CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

Petition No. 438/GT/2020

Coram:

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

Date of Order: 12th December, 2021

IN THE MATTER OF

Petition for approval of tariff of Feroze Gandhi Unchahar Thermal Power Station Stage-II (420 MW) for the 2019-24 tariff period

AND

IN THE MATTER OF

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

Vs

1. Uttar Pradesh Power Corporation Limited,
   10th Floor Shakti Bhawan, 14, Ashok Marg,
   Lucknow, Uttar Pradesh – 226001

2. Rajasthan Urja Vikas Nigam Limited,
   Vidyut Bhawan, Janpath, Jyoti Nagar,
   Jaipur - 302005

3. Tata Power Delhi Distribution Limited,
   33 kV Grid Substation Building,
   Hudson Lines, Kingsway Camp,
   New Delhi -110 009

4. BSES Rajdhani Power Limited,
   BSES Bhawan, Nehru Place,
   New Delhi - 110019

5. BSES Yamuna Power Limited,
   Shakti Kiran Building, Karkardooma,
   Delhi – 110092

6. Haryana Power Purchase Centre,
   Shakti Bhawan, Sector-VI, Panchkula,
   Haryana-134109

7. Punjab State Power Corporation Limited,
The Mall,
Patiala- 147001

8. Himachal Pradesh State Electricity Board Limited,
Kumar Housing Complex Building-II, Vidyut Bhawan,
Shimla-171004

9. Power Development Department,
Govt. of J&K, Civil Secretariat,
Srinagar

10. Electricity Department,
Union Territory of Chandigarh,
Additional Office Building, Sector-9 D,
Chandigarh

11. Uttarakhand Power Corporation Limited,
Urja Bhawan, Kanwali Road,
Dehradun-248001 …**Respondents**

Parties Present:

Ms. Swapna Seshadri, Advocate, NTPC
Ms. Ritu Apurva, Advocate, NTPC
Shri Harini Subramani, Advocate, NTPC
Shri R.B Sharma, Advocate, BRPL
Ms. Megha Bajpeyi, BRPL
Shri Mohit Mudgal, Advocate, BYPL
Shri Sachin Dubey, Advocate, BYPL
Shri Manish Garg, UPPCL

ORDER

This petition has been filed by the Petitioner, NTPC for approval of tariff of Feroze Gandhi Unchahar Thermal Power Station, Stage-II (420 MW) (hereinafter referred to as “the generating station”) for the period from 1.4.2019 to 31.3.2024 in accordance with the provisions of the 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 420 MW comprises of two units of 210 MW each and the date of commercial operation of Unit-I is 1.1.2001 and that of Unit-II is 1.3.2000.

3. The Commission vide its order dated 31.3.2017 in Petition No.289/GT/2014 had determined the annual fixed charges for the generating station for the 2014-19 tariff period. Subsequently, the order dated 31.3.2017 in Petition No. 289/GT/2014 was modified vide Corrigendum order dated 24.5.2017, by considering the secondary fuel oil for computation of Interest on working capital. Thereafter, by order dated 2.9.2021 in Petition No. 300/GT/2020, the tariff of the generating station for the period 2014-19, was revised after truing up exercise, in terms of Regulation 8 of the 2014 Tariff Regulations. Accordingly, the capital cost and the annual fixed charges approved by order dated 2.9.2021 in Petition No.300/GT/2020 are as under:

Capital Cost allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	130591.02	130544.37	130465.35	130459.69	130417.35
Add: Admitted Additional capital expenditure	(-) 46.65	(-) 79.02	(-) 5.66	(-) 42.34	(-) 50.88
Closing Capital Cost	130544.37	130465.35	130459.69	130417.35	130366.47
Average Capital Cost	130567.69	130504.86	130462.52	130438.52	130391.91

