the mines and are different from pumping from the mines below ground level to the lake at ground level. As regards the statutory charges, the Petitioner vide affidavit dated 23.8.2021 has submitted the proof of payment pertaining to water cess and consent fees to the Tamil Nadu Pollution Control Board. Accordingly, the water charges including statutory charges claimed by the Petitioner are based on the actual water consumption and is in accordance with the auditor certified financial statements for the respective financial years of the 2014-19 tariff period. Accordingly, water charges including statutory and pumping charges, as shown under, are allowed for the purpose of tariff:

(Rs. in lakh)

Period	**Water Quantity**	**Pumping charges (Rs. 0.376 / KL)**	**Water Cess**	**Water Consent Fee**	**Personnel Charges**	**Water Charges**	**Water Charges**
	(KL)	**(Rs.)**	**(Rs.)**	**(Rs.)**	**(Rs.)**	**(Rs.)**	***(Rs. in lakh)***
	1	**2**	**3**	**4**	**5**	**6=(2+3+4+5)**	
2015-16	14053110	5283969	2806970	0	0	26075240	80.91
2016-17	12089801	4545765	3460072	0	0	25561811	80.06
2017-18	17168102	6455206	2979713	0	0	38247578	94.35
2018-19	24985700	9394623	0	1147324	0	38346805	105.42

53. The total O&M expenses, including water charges, as allowed for the period 2015-19 is as under:

(Rs. in lakh)

	2015-16		**2016-17**	**2017-18**	**2018-19**
	22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**			
O&M expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	1283.88	9403.55	13500.00	14350.00	15255.00
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations (Water charges)	-	80.91	80.06	94.35	105.42
Total O&M expenses allowed	**1283.88**	**9484.46**	**13580.06**	**14444.35**	**15360.42**

Capital Spares

54. The last proviso to Regulation 29(2) of the 2014 Tariff Regulations provides as under:

“Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance or special allowance or claimed as a part of additional capitalization or consumption of stores and spares and renovation and modernization”.

55. In terms of the above proviso, capital spares consumed are admissible separately, at the time of truing up of tariff, based on the details furnished by the Petitioner. The capital spares claimed by the Petitioner are as under:

(Rs. in lakh)

	2015-16	**2016-17**	**2017-18**	**2018-19**
Capital spares (not a part of capital cost)	78.62	207.73	503.55	1048.34
Capital spares (part of capital cost)	0.00	0.00	0.00	0.00
Total capital spares consumed claimed	**78.62**	**207.73**	**503.55**	**1048.34**

56. The Petitioner has furnished the justification for incurring the same and has clarified that capital spares have not been funded through compensatory allowance or special allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization.

57. It is noted that capital spares claimed do not form part of the capital cost of the generating station. It is pertinent to mention that the term ‘capital spares’ has not been defined in the 2014 Tariff Regulations. The term capital spares, in our view, is a piece of equipment, or a spare part, of significant cost that is maintained in inventory for use in the event that a similar piece of critical equipment fails or must be rebuilt. Keeping in view the principle of materiality and to ensure standardized practices in respect of earmarking and treatment of capital spares, the value of capital spares exceeding Rs.1.00 lakh, on prudence check of the details furnished by the Petitioner in Form-17 of the Petition, has been considered for the purpose of tariff.

58. The Petitioner has furnished details of the initial spares procured and capitalised for Rs 7951.06 lakh, but has not furnished the breakup details of the capital spares consumed, which form part of the capital cost and which do not form part of the

capital cost. We observe that the initial spares claimed for capitalisation are distinct from the capital spares for Rs 1838.24 lakh claimed and the capital spares consumed appears to be not forming part of the capital cost. Based on this, the net total capital spares consumed as allowed for the period 2015-19 are summarized below:

(Rs. in lakh)

	2015-16	2016-17	2017-18	2018-19
Total capital spares consumed claimed	78.62	207.73	503.55	1048.34
Less: Value of capital spares below Rs.1.00 lakh disallowed on individual basis	6.27	13.63	21.93	20.39
Net total value of capital spares considered	**72.35**	**194.11**	**481.62**	**1027.96**

59. Further, we are of the view that spares do have salvage value. Accordingly, in line with the practice of considering salvage value, presumed to be recovered by the Petitioner on sale of other capital assets, on becoming unserviceable, the salvage value of 10% has been deducted from the cost of capital spares considered above for 2014-19 tariff period. Therefore, on prudence check of the information furnished by the Petitioner in Form-17 and on applying the said ceiling limit along with deduction of the salvage value @10%, the net capital spares allowed in terms of Regulation 29(2) of 2014 Tariff Regulations is as under:

(Rs. in lakh)

	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered	72.35	194.11	481.62	1027.96
Less: Salvage value @ 10%	7.23	19.41	48.16	102.80
Net capital spares allowed	**65.11**	**174.70**	**433.46**	**925.16**

60. Accordingly, the total O&M expenses allowed to the generating station in terms of Regulation 29 of the 2014 Tariff Regulations are as under:

(Rs. in lakh)

		2015-16		2016-17	2017-18	2018-19
		22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**			
Normative O&M expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	Claimed	6,350.00*	12700.00*	13500.00	14350.00	15255.00
	Allowed	**1283.88**	**9403.55**	**13500.00**	**14350.00**	**15255.00**
Water charges under Regulation 29(2) of the	Claimed	-	260.75	255.62	382.48	383.47
	Allowed	**-**	**80.91**	**80.06**	**94.35**	**105.42**

		2015-16		**2016-17**	**2017-18**	**2018-19**
		22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**			
2014 Tariff Regulations						
Capital spares under Regulation 29(2) of the 2014 Tariff Regulations	Claimed	-	78.62	207.73	503.55	1048.34
	Allowed	**-**	**65.11**	**174.70**	**433.46**	**925.16**

**Annualized values*

Operational Norms

61. The operational norms in respect of the generating station claimed by the Petitioner are as under:

a) Target Availability of 75% as allowed for the period from 22.4.2015 to 4.7.2018 and 80% for the period from 5.7.2018 to 31.3.2019;
b) Gross Station Heat Rate of 2559.94 kcal/kwh
c) Normative limestone consumption of 0.046 kg/kWh
d) Auxiliary Power Consumption of 10%.
e) Specific Fuel Oil Consumption (SFC) of 1.00 ml/kWh

62. The Target Availability, Gross Station Heat Rate and Normative limestone consumption as claimed by the Petitioner is in terms of Regulation 36 of the 2014 Tariff Regulations and is the same as allowed by order dated 24.7.2017 in Petition No. 146/GT/2015. Accordingly, the claim of the Petitioner (under sl. nos (a), (b) and (c) in para 54 above) are allowed for the purpose of tariff.

Auxiliary Power Consumption

63. The Commission vide its order dated 24.7.2017 in Petition No. 146/GT/2015 had allowed the Auxiliary Power Consumption (APC) of 10% as per Regulation 36E(d)(iii) of the 2014 Tariff Regulations, as against APC of 15% claimed by the Petitioner. In the Review Petition (RP No. 39/RP/2017) filed by the Petitioner against the disallowance of APC of 15%, the Commission vide order dated 19.12.2018 observed that the prayer of the Petitioner shall be considered at the time of truing up of tariff, after prudence check of the details furnished by the Petitioner.

64. The Petitioner has submitted that the claim for higher APC is due to higher number of auxiliary equipment's in CFBC technology, as compared to conventional technology power plants. It has also submitted that such auxiliary equipment's, includes higher capacity air blowers, higher BMCR rating than conventional boilers, additional RO, DM Plant & Lime handling system, increased number of equipment's in water chemical treatment plant and lignite handling system.

65. The Respondent TANGEDCO and Respondent KSEBL have submitted that there is huge variation in the month wise auxiliary consumption, as per details submitted by the Petitioner. They have also submitted the Petitioner has not furnished the reasons for variation viz., the details of equipment which consume more auxiliary power. Accordingly, the Respondents have prayed that the claim for auxiliary consumption of 15% instead of 10% may be rejected. In response, the Petitioner has furnished the month wise auxiliary consumption details, which ranges from 13.63% to 36.99%.

66. We have examined the matter. It is observed that the Petitioner has not furnished relevant details in support of its claim for higher APC of 15% due to additional equipments (i.e., higher capacity air blowers, additional RO, DM Plant & Lime Handling system, increased no. of equipments in water chemical treatment plant and lignite handling system etc.). Also, the month-wise APC furnished by the Petitioner also show huge variation. The higher APC of the plant may also be on account of factors like frequent forced outage(s), planned outage, number of start stops and their duration, operation below normative plant availability factor, less scheduling and part load operation of the plant. In this background, the claim of the Petitioner for APC of 15% is not accepted. Accordingly, the APC of 10% in accordance with the 2014 Tariff Regulations is allowed.

