dated 16.8.2010. The verification of the letter dated 16.8.2010 of the Assistant Commandant, CISF reveals that only two parking ways were available, one each for the existing water tender and foam tender and one new parking way which was required for DCP tender, was under construction at that point in time. Since the claim of the Petitioner is based on the recommendation of CISF, a statutory body, the claim of the Petitioner is allowed under Regulation 14(3)(iii) of the 2014 Tariff Regulations.

Lab instrument for NABL certification

36. The Petitioner has claimed total additional capital expenditure of Rs.34.80 lakh (i.e Rs.3.01 lakh in 2015-16 and Rs.31.79 lakh in 2016-17 after deduction of un-discharged liabilities amounting to Rs.0.13 lakh in 2015-16 and Rs.23.74 lakh in 2016-17) towards procurement of lab instruments for NABL certification under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that the correct measurement and analysis of coal received at the generating station is important and thus as per circular dated 9.9.2013 from the Vigilance Department, it is mandatory to get the NABL accreditation for the lab. Thus, in order to comply with the statutory directions, the additional expenditure has been incurred for NABL accreditation of Lab. It is observed that though the Petitioner has relied upon the circular dated 9.9.2013 of the Vigilance Department, it has not furnished the same, to justify that the additional expenditure claimed is based on the advice or direction of the Appropriate Government agency for safety and security of the plant in terms of Regulation 14(3)(iii) of the 2014 Tariff Regulations. Accordingly, the additional capital expenditure towards Lab Certification is not allowed.

Host for Loco Shed

37. The Petitioner has claimed additional capital expenditure of Rs.14.84 lakh, on cash/accrual basis, in 2016-17, towards 'host for loco shed' under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that 'host' for maintenance of loco shed is important in terms of safety of the personnel and equipment, and in its absence, the maintenance activities of loco shed suffered from unsafe working conditions and always have probability of accidents. Accordingly, the Petitioner has submitted that in order to ensure the safe working conditions, thereby increasing work efficiency, the expenditure under this head is necessary. It is observed that the Petitioner has not furnished any documentary evidence in support of the said claim under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In view of this, the additional capital expenditure claimed is not allowed.

Ash related work

38. The Petitioner has claimed additional capital expenditure of Rs.15.12 lakh (on cash/accrual basis) in 2016-17 towards ash related works under Regulation 14(3)(iv) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that the said work form part of the original scope of work and is necessary to be carried out during the useful life of the plant to ensure the sustained and successful operation of the unit/station. Accordingly, the Petitioner has prayed to allow the same. Since, the Ash related works, which are within the original scope of the project, are continuous in nature during the operational life of generating station and normally taken up in stages as and when required, the claim of the Petitioner is allowed.

High Mast for emergency stack yard

39. The Petitioner has claimed additional capital expenditure of Rs.4.79 lakh on cash basis (i.e Rs.5.71 lakh on accrual basis less un-discharged liabilities of Rs.0.91 lakh) in 2017-18 towards High Mast for emergency stack yard under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that in case of short supply of coal, the coal stocked in the emergency stack yard is used. It has also submitted that the coal supply situation is very weak and the use of emergency stack yard is very frequent and to ensure safe and efficient operation of coal feeding from emergency stack yard, it is essential to keep the area properly illuminated to avoid accident. Accordingly, the petitioner has submitted that for the safe and efficient operation of the generating station, high mast was installed. It is noticed that the claim of the Petitioner for projected expenditure on tis asset/work, was disallowed vide Commission's order dated 2.8.2016 in Petition No.257/GT/2014, on the ground that the same was minor in nature, which are not allowable in terms of the 2014 Tariff Regulations. In view of this, the additional capital expenditure claimed for this asset/work, in the present petition, is not allowed.

RCC approach road ramp at Ash Dyke

40. The Petitioner has claimed additional capital expenditure of Rs.23.97 lakh on cash basis (i.e. Rs.24.35 lakh on accrual basis less un-discharged liabilities of Rs.0.38 lakh) in 2017-18, towards construction of RCC approach road ramp at ash dyke under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that as per MOEF, GOI Notification dated 25.1.2016, 100% utilization of ash is mandatory and for safe handling of such activity, safe approach to Ash dyke is critical. Accordingly, the Petitioner has submitted that it has constructed RCC approach road

ramp in line with aforesaid notification and he same may be allowed under change in law. It is observed that the MOEF Notification dated 25.1.2016, does not deal with the maintenance of road and construction of ramp etc. In our view, these expenses shall be met from the O&M expenses allowed to the generating station in terms of the 2014 Tariff Regulations. Accordingly, the additional capital expenditure claimed by the Petitioner is not allowed. The Petitioner can use the proceeds from ash sale for such activities.

Rain water harvesting system

41. The Petitioner has claimed additional capital expenditure of Rs.34.12 lakh (on cash/accrual basis) in 2018-19, towards rain water harvesting system under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner submitted that rain water harvesting is an essential component of sustainable development and ensures optimum utilization of natural resources by the industry. It has also submitted that apart from existing provisions, the legislature/Parliament, has also envisaged a comprehensive legislation on 'rain water harvesting' and legislation activities thereon are in place. The Petitioner has pointed out that as per Rule 78(4) of "The Chhattisgarh Bhumi Vikas Rules 1984" it is mandatory to install rain water harvesting system and the expenditure incurred under this head, is for compliance to the statutory enactment. The Petitioner has furnished copy of a bill (Bill No. 45 of 2016) "The Rain Water (Harvesting and Storage) Bill, 2016" in support of its claim. The Petitioner has stated that in terms of the said bill, every commercial establishment shall adopt such measures to provide rain water harvesting structures for storage and for use of harvested water or for groundwater recharge within its premises. This bill further provides that the Central Government shall, after due appropriation made by Parliament by law in this behalf, provide requisite funds, from time to time, for carrying out the purpose of this Act.

42. The Commission vide ROP of the hearing dated 17.3.2021, had directed the Petitioner to clarify the reason for claiming the expenditure in light of the fact that as per bill, the fund for the said expenditure is to be provided by the Central Government. The Petitioner vide affidavit dated 24.5.2021 has clarified that there has been no such disbursement by the Central Government, till date.

43. The submissions of the Petitioner have been considered. The Petitioner has claimed the expenditure based on the "The Rain Water (Harvesting and Storage) Bill, 2016" which requires every commercial establishment to adopt rain water harvesting structures for storage and for use of harvested water for groundwater recharge. It is however not clear as to whether the bill has been enacted as a law, which mandates the said expenditure. It is noticed that the Commission in its order dated 13.5.2022 in Petition No. 301/GT/2020 (truing -up of tariff of Jhanor Gandhar GPS for the 2014-19 tariff period) had disallowed the similar claim of the Petitioner on this ground. Accordingly, the additional capital expenditure claimed by the Petitioner is not allowed.

Safety Kiosk

44. The Petitioner has claimed additional capital expenditure of Rs.3.54 lakh, on cash basis, in 2018-19, towards installation of Safety kiosk, under Regulation 14(3)(ii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner submitted that in terms of Paragraph 6(2)(c) in chapter-III of the Occupational Safety, Health & Working Conditions Code 2019, ('the Code') tabled by the Ministry of Labour & Employment, in the Lok Sabha for amendment in the provisions pertaining to OSHWC (enclosed as Annexure-E), the employer has to ensure the provision of information, instruction, training and supervision related to safety and risk of health. The Petitioner has further submitted

that in compliance to the said Code, the safety cell is proposed to be installed for training of labourers, regarding awareness and safety practices of energy intensive industries. The Petitioner has also submitted that the safety cell shall be helpful to enhance the safety culture in the generating station and to comply with the provisions as specified by the Government of India. It is observed that the Petitioner has claimed the expenditure towards the safety kiosk under Regulation 14(3)(ii) of the 2014 Tariff Regulations considering the Occupational Safety, Health & Working Conditions Code 2019 tabled by the Ministry of Labour & Employment, in the Lok Sabha. It is not clear from the submission of the Petitioner as to whether the said code has been enacted as a law, mandating the expenditure claimed by the Petitioner. In the absence of this, the claim of the Petitioner cannot be construed under change in law to permit the additional capital expenditure claimed. Accordingly, the claim of the Petitioner is not allowed.

LPG Cylinder Shed

45. The Petitioner has claimed additional capital expenditure of Rs.1.41 lakh (on cash/accrual basis) in 2018-19, towards the construction of LPG cylinder shed under Regulation 14(3)(iii) of the 2014 Tariff Regulations. In justification of the same, the Petitioner has submitted that the shed has been constructed for enhancement of safety of man and machinery of the generating station. It is noticed that the petitioner has not furnished any documentary evidence in support of its claim that the same is based on advice or direction of Appropriate Government agency, in terms of Regulation 14(3)(iii) of the 2014 Tariff Regulations. In view of this, the claim of the Petitioner is not allowed.

