(c) New Claims

30. The Petitioner has claimed additional capital expenditure of Rs.191.64 lakh (corresponding un-discharged liabilities is Rs.117.78 lakh and IDC is Rs.1.44 lakh) in 2014-15 under Regulation 14(3)(i) of the 2014 Tariff Regulations, Rs.175.34 lakh (corresponding un-discharged liabilities is Rs.17.66 lakh) in 2015-16 under Regulation 14(3)(ii) of the 2014 Tariff Regulations, Rs.101.26 lakh (corresponding un-discharged liabilities is Rs.6.42 lakh and IDC is Rs.1.50) in 2016-17 under Regulation 14(3)(iv) of the 2014 Tariff Regulations, Rs.70.53 lakh (corresponding un-discharged liabilities is Rs.48.46 lakh) in 2017-18 under Regulation 14(3)(v) of the 2014 Tariff Regulations, and Rs.92.01 lakh (corresponding un-discharged liabilities is 'nil') in 2018-19, on cash basis, under Regulation 14(3)(v) read with Regulation 54 of the 2014 Tariff Regulations, incurred after the cut-off date, on new claims.

31. The asset-wise total of the claim under the head new claims for the year 2015-16 works out to Rs.176.96 lakh as against the sub-total of Rs.175.34 lakh, as shown in the auditor certified Form-9A. As such, this un-reconciled additional claim of (-) Rs.1.63 lakh has been allowed for the purpose of tariff.

32. The Respondent, CSPDCL has submitted that the Petitioner's claim towards Off-site Civil, SG Civil work, TG Civil work and Land claimed under Regulation 14(3)(v) read with Regulation 54 of the 2014 Tariff Regulations, on the ground that these have been completed after the cut-off date (i.e. 31.3.2013) of the generating station, cannot be considered under Regulation 14 (3)(v) of the 2014 Tariff Regulations. The Respondent, MPPMCL has submitted that all additional capital expenditure claimed by the Petitioner, other than under Regulations 14(3)(i) to Regulation 14(3)(iv) of the 2014 Tariff

Regulations, cannot be considered for capitalization, as the same are required to be met from the Compensation allowance granted to the generating station. The Petitioner in its rejoinder has pointed out that these additional capital expenditure claims have been claimed under Regulation 54 (i.e. Power to Relax) for the following reasons:

	REASONS
Off-site civil works SG civil works Turbine Generator civil works	This pertains to payment made to the contracting agencies for the minor work which were off loaded to other agencies. As the cut-off date of Sipat–II had already expired and as these were part of works under original scope therefore the same is being claimed by NTPC under Regulation 54 (i.e. Power to relax) of the 2014 Tariff Regulations.
Land	The claim is related to balance payment released after the resolution of issue related to claims of land oustees. As the cut-off date of Sipat-II had already expired and these works were under original scope, therefore the same is being claimed by the petitioner under Regulation 54 (i.e. Power to Relax), of the 2014 Tariff Regulations.

33. We have considered the matter. The Petitioner has claimed additional capital expenditure of Rs.19.68 lakh towards Civil work of Ash Dyke and Rs.40.43 lakh towards Chimney in 2017-18 under Regulation 14(3)(i) of the 2014 Tariff Regulations. The expenditure for Civil work for ash dyke is based on an arbitration award dated 18.12.2017 for Rs.27.14 lakh, in respect of a dispute between the Petitioner and Shri R Murraka out of which an amount of Rs.19.68 lakh was paid in 2017-18. Further, the expenditure for Chimney is based on an arbitration award dated 17.11.2017 for Rs.38.53 lakh with 10% simple interest thereon w.e.f. 12.06.2017, in respect of a dispute between the Petitioner and M/s NBCC. Since the additional capital expenditure incurred as above, is towards the compliance of the arbitration award, the same are allowed under Regulation 14(3)(i) of the 2014 Tariff Regulations.

