

respectively, under Regulation 26(1)(d) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that as per the recommendation of Standing Advising Committee of the Ministry of Home affairs, GOI, and as per letter dated 7.5.2019 of the Deputy Commandant, CISF such Foam tender & Water tender are to be procured in view of safety of the generating station. The Petitioner has also submitted the copy of letter from the Deputy Commandant, CISF.

32. The matter has been examined. It is observed that the claim of the Petitioner for projected additional capital expenditure for this asset, is based on the recommendations of CISF, which is a statutory body. In the recommendation letter, it has been indicated that foam tenders and water tenders, available at site have completed their service life and are not working properly, and that there is no annual maintenance contract for these items. It has also been mentioned that there is huge storage of highly inflammable oil at various locations in the plant and accordingly recommended the Procurement of new Foam and water tender. Keeping in view that the additional capital expenditure claimed by the Petitioner is based on the recommendations of CISF, which is for safety of the generating station, the claim is allowed.

### ***Installation of Security CCTV System***

33. The Petitioner has claimed additional capital expenditure for Rs. 150.00 lakh in 2020-21 towards the Installation of security CCTV system under Regulation 26(1)(d) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that the projected additional capital expenditure towards the work is being claimed on the recommendation of CISF.



34. We have examined the matter. It has been observed that the Petitioner in justification of its claim has submitted the minutes of the security review meeting with CISF. On perusal of minutes of the meeting, it could not be made out as to whether the issue related to the installation of CCTV system. The minutes of meeting evidence the following:

*“AC CISF informed that as per the security audit recommendation, security surveillance is to be done through extensive use of CCTV. DGM (C&I) informed that CCTV available have been installed at main gate. However, it was informed that the requirement of CISF can be looked into holistic manner. BUH advised that joint inspection may be done for relocating the 17 Nos. of existing CCTV as per immediate requirement and considering the security sensitivity.”*

35. As there is no specific mandate of the CISF for the procurement of new CCTV system, as evident in the minutes of meeting, the claim of the Petitioner is not allowed.

#### ***Hydraulic platform for safety***

36. The Petitioner has claimed additional capital expenditure for Rs. 74.00 lakh towards Hydraulic platform for safety in 2020-21 under Regulation 26(1)(d) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that as per the Standard electrical safety procedure, it is been recommended to install the said asset from the safety point of view.

37. The matter has been examined. Though the Petitioner has claimed projected additional capital expenditure of this asset, under Regulation 26(1)(d) of the 2019 Tariff Regulations, it has not been able to demonstrate through documentary evidence, that the requirement of this asset, is based on any specific directions or advice from any Governmental or statutory authorities as regards to the requirement of this item. In view of this, the claim of the Petitioner is not allowed.



### ***CISF Fire Fighting Equipment and Systems***

38. The Petitioner has claimed additional capital expenditure for Rs. 11.30 lakh in 2020-21 and Rs. 12.60 lakh in 2021-22 towards the Procurement of CISF fire-fighting equipment and Systems under Regulation 26(1)(d) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted the recommendation letters from CISF dated 19.7.2019 and 23.7.2019 in support of the claims.

39. The matter has been examined. It is noticed from letters dated 19.7.2019 and 23.7.2019 of the Assistant Commandant Fire (CISF Unit-Bhilai) that the procurement of the firefighting systems and equipment with an estimated cost of Rs. 23.82 lakh, has been recommended for the generating station. Since the additional capital expenditure incurred is based on the recommendations of CISF, which is a statutory authority, the claim of Petitioner is allowed.

### ***Dozer Model BD 155***

40. The Petitioner has claimed additional capital expenditure for Rs. 230.00 lakh towards Procurement of Dozer Model BD 155 in 2020-21 under Regulation 25(2)(a) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that as per OEM, the life of the Dozer is 10 years. It has also submitted that since inception, these dozers are running, and therefore, the replacement of Dozers will be done in phased manner.

