CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 488/GT/2020

Coram:

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

Date of Order: 4th June, 2022

IN THE MATTER OF

Petition for approval of tariff of Kawas GPS (656.20 MW) for the period from 1.4.2019 to 31.3.2024.

AND

IN THE MATTER OF

NTPC Limited,
NTPC Bhawan, Core-7,
Core-7, Scope Complex,
7, Institutional Area, Lodhi Road,
New Delhi – 110003 **….Petitioner**

Vs

1. Madhya Pradesh Power Management Company Limited,
   Shakti Bhawan, Vidyut Nagar,
   Jabalpur – 482 008

2. Maharashtra State Electricity Distribution Company Limited,
   Prakashgad, Bandra (East),
   Mumbai – 400 051

3. Gujarat Urja Vikas Nigam Limited,
   Vidyut Bhawan, Race Course,
   Vadodara – 390 007

4. Chhattisgarh State Power Distribution Company Limited,
   P.O. Sundar Nagar, Danganiya,
   Raipur – 492 013

5. Electricity Department,
   Government of Goa, Vidyut Bhawan,
   Panji, Goa

6. DNH Power Distribution Corporation Limited,
   UT of DNH,
   Silvassa – 396 230

7. Electricity Department,
   Administration of Daman & Diu,
   Daman – 396 210 **….Respondents**

Parties Present:

Shri Venkatesh, Advocate, NTPC
Shri Ashutosh K. Srivastava, Advocate, NTPC
Shri Suhael Buttan, Advocate, NTPC
Shri Anant Singh Ubeja, Advocate, NTPC
Shri Abhishek Nangia, Advocate, NTPC
Shri Nihal Bhardwaj, Advocate, NTPC
Ms. Simran Saluja, Advocate, NTPC
Shri Jayant Bajaj, Advocate, NTPC
Ms. Mehak Verma, Advocate, NTPC
Shri Jatin Ghuliani, Advocate, NTPC
Shri A.S. Pandey, NTPC
Shri Parimal Piyush, NTPC
Shri Ravindra Khare, MPPMCL

ORDER

This petition has been filed by the Petitioner, NTPC Limited for approval of tariff of Kawas Gas Power Station (656.20 MW) (hereinafter referred to as 'the generating station') for the 2019-24 tariff period, in terms of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as 'the 2019 Tariff Regulations').

2. The generating station with a capacity of 656.20 MW comprises of four Gas Turbine (GT) units of 106 MW each and two Steam Turbine (ST) units of 116.10 MW each. The dates of commercial operation of the units of the generating station are as under:

Asset	Capacity (MW)	COD
Unit - I (GT-1A)	106.00	1.6.1992
Unit - II (GT-1B)	106.00	1.8.1992
Unit - III (GT-2A)	106.00	1.9.1992
Unit - IV (GT-2B)	106.00	1.11.1992
Unit - V (ST-1) / Generating Station	116.10	1.11.1993
Unit - VI (ST-2)	116.10	1.9.1993

3. The Commission vide its order dated 24.3.2017 in Petition No. 341/GT/2014 had approved the tariff of the generating station for the 2014-19 tariff period. Subsequently, in Petition No. 253/GT/2020 filed by the Petitioner for revision of tariff of the generating station, based on truing-up exercise for the 2014-19 tariff period, the Commission vide its order dated 14.4.2022 approved the annual fixed charges and the capital cost as under:

Annual Fixed Charges allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	4609.56	5094.39	5200.64	5220.10	5214.09
Interest on Loan	1637.24	2285.55	1867.73	1405.24	1175.10
Return on Equity	16551.01	16899.68	16953.01	16953.01	16985.28
Interest on Working Capital	5671.38	5740.11	5760.44	5827.01	5888.48
O&M Expenses	10592.71	10943.64	11394.42	12405.16	13276.18
Total	**39061.89**	**40963.37**	**41176.24**	**41810.52**	**42539.14**

Capital Cost allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	174886.08	186623.10	188334.93	188509.57	188456.54
Add: Additional capital expenditure	11737.02	1711.82	174.64	(-) 53.03	(-) 202.35
Closing Capital Cost	**186623.10**	**188334.93**	**188509.57**	**188456.54**	**188254.19**
Average Capital Cost	180754.59	187479.02	188422.25	188483.06	188355.36

Present Petition

4. The Petitioner in the present petition has claimed the annual fixed charges and capital cost for the generating station for the 2019-24 tariff period as under:

Annual Fixed Charges claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	5167.51	5272.62	5394.25	6514.20	8544.69
Interest on Loan	874.76	532.37	177.18	0.00	0.00
Return on Equity	16407.54	16430.46	16451.33	16608.08	16765.26
Interest on Working Capital	5391.69	5441.30	5492.56	5567.24	5660.64
O&M Expenses	15703.25	16527.04	17405.96	18343.54	19351.85
Total	**43544.75**	**44203.79**	**44921.27**	**47033.07**	**50322.44**

Capital Cost claimed

(a) Capital cost eligible for Return on Equity at normal rate:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	188403.94	188428.95	189051.95	189051.95	194601.95
Add: Addition during the year	25.01	623.00	0.00	5550.00	0.00
Less: De-capitalization during the year	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year	0.00	0.00	0.00	0.00	0.00
Closing capital cost	**188428.95**	**189051.95**	**189051.95**	**194601.95**	**194601.95**
Average capital cost	188416.45	188740.45	189051.95	191826.95	194601.95

(b) Capital cost eligible for Return on Equity at weighted average rate of interest:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	0.00	90.00	340.00	340.00	340.00
Add: Addition during the year	90.00	250.00	0.00	0.00	0.00
Less: De-capitalization during the year	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year	0.00	0.00	0.00	0.00	0.00
Closing capital cost	**90.00**	**340.00**	**340.00**	**340.00**	**340.00**
Average capital cost	45.00	215.00	340.00	340.00	340.00

5. The Respondent, MPPMCL has filed its reply vide affidavit dated 19.10.2020 and the Petitioner vide affidavit dated 16.6.2021 has filed its rejoinder to the said reply. The Petitioner has filed certain additional information vide its affidavits dated 9.4.2021 and 30.6.2021. This Petition, along with Petition No.253/GT/2020 (tariff for the period 2014-19), was heard through virtual conferencing on 10.8.2021, and the Commission after hearing the parties, reserved its order in this petition. Petition No.253/GT/2020 was

disposed of on 14.4.2022. Based on the submissions of the parties and the documents available on record, and on prudence check, we proceed to approve the tariff of the generating station for the 2019-24 tariff period, as stated in the subsequent paragraphs.

Capital Cost

6. Clause (1) of Regulation 19 of the 2019 Tariff Regulations provides that the capital cost as determined by the Commission after prudence check, in accordance with this regulation, shall form the basis of determination of tariff for existing and new projects. Clause 3 of Regulation 19 of the 2019 Tariff Regulations provides as under:

> *"(3) The Capital cost of an existing project shall include the following:*
>
> *(a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
>
> *(b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*
>
> *(c) Capital expenditure on account of renovation and modernization as admitted by this Commission in accordance with these regulations;*
>
> *(d) Capital expenditure on account of ash disposal and utilization including handling and transportation facility;*
>
> *(e) Capital expenditure incurred towards railway infrastructure and its augmentation for transportation of coal upto the receiving end of generating station but does not include the transportation cost and any other appurtenant cost paid to the railway; and*
>
> *(f) Capital cost incurred or projected to be incurred by a thermal generating station, on account of implementation of the norms under Perform, Achieve and Trade (PAT) scheme of Government of India shall be considered by the Commission subject to sharing of benefits accrued under the PAT scheme with the beneficiaries."*

7. The annual fixed charges claimed by the Petitioner are based on opening capital cost of Rs.188403.94 lakh as on 1.4.2019. The Commission vide order dated 14.4.2022 in Petition No.253/GT/2020 had approved the capital cost of Rs.188254.19 lakh, on cash basis (after removal of un-discharged liabilities amounting to Rs.256.14 lakh) as on 31.3.2019. Accordingly, in terms of Regulation 19(3) of the 2019 Tariff Regulations, the capital cost of Rs.188254.19 lakh, on cash basis, as on 31.3.2019, has been considered as the opening capital cost as on 1.4.2019.