34. The Petitioner has also claimed additional capital expenditure of Rs 24.06 lakh towards Continuous Emission Monitoring System (CEMS) in 2016-17, under Regulation 14(3)(ii) of the 2014 Tariff Regulations. It is observed that the Commission in its order

dated 24.2.2017 in Petition No. 342/GT/2014 (pertaining to tariff of Vindhyachal STPS, Stage-III for 2014-19 period) had allowed a similar claim of the Petitioner for CEMS for 2014-15 and 2015-16 considering the same as a statutory requirement, in terms of the guidelines issued by MoEF, GOI dated 6.4. 2011. In view of the same the additional capital expenditure claimed towards CEMS is allowed.

35. Similarly, the Petitioner has claimed additional capital expenditure of Rs.26.26 lakh in 2015-16 towards Effluent Quality Monitoring System (EQMS) under Regulation 14(3)(ii) of the 2014 Tariff Regulations in compliance with directions of Central Pollution Control Board (CPCB) dated 5.2.2014. The Petitioner has also furnished documentary evidence in support of the same. It is evident that the directions of the CPCB also include the installation of online Effluent Quality Monitoring System. Keeping in view that the expenditure incurred is a statutory requirement mandated by CPCB, we allow the additional capital expenditure claimed under Regulation 14(3)(ii) of the 2014 Tariff Regulations.

36. Further, the additional capital expenditure of Rs.6.31 lakh in 2014-15, Rs.2.83 lakh in 2015-16 and Rs.0.58 lakh in 2016-17 claimed towards Ash handling plant (dry ash extraction system) under Regulation 14(3)(iv) of the 2014 Tariff Regulations is towards the completion of the balance works, which are within the original scope of work of the project. In view of this, the additional capital expenditure claimed is allowed under this head, for the purpose of tariff.

37. The Petitioner has also claimed additional capital expenditure towards 400 kV S-Yard, Fire detection Protection system, Steam generator, Township, Turbine generator, cabling, CPU, CT - Civil, Raw water reservoir (as in table under paragraph 25 above). It

is noticed that these works were executed prior to cut-off date, but payments were released after closure of contract, based on final reconciliation and defect rectification etc. In view of this, the total additional capital expenditure of Rs.354.65 lakh for 2014-19 period is allowed for the purpose of tariff.

38. Also, the Petitioner's claim for additional capital expenditure towards land under Regulation 14(3)(v) of the 2014 Tariff Regulations is allowed as the said expenditure has been incurred on account of settlement of issues related to claims of Land oustees. However, in respect of the additional capital expenditure claimed under various other heads viz. Off-site civil works, SG civil works and Turbine Generator civil works, the Petitioner has submitted that the additional capital expenditure pertains to the payments made to the contracting agencies whose works were offloaded to other vendors. However, the details of offloaded works have not been submitted by the vendors. Further, since the cut-off date of the project has expired the Petitioner has prayed the Commission to allow the capitalization of these expenses under power to relax. We have considered the matter. Since the Petitioner has not submitted the details of offloading of works and the cut-off date of the project has expired, we are not inclined to exercise Power to Relax under Regulation 54 of the 2014 Tariff Regulations and disallow these expenditures.

39. Based on the above, the total additional capital expenditure allowed towards 'new claims' is Rs.135.59 lakh (corresponding un-discharged liabilities is Rs.89.08 lakh and IDC is Rs.1.44 lakh) in 2014-15, Rs.152.32 lakh (corresponding un-discharged liabilities is Rs.17.66 lakh) in 2015-16, Rs.96.99 lakh (corresponding un-discharged liabilities is Rs.6.28 lakh and IDC is Rs.1.50) in 2016-17, Rs.61.87 lakh (corresponding

un-discharged liabilities is Rs.48.46 lakh) in 2017-18, and Rs.88.27 lakh (corresponding un-discharged liabilities is 'nil') in 2018-19, on cash basis.