De-capitalization of assets forming part of capital cost

46. The Petitioner has claimed de-capitalization of assets of Rs.76.29 lakh in 2015-16 and Rs.147.41 lakh in 2016-17 and de-capitalization of spares of Rs.0.44 lakh in 2017-

18 under Regulation 14(4) of the 2014 Tariff Regulations. Since, these assets form part of the allowed capital cost, the de-capitalization as claimed by the Petitioner is allowed for the purpose of tariff.

Discharges of liabilities

47. The Petitioner has claimed discharge of liabilities amounting to Rs.194.34 lakh in 2014-15, Rs.42.60 lakh in 2015-16, Rs.10.03 lakh in 2016-17 and Rs.21.42 lakh in 2017-18, the same is allowed.

48. Based on above, 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
Items already allowed in order dated 2.8.2016					
Make up Water	13.77	0	0	0	0
Ash dyke raising	0	0	0	0	372.46
Civil construction/work	31.70	217.25	38.70	0	0
CEMS/EQMS	0	109.39	0	0	19.51
Fire alarm safety cards	0	12.54	0	0	0
Fire detection system	0	0	0	0	7.19
In motion way bridge	20.60	0.79	0	0	0
Public silo weigh bridge	0	19.08	0	0	0
XRF Analyser	0	12.88	0	0	0
Alternate supply of raw water pump house	0	0	84.48	0	25.56
Bomb calorimeter	0	0	0	0	(-) 0.24
Walkway for inspection of wagons	0	0	0	0	20.00
Total of allowed items (A)	**66.07**	**371.93**	**123.18**	**0**	**444.48**
New claims					
Fire safety system	0	0	0	0	0
Parking for fire tender	9.03	0	0	0	0
Lab instruments for NABL certification	0	0	0	0	0
Host of Loco shed	0	0	0	0	0
Ash related work	0	0	15.12	0	0
High Mast for emergency stack yard	0	0	0	0	0
RCC approach road ramp at Ash Dyke	0	0	0	0	0
Rain water harvesting system (civil	0	0	0	0	0

works)					
Safety Kiosk	0	0	0	0	0
LPG Cylinder Shed	0	0	0	0	0
De-capitalization part of capital cost	0	(-) 76.29	(-) 147.41	(-) 0.44	0
New claims (B)	**9.03**	(-) **76.29**	(-) **132.29**	(-) **0.44**	**0.00**
Exclusions disallowed (C)	(-) **6.85**	(-) **22.88**	(-) **146.41**	(-) **1.08**	(-) **39.83**
Additional capital expenditure allowed (before discharges of liabilities) – (A+B+C)	68.25	272.76	(-)155.52	(-) 1.52	404.65
Add: Discharge of Liabilities	194.34	42.60	10.03	21.42	0.00
Net Additional capital expenditure allowed (including discharges of liabilities)	**262.59**	**315.36**	(-) **145.49**	**19.90**	**404.65**

<u>Undischarged Liabilities</u>

49. As stated above, it has been observed that Form 18 submitted by the Petitioner, is not in conformity to Form 9A and Forms 9D furnished in the petition. Hence, we have considered the opening liability, as per Form 18 submitted by the Petitioner and the discharges claimed by the Petitioner have been considered as per Form 9A. The addition of liabilities as per Form 9A, has been considered on the basis of additional capital expenditure allowed. Further, the reversal of liabilities has been considered as per Form 9D. Accordingly, the undischarged liabilities has been worked out as below:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Opening undischarged Liability as on 1.4.2014	614.11	299.69	313.50	304.20	282.78
Addition during the period	11.97	57.47	0.73	0.00	70.95
Discharges during the period	194.34	42.60	10.03	21.42	0.00
Reversal of Liabilities	132.05	1.06	0.00	0.00	0.31
Closing Liability	**299.69**	**313.50**	**304.20**	**282.78**	**353.42**

50. The Petitioner is however, directed to submit detailed reconciliation of the discharges, addition and reversal of liabilities, in conformity with the order dated 2.8.2016 along with details of Form 9A and Form 9D, as submitted in the present Petition, at the time of truing up of tariff for the 2019-24 tariff period. Accordingly, the balance

undischarged liabilities shall be reviewed at the time of truing up of tariff for the 2019-24 tariff period.

Capital Cost

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

(Rs. *in lakh)*

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	275920.76	276183.35	276498.71	276353.22	276373.12
Add: Additional capital expenditure	262.59	315.36	(-) 145.49	19.90	404.65
Closing Capital Cost	**276183.35**	**276498.71**	**276353.22**	**276373.12**	**276777.77**
Average Capital Cost	276052.05	276341.03	276425.96	276363.17	276575.44

Debt Equity Ratio

52. Regulation 19 of the 2014 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.

53. Accordingly, the gross normative loan and equity amounting to Rs.196131.06 lakh and Rs.79789.70 lakh, respectively as on 31.3.2014 as considered in order dated 29.12.2015 in Petition No. 220/GT/2013 & Petition No. 132/GT/2014 has been considered as the gross normative loan and equity as on 1.4.2014. Further, as per order dated 2.8.2016 in Petition No. 257/GT/2014, the un-serviceable asset of Rs.0.05 lakh, de-capitalized as on 1.4.2014, has been allocated to debt-equity ratio in the ratio of 70:30 and corresponding adjustment has been made to cumulative depreciation and repayment, 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 in respect of the generating station 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	196131.06	71.08%	599.91	70.00%	196730.97	71.08%
Equity	79789.70	28.92%	257.10	30.00%	80046.80	28.92%
Total	275920.76	100%	857.01	100.00%	276777.77	100.00%

Return on Equity

54. 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."

55. 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."

56. The Petitioner has claimed tariff considering the rate of return on equity of 19.610% in 2014-15, 19.705% in 2015-18 and 19.758% in 2018-19. The Petitioner has worked out these rates, after grossing up of the base rate of return on equity of 15.50% with MAT rate of 20.9605% in 2014-15, 21.3416% in 2015-18 and 21.5488% in 2018-19. The same has been considered. 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	79789.70	79868.47	79963.08	79919.43	79925.40
Addition of Equity due to additional capital expenditure	78.78	94.61	(-) 43.65	5.97	121.40
Normative Equity – Closing	79868.47	79963.08	79919.43	79925.40	80046.80
Average Normative Equity	79,829.08	79,915.78	79,941.26	79,922.42	79,986.10
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)	**15654.48**	**15747.40**	**15752.42**	**15748.71**	**15803.65**

Interest on loan

57. 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."

58. The Petitioner has claimed tariff considering Weighted Average rate of Interest (WAROI) of 9.2204% in 2014-15, 9.2011% in 2015-16, 9.1639% in 2016-17, 8.4527% in 2017-18 and 8.2396% in 2018-19. The Petitioner has also refinanced REC loans with HDFC loans during the 2014-19 tariff period. Interest on loan has been worked out as under:

i) The gross normative loan amounting to Rs.196131.06 lakh has been considered as on 1.4.2014;

ii) Cumulative repayment of Rs.63347.79 lakh as on 31.3.2014 as considered in order dated 29.12.2015 in Petition No. 220/GT/2013 & Petition No.132/GT/2014 has been considered as on 1.4.2014. Further, this has been adjusted with Rs.0.01 lakh towards unserviceable asset of Rs.0.05 lakh de-capitalized as on 1.4.2014. Accordingly, the net cumulative repayment of Rs.63347.78 lakh has been considered as on 1.4.2014;

iii) Accordingly, the net normative opening loan as on 1.4.2014 works out to Rs.132783.28 lakh;

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

v) 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;

vi) In line with the provisions of the regulations stated above, the weighted average rate of interest has been calculated by applying the actual loan portfolio existing as on 1.4.2014 along with subsequent additions during the 2014-19 tariff period, for the generating station. In case of loans carrying floating rate of interest, the details of rate of interest as provided by the Petitioner, has been considered for the purpose of tariff.

59. Necessary calculation of interest of loan is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan	**196131.06**	**196314.87**	**196535.63**	**196433.78**	**196447.71**
Cumulative repayment of loan upto previous year / period	63347.78	77254.73	91149.43	104879.89	118606.00
Net Loan Opening	132783.28	119060.14	105386.19	91553.89	77841.72
Addition on account of additional capital expenditure	183.81	220.75	(-) 101.84	13.93	283.26
Repayment of loan during the year	13908.82	13926.89	13842.34	13726.63	13715.14
Less: Repayment adjustment on account of de-capitalization	1.87	32.19	111.88	0.52	15.02
Net Repayment	13906.95	13894.70	13730.46	13726.10	13700.12
Net Loan Closing	119060.14	105386.19	91553.89	77841.72	64424.85
Average Loan	125921.71	112223.17	98470.04	84697.80	71133.28
Weighted Average Rate of Interest on Loan	9.2204%	9.1914%	9.1631%	8.4527%	8.2396%
Interest on Loan	**11610.49**	**10314.91**	**9022.93**	**7159.23**	**5861.09**

<u>Depreciation</u>

60. 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 on1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission up to 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 de-capitalized asset during its useful services."