Additional Capital Expenditure

8. Regulation 25 and 26 of the 2019 Tariff Regulations provides as under:

25. Additional Capitalization within the original scope and after the cut-off date:

(1) The additional capital expenditure incurred or projected to be incurred in respect of an existing project or a new project on the following counts within the original scope of work and after the cut-off date may be admitted by the Commission, subject to prudence check:

(a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;

(b) Change in law or compliance of any existing law;

(c) Deferred works relating to ash pond or ash handling system in the original scope of work;

(d) Liability for works executed prior to the cut-off date;

(e) Force Majeure events;

(f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and

(g) Raising of ash dyke as a part of ash disposal system.

(2) In case of replacement of assets deployed under the original scope of the existing project after cut-off date, the additional capitalization may be admitted by the Commission, after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:

(a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;

(b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;

(c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and

(d) The replacement of such asset or equipment has otherwise been allowed by the Commission.

26. Additional Capitalization beyond the original scope

(1) The capital expenditure, in respect of existing generating station or the transmission system including communication system, incurred or projected to be incurred on the following counts beyond the original scope, may be admitted by the Commission, subject to prudence check:

(a) Liabilities to meet award of arbitration or for compliance of order or directions of any statutory authority, or order or decree of any court of law;

(b) Change in law or compliance of any existing law;

(c) Force Majeure events;

(d) Need for higher security and safety of the plant as advised or directed by appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security;

(e) Deferred works relating to ash pond or ash handling system in additional to the original scope of work, on case to case basis:

Provided also that if any expenditure has been claimed under Renovation and Modernization (R&M) or repairs and maintenance under O&M expenses, the same shall not be claimed under this Regulation;

(f) Usage of water from sewage treatment plant in thermal generating station.

(2) In case of de-capitalization of assets of a generating company or the transmission licensee, as the case may be, the original cost of such asset as on the date of decapitalization shall be deducted from the value of gross fixed asset and corresponding loan as well as equity shall be deducted from outstanding loan and the equity respectively in the year such de-capitalization takes place with corresponding adjustments in cumulative depreciation and cumulative repayment of loan, duly taking into consideration the year in which it was capitalized."

9. The projected additional capital expenditure claimed by the Petitioner for the 2019-24 tariff period are as under:

(Rs. in lakh)

	Regulation	2019-20	2020-21	2021-22	2022-23	2023-24
Works within original scope, change-in-law etc. eligible for ROE at normal rate						
LED installation in Plant	26(1)(b)	25.01	0.00	0.00	0.00	0.00
Separation of storm water & effluent drains, Effluent recycling scheme	26(1)(b)	0.00	623.00	0.00	0.00	0.00
ClO_2 dosing plant in CW pump house and Raw water pump house	26(1)(b) & 26(1)(d)	0.00	0.00	0.00	550.00	0.00
Installation & Supply of 30 MLD tertiary treated water from Surat to NTPC Kawas	26(1)(b) & 26(1)(f)	0.00	0.00	0.00	5000.00	0.00
Sub-Total (A)		**25.01**	**623.00**	**0.00**	**5550.00**	**0.00**
Works beyond original scope excluding additional capitalization due to change-in-law eligible for ROE at Weighted Average Rate of Interest (WAROI)						
Installation of 126 kWp Roof top Solar PV	26(1)(d)	90.00	0.00	0.00	0.00	0.00
NHAI deposit work for laying of underground MS pipes for Utility crossings	26(1)(d)	0.00	250.00	0.00	0.00	0.00
Sub-Total (B)		**90.00**	**250.00**	**0.00**	**0.00**	**0.00**
Total additional capital expenditure claimed (on projected basis) – (A+B)		**115.01**	**873.00**	**0.00**	**5550.00**	**0.00**

LED installation in plant

10. The Petitioner has claimed projected additional capital expenditure of Rs.25.01 lakh towards LED installation in Plant in 2019-20 under Regulation 26(1)(b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that the

Hon'ble Prime Minister of India on 5.1.2015, launched the National LED Programme with an objective to reduce energy consumption by using energy efficient lighting. In line with the objective, Unnat Jyoti by affordable LEDs for All (UJALA) and Street Lighting National Programme is being implemented by M/s EESL. The Petitioner has submitted that the Petitioner, was mandated, through the Ministry of Power (MOP), GOI, vide letter dated 2.8.2017, to replace all old bulbs with LED bulbs in all the Petitioner's buildings including compound/street lighting occupied by the Petitioner. It has also submitted that the directions of MOP, GOI are required to be implemented and has the force of law and accordingly, the Petitioner undertook the work of replacing the old in-efficient lights with efficient LED lighting in the premises of the generating station compound/buildings owned and operated by the Petitioner. Accordingly, the Petitioner has prayed that the additional capitalization may be allowed under change in law, in terms of Regulation 26(1)(b) of the 2019 Tariff Regulations.

11. In our view, the MOP, GOI letter is recommendatory in nature and cannot be construed as a 'change in law' event or compliance to an existing law. Moreover, the benefits of replacement of existing lighting system with LED lighting system, accrues to the Petitioner. It is pertinent to mention that the similar claim of the Petitioner in Petition No. 293/GT/2020 *(truing-up of tariff of Simhadri SPTS, Stage-II the period 2014-19*) was rejected by the Commission vide its order dated 11.1.2022 as under:

> *"72. The submissions have been considered. It is noticed that the additional capital expenditure incurred towards installation of 'LED based light fittings' is in terms of the MoP, GoI letter dated 2.8.2017, which recommends the replacement of existing old bulbs with LED bulbs, thereby resulting in the reduction of about 50% to 90% in energy consumption by LED lighting. In our view, the MoP, GoI letter is recommendatory in nature and cannot be construed as a change in law event or the compliance to an existing law. Moreover, the benefits of replacement of existing lighting system with LED lighting system, accrues to the Petitioner. In view of this, the additional capital expenditure claimed on account of installation of LED lighting system is disallowed. However, the de-capitalization claimed by the Petitioner towards de-capitalization of old*

lights (plant & m/c - part of capital cost) is allowed in terms of Regulation 14(4) of the 2014 Tariff Regulations.

12. In view of the above, the additional capital expenditure claimed on account of installation of LED lighting system is disallowed. The Petitioner is however directed to furnish the details of original value and year put to use of the asset de-capitalized (i.e. old lights) at the time of truing of tariff.

Installation of 126 kWp Roof Top Solar PV

13. The Petitioner has claimed projected additional capital expenditure of Rs.90.00 lakh towards Installation of 126 kWp Roof Top Solar PV in 2019-20 under Regulation 26(1)(d) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that in view of GOI target for installation of 175 GW of Renewable power by the end of 2022, and as a measure of energy conservation, the Petitioner has taken the initiative of installing Roof Top Solar PV. It has submitted that this initiative shall not only help in reduced coal consumption, but also reduce the CO_2 emissions and contribute to the decrease in Auxiliary Power Consumption. It has further submitted that presently, the Ministry of Environment & Forest (MOEF), GOI has also prescribed the installation of renewable generation plants, in the premises of thermal generating station, while granting MOEF clearances for the new projects. The Petitioner vide its affidavit 29.6.2021 has submitted that the Commission vide its order dated 13.7.2020 in Petition No. 270/GT/2019 (Torrent Power Ltd. Vs. Torrent Power Ltd. - Ahmedabad Distribution & Ors.) has allowed the additional capital expenditure incurred for installation of Solar Power Roof Top System.

14. The Respondent, MPPMCL has submitted that the Petitioner’s claim does not fall under Regulation 26(1)(d) of the 2019 Tariff Regulations, and hence the said

expenditure may be disallowed. In response, the Petitioner has submitted that the installation of 126 kW Roof Top Solar PV, was an initiative towards environment and energy conservation measures, to reduce greenhouse gases and to save electricity.