(d) De-capitalization of spares (part of capital cost)

40. The Petitioner has claimed de-capitalization of spares, forming part of the admitted capital cost of (-) Rs.44.42 lakh in 2014-15, (-) Rs.36.35 lakh in 2015-16, (-) Rs.115.42 lakh in 2016-17, (-) Rs.262.20 lakh in 2017-18 and (-) Rs.245.47 lakh in 2018-19, under Regulation 14(4) of the 2014 Tariff Regulation. Regulation 14(4) of the 2014 Tariff Regulations provides that in case of de-capitalization of assets, the original cost of such assets, are to be removed from the admitted capital cost of the generating station. Accordingly, the de-capitalization claimed under this head is allowed for the purpose of tariff.

Discharges of liabilities

41. The discharges of liabilities claimed by the Petitioner is as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
333.80	927.94	35.00	269.77	267.78

42. Out of the total discharge of liabilities claimed by the Petitioner, the discharge of Rs.0.75 lakh in 2016-17, corresponds to assets disallowed for the purpose of tariff. Accordingly, the same is not considered for the purpose of tariff. Accordingly, the discharges of liabilities of Rs.333.80 lakh in 2014-15, Rs.927.94 lakh in 2015-16, Rs.34.24 lakh in 2016-17, Rs.269.77 lakh in 2017-18 and Rs.267.78 lakh in 2018-19 is allowed for the purpose of tariff as per break-up details as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Pertaining to the period prior to 1.4.2014	333.80	870.28	19.41	258.81	227.86

Pertaining to the 2014-19 tariff period	0.00	57.66	14.83	10.96	39.92
Total	**333.80**	**927.94**	**34.24**	**269.77**	**267.78**

43. Further, out of reversal of liabilities claimed by the Petitioner during the 2014-19 tariff period reversals amounting to Rs.577.30 lakh in 2014-15, Rs.429.15 lakh in 2015-16, Rs.161.44 lakh in 2016-17, Rs.12.13 lakh in 2017-18 and Rs.55.26 lakh in 2018-19, pertains to liabilities for the period prior to 1.4.2014. It is noticed that the Petitioner, in Form-18, has not furnished the year-wise break-up of un-discharged liabilities, which is required to work out the discharges/reversals during the 2014-19 tariff period, pertaining to liabilities deducted as on 1.4.2009 for the purpose of adjustment of cumulative repayment and cumulative depreciation corresponding to these discharges.

44. Accordingly, the discharges/reversals relating to the period prior to 1.4.2014, as shown above, have been considered to be paid in respect of old liabilities i.e., liabilities as on 1.4.2009, first. Out of total liabilities deducted as on 1.4.2009 for Rs.18022.68 lakh (with corresponding adjustment to cumulative repayment and cumulative depreciation amounting to Rs.523.42 lakh and Rs.542.38 lakh), the balance liabilities as on 1.4.2014 works out to Rs.3893.43 (with corresponding balance adjustment to cumulative repayment and cumulative depreciation amounting to Rs.113.07 lakh and Rs.117.17 lakh). The summary of un-discharged liabilities, corresponding to admitted capital cost, is as under:

(Rs. in lakh)

		2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
	(A) Out of liabilities deducted as on 1.4.2009					
a	Opening liability	3893.43	2982.33	1682.90	1502.05	1231.10
b	Addition during the year	0.00	0.00	0.00	0.00	0.00
c	Discharges during the year	333.80	870.28	19.41	258.81	227.86
d	Reversal during the year	577.30	429.15	161.44	12.13	55.26
e	**Closing liability (a+b-c-d)**	2982.33	1682.90	1502.05	1231.10	947.98
	(B) Other liabilities					
f	Opening liability	362.44	413.99	345.82	337.26	374.45

g	Addition during the year	51.55	1.26	6.27	48.46	0.00
h	Discharges during the year	0.00	57.66	14.83	10.96	39.92
i	Reversal during the year	0.00	11.77	0.00	0.31	0.00
j	**Closing liability (f+g-h-i)**	413.99	345.82	337.26	374.45	334.54
k	**Total closing liabilities (e+j)**	**3396.32**	**2028.73**	**1839.31**	**1605.56**	**1282.52**