Annual Fixed Charges allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	3408.34	3417.72	3419.23	3417.22	3425.66
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	7681.30	7714.80	7712.29	7710.87	7728.85
Interest on Working Capital	4493.09	4540.06	4576.06	4703.36	4745.63
O&M Expenses	10329.59	10988.75	11649.09	12304.43	12974.81
Sub-total	25912.32	26661.32	27356.67	28135.88	28874.95
Compensation Allowance	84.00	147.00	210.00	210.00	210.00
Special Allowance	0.00	0.00	0.00	0.00	0.00
Total	**25996.32**	**26808.32**	**27566.67**	**28345.88**	**29084.95**

<u>Present Petition</u>

4. The Petitioner has filed the present petition for approval of tariff of the generating station for the 2019-24 tariff period in accordance with the provisions of the 2019 Tariff Regulations. The capital cost and the annual fixed charges claimed by the Petitioner are as under:

Capital Cost claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	131551.31	135392.77	136122.05	136723.05	136723.05
Add: Additions during the year	3841.46	729.28	601.00	0.00	0.00
Closing capital cost	135392.77	136122.05	136723.05	136723.05	136723.05
Average capital cost	**133472.04**	**135757.41**	**136422.55**	**136723.05**	**136723.05**

Annual Fixed Charges claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	3824.69	4210.59	4348.84	4430.05	4430.05
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	7518.64	7645.03	7682.10	7699.03	7699.03
Interest on Working Capital	3647.56	3685.77	3718.84	3752.56	3784.70
O&M Expenses	14997.07	15586.15	16197.95	16846.09	17519.06
Total	**29987.96**	**31127.54**	**31947.73**	**32727.73**	**33432.85**

5. The Respondent No.1, UPPCL has filed its reply vide affidavit dated 31.7.2020. Subsequently, this petition, along with Petition No.300/GT/2020 (truing up of tariff of the generating station for the 2014-19 tariff period) was heard on 13.8.2020 and the Commission, after directing the Petitioner to file certain additional information, reserved its order in these petitions. In compliance to the directions, the Petitioner has filed the additional information vide affidavit dated 2.11.2020, after serving copies to the Respondents. The Respondent BRPL has filed its reply vide affidavit dated 19.10.2020 and the Petitioner vide affidavits dated 11.11.2020 and 16.11.2020 has filed its rejoinder to the replies of the Respondents UPPCL and BRPL respectively. Thereafter, at the request of the Petitioner, this petition was again listed for hearing on 27.7.2021 to consider the claim of the Petitioner vide affidavit dated 14.7.2021 for additional expenses on account of transportation of fly ash for the years 2019-20 and 2020-21 respectively. The Respondent UPPCL has filed its reply to additional submissions of the Petitioner vide affidavit dated 6.8.2021. Accordingly, taking into consideration the submissions of the parties and the documents available on record, we proceed to determine the tariff of the generating station, in this petition, on prudence check, as stated in the subsequent paragraphs.

Capital cost

6. Regulation 19(3) of the 2019 Tariff Regulations provides as under:

> *"(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 modernisation 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 in the petition are based on opening capital cost of Rs.131551.31 lakh as on 1.4.2019. However, by order dated 2.9.2021 in Petition No. 300/GT/2020, the closing capital cost of 130366.47 lakh as on 31.3.2019 had been approved. Accordingly, in terms of Regulation 19(3)(a) of the 2019 Tariff Regulations, the closing capital cost of 130366.47 lakh as on 31.3.2019 has been considered as the opening capital cost as on 1.4.2019, for the purpose of tariff.

Additional Capital Expenditure

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

> *"25. Additional Capitalisation 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 Capitalisation 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 Modernisation (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-capitalisation 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 de-capitalisation 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-capitalisation takes place with corresponding adjustments in cumulative depreciation and cumulative repayment of loan, duly taking into consideration the year in which it was capitalised."