15. We have considered the matter. Regulation 26(1)(d) of the 2019 Tariff Regulations envisages expenditure towards need for higher security and safety of the plant as advised or directed by the appropriate Indian Government Instrumentality or statutory authorities responsible for national or internal security. Thought the Petitioner's claim under this head is on the basis of the Central Government's resolve to promote renewable energy, it is in no manner related to the higher security and safety of the plant. The Petitioner has also not submitted any documentary evidence indicating that the installation of Roof top solar power plant is based on the directions of statutory directions of authorities. Therefore, the claim of petitioner is not covered under Regulation 26(1) (d) of the 2019 Tariff Regulations. We notice that the similar claim of the Petitioner in Petition No. 288/GT/2020 (truing-up of tariff of Dadri Gas Power Station for the period 2014-19) was disallowed vide order dated 7.11.2021. In this background, the projected additional capital expenditure claimed by the Petitioner under this head is not allowed.

Separation of Storm water and Effluent drains, Effluent recycling scheme

16. The Petitioner has claimed projected additional capital expenditure of Rs.623.00 lakh towards Separation of storm water and effluent drains, effluent recycling scheme, in 2020-21 under Regulation 26(1)(b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that based on the directions of Gujarat Pollution Control Board (GPCB) in 'consent to operate' dated 27.7.2015, the generating station is

required to separate the storm water drain from industrial effluent and accordingly the Petitioner is required to carry out modifications in the drainage system.

17. The Respondent, MPPMCL has submitted that it is mandatory for each power plant to construct effluent water treatment plant before the COD of the plant.

18. We have considered the matter. After perusal of the consent to operate order dated 27.7.2015 of GPCB, it is observed that the 'Consent to operate' directions given by State Government are applicable to all industrial installations. Since these directions are already in existence and has not been newly introduced, the same cannot qualify as a change in law event, for consideration of the claim of the Petitioner. In our view, these expenditures are mainly routine activities and the same may be met from the O&M expenses allowed to the generating station. Accordingly, the projected additional capital expenditure claimed under this head is not allowed.

NHAI deposit work for laying of underground MS pipes for Utility crossings

19. The Petitioner has claimed projected additional capital expenditure of Rs.250.00 lakh towards NHAI deposit work for laying of underground MS pipes for utility crossing in the year 2020-21 under Regulation 26(1)(d) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that a road between NTPC Plant & Township has been acquired by NHAI, which shall be used for widening the NH-6 from four lane to six lane. It has also submitted that there are several utilities of the generating station like water lines/electrical supply cables, communication cables, sewerage pipelines and storm water pipelines which pass beneath the road and for proper functioning of these utilities and for safety of NH-6, all these lines need to be protected and re-laid as per NHAI norms. The Petitioner has stated that these relaying

works is being carried out by NHAI and since the expenditure is made on account of widening of NH-6 by NHAI and is for safety of the generating station and NH-6, the same may be allowed.

20. The Respondent, MPPMCL in its reply has submitted that as per the prevailing practice all expenditure which is necessary for rearrangement of existing amenities would be borne by NHAI and hence the claim may not be allowed.

21. We have considered the matter. The Petitioner has claimed the additional capital expenditure under Regulation 26(1)(d) of the 2019 Tariff Regulations. We however, do not find any specific direction or advice of any Governmental or statutory authorities with regard to the requirement of the said work or the expenditure to be incurred therein substantiating claim under Regulation 26(1)(d) of the 2019 Tariff Regulations. In view of this, we are not inclined to allow the claim of the Petitioner at this stage. The Petitioner is directed to approach the Commission with all the relevant documents/ justification along with payments made at the time of truing up of tariff.

ClO_2 dosing plant in CW pump house and raw water pump house

22. The Petitioner has claimed projected additional capital expenditure of Rs.550.00 lakh towards Installation of CLO2 system in 2022-23 under Regulation 26(1)(b) and Regulation 26(1)(d) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that at present Chlorine gas is being dozed, from chlorine stored in cylinders/ tonners, directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping etc. It has also submitted that Chlorine gas is very hazardous and may prove fatal in case of

leakage and in the interest of public safety, the chlorine dozing system is being replaced by Chlorine Dioxide (ClO_2) system, which is much safer and less hazardous than chlorine. The Petitioner has submitted that in the proposed scheme CLO2 shall be produced on site by use of commercial grade HCl and Sodium Chlorite and accordingly avoids handling and storage risk. It has further submitted that in Kudgi project of the Petitioner, the Department of Factories, Boiler, Industrial Safety and Health, Government of Karnataka, has asked the Petitioner to consider the replacement of highly hazardous gas Chlorination system with ClO2 system. The Petitioner has also stated that State Pollution Control Board (SPCB), Odisha while issuing consent to establish in case of Darlipalli Station, has asked the Petitioner to explore the possibility of installing CLO2 system instead of Chlorine gas system. The Petitioner has added that for safety of public, the Petitioner is replacing the Chlorination system with ClO2 system and the same is in line with the duties necessitated for an employer (regarding ensuring that the work place is free from hazards which cause or likely to cause injury and keep working environment safe and without health hazard) as per clause 6(1)(a) and clause 6(1)(d) of "The Occupational Safety, Health and Working Conditions Code, 2020" notified by the Ministry of Law & Justice, GOI.

23. The Respondent MPPMCL has submitted that the Petitioner has not furnished any document/reports stating how the existing process has become obsolete, and has also not clarified the disadvantages/hazardousness in the existing process. The Petitioner has clarified that the detailed justification for CLO2 dosing plant in CW pump house and Raw water Pump House has been provided by the Petitioner on Form-9 of the petition in 2022-23.

24. We have considered the matter. The matter has been considered. The Petitioner has submitted that for Kudgi project of the Petitioner, the Government of Karnataka, had directed the Petitioner to replace the highly hazardous gas chlorination system with ClO2 system. It is observed that the letter dated 23.9.2019 addressed by the Directorate of Factories, Industrial Safety & Health, State Government of Karnataka to the GM, NTPC, pertains to the site clearance of the Kudgi Super Thermal Power station of the Petitioner. This letter, in no manner, can be termed as a change in law event or for compliance with any existing law for this generating station, warranting the additional capitalization of the expenditure in terms of Regulation 26(1)(b) of the 2019 Tariff Regulations. As regards the claim of the Petitioner under Regulation 26(1)(d) of the 2019 Tariff Regulations, we find no specific direction or advice from any Governmental or statutory authorities as regards the requirement of this item i.e. (chlorine dozing system to be replaced by Chlorine Dioxide (ClO2) system) for safety and security of the generating station. Also, the OM dated 28.2.2014 received from SPCB, Odisha requesting the Petitioner to explore the possibility of installing ClO2 system cannot be considered for this generating station for grant of relief to the Petitioner. It is observed that similar claim of the Petitioner in Petition No. 418/GT/2020 (tariff of Simhadri -II) and Petition No.419/GT/2020 (tariff of Korba STPS-III) for the 2019-24 tariff period was disallowed by Commission vide its orders dated 24.1.2022 and 23.3.2022 respectively on the same grounds. Also, the reliance placed by the Petitioner to clause 6(1)(a) and clause 6(1)(d) of "The Occupational Safety, Health and Working Conditions Code, 2020" notified by Ministry of Law & Justice, GOI, cannot also be considered as a change in law event, since the said code is at a draft stage and has not yet been implemented. In

view of these, the additional capitalization claimed by the Petitioner on this count is not allowed.