Specific Oil Consumption

67. The Petitioner has made the following submissions, under this head:

a) During November 2015, unprecedented heavy rain severely damaged the mines and power stations of the Petitioner. Incessant rains over a fortnight led the all activities of the mines and power station to a standstill.

b) On a particular day i.e., 10.11.2015, Neyveli received heavy rainfall of 45 cm within few hours between 0830 hrs and 1730 hrs. The deluge swamped the mines and power stations. The entire activities of the mines and power stations came to a grinding halt. Due to unexpected rainfall and consequent deluge, the thermal plants and mines could not be operated in normal course.

c) Lignite was drowned in water for few weeks and the same was not in condition for normal use, affecting the operational period of November 2015 to January 2016. The above scenario is an abnormal aberration culminating in financial burden to the Petitioner due to significant variation and huge deviation, with respect to normative operational parameters.

68. Accordingly, the Petitioner has submitted that as against the normative specific fuel oil consumption (SFC), the actual specific fuel oil consumption was very high resulting in higher energy charge rate (ECR) and has claimed it as a force majeure condition. The details of the monthly specific oil consumption are as under: -

Month	SFC (ml/kWH)
Oct-15	9.7678
Nov-15	16.8049
Dec-15	11.9392
Jan-16	9.7678

69. The Respondent TANGEDCO and Respondent KSEBL have submitted that the Petitioner's claim for higher actual SFC may be disallowed for the following reasons:

(a) The Petitioner has not communicated the 'force majeure' events to the beneficiaries or to the Commission.

(b) As per the disclosure requirements under Cost Accounting standards, the Petitioner has to disclose the loss of production capacity due to external factors (i.e.) force majeure events in its cost audit report. The Petitioner is also liable to furnish the copy of the same to the beneficiaries.

(c) The Petitioner had filed Appeal No. 291/2016 and Appeal No. 334/2016 before the APTEL against order dated 26.5.2016 in Petition No. 472/GT/2014 (truing up of tariff of NLC TPS-I (600 MW) and order dated 27.7.2016 in Petition No. 474/GT/2014 (tariff of NLC TPS-I Expansion (420 MW) for 2009-14) wherein, it had claimed that the actual secondary oil consumed is less than the normative value.

(d) APTEL vide its judgment dated 28.5.2020 in Appeal No. 291 of 2016 and Appeal No. 344 of 2016, had remanded the aforesaid petitions to the Commission, to consider the actual secondary fuel oil consumption in the computation of energy charges.

70. The Petitioner, in response to the replies of the Respondents, has stated the following:

a) Outage loss details due to above events:

Table A: Shut down due to rain –Year 2015

Unit	From Date	To Date	Outage In Hrs	Outage in MU	Reason
Unit-I	9.11.2015 13:30	11.11.2015 17:21	51.85	12.9625	Turbine tripped due to tripping of all C.W. Pumps, due to entry of water into CWPH cable trench, due to excessive rain.
Unit-II	9.11.2015 13:25	20.11.2015 17:10	267.75	66.9375	
Total			**319.6**	**79.9**	

b) Further, the higher moisture content in lignite due to rain, degraded the quality of lignite, which caused units to operate at lesser load. The wet lignite also caused the frequent choking in lignite feeding system which eventually led to loss in generation. The generation losses detail due to part load caused by rain are shown in Table-B.

Table B: Partial loss due to rain (MU)

Reason for Partial loss	Oct-15	Nov-15	Dec-15	Jan-15
Wet Lignite / Variation in Quality of Lignite	8.27	61.17	23.80	22.31
Lignite Feeding trouble	0.00	31.00	12.00	30.00
Total	**8.27**	**92.17**	**35.80**	**52.31**

c) Total Loss (Outage + Partial loss) = 268.44 MU

d) The above scenario is an abnormal aberration culminating in financial burden to the Petitioner due to significant variation and huge deviation, with respect to normative operational parameters as explained above.

71. We have considered the matter. It is noticed that the Commission vide its order dated 21.6.2021 had implemented the directions contained in the judgment of APTEL

dated 28.5.2020 in the said appeals relating to the 2009-14 tariff period in respect of the other generating station of the Petitioner. However, in the present case, we notice that the 2014 Tariff Regulations specifically provide for the normative specific oil consumption in computation of energy charges.