41. The matter has been considered. It is observed that the Petitioner has claimed the replacement of the existing dozers with new ones. In support of the claim, the Petitioner has submitted the letter from M/s BEML, the OEM, which has recommended the



replacement of the existing dozer. In view of this, the claim of the Petitioner is allowed. However, the Petitioner has not submitted the details of de-capitalization, such as the year of put to use and the estimated de-capitalization value. Therefore, the de-capitalization value has been dealt with under the head 'Assumed deletion' basis as discussed in para 49 of this order.

### ***IP Blade Rotor***

42. The Petitioner has claimed additional capital expenditure for Rs.1600 lakh towards the Procurement of IP Blade rotor in 2021-22 under Regulation 76 of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that the design of NSPCL IP rotor is different from other 250 MW units at NTPC and the same may not be matched with pool list and spare rotor available for IP module of 250 MW unit and lead time is also very high.

43. We have examined the matter. The Petitioner has claimed the procurement of IP blade rotor apparently as spare. Since, spares are not allowed to be capitalized after the cut-off date of the generating station, in terms of the 2019 Tariff Regulations, the claim of the Petitioner is not allowed, in exercise of the power to relax. However, the Petitioner may claim the amount, if admissible, as Capital Spares under O&M on consumption basis.

### ***Installation of Economizer Coil Handling Platform***

44. The Petitioner has claimed additional capital expenditure for Rs. 412.00 lakh in 2021-22 and Rs.413 lakh in 2022-23 towards the Installation of Economizer Coil Handling System under Regulation 26(1)(d) of the 2019 Tariff Regulations read with Regulation 76 and Regulation 77 of the 2019 Tariff Regulations. In justification of the same, the



Petitioner has submitted that the plant is in operation for more than 10 years and there is requirement for the Replacement & Repair of economizer coils in boiler and Platform and is also required for the safe lifting and replacement of economizer tubes.

45. The matter has been considered. Though the Petitioner has claimed projected additional capital expenditure of this asset, under Regulation 26(1)(d) of the 2019 Tariff Regulations, it has not been able to demonstrate through documentary evidence, that the requirement of this asset, is based on any specific directions or advice or based on OEM recommendation. There is also no merit in the claim of the Petitioner to consider the additional capitalization of this item in exercise of the power to relax under Regulation 76 of the 2019 Tariff Regulations. Accordingly, the claim of the Petitioner under this head is not allowed.

#### ***HMI upgradation of MAX DNA DCS***

46. The Petitioner has claimed additional capital expenditure for Rs. 400.00 lakh towards HMI upgradation of MAX DNA DCS under Regulation 25(2)(c) read with Regulation 76 and Regulation 77 of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that as per the original scope of work, Max DNA system was supplied by M/s BHEL (the OEM) based on windows XP workstations in MAX DNA DCS. It has also submitted that Windows XP has been declared obsolete by Microsoft and M/s BHEL has recommended for HMI Upgrade and this Upgradation of MAX DNA DCS is compulsory for the reliable operation of Units of the generating station. The Petitioner has also submitted the email communication from the M/s BHEL in support of the claim.



47. The matter has been examined. The Petitioner has claimed the upgradation of HMI under Regulation 25(2)(c) of the 2019 Tariff Regulations read with Regulation 76 of the 2019 Tariff Regulations. The documentary evidence submitted by the Petitioner shows that the product support has been withdrawn by Microsoft XP operating system and hence the upgradation of the operating system is required. In view of the above, we allow the projected additional capital expenditure towards the works, on replacement basis, under Regulation 25(2)(c) of the 2019 Tariff Regulations. However, it is observed that the Petitioner has not considered the estimated de-capitalization of the old asset. Accordingly, the decapitalization has been considered under 'Assumed Deletion' as discussed at para 49 of this order.