Installation & Supply of 30 MLD tertiary treated water from Surat to NTPC Kawas

25. The Petitioner has claimed projected additional capital expenditure of Rs.5000.00 lakh in 2022-23 towards Installation & supply of 30 MLD tertiary treated water from Surat to the generating station under Regulation 26(1)(b) and Regulation 26(1)(f) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that MOP, GOI has notified the New Tariff Policy 2016, which, inter-alia, provides for the mandatory use of treated sewage water from Sewage Treatment Plants (STP) by all thermal power plants falling within the radius of 50 Km. In view of the above directions, the Petitioner has submitted that this generating station is located within the 50 km from the STP facility of Surat Municipal Corporation (SMC), and accordingly, in terms of the policy, the generating station is mandated to use the treated sewage water from the STP facility of SMC for further use in the generating station. It has further submitted that the treated water from STP outlet is not suitable for use in the generating station, as the water parameters from STP outlet, are beyond the permissible range, for inlet raw water suitable for use, in the thermal power plants. Accordingly, the Petitioner has submitted that it has to install a Tertiary Treatment Plant (TTP) for making the same suitable for use and the total project cost for the above said scheme is estimated to be Rs.50 crore. Based on the above, the Petitioner has prayed that the additional capitalization for the associated cost of TTP may be allowed as and when the same is put to use. It has also submitted that the Commission may allow the Petitioner to claim the water charges for the drawl of water from STP of NMC under Regulation 36(6) of the 2019 Tariff Regulations, as and when the above facilities are put to use.

26. The Respondent, MPPMCL has submitted that the Petitioner has not furnished any notification/circular/order of the competent authority based on which the expenditure is mandatory and fall under Regulation 26(1)(b) of the 2019 Tariff Regulations. It has also submitted that Regulation 26(1)(f) of the 2019 Tariff Regulations is applicable only for thermal generating stations. The Respondent has also pointed out that that SMC itself is planning to expand its capacity of tertiary treated water up to 500 MLD for industrial use in 2021 and therefore, if it is essential to reuse sewage water from Municipal Corporation, the Petitioner may approach SMC for supply of treated water from their tertiary treatment plant. In response, the Petitioner has submitted that the detailed justification for installation and supply of 30 MLD tertiary water from Surat to the generating station, has been provided by the Petitioner in Form-9 for the year 2022-23. It has also been submitted that the expenditure is necessitated due to the National Tariff Policy, 2016 which mandates use of treated sewage water from STP by all thermal power plants within the 50 Km radius of the STP. Therefore, the National Tariff Policy, 2016 is an event of change in law and the expenditure is liable to be allowed under Regulation 26(1)(b) of the 2019 Tariff Regulations. The Petitioner has stated that the Hon'ble Supreme Court in *Energy Watchdog vs. CERC (2017) 14 SCC 80* has held that National Tariff Policy, 2016 has the force of law and the mandate of National Tariff Policy, 2016 in terms of Change in law ought to be granted to the generators. The Petitioner has stated that the interpretation of the Respondent MPPMCL for applicability of Regulation 26(1)(f) of the 2019 Tariff Regulations only for thermal generating station is misplaced and may be rejected.

27. The matter has been examined. The Petitioner has submitted that this generating station is located within the 50 km from the STP facility of Surat Municipal Corporation (SMC), and accordingly, in terms of the National tariff Policy, the generating station is mandated to use the treated sewage water from the STP facility of SMC for further use in the generating station. Accordingly, the Petitioner has submitted that since National Tariff Policy, 2016 is an event of change in law, the expenditure is liable to be allowed under Regulation 26(1)(b) of the 2019 Tariff Regulations. This submission of the Petitioner is not acceptable for the reason that the Commission in discharge of its functions under Section 79 of the Act read with Section 61 and Section 178 of the Act, has framed the 2014 Tariff Regulations, guided, amongst others, by the National Electricity Policy and Tariff Policy, and the same is to be considered while determining the tariff of the generating station. In this regard, the observations of APTEL in its judgment dated 1.3.2012 in Appeal No.131/2011 (HPGCL v HERC)

> *"Section 61 of the Act mandates the State Commissions to frame Regulations fixing terms and conditions for determination of tariff and in doing so it is to be guided by the principles and methodology specified by the Central Commission, the National Electricity Policy and Tarif Policy etc. Once the State Commission has framed the Regulations, it shall determine tariff in accordance with its own Regulations."*

28. We note that Regulation 26(1)(f) of 2019 Tariff Regulations provide for consideration of additional capital expenditure pertaining to 'usage of water from sewage treatment plant' in thermal generating stations. Accordingly, we, based on the submissions of the Petitioner, allow the projected additional capital expenditure claimed by the Petitioner, under Regulation 26(1)(f) of the 2019 Tariff Regulations. The claim of the Petitioner for additional capitalization for the associated cost of TTP may be considered as and when the same is put to use.

29. Based on above discussion, the projected additional capital expenditure allowed for the 2019-24 tariff period is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Works within original scope, change-in-law etc. eligible for ROE at normal rate					
LED installation in Plant	0.00	0.00	0.00	0.00	0.00
Separation of storm water & effluent drains, Effluent recycling scheme	0.00	0.00	0.00	0.00	0.00
Clo2 dosing plant in CW pump house and Raw water pump house	0.00	0.00	0.00	0.00	0.00
Sub-Total (A)	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Works beyond original scope excluding additional capitalization due to change-in-law eligible for ROE at Weighted Average Rate of Interest (WAROI)					
Installation of 126 kWp Roof top Solar PV	0.00	0.00	0.00	0.00	0.00
NHAI deposit work for laying of underground MS pipes for Utility crossings	0.00	0.00	0.00	0.00	0.00
Installation & Supply of 30 MLD tertiary treated water from Surat to NTPC Kawas	0.00	0.00	0.00	5000.00	0.00
Sub-Total (B)	0.00	0.00	0.00	5000.00	0.00
Additional capital expenditure allowed (on projected basis)	**0.00**	**0.00**	**0.00**	**5000.00**	**0.00**

Capital Cost

30. Based on the above, the capital cost allowed for the purpose of tariff 2019-24 tariff period is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	188254.19	188254.19	188254.19	188254.19	193254.19
Add: Projected additional capital expenditure	0.00	0.00	0.00	5000.00	0.00
Closing Capital Cost	**188254.19**	**188254.19**	**188254.19**	**193254.19**	**193254.19**
Average Capital Cost	**188254.19**	**188254.19**	**188254.19**	**190754.19**	**193254.19**

Debt Equity Ratio

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

"18. Debt-Equity Ratio: (1) For a new projects, 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.

32. The Petitioner has claimed gross normative loan Rs.101056.28 lakh and equity of Rs.87347.66 lakh net of equity adjustment of 'nil' in terms of first proviso to Regulation 18(3) as on 1.4.2019 and has considered debt: equity ratio of 70:30 for funding of projected additional capital expenditure claimed during the 2019-24 tariff period. The gross normative loan and equity of the generating station as on 31.3.2019 approved by

the Commission in its order dated 14.4.2022 in Petition No. 253/GT/2020 is Rs.102338.42 lakh (i.e. 54.36% of the admitted capital cost as on 31.3.2019) and Rs.85915.77 lakh (i.e. 45.64% of the admitted capital cost as on 31.3.2019), respectively.

33. Regulation 3(73) of the 2019 Tariff Regulations has defined the useful life of Gas/ Liquid based thermal generating stations as 25 years. However, the proviso to the said regulation provides as under:

> *'Provided that the extension of life of the projects beyond the completion of their useful life shall be decided by the Commission on case-to-case basis.'*

34. The generating station was commissioned on 1.11.1993 and accordingly, the useful life has elapsed on 1.11.2018. However, it is noticed that the Commission vide its order dated 30.12.2011 in Petition 285/2009 while determining the tariff in respect of the generating station for the 2009-14 tariff period has extended the life of the generating station by 15 years. Against the said order, the Petitioner had filed Appeal No. 70 of 2012 before APTEL. The APTEL vide its judgement dated 25.10.2013 remanded the matter to the Commission with directions to re determine useful life of the plants after extension of life by 10 years for GTs, after completion of Renovation and Modernization, instead of 15 years.