72. Accordingly, the SFC of 1.00 ml/kWh as per Regulation 36(D)(b)(iii) of the 2014 Tariff Regulations is allowed.

Interest on Working Capital

73. Regulation 28 of the 2014 Tariff Regulations provides as under:

> *"28. Interest on Working Capital:*
>
> *(1) The working capital shall cover*
>
> *(b) Open-cycle Gas Turbine/Combined Cycle thermal generating stations*
>
> *(i) Fuel cost for 30 days corresponding to the normative annual plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
>
> *(ii) Maintenance spares @ 30% of operation and maintenance expense specified in regulation 29; and*
>
> *(iii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor and in case of use of more than one liquid fuel, cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel";*
>
> *(iv) Receivables equivalent to two months of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor, duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
>
> *(v) Operation and maintenance expenses for one month."*

Fuel Cost and Energy Charges for computation of working capital

74. The Petitioner has claimed following cost for fuel components:

a) Lignite and Secondary fuel rates for January 2015, February 2015 and March 2015 were adopted in the computation of interest on working capital and energy charges in respect of Unit II for the period 22.4.2015 to 4.7.2015.

b) The Lignite and Secondary fuel rates for April, 2015, May, 2015 and June, 2015 were adopted in the computation of interest on working capital and energy charges in respect of Unit I and Unit II for the period from 5. 7.2015.

Particulars	**Unit II**	**Station**
Base price of lignite (Rs. /MT)	1711.00	1949.00
Royalty (Rs. /MT)	103.00	117.00
DMF (Rs. /MT)	-	-
NMET (Rs. /MT)	2.06	2.34
Clean Energy Cess (100+100+200)/3 (Rs. /MT)	133.33	200.00
ED (Rs. /MT)	29.64	28.86
Landed price of fuel (Rs. /MT)	1979.04	2297.20

(Rs. in lakh)

	22.4.2015 to 4.7.2015	**5.7.2015 to 31.3.2016**	**2016-17**	**2017-18**	**2018-19 up to 4.7.2018**	**2018-19 from 5.7.18 to 31.3.19**
Cost of Lignite towards Stock (15 days)	2575.03	5990.08	5990.08	5990.08	5990.08	6389.42
Cost of Lignite towards Generation (30 days)	1287.52	2995.04	2995.04	2995.04	2995.04	3194.71
Cost of Limestone towards Stock (15 days)	143.66	287.33	287.33	287.33	287.33	306.48
Cost of Limestone towards Generation (30 days)	35.92	71.83	71.83	71.83	71.83	76.62
Cost of Secondary Fuel Oil (Two Months)	72.72	145.43	145.04	145.04	145.04	154.71

Lignite Transfer Price and Energy Charges

75. The Petitioner has submitted that it has filed Petition No: 452/MP/2019 for truing-up of lignite transfer price of NLC mines for the 2014-19 tariff period. It is however noticed that the Commission vide its order dated 24.3.2022 (read with corrigendum order dated 26.4.2022) in Petition No 452/MP/2019 had determined the pooled lignite transfer price, after truing up, as under:

	2015-16	**2016-17**	**2017-18**	**2018-19**
Pooled price of Lignite after truing up (Rs. /Tonne)	1689.00	1891.00	1983.00	2021.00

76. The base lignite price, as determined above, does not include Royalty charges, Clean energy cess, NMET and ED. Hence, to work out the landed price of fuel, we

have considered the Royalty charges at 6%, NMET at 2% of Royalty charges, clean energy cess and ED, in line with the Petitioner's claim, as under:

	22.4.2015 to 4.7.2015	5.7.2015 to 31.3.2019	2016-17	2017-18	2018-19
Base lignite price (A) (Rs./MT)	1689	1689	1891	1983	2021
Royalty (B)=(6% of A) (Rs./MT)	101.34	101.34	113.46	118.98	121.26
NMET (C)=(2% of B) (Rs./MT)	2.03	2.03	2.27	2.38	2.43
Clean energy cess (D) (Rs./MT)	133.33	200	200	200	200
ED (E) (Rs./MT)	29.64	28.86	28.86	28.86	28.86
Landed price of fuel (F)=(A+B+C+D+E) (Rs./MT)	**1955.34**	**2021.23**	**2235.59**	**2333.22**	**2373.55**

77. Accordingly, the price and GCV of lignite for the years 2015-16 to 2018-19 and the secondary oil as considered by the Petitioner and allowed for computation of lignite cost, secondary oil, 2-month energy charges and limestone in working capital is as under:

	Allowed in order dated 24.7.2017 in Petition No. 146/GT/2015		Claimed		Allowed	
	22.4.2015 to 4.7.2015	5.7.2015 to 1.3.2019	22.4.2015 to 4.7.2015	5.7.2015 to 31.3.2019	22.4.2015 to 4.7.2015	5.7.2015 to 31.3.2019
Price of Lignite (Rs. / Tonne)	1814	2066	1979.04	2297.20	As determined in the table above	
GCV of Lignite (kCal/kg)	2645.667	2640.334	2645.67	2640.33	2645.67	2640.33
Price of Secondary fuel oil (Rs./kL)	33361.776	26490.699	33361.776	26490.699	33361.776	26490.699
GCV of secondary fuel oil (kCal/kg)	10000	10000	10000	10000	10000	10000
Price of Limestone (Rs./MT)	2313.43		2313.43		2313.43	

78. Based on above, the weighted average GCV and cost for fuel components as allowed in order dated 24.7.2017 in Petition No. 146/GT/2015, the working capital and two months of energy charges is allowed as under:

(Rs. in lakh)

	22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 3 1.3.2016 (Unit-I & Unit-II)	2016-17	2017-18	2018-19 up to 4.7.2018	2018-19 from 5.7.2018 to 31.3.2019
Cost of Lignite for 45 days	715.797	5983.103	8080.501	8080.501	2103.144	6375.848
Cost of Limestone for 45 days	43.57	319.12	430.99	430.99	112.18	340.07
Cost of secondary fuel oil for 2 months	18.52	107.68	145.04	145.04	37.75	114.44
Energy Charge for 2 months	1047.88	8650.70	11651.31	11651.31	3032.53	9193.37

79. Accordingly, the weighted average GCV and cost for fuel components as claimed, the working capital and two months energy charges are worked out as under:

(Rs. in lakh)

	22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 31.3.2016 (Unit-I & Unit-II)	2016-17	2017-18	2018-19 up to 4.7.2018	2018-19 from 5.7.2018 to 31.3.2019
Cost of Lignite for 45 days	694.44	5268.32	7869.74	8213.42	2174.69	6592.74
Cost of Limestone for 45 days	39.21	287.21	387.89	387.89	100.96	306.06
Cost of secondary fuel oil for 2 months	16.66	96.92	130.53	130.53	33.97	103.00
Energy Charge for 2 months	1123.38	8476.74	12550.34	13062.80	3456.34	10478.16

Working capital for Maintenance Spares

80. Regulation 28(1)(b)(ii) of the 2014 Tariff Regulations provides for Maintenance spares @ 30% of the O&M expenses. Accordingly, maintenance spares have been worked out and allowed as follows:

(Rs. in lakh)

22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 31.3.2016 (Unit-I & Unit-II)	2016-17	2017-18	2018-19 up to 4.7.2018	2018-19 from 5.7.2018 to 31.3.2019
256.78	1909.91	2750.95	2975.56	847.74	2409.37

Working capital for Receivables

81. Regulation 28(1)(b)(iv) of the 2014 Tariff Regulations provides for Receivables for two months of capacity charge and energy charge. Accordingly, the Receivable component for working capital is allowed as follows:

(Rs. in lakh)

	22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**	**2016-17**	**2017-18**	**2018-19 up to 4.7.2018**	**2018-19 from 5.7.2018 to 31.3.2019**
Energy Charges (two months)	1123.38	8476.74	12550.34	13062.80	3456.34	10478.16
Fixed Charges (two months)	1147.11	8883.56	12070.64	12021.21	3117.37	8859.88
Total	**2270.48**	**17360.30**	**24620.99**	**25084.01**	**6573.70**	**19338.04**

Working capital for O & M Expenses (1 month of O&M Expenses)

82. Regulation 28(1)(b)(v) of the 2014 Tariff Regulations provides for O&M Expenses for one month. Accordingly, the O&M expenses (for one month) for working capital is allowed as under:

(Rs. in lakh)

22.4.2015 to 4.7.2015 (Unit-II)	**5.7.2015 to 31.3.2016 (Unit-I & Unit-II)**	**2016-17**	**2017-18**	**2018-19 up to 4.7.2018**	**2018-19 from 5.7.2018 to 31.3.2019**
106.99	795.80	1146.23	1239.82	353.23	1003.91