61. The cumulative depreciation amounting to Rs.63347.79 lakh as on 31.3.2014, as considered in order dated 29.12.2015 in Petition No. 220/GT/2013 & Petition No. 132/GT/2014, has been considered as on 1.4.2014. Further, as noted in order dated 2.8.2016 in Petition No. 257/GT/2014, cumulative depreciation has been adjusted with Rs.0.01 lakh towards unserviceable asset of Rs.0.05 lakh, de-capitalized as on 1.4.2014. The value of freehold land has been considered as nil. Accordingly, the net cumulative depreciation

and the balance depreciable value, before providing depreciation for 2014-15 works out to Rs.63347.78 lakh and Rs.185099.06 lakh, respectively. As on 1.4.2014, the used life of the generating station i.e. 4.69 years, which is less than 12 years from the effective station COD of 22.7.2009. Accordingly, depreciation has been calculated by applying the weighted average rate of depreciation for the 2014-19 tariff period, as per calculations enclosed in Annexure-I to this order. 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	276052.05	276341.03	276425.96	276363.17	276575.44
Value of freehold land included above	0.00	0.00	0.00	0.00	0.00
Aggregated depreciable value	248446.85	248706.92	248783.36	248726.85	248917.90
Remaining aggregate depreciable value at the beginning of the year	185099.06	171452.19	157633.93	143846.96	130311.90
No. of completed years at the beginning of the year	4.69	5.69	6.69	7.69	8.69
Balance useful life at the beginning of the year	20.31	19.31	18.31	17.31	16.31
Weighted Average Rate of Depreciation (WAROD)	5.0385%	5.0397%	5.0076%	4.9669%	4.9589%
Depreciation during the year	13908.82	13926.89	13842.34	13726.63	13715.14
Cumulative Depreciation at the end of the year (before adjustment for de-capitalization)	77256.60	91181.63	104991.77	118606.52	132321.14
Less: Depreciation adjustment on account of de-capitalization	1.87	32.19	111.88	0.52	15.02
Cumulative depreciation at the end	**77254.73**	**91149.43**	**104879.89**	**118606.00**	**132306.11**

O&M Expenses

62. The Commission vide its order dated 2.8.2016 in Petition No. 257/GT/2014 had allowed the total O & M expenses for the generating station, as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses allowed under Regulation 29(1)(a)	11950.00	12700.00	13500.00	14350.00	15255.00
Water Charges allowed under Regulation 29(2)	1288.74	1288.74	1288.74	1288.74	1288.74
O&M expenses allowed for 7 no. of bays	422.10	436.10	450.59	465.57	480.97
O&M expenses allowed for 13.794 km double ckt line for associated transmission line	9.75	10.08	10.41	10.76	11.12
Capital spares	0.00	0.00	0.00	0.00	0.00
Total O&M Expenses	**13670.59**	**14434.92**	**15249.74**	**16115.07**	**17035.83**

63. The total O&M expenses claimed by the Petitioner in the present petition is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
O&M expenses under Regulation 29(1)(a) of the 2014 Tariff Regulations	11950.00	12700.00	13500.00	14350.00	15255.00
O&M expenses under Regulation 29(2) of the 2014 Tariff Regulations					
- Water Charges (Net)	1275.02	1293.16	1293.16	1293.16	1293.15
- Capital Spares consumed	5.37	81.35	206.99	234.00	1158.24
O&M expenses under Regulation 29(4) of the 2014 Tariff Regulations:					
- O&M expenses allowed for 7 no. of bays	422.10	436.10	450.59	465.57	480.97
- O&M expenses allowed for 13.794 km double ckt line for associated transmission line	9.75	10.08	10.41	10.76	11.12
Sub-total O&M Expenses	**13662.23**	**14520.69**	**15461.15**	**16353.49**	**18198.48**
Impact of Wage revision	0.00	28.65	346.95	1135.03	1196.27
Impact of GST	0.00	0.00	0.00	100.97	159.09
Total O&M Expenses	**13662.23**	**14549.34**	**15808.10**	**17589.49**	**19553.84**

64. The normative O&M expenses claimed by the Petitioner are in terms of Regulation 29(1)(a) and Regulation 29(4) of the 2014 Tariff Regulations, which provide for the O&M expense norms for generating stations and Associated Transmission Systems respectively. Accordingly, the O&M expenses claimed by the Petitioner is allowed.

Water Charges

65. 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:

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".

66. The water charges allowed, on projected basis, by order dated 2.8.2016 in Petition No. 257/GT/2014 are as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Actual water charges	1868.74	1868.74	1868.74	1868.74	1868.74
Less: Adjustment of water charges towards advance for Mohad reservoir	580.00	580.00	580.00	580.00	580.00
Net water charges allowed	**1288.74**	**1288.74**	**1288.74**	**1288.74**	**1288.74**

67. In terms of the above regulation, 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. The Petitioner has claimed water charges based on actual water consumption of the generating station. The water charges claimed by the Petitioner is as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Actual water charges	1855.02	1873.16	1873.16	1873.16	1873.15
Less: Adjustment of water charges towards advance for Mohad reservoir as per order dated 2.8.2016 in Petition No. 257/GT/2014	580.00	580.00	580.00	580.00	580.00
Net water charges claimed	**1275.02**	**1293.16**	**1293.16**	**1293.16**	**1293.15**

68. The Respondent, CSPDCL has submitted that the Petitioner has only indicated the amount of water charges that has been paid and not the quantum of water consumed. It has also submitted that as per Ministry of Environment, Forest and Climate Change Notification dated 7.12.2015, thermal power plants installed before 1.7.2017, have to

meet specific water consumption up to maximum of 3.5 m3/MWh. Accordingly, the Respondent has submitted that water charges may be allowed only after prudence check, in accordance with the said notification. The Petitioner has, however, clarified that the claim is within the norms prescribed in the said notification.

69. We have examined the matter. The water charges claimed by the Petitioner, is marginally higher than the charges allowed on projected basis, in order dated 2.8.2016 in Petition No. 257/GT/2014, except for 2014-15. The water charges allowed in the aforesaid order, were based on the minimum yearly water consumption of 15255000 KL typical for the type of plant and cooling water system and considering the rate of water charges of Rs.12.25/KL. The minimum yearly consumption of 15255000 KL translates into water consumption of 2.96 m^3/MWH [15255000 KL x 85% ÷ (500 MW x 8760 Hours)] which is less than the prescribed norm of 3.5 m^3/MWH for thermal power plants installed before 1.7.2017. In the present Petition, the Petitioner has not furnished details of actual quantity of water consumed during each year of the 2014-19 tariff period and has claimed the same based on actual consumption of water charges, as per the financial statements of the generating station, for the respective years. Accordingly, the claim of the Petitioner is allowed.

Capital Spares

70. The capital spares claimed by the Petitioner under Regulation 29(2) of the 2014 Tariff Regulations is as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
5.37	81.35	206.99	234.00	1158.24

71. The Petitioner has submitted that the capital spares were neither claimed as part of additional capital expenditure nor form part of stores and spares. It has also submitted

that compensatory allowance and special allowance is not applicable to the generating station.

72. On a direction by the Commission to furnish the reconciliation of capital spares consumed as stated in Form-3A, with the audited Financial Statement for the respective years, the Petitioner vide affidavit dated 24.5.2021 has clarified, that as per accounting system in vogue, capital spares are capitalized on purchase, as the same is available for use and the Fixed Asset Register, prepared on these lines, has no bearing on the actual consumption of capital spares. The Petitioner has also submitted that Form-3A contains data of actual physical consumption of capital spares, prepared on the basis of store issue vouchers and thus, these two statements have been prepared on different rationale.