35. Thereafter, the Commission vide its order dated 15.3.2017 in Petition No. 346/GT/2014, while truing -up the tariff of the generating station for 2009-14 tariff period decided as under:

> *"63. Since the major part of R&M (R&M of 3 GTs) including R&M of C&I has been completed during the year 2013-14, the useful life of GT 1A, GT 1B and GT 2B has been extended by 10 years from 1.4.2014 by this order. Accordingly, the weighted average balance life of the generating station as on 1.4.2014 has been computed as under:*

Description	Capacity MW	COD	Elapsed Life as on 1.4.2009	Elapsed Life as on 31.3.2014	Balance life as on 1.4.2014	Life after extension of 10 years of GT1A, GT1B and GT2B as on 1.4.2014
GT-I A	*106.00*	*1.6.1992*	*16.84*	*21.84*	*3.16*	*13.16*
GT-I B	*106.00*	*1.8.1992*	*16.68*	*21.68*	*3.32*	*13.32*
GT-2 A	*106.00*	*1.9.1992*	*16.59*	*21.59*	*3.41*	*3.41*
GT-2B	*106.00*	*1.11.1992*	*16.42*	*21.42*	*3.58*	*13.58*
ST-I C	*116.10*	*1.11.1993*	*15.42*	*20.42*	*4.58*	*4.58*
ST -2 C	*116.10*	*1.9.1993*	*15.59*	*20.59*	*4.41*	*4.41*
Total	*656.20*	*Weighted Average Life*	*16.24*	*21.24*	*3.76*	*8.61*

64. The balance life of the generating station as on 1.4.2014 is 8.61 years. The same will be reset after the completion of the R&M of GT 2A during the period 2014-19."

36. Further, the Commission vide its order dated 24.3.2017 in Petition No. 341/GT/2014, while determining the tariff for the generating station for the 2014-19 tariff period, reset the useful life of the generating station, based on completion of Renovation and Modernization of GT 2A as under:

"71. The Commission vide order dated 16.3.2017 has determined the weighted average balance life of the generating station as 8.61 years which is subject to change / revision once the R&M of the generating station is complete. The petitioner has submitted that the R&M of the remaining GT 2A and R&M of C&I of remaining ST 2C has been completed in 2014-15 period. Accordingly, the life of the GT 2A has been extended by 10 years from 1.4.2014. In view of this weighted average balance life of the generating station as on 1.4.2015 is computed as under:

Description	Capacity MW	COD	Balance life as on 1.4.2014	Life after extension of 10 years of GT-I A, GT I-B and GT 2-B	Balance life as on 1.4.2015	Life extension of 10 years of GT 2A
GT-I A	*106.00*	*1.6.1992*	*3.16*	*13.16*	*12.16*	*12.16*
GT-I B	*106.00*	*1.8.1992*	*3.32*	*13.32*	*12.32*	*12.32*
GT-2 A	*106.00*	*1.9.1992*	*3.41*	*3.41*	*2.41*	*12.41*
GT-2B	*106.00*	*1.11.1992*	*3.58*	*13.58*	*12.58*	*12.58*
ST-I C	*116.10*	*1.11.1993*	*4.58*	*4.58*	*3.58*	*3.58*
ST -2 C	*116.10*	*1.9.1993*	*4.41*	*4.41*	*3.41*	*3.41*
Total	*656.20*	*Weighted Average Life*	***3.76***	***8.61***	***7.61***	***9.23***

72. The balance life of the generating station is 8.61 years as on 1.4.2014, 9.23 years as on 1.4.2015. Accordingly balance life of the generating station at the beginning of each year of the *period 2009-14 has been worked out as per Commission's order dated 15.3.2017 in Petition No. 346/GT/2014 till 2009-14 and the useful life with effect from 1.4.2014 is as shown under:*

2014-15	*2015-16*	*2016-17*	*2017-18*	*2018-19*
8.61 years	*9.23 years*	*8.23 years*	*7.23 years*	*6.23 years*

37. Since the balance useful life of the generating station as on 1.4.2019 is 5.23 years, in terms of the extension of life of the generating station as above, no adjustment as per Regulation 18(3) of the 2019 Tarif Regulations pertaining to equity has been undertaken.

38. Accordingly, in terms of Regulation 18(3) of the 2019 Tariff Regulations, the gross normative loan and equity of Rs.102338.42 lakh and Rs.85915.77 lakh, respectively has been considered for the purpose of tariff as on 1.4.2019. Further, the projected additional capital expenditure approved above has been allocated to debt and equity in debt: equity ratio of 70:30, subject to truing up. Accordingly, the details of debt-equity ratio in respect of the generating station as on 1.4.2019 and as on 31.3.2024 are as follows:

	Capital cost as on 1.4.2019 *(Rs. in lakh)*	**(%)**	**Additional capital expenditure *(Rs. in lakh)***	**(%)**	**Total cost as on 31.3.2024 *(Rs. in lakh)***	**(%)**
Debt	102338.42	54.36	3500.00	70.00	105838.42	54.77
Equity	85915.77	45.64	1500.00	30.00	87415.77	45.23
Total	**188254.19**	**100.00**	**5000.00**	**100.00**	**193254.19**	**100.00**

Return on Equity

39. 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.

40. 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) Estimated Gross Income from generation or transmission business for FY 2019-20 is Rs 1000 crore;

(b) Estimated Advance Tax for the year on above is Rs 240 crore;

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

(d) Rate of return on equity = 15.50/ (1-0.24) = 20.395%.

(3) The generating company or the transmission licensee as the case may be shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 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."

41. 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 for the projected additional capital expenditure claimed under original scope of work, change in law etc. for the 2019-24 tariff period. Further, for additional capital expenditure claimed beyond original scope of work (excluding additional capital expenditure due to change in law) the Petitioner has claimed ROE after grossing up WAROI of 7.3040% in 2019-20, 7.4958% in 2020-21, 7.4266% in 2021-22, 7.7436% in 2022-23 and 8.4079% in 2023-24 with effective tax rate of 17.472%. The same has been considered, subject to truing up, without grossing up of WAROI for the purpose of tariff. Accordingly, ROE has been worked out as under:

Return on Equity at Normal Rate

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Normative Equity – Opening	85915.77	85915.77	85915.77	85915.77	87415.77
Addition of Equity due to additional	0.00	0.00	0.00	0.00	0.00

capital expenditure					
Normative Equity – Closing	85915.77	85915.77	85915.77	85915.77	85915.77
Average Normative Equity	85915.77	85915.77	85915.77	85915.77	85915.77
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre-tax)	18.782%	18.782%	18.782%	18.782%	18.782%
Return on Equity (Pre-tax) - (annualized)	**16136.70**	**16136.70**	**16136.70**	**16136.70**	**16136.70**

Return on Equity at WAROI

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Notional Equity	0.00	0.00	0.00	0.00	0.00
Less: Adjustment to equity in terms of 1st proviso to Regulation 18(3)	0.00	0.00	0.00	0.00	0.00
Normative Equity – Opening	**0.00**	**0.00**	**0.00**	**0.00**	**1500.00**
Addition of Equity due to additional capital expenditure	0.00	0.00	0.00	1500.00	0.00
Normative Equity – Closing	**0.00**	**0.00**	**0.00**	**1500.00**	**1500.00**
Average Normative Equity	0.00	0.00	0.00	750.00	1500.00
Return on Equity (Base Rate)	7.3040%	7.4958%	7.4266%	7.7436%	8.4079%
Effective Tax Rate *					
Rate of Return on Equity (Pre-tax)	7.304%	7.496%	7.427%	7.744%	8.408%
Return on Equity (Pre-tax) - (annualized)	0.00	0.00	0.00	**58.08**	**126.12**

<u>Interest on loan</u>

42. 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."