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

(Rs. in lakh)

Head of Work/ Equipment		Regulation	Projected additional capital expenditure claimed				
			2019-20	2020-21	2021-22	2022-23	2023-24
A		**Works under the original scope of work of project**					
1	ClO_2 system	26(1)(b) & 26(1)(d)	37.17	74.35	601.00	0.00	0.00
2	ESP Stage-II	26(1)(b)	3500.00	515.00	0.00	0.00	0.00
3	Online Coal analyser	26(1)(b)	46.00	15.33	0.00	0.00	0.00
4	Ash Water Re-circulation system	26(1)(b)	100.00	93.60	0.00	0.00	0.00
5	COLD FOG Dust suppression system for Secondary crusher house	26(1)(b)	8.29	0.00	0.00	0.00	0.00
	Total (A)		**3691.46**	**698.28**	**601.00**	**0.00**	**0.00**
B		**Works beyond the original scope of work of project**					
1	Fire alarm system	26(1)(d)	150.00	31.00	0.00	0.00-	0.00
2	**Total (B)**		**150.00**	**31.00**	0.00	0.00	0.00
	Total projected additional capital expenditure claimed (A+B)		**3841.46**	**729.28**	**601.00**	**0.00**	**0.00**

10. Though the Petitioner has classified the additional capitalisation claims for works ‘within the original scope’ and ‘beyond the original scope’ as above, the same has been claimed under Regulation 26(1)(b) and Regulation 26(1)(d) of the 2019 Tariff Regulations, as discussed below:

Chlorine Dioxide (ClO_2) system

11. The Petitioner has claimed projected additional capitalization of Rs.37.17 lakh in 2019-20, Rs.74.35 lakh in 2020-21 and Rs.601.00 lakh in 2022-23 for works relating to Chlorine Dioxide (ClO_2) system under Regulation 26(1)(b) and 26(1)(d) of 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that in the interest of public safety, the chlorine dozing system is being replaced by ClO_2 system, which is much safer and less hazardous than chlorine. The Petitioner has further submitted that Chlorine gas is being dozed 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 stated that Chlorine dosing is done from chlorine

stored in cylinders/ tonners and, hence, Chlorine gas is very hazardous and may prove fatal in case of leakage; and handling and storage of same involves risk to the life of public at large. The Petitioner has also pointed out that the Department of Factories, Boiler, Industrial Safety and Health, Government of Karnataka (GOK) by letter dated 23.9.2013 had asked the Petitioner to replace the highly hazardous gas chlorination system with ClO_2 system in its Kudgi Super Thermal Power Station. The Petitioner has added that the Odisha State Pollution Control Board while issuing its 'consent' to establish the Darlipalli generating station of the Petitioner, had requested the Petitioner to explore the possibility of installing ClO_2 system instead of Chlorine gas system. Accordingly, the Petitioner has prayed that the projected additional capitalization claimed may be allowed.

12. The Respondent UPPCL has submitted that the replacement of chlorine dozing system by ClO_2 system is not on account of any policy/ law or the directions of the Central/ State Government and does not amount to any 'change in law' and, therefore, the claim may be rejected. The Respondent BRPL has also submitted that the Department of Factories, Boilers, industrial Safety & Health, Government of Karnataka (GOK) letter dated 23.9.2013, on site clearance for setting up of Project, cannot be made applicable to the State of Uttar Pradesh and, therefore, the total projected additional capital expenditure of Rs.712.52 lakh may be rejected.

13. We have examined the matter. The Petitioner has claimed projected additional capitalization of Rs.712.52 lakh during 2019-23 for ClO_2 system under Regulation 26(1)(b) i.e. 'Change in law' and under Regulation 26(1)(d) i.e. 'expenditure required for safety and security of the plant as advised or as per directions of appropriate governmental agency or statutory authorities'. Though the Petitioner has contended that the chlorine dozing system is to be replaced by Chlorine Dioxide (ClO_2) system in the interest of public safety, it has not demonstrated that the projected expenditure

is on account of 'change in law' or for compliance with the existing law. As pointed out by the Respondent BRPL, the letter dated 23.9.2013 of the Department of Factories, GOK is not applicable for this generating station that is located in the State of Uttar Pradesh and, therefore, the Petitioner cannot be allowed the projected additional capitalisation under Regulation 26(1)(b) of the 2019 Tariff Regulations. Similarly, the Petitioner has also not enclosed any documentary evidence indicating that the projected expenditure is required for safety and security of the plant that is based on the advice and or directions of the appropriate Governmental agency or statutory authorities and, therefore, cannot be allowed in terms of Regulation 26(1)(d) of the 2019 Tariff Regulations. In view of this, the projected additional capitalisation claimed by the Petitioner on this count is not allowed.

