

(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:

	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:

	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:

<i>(Rs. in lakh)</i>			
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:

	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:

	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:

		<i>(Rs. in lakh)</i>		
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:

	<i>(Rs. in lakh)</i>			
	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:

<i>(Rs. in lakh)</i>				
	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:

<i>(Rs. in lakh)</i>				
	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:

<i>(Rs. in lakh)</i>						
		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:

	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

(Rs. in lakh)

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:

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

(Rs. in lakh)

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/
(Pravas Kumar Singh)
Member

Sd/
(Arun Goyal)
Member

Sd/
(I.S Jha)
Member

Sd/
(P.K. Pujari)
Chairperson

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*