43. The Petitioner has claimed tariff considering WAROI of 7.3040% in 2019-20, 7.4958% in 2020-21, 7.4266% in 2021-22, 7.7436% in 2022-23 and 8.4079% in 2023-24, the same has been considered. Interest on loan has been worked out as under:

i) The gross normative loan amounting to Rs.102338.42 lakh as on 31.3.2019 as considered in order dated 14.4.2022 in Petition No. 253/GT/2020 has been retained as on 1.4.2019.

ii) Cumulative repayment of Rs.87424.92 lakh as on 31.3.2019 as considered in order dated 14.4.2022 in Petition No. 253/GT/2020 has been retained as on 1.4.2019;

iii) Accordingly, the net normative opening loan as on 1.4.2019 works out to Rs.14913.50 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;

44. Interest of loan has been worked out as follows:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Gross opening loan	**102338.42**	**102338.42**	**102338.42**	**102338.42**	**105838.42**
Cumulative repayment of loan up to previous year/ period	87424.92	92656.88	97888.84	102338.42	105838.42
Net Loan Opening	14913.50	9681.54	4449.58	0.00	0.00
Addition on account of additional capital expenditure	0.00	0.00	0.00	3500.00	0.00
Repayment of loan during the year	5231.96	5231.96	4449.58	3500.00	0.00
Net Loan Closing	9681.54	4449.58	0.00	0.00	0.00
Average Loan	12297.52	7065.56	2224.79	0.00	0.00
Weighted Average Rate of Interest on Loan	7.3040%	7.4958%	7.4266%	7.7436%	8.4079%
Interest on Loan	**898.21**	**529.62**	**165.23**	0.00	0.00

Depreciation

45. Regulation 33 of the 2019 Tariff Regulations provides as under:

"33. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system or element thereof including communication system. 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:

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 a 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 the salvage value for IT equipment and software shall be considered as NIL and 100% value of the assets shall be considered depreciable;

Provided further that in case of hydro generating stations, the salvage value shall be as provided in the agreement, if any, signed by the developers with the State Government for development of the generating station:

Provided also 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 unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life or 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-I to these regulations for the assets of the generating station and transmission system:

Provided that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.

(6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto

31.3.2019 from the gross depreciable value of the assets.

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

(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."

46. Cumulative depreciation and freehold land amounting to Rs.141416.78 lakh and Rs.733.02 lakh, as considered in order dated 14.4.2022 in Petition No. 253/GT/2020, has been retained as on 1.4.2019. Accordingly, the balance depreciable value before providing depreciation for the year 2019-20 works out to Rs.27352.27 lakh. The balance useful life of the generating station of 5.23 years as on 31.3.2019, has been considered as on 1.4.2019 as stated above, for the purpose of tariff. Since, the elapsed life of the generating station as on 1.4.2019 is more than 12 years from the effective station COD, depreciation has been allowed based on spreading over of the remaining depreciable value over the balance useful life of the generating station. Necessary calculations in support of depreciation worked out as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Average Capital Cost (A)	188254.19	188254.19	188254.19	190754.19	193254.19
Value of freehold land included above (B)	733.02	733.02	733.02	733.02	733.02
Depreciable value (C) = [(A-B)x0.9]	168769.05	168769.05	168769.05	171019.05	173269.05
Remaining depreciable value at the beginning of the year (D) = [(C) – (Cumulative depreciation at the end of the preceding period)]	27352.27	22120.31	16888.34	13906.38	9914.50
Balance useful life at the beginning of the year (E)	5.23	4.23	3.23	2.23	1.23
Depreciation during the year (F)	5231.96	5231.96	5231.96	6241.88	8074.25
Cumulative depreciation at the end (G)	**146648.74**	**151880.71**	**157112.67**	**163354.55**	**171428.79**

O&M Expenses

47. The O&M expenses claimed by the Petitioner is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses claimed under Regulation 35(1)(3) of the 2019 Tariff Regulations	11536.00	11942.84	12362.81	12795.90	13248.68
O&M expenses under Regulation 35(1)(6) of the 2014 Tariff Regulations:					
- Water Charges	2873.14	3160.68	3477.27	3825.17	4208.45
- Security Expenses	1294.11	1423.52	1565.88	1722.47	1894.72
- Capital Spares consumed	0.00	0.00	0.00	0.00	0.00
Total O&M Expenses	**15703.25**	**16527.04**	**17405.96**	**18343.54**	**19351.85**

48. The normative O&M expenses claimed as above in terms of Regulation 35(1)(3) of the 2019 Tariff Regulations is found to be in order and is allowed.

Water Charges

49. Regulation 35(1)(6) of the 2019 Tariff Regulations provides as under:

> *"35(1)(6) The Water, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately and after prudence check:*
>
> *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:*

50. The actual water charges claimed by the Petitioner in Petition No. 253/GT/2020 for the 2014-19 tariff period and allowed by order dated 14.4.2022 is as under:

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Water charges claimed	329.36	389.20	521.18	844.76	992.12
Water charges allowed	329.36	389.20	521.18	844.76	992.12

51. In terms of Regulation 35(1)(6) of the 2019 Tariff Regulations, the water charges shall be allowed separately based on the water consumption depending upon the type of plant, type of cooling water system etc., subject to prudence check. The details in

respect of water charges for the 2019-24 tariff period as furnished by the Petitioner is as under:

Description	Remarks
Type of plant	Gas based
Type of cooling water system	Closed Circuit Cooling System
Yearly consumption/allocation of water for the generating station	3.99 MCM
Rate of industrial/drinking water charges	Rs.25.91/m^3 / Rs.3.14/m^3
Total water charges paid for 2018-19	* Rs.2873 lakh

* *Water charges actually paid for FY 2018-19 as stated in Petition No. 253/GT/2020 is Rs.992.12 lakh.*

52. The Petitioner has claimed water charges on estimated basis as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
2873.14	3160.68	3477.27	3825.17	4208.45

53. The Petitioner vide its affidavit dated 29.6.2021 has revised and submitted the 'actual water charges' of the generating station for 2019-20 and 2020-21 as Rs.573.83 lakh and Rs.534.43 lakh, respectively.

54. We have examined the matter. The Petitioner has furnished the actual water charges of the generating station for 2019-20 and 2020-21 and projected water charges for the years 2021-22 to 2023-24. It is observed that the water charges for the period 2020-24 has been arrived at on the basis of the water charges claimed for the preceding year with an annual escalation of 10%. However, we are not inclined to allow the annual escalation of 10% as claimed by the Petitioner. Considering the fact that actual water charges paid during 2019-20 and 2020-21 is lower than the water charges of Rs.992.12 lakh allowed for the year 2018-19 in order dated 14.4.2022 in Petition No. 253/GT/2020, and further considering that the plant has been operating at a very low capacity, we allow actual water charges of Rs.573.83 lakh and Rs.534.43 lakh for the years 2019-20 and 2020-21 respectively and for the balance years of the period 2021-24, we allow the water charges of Rs.534.43 lakh per annum subject to true up.

Accordingly, the water charges claimed and allowed for the 2019-24 tariff period is as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Water charges claimed	2873.14	3160.68	3477.27	3825.17	4208.45
Water charges allowed	573.83	534.43	534.43	534.43	534.43

Security Expenses

55. Regulation 35(6) of the 2019 Tariff Regulations provides for the following:

> *"The Water Charges, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately after prudence check:*
>
> *Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses;*

56. The security expenses claimed by the Petitioner is as under:

(Rs. in lakh)

2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
1294.11	1423.52	1565.88	1722.47	1894.72

57. The Petitioner submitted that above expenses has been claimed based on the estimated expenses for the 2019-24 tariff period and shall be subject to retrospective adjustment based on actuals at the time of truing up. However, subsequently the Petitioner vide its affidavit dated 29.6.2021 has revised and submitted that actual security expenses of the generating station for the years 2019-20 and 2020-21 is Rs.1334.15 lakh and Rs.1523.14 lakh, respectively.