73. We have examined the list of spares furnished by the Petitioner along with the details of de-capitalization, submitted in Form-9Bi. The capital spares consumption claimed by the Petitioner comprise of two categories as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Capital spares (part of capital cost)	0.00	0.00	118.30	0.00	0.00
Capital spares (not part of capital cost)	5.37	81.35	88.69	234.00	1158.24
Total capital spares consumed/ claimed	**5.37**	**81.35**	**206.99**	**234.00**	**1158.24**

74. In respect of capital spares which forms part of capital cost of the generating station, the Petitioner has been recovering tariff since their procurement and therefore same cannot be allowed as part of additional O&M expenses. Accordingly, only those capital spares which do not form part of the capital cost of the generating station are only being considered in the present Petition. 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. Based on this, the details of capital spares consumption allowed for the 2014-19 tariff period is summarized as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Total capital spares consumed claimed	5.37	81.35	206.99	234.00	1158.24
Less: Capital spares (part of capital cost)	0.00	0.00	118.30	0.00	0.00
Total capital spares consumed (not part of capital cost)	**5.37**	**81.35**	**88.69**	**234.00**	**1158.24**
Less: Value of capital spares below Rs.1.00 lakh disallowed on individual basis	0.00	0.00	2.31	2.05	0.97
Net total value of capital spares considered	**5.37**	**81.35**	**86.38**	**231.95**	**1157.28**

75. Further, we are of the view that the spares do have some salvage value. Accordingly, the salvage value of 10% has been deducted from the cost of capital spares allowed during the 2014-19 tariff period, as above. Accordingly, net capital spares allowed is summarized as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Net total value of capital spares considered	5.37	81.35	86.38	231.95	1157.28
Less: Salvage value @ 10%	0.54	8.14	8.64	23.19	115.73
Net capital spares allowed	**4.83**	**73.22**	**77.74**	**208.75**	**1041.55**

Additional O&M Expenses on account of Goods & Service Tax

76. The Petitioner has claimed additional O&M expenses of Rs.100.97 lakh in 2017-18 and Rs.159.09 lakh in 2018-19 on account of payment of Goods and Service Tax (GST). The Respondent, CSPDCL has submitted that Petitioner may be asked to furnish the details of such claims with documentary proof showing that such expenses has really been incurred towards O&M expenses. The Petitioner, in its rejoinder, has submitted that the auditor certificate in respect thereof is already attached as Annexure-III to the Petition.

77. The matter has been considered. It is observed that the Commission while specifying the O&M expense norms for the 2014-19 tariff period had considered taxes to form part of the O&M expense calculations and accordingly, had factored the same in the said norms. This is evident from paragraph 49.6 of the SOR (Statement of Objects and Reasons) issued with the 2014 Tariff Regulations, which is extracted hereunder:

> *"49.6 With regards to suggestion received on other taxes to be allowed, the Commission while approving the norms of O&M expenses has considered the taxes as part of O&M expenses while working out the norms and therefore the same has already been factored in..."*

78. Further, the escalation rates considered in the O&M expense norms is only after accounting for the variations during the past five years of the 2014-19 tariff period, which in our view, takes care of any variation in taxes also. It is pertinent to mention that in case of reduction of taxes or duties, no reimbursement is ordered. In this background, we find no reason to grant additional O&M expenses towards payment of GST.

Additional O&M Expenses on account of impact of Wage Revision

79. The Petitioner has claimed amount of Rs.28.65 lakh in 2015-16, Rs.346.95 lakh of in 2016-17, Rs.1135.03 lakh in 2017-18 and Rs.1196.27 lakh in 2018-19 as additional O&M expenses on account of the impact of wage revision of employees of CISF from

1.1.2016 and the employees of the Petitioner posted in the generating station, with effect from 1.1.2017. However, it is noticed that the said claim of the Petitioner includes the impact on account of the payment of additional PRP/ex-gratia to its employees, consequent upon wage revision, of Rs.16.46 lakh in 2016-17, Rs.88.88 lakh in 2017-18 and Rs.142.53 lakh in 2018-19. As such, as per consistent methodology adopted by the Commission of excluding PRP/ex-gratia from actual O&M expenses of past data for finalization of O&M norms for various tariff settings, the additional PRP/ex-gratia, paid as a result of wage revision impact has been excluded from the wage revision impact claimed by the Petitioner, in the present case. Accordingly, the claim of the Petitioner in respect of wage revision impact stand reduced to Rs.2459.02 lakh with the following year-wise break up.

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Wage revision impact claimed (excluding PRP/ex-gratia)	0.00	28.65	330.48	1046.15	1053.74	2459.02

80. The Respondent, CSPDCL has submitted that the O&M expense norms, as specified by the Commission for the 2014-19 tariff period, includes employee expenses and have been arrived at by considering the employee expenses for the period 2008-13 (after normalizing). It has stated that any further increase in employee expense on account of wage revision should have been accounted for in the O&M expense norms for next tariff period i.e. 2019-24. The Respondent has contended that that there is no provision under the 2014 Tariff Regulations for claiming additional O&M expenses and hence may be rejected. It has submitted that the claim of the Petitioner is not tenable and the same may be borne by the Petitioner from its profit. In its rejoinder the Petitioner has stated that the 7th Pay Commission, was effective from 1.1.2017 onwards and the corresponding increase in employee expenses could not be accounted for, while

determining the O&M expense norm for the 2014-19 tariff period. It has also submitted that the claim cannot be denied on the ground that these were factored while arriving at the O&M norms under the 2019 Tariff Regulations. The Petitioner has further submitted that the claim of the Petitioner is based on 'Power to relax and Power to remove difficulties' under Regulation 54 and Regulation 55 of the 2014 Tariff Regulations, and as such, is duly supported by law. The Petitioner has stated that also submitted that the Statement of Objects and Reasons (SOR) is an external aid to the interpretation of the regulation and provides the rationale and objective behind the Tariff Regulations and is therefore relevant and the reliance placed on the same by the Petitioner is justified and is in accordance with law. The Petitioner has added that it is entitled to approach the Commission for reimbursement of employee pay revision, as per provisions of the 2014 Tariff Regulations and the liberty granted by the Commission in its order dated 29.3.2017.

81. The Commission while specifying the O&M expense norms under the 2014 Tariff Regulations had considered the actual O&M expense data for the period from 2008-09 to 2012-13. However, considering the submissions of the stakeholders, the Commission, in the SOR to the 2014 Tariff Regulations, had observed that the increase in employees cost due to impact of pay revision impact, will be examined on a case to case basis, balancing the interest of generating stations and the consumers. The relevant extract of the SOR is extracted under:

> *33.2 The draft Regulations provided for a normative percentage of employee cost to total O&M expenses for generating stations and transmission system with an intention to provide a ceiling limit so that the same should not lead to any exorbitant increase in the O&M expenses resulting in spike in tariff. The Commission shall examine the increase in employee expenses on case to case basis and shall consider the same if found appropriate, to ensure that overall impact at the macro level is sustainable and thoroughly justified. Accordingly, clause 29(4) proposed in the draft Regulations has been deleted. The impact of wage revision shall only be given after seeing impact of one full year and if it is found that O&M norms provided under Regulations are inadequate/insufficient to cover all justifiable O&M expenses for the particular year including employee expenses, then balance amount may be considered for reimbursement."*

82. The Commission vide ROP of the hearing dated 29.6.2021 directed the Petitioner to furnish the following information:

> *"To furnish (a) the breakup of the actual O&M expenses of Corporate Centre/other offices including pay revision impact (as per Annexure-B enclosed) of the generating station for the 2014-19 tariff period along with the allocation of total O&M expenses to the various generating stations which are under construction, operational stations and any other offices/business activity along with basis of allocating such expenditure (in both MS Excel and PDF format); (b) Break-up of the pay revision claimed in respect of employees of the Petitioner & Security Personnel stationed at the generating station and Corporate Centre/other offices employee cost allocated to the generating station (as per* ***Annexure-C*** *enclosed); (c) A comparative table indicating the actual O&M expenses incurred versus normative O&M expenses allowable/allowed to the generating station from COD of unit-I to 31.3.2019.*
>
> *xxxx"*

83. In compliance to the said direction, the Petitioner vide affidavit dated 16.7.2021 has furnished the detailed break-up of the actual O&M expenses incurred during the 2014-19 tariff period for the generating station tabulated as under:

(Rs. in lakh)

Sl.No.	Items	2014-15	2015-16	2016-17	2017-18	2018-19
1	Consumption of stores & spares	1514.82	1448.91	1094.43	1054.44	1055.53
2	Repair & Maintenance	3242.97	3647.67	2045.38	2512.69	2775.14
2A	Repair & Maintenance (overhauling)	0.00	1623.27	353.67	641.77	2626.64
3	Insurance	323.77	405.13	502.60	307.92	96.22
4	Security	899.97	1163.54	1191.08	1316.57	1663.67
5	Water Charges	1855.02	1873.16	2188.29	1873.16	1873.15
6	Administrative Expenses					
6.1	Rent	0.00	0.00	0.00	0.00	0.00
6.2	Electricity charges	46.21	65.10	51.71	56.01	55.05
6.3	Travelling & Conveyance	230.95	261.38	294.33	308.36	379.45
6.4	Communication Expenses	32.14	38.84	41.30	43.06	69.96
6.5	Advertising	4.23	1.92	1.20	0.00	0.10
6.6	Foundation Laying & Inauguration	0.00	0.00	0.00	0.00	0.00
6.7	Donation	0.00	0.00	0.00	0.00	0.00
6.8	Entertainment	15.34	15.38	16.93	30.40	15.12
6.9	Filing fee	0.00	0.00	0.00	0.00	0.00
	Subtotal (Administrative Expenses)	**328.87**	**382.62**	**405.47**	**437.83**	**519.68**
7.0	Employee Cost					
7.1.1	Salaries, Wages & Allowances	3309.96	3325.04	3911.96	4338.71	4138.68
7.1.2	Pension	0.00	0.00	0.00	0.00	0.00
7.1.3	Gratuity	0.00	0.00	0.00	0.00	0.00
7.1.4	Provident Fund	0.00	0.00	0.00	0.00	0.00
7.1.5	Leave Encashment	0.00	0.00	0.00	0.00	0.00