Rate of interest on working capital

83. In terms of clause (3) of Regulation 28 of the 2014 Tariff Regulations, the Bank rate of 13.50% as on 1.4.2014, tariff has been considered. Accordingly, Interest on Working Capital has been allowed as follows:

(Rs. in lakh)

	22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 31.3.2016 (Unit-I & Unit-II)	2016-17	2017-18	2018-19 up to 4.7.2018	2018-19 from 5.7.2018 to 31.3.2019
Working capital for Fuel cost lignite for (45 days)	694.44	5268.32	7869.74	8213.42	2174.69	6592.74
Working capital for Fuel Stock - Limestone (45 days)	39.21	287.21	387.89	387.89	100.96	306.06
Working capital for Secondary Fuel oil cost (2 months)	16.66	96.92	130.53	130.53	33.97	103.00
Working capital for O & M expenses (1 month of O&M expenses)	106.99	795.80	1146.23	1239.82	353.23	1003.91
Working capital for Maintenance Spares (20% of O&M Expenses)	256.78	1909.91	2750.95	2975.56	847.74	2409.37
Working capital for Receivables- (2 months of capacity charges and energy charges)	2270.48	17360.30	24620.99	25084.01	6573.70	19338.04
Total Working Capital	**3384.57**	**25718.46**	**36906.34**	**38031.24**	**10084.29**	**29753.12**
Rate of Interest	13.5000%	13.5000%	13.5000%	13.5000%	13.5000%	13.5000%
Interest on Working capital	**456.92**	**3471.99**	**4982.36**	**5134.22**	**1361.38**	**4016.67**

Annual Fixed Charges

84. Based on the above, the annual fixed charges approved for the generating station for the period 2015-19 is summarised below:

(Rs. in lakh)

	2015-16		2016-17	2017-18	2018-19
	22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 31.3.2016 (Unit-I & Unit- II)			
Depreciation	1492.86	11817.39	16206.78	16288.45	16298.54
Interest on Loan	1959.31	15086.92	19136.39	17390.75	15404.25
Return on Equity	1689.68	13375.46	18343.58	18436.01	18497.06
Interest on Working Capital	456.92	3471.99	4982.36	5134.22	5378.05
O&M Expenses	1283.88	9549.57	13754.75	14877.81	16285.58
Total annual fixed charges	**6882.65**	**53301.34**	**72423.86**	**72127.23**	**71863.48**

85. The difference between the annual fixed charges already recovered by the Petitioner in terms of order dated 24.7.2017 in Petition No. 146/GT/2015 and the annual fixed charges determined by this order, as above, shall be adjusted in terms of the relevant clauses of Regulation 8(13) of the 2014 Tariff Regulations.

86. Annexure-I attached herewith form part of the order.

87. This order disposes of Petition No. 367/GT/2020.

Sd/	Sd/	Sd/	Sd/
(Pravas Kumar Singh)	**(Arun Goyal)**	**(I.S Jha)**	**(P.K. Pujari)**
Member	**Member**	**Member**	**Chairperson**

Annexure I

Weighted Average Rate of Depreciation

(Rs. in lakh)

Package	Actual Expenditure as on COD 05.07.15	Depreciation Rate	Depreciation Amount
Preliminary Investigation & Site development	717.33	3.34%	24
Steam Generator Island	1,46,958.91	5.28%	7,759
External water supply system	1,163.24	5.28%	61
Circulating Water System	4,253.63	5.28%	225
Demineralisation water plant	2,795.35	5.28%	148
Chlorination plant	6,257.04	5.28%	330
Ash Handling system	7,181.28	5.28%	379
Lignite Handling system	34,730.87	5.28%	1,834
Fire Fighting system	700.90	5.28%	37
High pressure (HP)/Low pressure (LP) Piping	287.55	5.28%	15
Switchyard Package	11,259.24	5.28%	594
Transformers Package	244.35	5.28%	13
Cables, Cable facilities & grounding	555.43	5.28%	29
Emergency D.G. set	438.78	5.28%	23
Initial Spares	12,085.34	5.28%	638
Main Plant/Adm. Building	39,596.83	5.28%	2,091
Cooling Towers & Chimney (Civil Works)	8,389.37	3.34%	280
Road & drainage (Civil Works)	119.75	3.34%	4
Start-up fuel	35,649.15	5.28%	1,882
Total	**3,13,384**		**16,368**
Weighted Average Rate of Depreciation			**5.2229%**

***Note: The Amount of IDC and overhead has been reallocated to the individual packages on pro-rata basis**