58. We have examined the matter. The Petitioner has furnished the actual security expenses of the generating station for the year 2019-20 and 2020-21 and projected security expenses for the years 2021-22, 2022-23 and 2023-24. However, the Petitioner has not furnished the assessment of security requirement as required under the provisions of the 2019 Tariff Regulations. Accordingly, the Petitioner is directed to furnish the requisite details for carrying out the prudence check of security expenses at

the time of truing up. For the present, the actual security expenses for the period 2019-21 and projected security expenses for the period 2021-24 has been considered for the purpose of tariff, subject to truing up. Accordingly, the security expenses claimed and allowed, subject to truing up, for the generating station for the 2019-24 tariff period is under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Security expenses claimed	1294.11	1423.52	1565.88	1722.47	1894.72
Security expenses allowed	1334.15	1523.14	1565.88	1722.47	1894.72

Capital Spares

59. The Petitioner has not claimed capital spares for the 2019-24 tariff period. It has however submitted that the same shall be claimed based on actual consumption of spares during the 2019-24 tariff period, at the time of truing up in terms of proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations. Accordingly, the same has not been considered in this order. The claim of the Petitioner, if any, towards capital spares, at the time of truing up shall be considered on merits, after prudence check.

60. Accordingly, the total O&M expenses including water charges and security expenses, as claimed by the Petitioner and allowed to the generating station for the 2019-24 tariff period is as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Normative O&M expenses claimed under Regulation 35(1)(3) of the 2019 Tariff Regulations **(a)**	11536.00	11942.84	12362.81	12795.90	13248.68
Normative O&M expenses allowed under Regulation 35(1)(3) of the 2019 Tariff Regulations (b)	**11536.00**	**11942.84**	**12362.81**	**12795.90**	**13248.68**
Water Charges claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations **(c)**	2873.14	3160.68	3477.27	3825.17	4208.45
Water Charges allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (d)	**573.83**	**534.43**	**534.43**	**534.43**	**534.43**
Security Expenses claimed under Regulation 35(1)(6) of the 2019 Tariff	1294.11	1423.52	1565.88	1722.47	1894.72

Regulations **(e)**					
Security Expenses allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (f)	**1334.15**	**1523.14**	**1565.88**	**1722.47**	**1894.72**
Total O&M expenses claimed under Regulation 35 of the 2019 Tariff Regulations (a + c + e)	15703.25	16527.04	17405.96	18343.54	19351.85
Total O&M expenses allowed under Regulation 35 of the 2019 Tariff Regulations (b + d + f)	**13443.98**	**14000.41**	**14463.12**	**15052.80**	**15677.83**

Operational Norms

61. The Petitioner has considered following norms of operation, for the purpose of tariff, for the 2019-24 tariff period:

Normative Annual Plant Availability Factor (NAPAF) (%)	85
Gross Station Heat Rate (kCal/kwh)	2050
Auxiliary Power Consumption (%)	2.75

62. The operational norms for the generating station as claimed by the Petitioner are in terms of the Regulation 49 of the 2019 Tariff Regulations and hence allowed.

Interest on Working Capital

63. Regulation 34 of the 2019 Tariff Regulations provides as under:

"34. Interest on Working Capital: (1) The working capital shall cover:

(a) For Coal-based/lignite-fired thermal generating stations:

(i) Cost of coal or lignite and limestone towards stock if applicable for 10 days for pit-head generating stations and 20 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) Advance payment for 30 days towards cost of coal or lignite and limestone 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 including water charges and security expenses;

(v) Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on the normative annual plant availability factor; and

(vi) Operation and maintenance expenses including water charges and security expenses for one month.

(b) ***For Open-cycle Gas Turbine/Combined Cycle thermal generating stations****:*

(i) Fuel cost for 30 days corresponding to the normative annual plant availability factor duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;

(ii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor and in case of use of more than one liquid fuel cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;

(iii) Maintenance spares @ 30% of operation and maintenance expenses including water charges and security expenses;

(iv) Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor duly taking into account mode of operation of the generating station on gas fuel and liquid fuel; and

(v) Operation and maintenance expenses including water charges and security expenses for one month.

(c) ***For Hydro generating station (including Pumped Storage Hydro Generating Station) and transmission system****:*

(i) Receivables equivalent to 45 days of annual fixed cost;

(ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and

(iii) Operation and maintenance expenses including security expenses for one month.

(2) The cost of fuel in cases covered under sub-clauses (a) and (b) of clause (1) of this Regulation shall be based on the landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) by the generating station and gross calorific value of the fuel as per actual weighted average for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined:

Provided that in case of new generating station the cost of fuel for the first financial year shall be considered based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of these regulations) and gross calorific value of the fuel as per actual weighted average for three months as used for infirm power preceding date of commercial operation for which tariff is to be determined.

(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2019 or as on 1st April of the year during the tariff period 2019-24 in which the generating station or a unit thereof or the transmission system including communication system or element thereof as the case may be is declared under commercial operation whichever is later.

Provided that in case of truing-up the rate of interest on working capital shall be considered at bank rate as on 1st April of each of the financial year during the tariff period 2019-24.

(4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency."

Fuel Cost and Cost of Liquid Fuel Stock in Working Capital

64. Regulation 34(2) of the 2019 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 third quarter of preceding financial year in case of each financial year for which tariff is to be determined.

65. Regulation 43(2) of the 2019 Tariff Regulations provides as under:

> *"(2) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:*
>
> ***(a) For coal based and lignite fired stations**:*
>
> *ECR = {(SHR – SFC x CVSF) x LPPF / CVPF + SFC x LPSFi + LC x LPL} x 100 / (100 – AUX)*
>
> ***(b) For gas and liquid fuel based stations**:*
>
> *ECR = SHR x LPPF x 100 / {(CVPF) x (100 – AUX)}*
>
> *Where,*
>
> *AUX = Normative auxiliary energy consumption in percentage.*
>
> *CVPF = (a) Weighted Average Gross calorific value of coal as received, in kCal per kg for coal based stations less 85 Kcal/Kg on account of variation during storage at generating station;*
>
> *(b) Weighted Average Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic meter, as applicable for lignite, gas and liquid fuel based stations;*
>
> *(c) In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio:*
>
> *CVSF = Calorific value of secondary fuel, in kCal per ml;*
>
> *ECR = Energy charge rate, in Rupees per kWh sent out;*
>
> *SHR = Gross station heat rate, in kCal per kWh;*
>
> *LC = Normative limestone consumption in kg per kWh;*
>
> *LPL = Weighted average landed cost of limestone in Rupees per kg;*
>
> *LPPF = Weighted average landed fuel cost of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month. (In case of blending of fuel from different sources, the weighted average landed fuel cost of primary fuel shall be arrived in proportion to blending ratio);*
>
> *SFC= Normative specific fuel oil consumption, in ml per kWh;*
>
> *LPSFi= Weighted Average Landed Fuel Cost of Secondary Fuel in Rs./ ml during the month:*
>
> *Provided that energy charge rate for a gas or liquid fuel based station shall be adjusted for open cycle operation based on certification of Member Secretary of respective Regional Power Committee during the month."*

66. The Petitioner has claimed the cost of fuel component in working capital based on price and GCV of APM gas, Non APM gas, LNG and Naphtha for the preceding three months from October, 2018 to December, 2018 and the mode of operation between

APM gas, Non APM gas, LNG and Naphtha achieved by the generating station during the year 2013-14 as 78.71%, 9.24%, 11.27% and 0.79%, respectively, as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Fuel cost for 30 days corresponding to NAPF	13227.95	13227.95	13227.95	13227.95	13227.95
Cost of liquid fuel stock for 15 days corresponding to NAPF	301.03	301.03	301.03	301.03	301.03

67. The sum of the mode of operation of fuels as considered by the Petitioner is 100.01%. Accordingly, the mode of operation of individual fuels has been proportionally revised so as to get the same to 100%. As such, the mode of operation between APM gas, Non APM gas, LNG and Naphtha achieved by the generating station during 2018-19, as considered for the purpose of tariff is 78.70%, 9.24%, 11.27% and 0.79%, respectively. Further, on perusal of Form-15 furnished by the Petitioner vide affidavit dated 29.6.2021, it is observed that the Petitioner has not procured any liquid fuel (i.e. Naptha) during the months of October 2018 to December 2018, and only the opening stock has been carried forward. Therefore, the GCV and price of opening stock of liquid fuel has been considered in the working capital computation. Accordingly, in terms of Regulation 34(1)(b)(i) and Regulation 34(1)(b)(ii) of the 2019 Tariff Regulations, the fuel cost for 30 days and cost of liquid fuel stock for 15 days allowed as part of working capital is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Fuel cost for 30 days corresponding to NAPF	13210.52	13210.52	13210.52	13210.52	13210.52
Cost of liquid fuel stock for 15 days corresponding to NAPF	208.69	208.69	208.69	208.69	208.69