7.2	Staff welfare expenses					
7.2.1	-Medical expenses on superannuated employees	16.42	15.83	15.84	13.95	6.39
7.2.2	-Medical expenses on regular employees & others	76.69	134.13	132.07	120.65	105.88
7.2.3	-Uniform/Liveries & safety equipment	6.93	72.78	71.66	56.35	94.58
7.2.4	-Canteen expenses	56.67	61.24	66.30	78.46	84.06
7.2.5	-Other staff welfare expenses	65.15	135.90	127.11	190.00	152.56
	Subtotal (Staff welfare Expenses)	**221.87**	**419.88**	**412.97**	**459.40**	**443.47**
7.3	Productivity linked Incentive	57.29	45.21	0.00	0.00	0.00
7.4	Expenditure on VRS	0.00	0.00	0.00	0.00	0.00
7.5	Ex-gratia	31.74	52.79	42.19	108.62	161.93
7.6	Performance Related Pay (PRP)	197.47	253.15	220.46	321.64	544.99
	Sub Total (Employee Cost)	**3818.32**	**4096.08**	**4587.58**	**5228.36**	**5289.06**
8	Loss of Store	0.31	7.55	0.00	5.57	6.79
9	Provisions	0.55	12.82	0.00	0.00	0.00
10	Prior Period expenses	0.00	0.00	0.00	0.00	0.00
11	Corporate Office expenses allocation	831.49	826.83	997.41	1040.54	1216.32
12	Others					
12.1	Rates & Taxes	471.22	480.84	501.47	509.06	510.01
12.2	Water cess	17.13	18.98	21.37	2.88	20.00
12.3	Training & recruitment expenses	8.87	34.90	34.95	44.04	75.10
12.4	Tender Expenses	26.93	18.79	10.96	16.06	2.51
12.5	Guest house expenses	39.02	23.77	17.07	46.99	60.00
12.6	Education expenses	0.00	0.00	0.00	0.00	0.00
12.7	Community Development Expenses	275.86	230.14	245.81	429.06	421.86
12.8	Ash utilization expenses	0.49	15.07	11.79	0.00	0.00
12.9	Books & Periodicals	0.30	0.22	0.34	0.26	0.40
12.10	Professional Charges	28.86	28.96	58.99	46.89	60.85
12.11	Legal expenses	26.71	26.67	23.69	24.76	23.41
12.12	EDP Hire & other charges	10.30	12.21	8.98	11.29	47.33
12.13	Printing & Stationery	9.86	8.52	4.21	5.20	6.89
12.14	Misc Expenses	23.38	20.25	50.77	62.11	33.51
	Sub Total (Others)	**938.93**	**919.31**	**990.39**	**1198.59**	**1261.88**
13	**(Total 1 to 12)**	**13755.02**	**16406.87**	**14356.31**	**15617.43**	**18384.09**
14	Revenue / Recoveries	(-) 130.85	(-) 165.44	(-) 159.86	(-) 140.67	(-) 160.39
15	**Net Expenses**	**13624.17**	**16241.43**	**14196.45**	**15476.76**	**18223.71**
16	Capital spares consumed	5.37	81.35	206.99	234.00	1158.24
	Total O&M Expenses	**13629.54**	**16322.78**	**14403.44**	**15710.76**	**19381.95**

84. The Petitioner has also submitted the following:

a) Detailed break-up of the actual O&M expenses of the corporate center and its allocation to the generating station;

b) Comparative table indicating the actual O&M expenses incurred for the generating station against the normative O&M expenses allowed by the Commission (inclusive of water charges) in order dated 2.8.2016 in Petition No. 257/GT/2014 during the 2014-19 tariff period for the generating station;

c) Actual impact of pay revision, after comparing salaries/wages prior to and after pay revision of pay for the generating station.

85. The methodology indicated in the SOR to the 2014 Tariff Regulations above suggests a comparison of the normative O&M expenses with the actual O&M expenses, on a year to year basis. However, in this respect the following facts need consideration:

a) The norms are framed based on the averaging of the actual O&M expenses of past five years to capture the year on year variations in sub-heads of O&M;

b) Certain cyclic expenditure may occur with a gap of one year or two years and as such adopting a longer duration i.e. five years for framing of norms also captures such expenditure which is not incurred on year to year basis;

c) When generators find that their actual expenditure has gone beyond the normative O&M expenses in a particular year, put departmental restrictions and try to bring the expenditure for the next year below the norms.

86. As such, in consideration of above facts, we find it appropriate to compare the normative O&M expenses, with the actual O&M expenses, for a longer duration, so as to capture the variation in the sub-heads due to above mentioned facts. Accordingly, it is decided that for ascertaining that the O&M expense norms provided under the 2014 Tariff Regulations are inadequate / insufficient to cover all justifiable O&M expenses, including employee expenses, the comparison of the normative O&M expenses and the actuals O&M expenses incurred shall be made for four years i.e. 2015-19 on a combined basis, which is commensurate with the wage revision claim being spread over these four years.

87. The matter has been examined on the basis of the submissions of the parties and the documents available on record. The Petitioner has furnished the detailed breakup of the actual O&M expenses incurred for the generating station during the 2014-19 tariff period. It is noticed that the total O&M expenses incurred is more that the normative O&M expenses recovered during the year 2015-16 and 2018-19, only. The impact of the wage revision could not be factored by the Commission while framing the O&M expenses norms

under the 2014-19 Tariff Regulations, since the pay/wage revision came into effect from 1.1.2016 (CISF & KV employees) and 1.1.2017 (employees of the Petitioner) respectively. As such, in terms of relevant provisions of SOR of the 2014 Tariff Regulations, the following approach is followed for arriving at the allowable impact of pay revision:

88. First step is to compare the normative O&M expenses with the actual O&M expenses for the period from 2015-16 to 2018-19, commensurate to the period for which wage revision impact has been claimed. For like to like comparison, the components of O&M expenses like productivity linked incentive, water charges, filing fee, ex-gratia, provisions, prior period expenses, community development expenses, ash utilization expenses, RLDC fee & charges, entertainment expenses and others (without breakup/details) which were not considered while framing the O&M expenses norms for the 2014-19 tariff period, have been excluded from the yearly actual O&M expenses of the generating station as well as corporate centre. Having brought the normative O&M expenses and actual O&M expenses at same level, if normative O&M expenses for the period 2015-19 are higher than actual O&M expenses (normalized) for the same period, then the impact of wage revision (excluding PRP and ex-gratia) as claimed for the period is not admissible/allowed, as the impact of pay revision gets accommodated within the normative O&M expenses. However, if the normative O&M expenses for the period 2015-19 are less than the actual O&M expenses (normalized) for the same period, the wage revision impact (excluding PRP and ex-gratia) to the extent of under recovery or wage revision impact (excluding PRP and ex-gratia), whichever is lower, is required to be allowed as wage revision impact for the period 2015-19.