48. Based on above discussions, the projected additional capital expenditure allowed for the 2019-24 tariff period, is summarized below:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
<b>Works within original scope, change-in-law etc. eligible for ROE at Normal Rate</b>					
<b>(a) Items already allowed</b>					
Ash Dyke Raising	250.00	50.00	0.00	0.00	0.00
Construction of concrete paving for wagon inspection at MGR	11.00	0.00	0.00	0.00	0.00
Bomb Calorimeter	25.24	0.00	0.00	0.00	0.00
<b>(b) New Items</b>					
Implementation of Automatic Generation Control	98.00	0.00	0.00	0.00	0.00
Compressor for Ash Evacuation System	0.00	100.00	0.00	0.00	0.00
Zero Liquid Discharge System	0.00	40.00	0.00	0.00	0.00
Dozer Model BD 155	0.00	230.00	0.00	0.00	0.00
CLO2 System	0.00	0.00	0.00	0.00	0.00
HMI Upgradation of MAX DNA DCS	0.00	0.00	0.00	400.00	0.00
<b>Sub-Total (A)</b>	<b>384.24</b>	<b>420.00</b>	<b>0.00</b>	<b>400.00</b>	<b>0.00</b>
<b>Works beyond original scope excluding add-cap due to change-in-law eligible for ROE at Weighted Average Rate of Interest (WAROI)</b>					



LT ACB Retrofitting	0.00	0.00	0.00	0.00	0.00
Foam Tender	0.00	64.00	0.00	0.00	0.00
Installation of Security CCTV System	0.00	0.00	0.00	0.00	0.00
Hydraulic Platform for Safety as per recommendation	0.00	0.00	0.00	0.00	0.00
CISF Fire Fighting Equipment's and Systems	0.00	11.30	12.60	0.00	0.00
IP Blade Rotor	0.00	0.00	0.00	0.00	0.00
Fire Tender	0.00	0.00	64.00	0.00	0.00
Installation of Economizer Coil Handling platform	0.00	0.00	0.00	0.00	0.00
<b>Sub-Total (B)</b>	0.00	75.30	76.60	0.00	0.00
<b>Additional capital expenditure allowed (on projected basis)</b>	<b>384.24</b>	<b>495.30</b>	<b>76.60</b>	<b>400.00</b>	<b>0.00</b>

### **Assumed Deletion**

49. As per consistent methodology adopted by the Commission in its orders, the expenditure on replacement of assets, if found justified, is allowed for the purpose of tariff provided that the capitalization of the said asset, is followed by de-capitalization of the gross value of the old asset. However, in certain cases, where the de-capitalization is proposed to be effected during the future years to the year of capitalization of the new asset, the de-capitalization of the old asset for the purpose of tariff is shifted to the very same year in which the capitalization of the new asset is allowed. Such de-capitalization which is not a book entry in the year of capitalization is termed as "Assumed Deletions". The methodology of arriving at the fair value of the de-capitalized asset, i.e. de-escalation rate of 5% per annum from the COD has been considered in order to arrive at the gross value of old asset in comparison to the cost of new asset. In the present petition, the COD year of the generating station is during 2009-10. We have considered the value of asset under consideration, as on COD as 100 and escalated it @5% till the year during which additional capital expenditure is claimed against replacement of the same. The



amount claimed for additional capital expenditure against this asset is multiplied by the derived ratio from above two values i.e., value in COD year divided by value in additional capitalized year to work out the de-capitalization amount. However, the Petitioner is granted liberty to furnish the actual gross value of replaced assets at the time of truing up exercise and the same will be considered in accordance with law.

50. The Petitioner has claimed additional capital expenditure for certain assets/ works but has not furnished the estimated de-capitalized value of the old, replaced assets/works.