45. Accordingly, the additional capital expenditure allowed for the 2014-19 tariff period is summarized as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Already allowed items					
Ash Dyke raising work	743.99	89.74	38.08	28.40	0.00
New claims					
Land	0.00	8.03	9.33	1.75	42.73
400 KV S-Yard	8.90	0.00	0.00	0.00	0.00
Fire Detection and Protection System	24.93	0.00	0.00	0.00	44.51
Steam Generator	80.64	0.00	0.00	0.00	0.00
Township	13.36	72.04	63.02	0.00	1.02
Turbine Generator	1.44	0.00	0.00	0.00	0.00
Cabling	0.00	5.75	0.00	0.00	0.00
CPU	0.00	38.99	0.00	0.00	0.00
CT – Civil	0.00	0.05	0.00	0.00	0.00
Ash Handling plant	6.31	2.83	0.58	0.00	0.00
Effluent Quality Monitoring System (EQMS)	0.00	26.26	0.00	0.00	0.00
Continuous Emission Monitoring System (CEMS)	0.00	0.00	24.06	0.00	0.00
Civil work of Ash Dyke	0.00	0.00	0.00	19.68	0.00
Chimney	0.00	0.00	0.00	40.43	0.00
De-capitalization					
De-capitalization of spares (part of Capital cost)	(-) 44.42	(-) 36.35	(-) 115.42	(-) 262.20	(-) 245.47
Additional capital expenditure allowed (before discharges of liabilities)	**835.15**	**205.71**	**19.65**	**(-) 171.94**	**(-) 157.20**
Add: Discharge of Liabilities	333.80	927.94	34.24	269.77	267.78
Net Additional capital expenditure (including discharges of liabilities)	**1168.95**	**1133.65**	**53.89**	**97.84**	**110.58**
Add: Exclusions disallowed	(-) 60.20	(-) 53.21	(-) 56.24	(-) 300.19	(-) 75.49
Net additional capital expenditure allowed	**1108.75**	**1080.45**	**(-) 2.35**	**(-) 202.35**	**35.08**

Capital cost allowed for the 2014-19 tariff period

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

(Rs. In lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	430503.32	431612.07	432692.51	432690.17	432487.82
Add: Additional capital expenditure	1108.75	1080.45	(2.35)	(202.35)	35.08
Closing Capital Cost	**431612.07**	**432692.51**	**432690.17**	**432487.82**	**432522.90**
Average Capital Cost	431057.69	432152.29	432691.34	432588.99	432505.36

Debt Equity Ratio

47. Regulation 19 of the 2019 Tariff Regulations provides as under:

"19. Debt-Equity Ratio: (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 utilization 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 the 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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.

48. Accordingly, the gross normative loan and equity amounting to Rs.301352.32 lakh and Rs.129151.00 lakh, respectively as on 1.4.2014, as considered in order dated 21.3.2017 in Petition No. 322/GT/2014, has been considered as gross normative loan and equity as on 1.4.2014. Further, the additional capital expenditure approved above has been allocated to debt and equity in the ratio of 70:30. Accordingly, the details of debt-equity ratio as on 1.4.2014 and as on 31.3.2019 are as follows:

	Capital cost as on 1.4.2014 *(Rs. in lakh)*	**(%)**	**Additional capital expenditure *(Rs. in lakh)***	**(%)**	**Capital cost as on 31.3.2019 *(Rs. in lakh)***	**(%)**
Debt	301352.32	70.00	1413.71	70.00	302766.03	70.00
Equity	129151.00	30.00	605.87	30.00	129756.87	30.00
Total	**430503.32**	**100.00**	**2019.58**	**100.00**	**432522.90**	**100.00**

Return on Equity

49. Regulation 24 of the 2014 Tariff Regulation provides as under:

"24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations, transmission system including communication system and run of the river hydro generating station, and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

Provided that:

i) in case of projects commissioned on or after 1st April, 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:

ii) the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

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

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

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

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

50. 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

(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."