89. In this regard, the details as furnished by the Petitioner for actual O&M expenses of the generating station and wage revision impact (excluding PRP and ex-gratia) of the generating station are as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Actual O&M expenses for generating station excluding water charges & capital spares **(a)**	11769.15	14368.27	12008.16	13603.60	16350.56
Normative O&M expenses (allowed vide order dated 8.11.2016 in Petition No. 268/GT/2014 **(b)**	12381.85	13146.18	13961.00	14826.33	15747.09
Under recovery (negative values) for the generating station (c)=(b)-(a)	612.70	(-) 1222.09	1952.84	1222.73	(-) 603.47
Wage revision impact claimed	**0.00**	**28.65**	**346.95**	**1135.03**	**1196.27**

90. As stated above, for like to like comparison of the actual O&M expenses with the normative O&M expenses, the expenditure against O&M expenses sub-heads, as listed at paragraph 89 above, has been excluded from the actual O&M expenses, to arrive at the actual O&M expenses (normalized) for the generating station. Accordingly, the following table portrays the comparison of normative O&M expenses with the actual O&M expenses (normalized) along with wage revision impact claimed by the Petitioner for the generating station for the period 2015-19 (on combined basis), commensurate with the wage revision claim being spread over these four years:

(Rs. in lakh)

	2015-16	2016-17	2017-18	2018-19	Total for 2015-19
Actual O&M expenses (normalized) for the generating station **(a)**	13681.24	11269.54	12569.10	15099.91	52619.78
Normative O&M expenses for the generating station **(b)**	13146.18	13961.00	14826.33	15747.09	57680.61
Under recovery (negative values) (c)=(b)-(a)	(-) 535.05	2691.47	2257.23	647.18	5060.82
Wage revision impact claimed (excluding PRP/ ex-gratia)	**28.65**	**330.48**	**1046.15**	**1053.74**	**2459.02**

91. It is observed that for wage revision impact during the period 2015-19, the normative O&M expenses is greater than the actual O&M expenses (normalized) and there is no under recovery. The wage revision impact (excluding PRP/incentive) is Rs.2459.02 lakh. As such, it implies that the normative O&M expenses were adequate enough to meet the impact of wage revision. Accordingly, in terms of methodology described above, the wage revision impact is not allowable for the generating station.

92. Accordingly, the total O&M expenses allowed to the generating station for the 2014-19 tariff period is as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Normative O&M expenses claimed under Regulation 29(1)(a) of the 2014 Tariff Regulations **(a)**	11950.00	12700.00	13500.00	14350.00	15255.00
Normative O&M expenses **allowed** under Regulation 29(1)(a) of the 2014 Tariff Regulations **(b)**	11950.00	12700.00	13500.00	14350.00	15255.00
Water Charges claimed under Regulation 29(2) of the 2014 Tariff Regulations **(c)**	1275.02	1293.16	1293.16	1293.16	1293.15
Water Charges **allowed** under Regulation 29(2) of the 2014 Tariff Regulations **(d)**	1275.02	1293.16	1293.16	1293.16	1293.15
Capital Spares consumed claimed under Regulation 29(2) of the 2014 Tariff Regulations **(e)**	5.37	81.35	206.99	234.00	1158.24
Capital Spares consumed **allowed** under Regulation 29(2) of the 2014 Tariff Regulations **(f)**	4.83	73.22	77.74	208.75	1041.55
O&M expenses claimed for 7 no. of bays under Regulation 29(4) of the 2014 Tariff Regulations **(g)**	422.10	436.10	450.59	465.57	480.97
O&M expenses **allowed** for 7 no. of bays under Regulation 29(4) of the 2014 Tariff Regulations **(h)**	422.10	436.10	450.59	465.57	480.97
O&M expenses claimed for 13.794 Km double ckt line for associated transmission line under Regulation 29(4) of the 2014 Tariff Regulations **(i)**	9.75	10.08	10.41	10.76	11.12
O&M expenses **allowed** for 13.794 Km double ckt line for associated transmission line under Regulation 29(4) of the 2014 Tariff Regulations **(j)**	9.75	10.08	10.41	10.76	11.12

Total O&M expenses claimed under Regulation 29 of the 2014 Tariff Regulations (a + c + e + g + i)	13662.23	14520.69	15461.15	16353.49	18198.48
Total O&M expenses allowed under Regulation 29 of the 2014 Tariff Regulations (b + d + f + h + j)	**13661.70**	**14508.14**	**15327.49**	**16323.82**	**18077.38**
Impact of Wage revision claimed	0.00	28.65	346.95	1135.03	1196.27
Impact of Wage revision allowed	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Impact of GST claimed	0.00	0.00	0.00	100.97	159.09
Impact of GST allowed	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Operational Norms

93. The operational norms in respect of the generating station i.e. normative annual plant availability factor, gross station heat rate, specific fuel oil consumption and auxiliary power consumption are discussed as under:

Normative Annual Plant Availability Factor

94. In terms of Regulation 36(a) of the 2014 Tariff Regulations, the Commission vide its order dated 2.8.2016 in Petitioner No. 257/GT/2014 had allowed the Normative Annual Plant Availability Factor (NAPAF) of 83% for the period 2014-17 and 85% for the period 2017-19. The same is considered for the purpose of revision of tariff.

Gross Station Heat Rate (kCal/kWh)

95. In terms of Regulation 36(C)(c) of the 2014 Tariff Regulations, the Gross Station Heat Rate (GSHR) of 2403.50 kCal/kWh as allowed vide Commission's order dated 2.8.2016 in Petitioner No. 257/GT/2014, is considered for the purpose of revision of tariff.

Specific Oil Consumption

96. In terms of Regulation 36(D)(a) of the 2014 Tariff Regulations, the secondary fuel oil consumption of 0.50 ml/kWh as allowed vide Commission order dated 2.8.2016 in Petition No. 257/GT/2014, is considered for the purpose of revision of tariff.

Auxiliary Power Consumption

97. In terms of the Regulation 36(E)(a) of the 2014 Tariff Regulations, the auxiliary power consumption of 9.00% as allowed vide Commission's order dated 2.8.2016 in Petitioner No. 257/GT/2014, is considered for the purpose of revision of tariff.

Interest on Working Capital

98. Sub-section (a) of clause (1) of Regulation 28 of the 2014 Tariff Regulations provides as under:

> *"28 (1) The working capital shall cover:*
>
> *(a) Coal-based/lignite-fired thermal generating stations*
>
> *(i) Cost of coal or lignite and limestone towards stock, if applicable, for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;*
>
> *(ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the normative annual plant availability factor;*
>
> *(iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor, and in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary fuel oil;*
>
> *(iv) Maintenance spares @ 20% of operation and maintenance expenses* specified in regulation 29;
>
> *(v) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and*
>
> *(vi) Operation and maintenance expenses for one month."*

Fuel Cost and Energy Charges for Working Capital Calculations

99. Regulation 28(2) of the 2014 Tariff Regulations provides that the computation of cost of fuel as part of Interest on Working Capital (IWC) is to be based on the landed price and GCV of fuel as per actuals, for the three months preceding the first month for which the tariff is to be determined.

100. Regulation 30(6)(a) of the 2014 Tariff Regulations provides as under:

> *"30. Computation and Payment of Capacity Charge and Energy Charge for Thermal Generating Stations:*
>
> *(6) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula:*

(a) For coal based and lignite fired stations

ECR = {(GHR – SFC x CVSF) x LPPF / CVPF+SFC x LPSFi + LC x LPL} x 100 / (100 – AUX)

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic metre, as applicable.

CVSF = Calorific value of secondary fuel, in kCal per ml.

ECR = Energy charge rate, in Rupees per kWh sent out.

GHR = Gross station heat rate, in kCal per kWh.

LC = Normative limestone consumption in kg per kWh.

LPL = Weighted average landed price of limestone in Rupees per kg.

LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable during the month.

SFC= Normative specific fuel oil consumption, in ml/ kWh

LPSFi= Weighted average landed price of secondary fuel in Rs/ ml during the month".

101. Therefore, in terms of the above regulation, for determination of the Energy charges in working capital, the GCV on 'as received' basis is to be considered.

102. Regulation 30(7) of the 2014 Tariff Regulations provides as under:

"(7) The generating company shall provide to the beneficiaries of the generating station the details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, eauction coal, lignite, natural gas, RLNG, liquid fuel etc., as per the forms prescribed at Annexure-I to these regulations:

Provided that the details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal and the weighted average GCV of the fuels as received shall also be provided separately, along with the bills of the respective month:

Provided further that copies of the bills and details of parameters of GCV and price of fuel i.e. domestic coal, imported coal, e-auction coal, lignite, natural gas, RLNG, liquid fuel etc., details of blending ratio of the imported coal with domestic coal, proportion of e-auction coal shall also be displayed on the website of the generating company. The details should be available on its website on monthly basis for a period of three months."