51. Accordingly, in terms of the above methodology, the value of 'assumed deletions' considered for the replaced asset for the purpose of tariff is detailed as under:

*(Rs. in lakh)*

S No.	Details of Asset	Additions claimed by Petitioner for new assets on replacement	De-capitalization on value of old asset claimed	Assumed Deletion for Old Assets Allowed
2020-21				
1	Dozer model BD 155	230.00	0.00	134.48
2022-23				
2	HMI UPGRADATION OF MAX DNA DCS	400.00	0.00	212.13

### **Undischarged Liabilities**

52. The balance of undischarged liabilities as on 31.3.2019, as per order dated 4.8.2022 in Petition No. 192/GT/2020 is Rs. 353.42 lakh. The Petitioner has not claimed the creation of any additional undischarged liabilities and discharges of undischarged liabilities during the 2019-24 tariff period. However, as directed vide paragraph 50 of the order dated 4.8.2022, the Petitioner shall submit the detailed reconciliation of the discharges, additions and reversal of liabilities, at the time of truing-up of tariff for the





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

### **Capital Cost**

53. Based on the above, the capital cost allowed for the generating station for the 2019-24 tariff period is as under:

(Rs. in lakh)

	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Opening Capital Cost	276777.77	277162.01	277522.83	277599.43	277787.31
Add: Additional capital expenditure	384.24	495.30	76.60	400.00	0.00
Less: De-capitalization (Assumed Deletion)	0.00	(-)134.48	0.00	(-)212.13	0.00
Closing Capital Cost	<b>277162.01</b>	<b>277522.83</b>	<b>277599.43</b>	<b>277787.31</b>	<b>277787.31</b>
Average Capital Cost	276969.89	277342.42	277561.13	277693.37	277787.31

### **Debt Equity Ratio**

54. Regulation 18 of the 2019 Tariff Regulations provides as under:

*“18. Debt-Equity Ratio: (1) For a new project, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. 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, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds 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 1.4.2019, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:*



Provided that in case of generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;

Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 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.

55. The gross normative loan and equity of the generating station, as on 31.3.2019 as approved by order dated 4.8.2022 in Petition 192/GT/2020 is Rs.196730.97 lakh and 80046.80 lakh respectively, which has been retained as on 1.4.2019. Further the projected additional capital expenditure approved as above, has been allocated in the debt to equity of 70:30. Accordingly the debt: equity ratio is worked out as under:

	<b>Capital cost as on 1.4.2019 (Rs. in lakh)</b>	<b>(%)</b>	<b>Additional capital expenditure (Rs. in lakh)</b>	<b>(%)</b>	<b>Total cost as on 31.3.2024 (Rs. in lakh)</b>	<b>(%)</b>
Debt	196730.97	71.08%	706.67	70.00%	197437.64	71.08%
Equity	80,046.80	28.92%	302.86	30.00%	80349.66	28.92%
<b>Total</b>	<b>276777.77</b>	<b>100.00%</b>	<b>1009.54</b>	<b>100.00%</b>	<b>277787.31</b>	<b>100.00%</b>

### **Return on Equity**

56. Regulation 30 of the 2019 Tariff Regulations provides as under:

“30. Return on Equity:

(1) Return on equity shall be computed in rupee terms on the equity base determined in accordance with Regulation 18 of these regulations.

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

Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope excluding additional capitalization due to Change in Law shall



be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;

Provided further that:

(i) In case of a new project the rate of return on equity shall be reduced by 1.00% 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) or Free Governor Mode Operation (FGMO) data telemetry communication system up to load dispatch centre or protection system based on the report submitted by the respective RLDC;

(ii) in case of existing generating station as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

(iii) in case of a thermal generating station with effect from 1.4.2020:

(a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

(b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute subject to ceiling of additional rate of return on equity of 1.00%:

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.

57. Regulation 31 of the 2019 Tariff Regulations provides as under:

“31. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations 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 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 paid on income from other businesses including deferred tax liability (i.e., income from business other than business of generation or transmission as the case may be) shall be excluded for the calculation of effective tax rate.