51. The Petitioner has claimed tariff considering rate of return on equity of 19.611% in 2014-15, 19.705% in 2015-18 and 19.758% in 2018-19. The Petitioner has arrived at these rates after grossing up base rate of return on equity of 15.50% with MAT rate of 20.961% in 2014-15, 21.342% in 2015-18 and 21.549% in 2018-19. However, after

rectifying the rounding off errors the rate of return on equity to be considered for the purpose of tariff works out to 19.610% for 2014-15, 19.705% for 2015-18 and 19.758% for 2018-19. Accordingly, return on equity has been worked out as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Notional Equity- Opening	129151.00	129483.62	129807.76	129807.05	129746.35
Addition of Equity due to additional capital expenditure	332.62	324.13	(-) 0.70	(-) 60.71	10.52
Normative Equity – Closing	129483.62	129807.76	129807.05	129746.35	129756.87
Average Normative Equity	129317.31	129645.69	129807.41	129776.70	129751.61
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate	20.961%	21.342%	21.342%	21.342%	21.549%
Rate of Return on Equity (Pre-tax)	19.610%	19.705%	19.705%	19.705%	19.758%
Return on Equity (Pre-tax) (annualized)	**25359.12**	**25546.68**	**25578.55**	**25572.50**	**25636.32**

<u>Interest on loan</u>

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

> *"26. Interest on loan capital: (1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.*
>
> *(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.*
>
> *(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of Decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset*
>
> *(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.*
>
> *(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:*
>
> *Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:*
>
> *Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.*
>
> *(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.*

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such refinancing 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."

53. Interest on loan has been computed as under:

i) The gross normative loan amounting to Rs.301352.32 lakh as on 1.4.2014, as considered in order dated 21.3.2017 in Petition No. 322/GT/2014, has been considered as on 1.4.2014.

ii) Cumulative repayment amounting to Rs.117403.61 lakh as on 1.4.2014, as considered in order dated 21.3.2017 in Petition No. 322/GT/2014, has been considered as on 1.4.2014.

iii) Accordingly, the net normative opening loan as on 1.4.2014 works out to Rs.183948.71 lakh.

iv) Addition to normative loan on account of additional capital expenditure approved above have been considered.

v) The Petitioner has claimed interest on loan considering weighted average rate of interest (WAROI) of 8.6626% in 2014-15, 8.5190% in 2015-16, 8.6404% in 2016-17, 8.2812% in 2017-18 and 8.5373% in 2018-19. However, considering the details of actual loan portfolio and rate of interest furnished by the Petitioner, duly adjusted for interest capitalized during the respective years the WAROI to be considered for the purpose of tariff works out to 8.6482% in 2014-15, 8.5190% in 2015-16, 8.6036% in 2016-17, 8.1976% in 2017-18 and 8.4672% in 2018-19.

vi) Depreciation allowed has been considered as repayment of normative loan during the respective year of the 2014-19 tariff period. Further, repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff and discharges/reversals corresponding to un-discharged liabilities deducted from allowed capital cost as on 1.4.2009.