103. The issue of 'as received' GCV for computation of energy charges was challenged by NTPC and other generating companies, through various writ petitions filed before the Hon'ble High Court of Delhi with the lead matter being W.P. No.1641/2014 (NTPC v CERC) challenging Regulation 30(6) of the 2014-19 Tariff Regulations with regard to measurement of GCV of coal 'as received' basis for purpose of energy charges and the Hon'ble High Court had directed the Commission to decide the place from where the

sample of coal should be taken for measurement of GCV of coal on 'as received' basis on the request of Petitioners. In terms of the directions of Hon'ble Court, the Commission vide order dated 25.1.2016 in Petition No. 283/GT/2014 (approval of tariff of Kahalgaon STPS for the 2014-19 tariff period) decided as under:

> *"58. In view of the above discussion the issues referred by the Hon'ble High Court of Delhi are decided as under:*
>
> *"(a) There is no basis in the Indian Standards and other documents relied upon by NTPC etc. to support their claim that GCV of coal on as received basis should be measured by taking samples after the crusher set up inside the generating station in terms of Regulation 30(6) of the 2014 Tariff regulations.*
>
> *(b)The samples for the purpose of measurement of coal on as received basis should be collected from the loaded wagons at the generating stations either manually or through the Hydraulic Auger in accordance with provisions of IS 436(Part1/Section1)-1964 before the coal is unloaded. While collecting the samples the safety of personnel and equipment as discussed in this order should be ensured. After collection of samples the sample preparation and testing shall be carried out in the laboratory in accordance with the procedure prescribed in IS 436(Part1/Section1)-1964 which has been elaborated in the CPRI Report to PSERC."*

104. The Review Petition No.11/RP/2016 filed by NTPC against the aforesaid order dated 25.1.2016 in Petition No. 283/GT/2014 was rejected by the Commission vide order dated 30.6.2016. NTPC has also filed Petition No. 244/MP/2016 before this Commission inter alia praying for removal of difficulties in view of the issues faced by it in implementing the Commission's orders dated 25.1.2016 and 30.6.2016 with regard to sampling of coal from loaded wagon top for measurement of GCV. The Commission vide its order dated 19.9.2018 disposed of the preliminary objections of the respondents therein and held that the petition is maintainable. Against this order, some of the Respondents have filed appeal (Appeal No.291/2018) before APTEL and the same is pending.

105. In Petition No. 257/GT/2014 filed by the Petitioner for determination of tariff of this generating station for the 2014-19 tariff period, the Petitioner had not furnished GCV of coal on 'as billed' and on 'as received' basis for the preceding 3 months i.e. for January 2014, February 2014 and March 2014 that were required for determination of Interest on

Working Capital (IWC). Therefore, the Commission vide its order dated 2.8.2016 in Petition No.257/GT/2014 had considered GCV of coal on 'as billed' basis and provisionally allowed adjustment for total moisture while allowing the cost of coal towards generation & stock and two months' energy charges in the working capital.

106. The Petitioner, in this petition, has claimed the fuel related components of working capital based on GCV of coal as 3655.04 Kcal/kg (as indicated at Annexure II to the tariff forms) consequent to the order dated 2.8.2016 in Petition No.257/GT/2014. This "as received" GCV of 3655.04 kcal/kg represents the average of monthly as received GCVs for period from October 2016 to March 2019 (30 months). Further, the Petitioner has submitted that CEA vide letter dated 17.10.2017 has opined that 85-100 kcal/kg for a pit-head station and a margin of 105-120 kcal/kg for non-pit head station may be considered as a loss of GCV of coal between 'as received' and 'as fired'. Accordingly, the Petitioner has considered 120 kcal/kg margin on the average GCV of the period from October 2016 to March 2019 for computing working capital. Accordingly, the cost of fuel component in the working capital of the generating station claimed by the Petitioner is as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Cost of Coal towards Stock (30 days of generation at NAPF)	4941.18	4941.18	4941.18	5060.25	5060.25
Cost of Coal towards Generation (30 days of generation at NAPF)	4941.18	4941.18	4941.18	5060.25	5060.25
Cost of Secondary fuel oil (2 months of generation at NAPF)	159.13	159.57	159.13	162.97	162.97

107. The Petitioner has claimed Energy Charge Rate (ECR) ex-bus of Rs.1.846 per kWh for the generating station.

108. The Petitioner has also sought liberty to make additional submissions based on the final decision in Petition No. 244/MP/2016.

109. In response to the clarification sought from the Petitioner on the details of GCV on 'as received' basis for the months of January, 2014 to March, 2014, which was uploaded in the website of the Petitioner and shared with the beneficiaries, the Petitioner vide affidavit dated 1.10.2021, has submitted that the information as under:

Sl. No.	Month	Weighted Average GCV of coal received (EM basis) (kcal/kg) **(A)**	Total Moisture TM) (in %) **(B)**	Equilibrated Moisture (EM) (in %) **(C)**	Weighted Average GCV of coal received (TM basis) (kcal/kg) **D=A*(1-B%)/(1-C%)**
1	January, 2014	4039.05	10.34	5.31	3824.49
2	February, 2014	3998.75	10.37	5.37	3787.47
3	March, 2014	4040.69	10.35	5.31	3825.62

110. The weighted average GCV for three months, based on the net coal quantities as per Form-15 of the petition and the monthly GCVs as submitted by the Petitioner, works out to 3813.13 kcal/kg. Accordingly, the cost for fuel components in working capital has been computed considering the fuel details (price and GCV) as per Form-15 of the petition except for 'as received' GCV of coal which is considered as 3813.13 kCal/kg as deliberated above. All other operational norms, such as the Station Heat Rate, Auxiliary Energy Consumption, and Secondary Fuel Cost have been considered, as per the 2014 Tariff Regulations, for calculation of fuel components in working capital.

111. Based on the above discussion, the cost for fuel component in working capital is worked out and allowed as under:

(Rs. in lakh)

	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**
Cost of Coal towards stock (30 days of generation at NAPF))	4580.82	4580.82	4580.82	4691.20	4691.20
Cost of Coal towards Generation (30 days of generation at NAPF))	4580.82	4580.82	4580.82	4691.20	4691.20
Cost of Secondary fuel oil (2 months of generation at NAPF)	159.13	159.57	159.13	162.97	162.97

Month to Month Energy Charges

112. Regulation 30(6)(a) of the 2014 Tariff Regulations provides for computation and payment of Energy Charge for thermal generating stations:

> *"(6) : Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula:*
>
> *(b) For coal based and lignite fired stations*
>
> *ECR = {(GHR – SFC x CVSF) x LPPF / CVPF+SFC x LPSFi + LC x LPL} x 100 / (100 – AUX)*
>
> *Where,*
>
> *AUX = Normative auxiliary energy consumption in percentage.*
>
> *CVPF = Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic metre, as applicable.*
>
> *CVSF = Calorific value of secondary fuel, in kCal per ml.*
>
> *ECR = Energy charge rate, in Rupees per kWh sent out.*
>
> *GHR = Gross station heat rate, in kCal per kWh.*
>
> *LC = Normative limestone consumption in kg per kWh.*
>
> *LPL = Weighted average landed price of limestone in Rupees per kg.*
>
> *LPPF = Weighted average landed price of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable during the month.*
>
> *SFC= Normative specific fuel oil consumption, in ml/ kWh*
>
> *LPSFi= Weighted average landed price of secondary fuel in Rs/ ml during the month".*

Energy Charge Rate for computation of working capital

113. The Petitioner has claimed Energy Charge Rate (ECR) of 184.6 Paise/kWh for the generating station. The allowable ECR, based on the operational norms as specified in Regulation 36(A) of the 2014 Tariff Regulations and on weighted average of 'as received' GCV of 3813.13 kCal/kg is worked out as under:

	Unit	**2014-19**
Capacity	**MW**	500
Gross Station Heat Rate	kCal/kWh	2403.50
Aux. Energy Consumption	%	9.00
Weighted average GCV of oil	kCal/lit	9912.59
Weighted average GCV of Coal	Kcal/kg	3813.13
Weighted average price of oil	Rs./KL	52527.74
Weighted average price of Coal	Rs./MT	2437.23
Rate of Energy Charge ex-bus	Rs./kWh	1.714

114. The Variable Charges for two months for computation of working capital based on ECR of 1.714 Rs. /kWh, has been worked out as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
9450.46	9476.36	9450.46	9678.19	9678.19

115. Accordingly, the fuel component for two months in working capital is allowed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal for 60 days of generation at NAPF (30 days for coal stock and 30 days for generation)	9161.64	9161.64	9161.64	9382.40	9382.40
Cost of Secondary fuel oil for 2 months of generation at NAPF	159.13	159.57	159.13	162.97	162.97

Working Capital for Maintenance Spares

116. The Petitioner in Form-13B has claimed the maintenance spares in the working capital as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
2732.45	2909.87	3161.62	3517.90	3910.77

117. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for maintenance spares @ 20% of the O&M expenses as specified in the Regulation 29 of the 2014 Tariff Regulations. Accordingly, maintenance spares @ 20% of the O&M expenses (including the water charges and capital spares) allowed for the 2014-19 tariff period is as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
2732.34	2902.51	3066.38	3265.65	3616.36

Working Capital for Receivables

118. Receivables equivalent to two months of capacity charges and energy charges has been worked out duly taking into account the mode of operation of the generating station on secondary fuel, is allowed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Variable Charges - for two months of generation at NAPF	9450.46	9476.36	9450.46	9678.19	9678.19
Fixed Charges - for two months of generation at NAPF	9870.79	9820.04	9730.63	9579.29	9675.78
Total	**19321.25**	**19296.40**	**19181.10**	**19257.48**	**19353.97**