Energy Charge Rate (ECR) for Working Capital

68. The Petitioner has claimed Energy Charge Rate (ECR) of Rs.3.387/kWh based on

the weighted average price and GCV of APM gas, Non APM gas, LNG and Naphtha used for operation of the generating station during October 2018, November 2018 and December 2018 and the mode of operation for 2013-14 is as follows:

	2019-24
Weighted average price of APM gas (Rs./1000 SCM)	11919.82
Weighted average GCV of APM gas (kCal/SCM)	9520.44
(%) of Fuel Quantity of APM gas	78.71%
Weighted average price of Non APM gas (Rs./1000 SCM)	13126.68
Weighted average GCV of Non APM gas (kCal/SCM)	9524.85
(%) of Fuel Quantity of Non APM gas	9.24%
Weighted average price of LNG (Rs./1000 SCM)	36858.51
Weighted average GCV of LNG (kCal/SCM)	9363.85
(%) of Fuel Quantity of LNG	11.27%
Weighted average price of Naptha (Rs./KL)	72009.75
Weighted average GCV of Naptha (kCal/SCM)	11219.71
(%) of Fuel Quantity of Naptha	0.79%
ECR ex-bus-CC – APM gas (Rs./kWh)	2.63923
ECR ex-bus-CC – Non APM gas (Rs./kWh)	2.90510
ECR ex-bus-CC – LNG (Rs./kWh)	8.29750
ECR ex-bus-CC – Naptha (Rs./kWh)	13.52926
Weighted average ECR ex-bus-CC (Rs./kWh)	**3.387**

69. Based on the operational norms, the weighted average price and GCV of APM gas, Non APM gas, LNG and Naphtha used for operation of the generating station during the months of October 2018, November 2018 and December 2018 and the revised mode of operation as worked out above, the ECR for the purpose of working capital has been worked out and allowed as follows:

	2019-24
Weighted average price of APM gas (Rs./1000 SCM)	11919.82
Weighted average GCV of APM gas (kCal/SCM)	9515.05
(%) of Fuel Quantity of APM gas	78.70%
Weighted average price of Non APM gas (Rs./1000 SCM)	13126.68
Weighted average GCV of Non APM gas (kCal/SCM)	9465.26
(%) of Fuel Quantity of Non APM gas	9.24%
Weighted average price of LNG (Rs./1000 SCM)	36858.51
Weighted average GCV of LNG (kCal/SCM)	9442.29
(%) of Fuel Quantity of LNG	11.27%
Weighted average price of Naptha (Rs./KL)	72009.75
Weighted average GCV of Naptha (kCal/SCM)	11219.71
(%) of Fuel Quantity of Naptha	0.79%
ECR ex-bus-CC – APM gas (Rs./kWh)	2.641
ECR ex-bus-CC – Non APM gas (Rs./kWh)	2.923

ECR ex-bus-CC – LNG (Rs./kWh)	8.229
ECR ex-bus-CC – Naptha (Rs./kWh)	13.529
Weighted average ECR ex-bus-CC (Rs./kWh)	**3.383**

70. Energy charges for 45 days, on the basis of weighted average GCV and weighted average cost, for the purpose of interest on working capital, has been worked out as follows:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
19818.49	19818.49	19818.49	19818.49	19818.49

Working Capital for Maintenance Spares

71. The Petitioner in Form-O has claimed the maintenance spares in the working capital as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
4710.97	4958.11	5221.79	5503.06	5805.55

72. Regulation 34(1)(b)(iii) of the 2019 Tariff Regulations provides for maintenance spares @ 30% of the O&M expenses (including water charges and security expenses). Accordingly, maintenance spares @ 30% of the O&M expenses (including the water charges and security expenses) allowed for the 2019-24 tariff period is as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
4033.19	4200.12	4338.94	4515.84	4703.35

Working Capital for Receivables

73. In terms of Regulation 34(1)(b)(iv) of the 2019 Tariff Regulations, Receivables equivalent to 45 days of capacity charges and energy charges is worked out and allowed as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Variable Charges - for 45 days corresponding to NAPF	19818.49	19818.49	19818.49	19818.49	19818.49

Fixed Charges - for 45 days	5034.05	5031.09	5004.82	5194.19	5497.52
Total	**24852.54**	**24849.57**	**24823.30**	**25012.68**	**25316.00**

Working Capital for O&M Expenses

74. The Petitioner in Form-O has claimed the O&M expenses for one (1) month in the working capital as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1308.60	1377.25	1450.50	1528.63	1612.65

75. Regulation 34(1)(b)(v) of the 2019 Tariff Regulations provide for O&M expenses equivalent to 1 month of the O&M expenses (including water charges and security expenses). Accordingly, O&M expenses equivalent to 1 month of the O&M expenses (including water charges and security expenses) allowed for the 2019-24 tariff period is as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1120.33	1166.70	1205.26	1254.40	1306.49

76. In line with the Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital is considered as 12.05% (i.e. 1-year SBI MCLR of 8.55% as on 01.04.2019 + 350 bps) for the year 2019-20, 11.25% (i.e. 1 year SBI MCLR of 7.75% as on 01.04.2020 + 350 bps) for the year 2020-21 and 10.50% (i.e. 1 year SBI MCLR of 7.00% as on 01.04.2021 + 350 bps) for the period 2021-24.

77. Accordingly, Interest on working capital has been computed as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Fuel Cost for 30 days corresponding to NAPF	13210.52	13210.52	13210.52	13210.52	13210.52
Liquid Fuel Stock for 15 days corresponding to NAPF	208.69	208.69	208.69	208.69	208.69
Maintenance Spares @ 30% of O&M expenses	4033.19	4200.12	4338.94	4515.84	4703.35
Receivables - 45 days of Fixed	24852.54	24849.57	24823.30	25012.68	25316.00

Charges and Capacity Charges corresponding to NAPF					
O&M expenses for 1 month of O&M Expenses	1120.33	1166.70	1205.26	1254.40	1306.49
Total Working Capital	**43425.27**	**43635.61**	**43786.71**	**44202.13**	**44745.05**
Rate of Interest	12.05%	11.25%	10.50%	10.50%	10.50%
Interest on Working Capital	**5232.75**	**4909.01**	**4597.60**	**4641.22**	**4698.23**

Annual Fixed Charges

78. Accordingly, the annual fixed charges approved for the generating station for the 2019-24 tariff period is summarized as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	5231.96	5231.96	5231.96	6241.88	8074.25
Interest on Loan	898.21	529.62	165.23	0.00	0.00
Return on Equity	16136.70	16136.70	16136.70	16194.78	16262.82
Interest on Working Capital	5232.75	4909.01	4597.60	4641.22	4698.23
O&M Expenses	13443.98	14000.41	14463.12	15052.80	15677.83
Total	**40943.59**	**40807.70**	**40594.61**	**42130.68**	**44713.13**

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.*

79. The annual fixed charges approved as above are subject to truing up in terms of Regulation 13 of the 2019 Tariff Regulations.

Application Fee and Publication expenses

80. The Petitioner has sought reimbursement of fee paid by it for filing the petition for the 2019-24 tariff period and for publication expenses. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection with the present petition, directly from the beneficiaries on pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

Summary

81. Accordingly, the comparison of the annual fixed charges claimed by the Petitioner and allowed in this order is as under:

(Rs. in lakh)

Annual Fixed Charges	2019-20	2020-21	2021-22	2022-23	2023-24
Claimed	43544.75	44203.79	44921.27	47033.07	50322.44
Allowed	**40943.59**	**40807.70**	**40594.61**	**42214.55**	**44870.77**

82. Petition No. 488/GT/2020 is disposed of in terms of the above.

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