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

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan (A)	301352.32	302128.44	302884.76	302883.11	302741.47
Cumulative repayment of loan up to previous year (B)	117403.61	139436.79	161545.15	183604.16	205469.21
Net Loan Opening (C)=(A-B)	**183948.71**	**162691.65**	**141339.60**	**119278.96**	**97272.26**
Addition due to additional capital expenditure (D)	776.12	756.31	(1.64)	(141.65)	24.56
Repayment of loan during the year (E)	22036.88	22093.65	22120.13	22109.99	22102.76
Repayment adjustment on account of de-capitalization (F)	30.17	23.02	66.38	252.81	169.85
Repayment adjustment on a/c of discharges / reversals corresponding to un-discharged liabilities deducted as on 1.4.2009 (G)	26.46	37.74	5.25	7.87	8.22
Net Repayment of loan during the year (H)=(E-F+G)	**22033.18**	**22108.37**	**22059.00**	**21865.06**	**21941.13**
Net Loan Closing (I)	**162691.65**	**141339.60**	**119278.96**	**97272.26**	**75355.68**
Average Loan (J)=[(C+I)/2]	173320.18	152015.63	130309.28	108275.61	86313.97
Weighted Average Rate of Interest of loan (K)	8.6482%	8.5190%	8.6036%	8.1976%	8.4672%
Interest on Loan (L)=(JxK)	**14989.08**	**12950.27**	**11211.29**	**8876.01**	**7308.38**

Depreciation

55. 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."

56. The cumulative depreciation amounting to Rs.118243.39 lakh as on 1.4.2014, as considered in order dated 21.3.2017 in Petition No. 322/GT/2014, has been considered as on 1.4.2014. The value of freehold land amounting to Rs.5171.63 lakh as on 1.4.2014, as considered in order dated 21.3.2017 in Petition No. 322/GT/2014, along with additions during the 2014-19 tariff period, has been considered for the purpose of tariff. Accordingly, the balance depreciable value, before providing depreciation for the year 2014-15, works out to Rs.265054.07 lakh. Since, the elapsed life of the generating station (5.52 years) as on 1.4.2014 from effective station COD of the generating station i.e. 25.9.2008 is less than 12 years, depreciation has been computed, considering the

weighted average rate of depreciation (Annexure-I). Necessary calculations in support of depreciation are as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Average capital cost (A)	431057.69	432152.29	432691.34	432588.99	432505.36
Value of freehold land included above (B)	5171.63	5175.65	5184.32	5189.86	5212.10
Depreciable Value (C) = [(A-B) x 90%]	383297.46	384278.98	384756.32	384659.22	384563.93
Remaining Depreciable value at the beginning of the year (D) = [C – 'K' of previous year]	265054.07	244001.45	222369.06	200212.77	178252.14
Balance useful life at the beginning of the year (E)	19.48	18.48	17.48	16.48	15.48
Weighted average rate of depreciation (F)	5.1123%	5.1125%	5.1122%	5.1111%	5.1104%
Depreciation during the year (G) = (A x F)	**22036.88**	**22093.65**	**22120.13**	**22109.99**	**22102.76**
Cumulative depreciation at the end of the year, before adjustment of de-capitalization adjustment (H) = [G + 'K' of previous year]	140280.27	162371.18	184507.39	206556.45	228414.55
Cumulative depreciation adjustment in respect of discharges/reversals pertaining to un-discharged liabilities deducted as on 1.4.2009 (I)	27.42	39.11	5.44	8.15	8.52
Cumulative depreciation adjustment on account of de-capitalization (J)	30.17	23.02	66.38	252.81	169.85
Cumulative depreciation, at the end of the year (K) =(H+I-J)	**140277.53**	**162387.26**	**184446.45**	**206311.79**	**228253.22**

Note: Cumulative depreciation as on 31.3.2014 is Rs.118243.39 lakh.

Operation & Maintenance Expenses

57. Regulation 29(1)(a) of the 2014 Tariff Regulations specifies the following norms for O&M expenses for coal based/lignite fired generating station:

> *"Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:*
>
> *(a) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations, other than the generating stations/units referred to in clauses (b) and (d):*

(in Rs. Lakh/MW)

Year	*200/210/250 MW Sets*	*300/330/350 MW Sets*	*500 MW Sets*	*600 MW Sets and above*
FY 2014-15	*23.90*	*19.95*	*16.00*	*14.40*