Working Capital for O&M Expenses

119. The O&M expenses for 1 month as claimed by the Petitioner in Form-13B is as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1138.52	1212.45	1317.34	1465.79	1629.49

120. For consideration of working capital, O&M expenses of 1 month are to be considered. The normative O&M expenses allowed as per Regulation 29(1) and Regulation 29(4) of the 2014 Tariff Regulations, the water charges and capital spares allowed have also been considered for calculating O&M expenses for 1 month as a part of working capital. Accordingly, the one-month O&M expenses allowed are as under:

(Rs. in lakh)

2014-15	2015-16	2016-17	2017-18	2018-19
1138.48	1209.38	1277.66	1360.69	1506.82

121. In terms of Regulation 28(3) of the 2014 Tariff Regulations, the rate of interest on working capital has been considered as 13.50% (Bank rate 10% + 350 bps). Accordingly, Interest on working capital has been computed as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Working Capital for Cost of Coal towards Stock (30 days of generation at NAPF)	4580.82	4580.82	4580.82	4691.20	4691.20
Working Capital for Cost of Coal towards Generation (30 days of generation at NAPF)	4580.82	4580.82	4580.82	4691.20	4691.20
Working Capital for Cost of Secondary fuel oil (2 months of generation at NAPF)	159.13	159.57	159.13	162.97	162.97

Working Capital for Maintenance Spares @ 20% of O&M expenses	2732.34	2902.51	3066.38	3265.65	3616.36
Working Capital for Receivables – 2 months of generation at NAPF	19321.25	19296.40	19181.10	19257.48	19353.97
Working Capital for O&M expenses – 1 month of O&M expenses	1138.48	1209.38	1277.66	1360.69	1506.82
Total Working Capital	**32512.84**	**32729.49**	**32845.91**	**33429.18**	**34022.51**
Rate of Interest	13.5000%	13.5000%	13.5000%	13.5000%	13.5000%
Interest on Working Capital	**4389.23**	**4418.48**	**4434.20**	**4512.94**	**4593.04**

122. The calculation of interest on working capital and energy charge calculated as above, are subject to the final decision of the Commission in Petition No. 244/MP/2016.

Annual Fixed Charges

123. Accordingly, the annual fixed charges approved in this petition for the 2014-19 tariff period for the generating station is summarized as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	13908.82	13926.89	13842.34	13726.63	13715.14
Interest on Loan	11610.49	10314.91	9022.93	7159.23	5861.09
Return on Equity	15654.49	15747.41	15752.43	15748.72	15803.66
Interest on Working Capital	4389.23	4418.48	4434.20	4512.94	4593.04
O&M Expenses	13661.70	14512.56	15331.91	16328.24	18081.79
Total	**59224.73**	**58920.25**	**58383.80**	**57475.75**	**58054.71**

Note: *(1) All figures are on annualized basis. (2) All figures under each head have been rounded. The figure in total column in each year is also rounded. As such the sum of individual items may not be equal to the arithmetic total of the column.*

124. The difference between the annual fixed charges recovered in terms of the order dated 2.8.2016 in Petition No. 257/GT/2014 and the annual fixed charges determined by this order, shall be adjusted in terms of Regulation 8 (13) of the 2014 Tariff Regulations.

Summary

125. The summary of the charges allowed for the 2014-19 tariff period after truing-up is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Annual Fixed Charges	59224.73	58920.25	58383.80	57475.75	58054.71

126. Annexure-I enclosed below forms part of this order.

127. Petition No. 192/GT/2020 is disposed of in terms of the above.

Sd/-	***Sd/-***	***Sd/-***
(Pravas Kumar Singh)	**(Arun Goyal)**	**(I.S Jha)**
Member	**Member**	**Member**

Annexure-I

Weighted Average Rate of Depreciation for 2014-19 **(Amount in Rs. lakh)**

Name of assets	Depreciation Rate	For 2014-15		2015-16		2016-17		2017-18		2018-19	
		Gross Block as on 31.03.2014	Depreciation Amount	Gross Block as on 31.03.2015	Depreciation Amount	Gross Block as on 31.03.2016	Depreciation Amount	Gross Block as on 31.03.2017	Depreciation Amount	Gross Block as on 31.03.2018	Depreciation Amount
Freehold Land	0.00%	-	-	-	-	-	-	-	-	-	-
Leasehold Land	3.34%	8,916.58	297.81	8,916.58	297.81	8,916.60	297.81	8,916.60	297.81	8,916.60	297.81
Roads, Bridges, Culverts & Helipads	3.34%	2,092.24	69.88	2,092.24	69.88	2,091.54	69.86	2,105.71	70.33	2,138.33	71.42
Main Plant Buildings	3.34%	5,606.41	187.25	5,606.41	187.25	5,606.41	187.25	5,606.41	187.25	5,606.41	187.25
Other Buildings	3.34%	22,703.83	758.31	22,786.33	761.06	22,807.75	761.78	22,899.74	764.85	22,909.17	765.17
Temporary Erection	100.00%	43.30	43.30	43.33	43.33	43.33	43.33	43.33	43.33	43.33	43.33
Water Supply, Drainage & Sewerage	5.28%	2,252.87	118.95	2,249.23	118.76	2,504.34	132.23	2,504.34	132.23	2,504.34	132.23
MGR Track & Signalling System	5.28%	5,569.92	294.09	5,564.85	293.82	5,565.64	293.87	5,565.64	293.87	5,565.64	293.87
Plant & Machinery	5.28%	2,12,425.67	11,216.08	2,12,505.97	11,220.32	2,12,701.82	11,230.66	2,12,552.40	11,222.77	2,12,551.96	11,222.74
Furniture & Fixtures	6.33%	2,007.39	127.07	2,012.44	127.39	2,012.38	127.38	2,030.37	128.52	2,040.57	129.17
Other Office Equipment's	6.33%	129.60	8.20	130.66	8.27	150.61	9.53	159.18	10.08	185.88	11.77
EDP, WP Machines & SATCOM Equipment	15.00%	215.01	32.25	238.79	35.82	285.67	42.85	292.45	43.87	346.26	51.94
Vehicles including Speedboats	9.50%	27.31	2.59	27.31	2.59	27.31	2.59	29.47	2.80	29.47	2.80
Construction Equipment	5.28%	434.78	22.96	434.78	22.96	452.87	23.91	452.87	23.91	452.87	23.91
Electrical Installations	5.28%	1,055.31	55.72	1,064.97	56.23	1,083.40	57.20	1,083.40	57.20	1,089.10	57.50
Communication Equipment	6.33%	307.90	19.49	308.55	19.53	309.41	19.59	309.41	19.59	311.53	19.72
Hospital Equipment	5.28%	4.14	0.22	4.14	0.22	4.14	0.22	4.14	0.22	4.14	0.22
Laboratory & Workshop Equipment	5.28%	1,225.73	64.72	1,225.73	64.72	1,228.87	64.88	1,280.83	67.63	1,280.83	67.63
Software	15.00%	44.21	6.63	44.21	6.63	44.21	6.63	56.50	8.48	57.76	8.66
Capex on assets not owned by the company	5.28%	979.17	51.70	979.17	51.70	979.17	51.70	979.17	51.70	979.17	51.70
Unserviceable/Obsolete assets	5.28%	0.05	0.00	0.05	0.00	-	-	-	-	-	-
CAP. Spares, IGAAP	0.00%	-	-	-	-	-	-	1,140.11	-	1,331.14	-
C. Spares Ind AS	0.00%	-	-	-	-	-	-	570.32	-	752.73	-
Major Repair & Overhauling	0.00%	-	-	-	-	-	-	1,976.94	-	2,618.71	-

Weighted Average Rate of Depreciation for 2014-19 **(Amount in Rs. lakh)**

Name of assets	Depreciation Rate	For 2014-15		2015-16		2016-17		2017-18		2018-19	
		Gross Block as on 31.03.2014	**Depreciation Amount**	**Gross Block as on 31.03.2015**	**Depreciation Amount**	**Gross Block as on 31.03.2016**	**Depreciation Amount**	**Gross Block as on 31.03.2017**	**Depreciation Amount**	**Gross Block as on 31.03.2018**	**Depreciation Amount**
Mohad Reservoir-Industrial Water	5.28%	11,000.00	580.80	11,000.00	580.80	11,000.00	580.80	11,000.00	580.80	11,000.00	580.80
Total		**2,77,041.42**	**13,958.03**	**2,77,235.74**	**13,969.10**	**2,77,815.47**	**14,004.08**	**2,81,559.33**	**14,007.23**	**2,82,715.94**	**14,019.64**
Weighted Average Rate of Depreciation		**5.0385%**		**5.0397%**		**5.0076%**	**4.9669%**			**4.9589%**	