(2) Rate of return on equity shall be rounded off to three decimal places and shall be computed as per the formula given below:

Rate of pre-tax return on equity = Base rate / (1-t)

Where “t” is the effective tax rate in accordance with Clause (1) of this Regulation and shall be calculated at the beginning of every financial year based on the estimated profit and tax to be paid estimated in line with the provisions of the relevant Finance Act applicable for that financial year to the company on pro-rata basis by excluding the income of non-generation or non-transmission business as the case may be and the corresponding tax thereon. In case of generating company or transmission licensee paying Minimum Alternate Tax (MAT) “t” shall be considered as MAT rate including surcharge and cess.

**Illustration-**

(i) In case of the generating company or the transmission licensee paying Minimum Alternate Tax (MAT) @ 21.55% including surcharge and cess:

Rate of return on equity =  $15.50/(1-0.2155) = 19.758\%$



(ii) In case of a generating company or the transmission licensee paying normal corporate tax including surcharge and cess:

(a) <sup>(a)</sup> Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1000 crore.

(b) <sup>(b)</sup> Estimated Advance Tax for the year on above is Rs 240 crore.

(c) <sup>(c)</sup> Effective Tax Rate for the year 2019-20 = Rs 240 Crore/Rs 1000 Crore = 24%.

(d) <sup>(d)</sup> Rate of return on equity =  $15.50 / (1 - 0.24) = 20.395\%$ .

(3) The generating company or the transmission licensee as the case may 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 2019-24 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 as the case may be on year to year basis.”

58. The Petitioner has claimed Return on Equity (ROE) considering base rate of 15.50% and effective tax rate of 17.472% for the opening equity as on 1.4.2019 and projected additional capital expenditure claimed under original scope of work, change in law etc. for the 2019-24 tariff period. The same has been considered for the purpose of tariff.

59. The Petitioner has further claimed ROE on the additional capital expenditure beyond the original scope of work (except due to change in law) at the weighted average rate of interest of each year for the 2019-24 tariff period, in line with the second proviso to Regulation 30 of 2019 Tariff Regulation. Regulation 30(1) of the 2019 Tariff Regulations provides for computation of ROE, on the equity base, as determined in accordance with Regulation 18 of the 2019 Tariff Regulations. While clause (1) of Regulation 18 provides for the determination of the debt-equity ratio for new projects, clauses (3) and (4) of the said Regulation provides for consideration/ determination of the debt-equity ratio in respect of the generating stations declared under commercial operation prior to 1.4.2019. Further, clause (5) of the said regulation provides that the admitted additional capital



expenditure incurred or projected to be incurred on or after 1.4.2019, is to be serviced in the manner specified in clause (1) of Regulation 18 of the 2019 Tariff Regulations. On the same analogy, Regulation 30(2) of the 2019 Tariff Regulations provides for the computation of ROE at the base rate of 15.50% (for thermal generating stations) while the proviso to Regulation 30(2) provides for computation of ROE in respect of additional capitalization after cut-off date, beyond the original scope, excluding additional capitalization due to change in law, at the weighted average rate of interest on actual loan portfolio of the generating station. It is however noticed that as per clause (1) of Regulations 31 of the 2019 Tariff Regulations (Tax on ROE), the base rate of return on equity, as allowed by the Commission under Regulation 30 of the said regulations, is required to be grossed up with the effective tax rate of the respective financial year. Thus, we are of the view, that on a harmonious construction of the provisions of Regulation 18 read with Regulation 30 and 31 of the 2019 Tariff Regulations, the ROE computed at the predetermined base rate of 15.50% and ROE computed at the weighted average rate of interest (WAROI) are required to be grossed up with the effective tax rate of the respective financial year. Accordingly, ROE has been worked out and allowed as under:

**Return on Equity at Normal Rate:**

	<i>(Rs. in lakh)</i>				
	<b>2019-20</b>	<b>2020-21</b>	<b>2021-22</b>	<b>2022-23</b>	<b>2023-24</b>
Notional Equity- Opening (A)	80046.80	80154.50	80240.16	80240.16	80296.52
Addition of Equity due to additional capital expenditure (B)	115.27	85.66	0.00	56.36	0.00
Normative Equity – Closing (C) = (A+B)	<b>80162.07</b>	<b>80247.73</b>	<b>80247.73</b>	<b>80304.09</b>	<b>80304.09</b>
Average Normative Equity (D) = (A+C)/2	80104.44	80204.90	80247.73	80275.91	80304.09
Return on Equity (Base Rate) (E)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate (F)	17.4720%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre-tax) (G) = (E)/(1-F)	18.782%	18.782%	18.782%	18.782%	18.782%
<b>Return on Equity (Pre-tax) - (annualized) (H) = (DxG)</b>	<b>15045.22</b>	<b>15064.08</b>	<b>15072.13</b>	<b>15077.42</b>	<b>15082.71</b>



## Return on Equity at WAROI

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Notional Equity- Opening (A)	0.00	0.00	22.59	45.57	45.57
Addition of Equity due to additional capital expenditure (B)	0.00	22.59	22.98	0.00	0.00
Normative Equity – Closing (C) = (A+B)	0.00	22.59	45.57	45.57	45.57
Average Normative Equity (D) = (A+C)/2	0.00	11.30	34.08	45.57	45.57
Return on Equity (Base Rate) (E)	8.2396%	8.2396%	8.2396%	8.2396%	8.2396%
Effective Tax Rate (F)	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre-tax) (G) = (E)/(1-F)	9.984%	9.984%	9.984%	9.984%	9.984%
<b>Return on Equity (Pre-tax) - (annualized) (H) = (DxG)</b>	<b>0.00</b>	<b>1.13</b>	<b>3.40</b>	<b>4.55</b>	<b>4.55</b>

## Interest on loan

60. Regulation 32 of the 2019 Tariff Regulations provides as under:

*“32. Interest on loan capital: (1) The loans arrived at in the manner indicated in Regulation 18 of these regulations shall be considered as gross normative loan for calculation of interest on loan.*

*(2) The normative loan outstanding as on 1.4.2019 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2019 from the gross normative loan.*

*(3) The repayment for each of the year of the tariff period 2019-24 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of de-capitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered upto the date of de-capitalization of such asset.*

*(4) Notwithstanding any moratorium period availed by the generating company or the transmission licensee, as the case may be, the repayment of loan shall be considered from the first year of commercial operation of the project and shall be equal to the depreciation allowed for the year or part of the year.*

*(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized:*

*Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered:*

*Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered.*

*(6) The interest on loan shall be calculated on the normative average loan of the year by applying the weighted average rate of interest.*



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

61. The Petitioner has claimed tariff considering WAROI of 8.2396% for the entire 2019-24 tariff period, based on the actual WAROI of 2018-19, and has submitted that the WAROI, shall be claimed at actuals, at the time of truing-up of tariff. Interest on loan has been worked out as under:

- i) The gross normative loan amounting to Rs.196730.97 lakh has been considered as on 1.4.2019;
- ii) Cumulative repayment of Rs.132306.11 lakh as on 31.3.2019 as considered in order dated 4.8.2022 in Petition No. 192/GT/2020 has been considered as on 1.4.2019.
- iii) Accordingly, the net normative opening loan as on 1.4.2019 works out to Rs.64424.86 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 2019-24 tariff period. Further, repayments have been adjusted for de-capitalization of assets considered for the purpose of tariff;
- vi) The weighted average rate of interest has been considered as 8.2396% as claimed by the Petitioner which is subject to true up;

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

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross opening loan (A)	196730.97	196982.27	197234.85	197288.47	197419.98
Cumulative repayment of loan upto previous year / period (B)	132306.11	146040.19	159733.9	173496.66	179603.52
Net Loan Opening (C) = (A-B)	64424.86	50942.08	37500.95	23791.81	17816.46
Addition on account of additional capital expenditure (D)	268.97	252.58	53.62	131.51	0.00
Repayment of loan during the year (E)	13734.70	13753.17	13764.02	6213.25	6230.00
Less: Repayment adjustment on account of de-capitalization (F)	0.00	58.22	0.00	104.81	0.00