ESP Stage-II

14. The Petitioner has claimed projected additional capitalization of Rs.3500.00 lakh in 2019-20 and Rs.515.00 lakh in 2020-21 for works relating to ESP Stage-II under Regulation 26(1)(b) of the 2019 Tariff Regulations. In justification of the claim, the Petitioner has submitted that the Ministry of Environment, Forest and Climate Change (MoEF&CC), GOI, vide its notification dated 7.12.2015, has notified that the Particulate Matter emission levels for the units installed prior to 31.12.2003 has to be limited to 100 mg/Nm^3. Accordingly, the Petitioner has submitted that in order to comply with this statutory requirement, it was decided to carry out upgradation of ESPs of the generating station to meet the revised emission norms. The Petitioner has submitted that the total award value of the contract is around Rs.40 crore and part of the work was completed and capitalized in 2018-19 and the balance work is expected to complete during the 2019-24 tariff period. The Petitioner has further submitted that it has claimed part additional capitalization of ESP in Petition No. 300/GT/2020 (truing-up petition for 2014-19 period) and has also filed Petition No.

496/MP/2020 for in-principle approval of ECS (emission control system) including Rs.55.66 crore for installation of ESP.

15. The Respondent, UPPCL has submitted that the Petitioner has not furnished any details for the increase in the total expenditure and that the Petitioner is required to substantiate as to how the capitalization of Rs.49.06 crore, over three years, towards ESP, has benefitted the beneficiaries. It has submitted that capitalization may otherwise be deferred till the modification of ESP is completed and the purpose of incurring the expenditure i.e. to limit particulate matter outlet particulate matter emission levels to 100 mg/Nm^3, is achieved. The Respondent, BRPL has submitted that in terms of Regulation 29(4) of the 2019 Tariff Regulations, the Petitioner has to file a separate petition for determination of tariff on account of additional capitalization due to revised emission norms, after completion of work. It has further stated that the Petitioner has not furnished the 'residual life analysis' to substantiate the claim, though the generating station is completing its useful life in January 2026. In response, the Petitioner has submitted that ESP is carried out in a phased manner by isolating one ESP pass at a time, so that the generation of the unit can continue without the need for shutdown and such measures are taken, for the benefit of the project and its beneficiaries. It has also stated that till such costs are recognized in the tariff determination process, a generating company will not be in a position to function in a smooth and uninterrupted manner. The Petitioner has also clarified that the additional capitalization claimed is in order to comply with the 'MOEF&CC notification' dated 7.12.2015, which is a 'change in law' and the expenses are statutory in nature.

16. The matter has been examined. As stated, the Petitioner has claimed total projected additional capitalization of Rs.4015 lakh (Rs.3500.00 lakh in 2019-20 and Rs.515.00 lakh in 2020-21) for works relating to ESP Stage-II under Regulation

26(1)(b) of 2019 Tariff Regulations in terms of the MOEF&CC Notification dated 7.12.2015. It is noticed that the Petitioner, in Petition No.300/GT/2020 had claimed actual additional capital expenditure of Rs.891.50 lakh in 2018-19 towards 'ESP STG-II' under Regulation 14(3)(ii) of 2014 Tariff Regulations in terms of the MOEF&CC notification dated 7.12.2015 and the Commission vide its order dated 2.9.2021 had disposed of the prayer of the Petitioner for additional capitalization of the said asset/item in 2018-19 as under:

> *"The Petitioner has not justified its claim for additional capital expenditure on R&M of ESP by furnishing relevant documents indicating that the actual SPM emission levels before R&M of ESP was more than 100 mg/NM^3. In view of this, we are not inclined to allow the partial capitalization of works related to ESP in 2018-19 under Regulation 14(3)(ii) of 2014 Tariff Regulations. We however grant liberty to the Petitioner to justify its requirement for R&M of ESP especially when the SPM emission level of 31 mg/NM^3 was achieved during the PG test against the new norm of 100 mg/NM^3, by furnishing the technical approval of the Central Electricity Authority (CEA).*
>
> *xxxx*
>
> *……..It is noticed that the works of the various ECS schemes (claimed in Petition No.496/MP/2020) has not yet been executed and same is expected to be implemented during the 2019-24 tariff period only. In the above background, the part additional capitalization of Rs.891.50 lakh claimed towards ESP in 2018-19 has not been considered."*

17. In line with the above, claim of the Petitioner has been considered and disposed of vide order dated 17.11.2021 in Petition No.496/MP/2020 as under:

> *"97. The Petitioner has also claimed an amount of `55.66 crore for R&M of the existing ESP in FGUSTPSS-II for control of particulate matter on estimated basis and has sought liberty to approach the Commission for relaxation of the same based on the actuals. It is observed that the Commission, vide order dated 2.9.2021 in Petition No.300/GT/2020 pertaining to the truing up of tariff for the period 2014-19 of FGUSTPSS-II, has observed that P.G test report of the existing ESP indicates that it is already capable of meeting the revised norm of 100 mg/Nm3. However, the Petitioner was granted liberty to approach CEA with all technical details of the existing ESP for its approval with regard to requirement of R&M of the existing ESP to meet the revised norm of 100 mg/Nm3. Accordingly, the Petitioner shall approach CEA for its concurrence with regard to i) whether existing ESP is capable of meeting SPM emission level of 100 mg/Nm3 and ii) whether any upgradation/ R&M of existing ESP is required to meet the revised norm of 100 mg/Nm3. In case it gets established that the existing ESP is capable of meeting the norm of 100 mg/Nm3 and current emission level of 130-140 mg/Nm3 is due to performance deterioration of the existing ESP, then it would be just a case of regular R&M and any expenditure incurred for bringing SPM emission level within 100 mg/Nm3 would not be treated as expenditure incurred for meeting the revised norms. Accordingly, we are not inclined to grant "in principle" approval for modification of the existing ESP in FGUTPSS-II at this stage."*

18. The Petitioner may claim additional capital expenditure related to ESP in the Petition to be filed under Regulation 29(4) of the 2019 Regulations in terms of order dated 17.11.2021 in Petition No. 496/MP/2020.

Online Coal Analyser

19. The Petitioner has claimed projected additional capital expenditure of Rs. 46.00 lakh in 2019-20 and Rs.15.33 lakh in 2020-21 for 'Online Coal Analyser' under Regulation 26(1)(b) of 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that MOEF&CC vide its OM dated 26.8.2015 had directed that all coal-based thermal power plants with installed capacity of 100 MW or above and located between 500-749 km from the pit head, shall be supplied with and shall use raw or blended or beneficiated coal with ash content not exceeding thirty four percent (34%), on quarterly average basis. A copy of the OM has been enclosed by the Petitioner. The Petitioner has stated that in terms of the OM, real time monitoring, using auto mechanical sampling (online) from moving stream of coal is to be used for sampling fuels. The Petitioner has also stated that as the generating station is located at a distance of more than 500 km from the linked source and also from other mines from where coal Is being received under flexible coal utilization scheme, the Petitioner has to necessarily incur the expenditure towards installation of 'online coal analyzer' to comply with the directions contained in MOEF&CC OM dated 26.8.2015. Accordingly, the Petitioner has prayed that the claim under change in law may be allowed in terms of Regulation 26(1)(b) of the 2019 Tariff Regulations. The Respondent, BRPL has submitted that the OM dated 26.8.2015 of the MOEF&CC is not in the nature of notification and accordingly, the total projected additional capital expenditure claimed by the Petitioner may be rejected.

20. The matter has been examined. The MOEF&CC OM dated 26.8.2015 mandates that all coal-based thermal power plants with an installed capacity of 100

MW or above and located between 500-749 km from the pit head, shall be supplied with and shall use raw or blended or beneficiated coal with ash content not exceeding thirty four percent (34%), on quarterly average basis. Prior to this notification, the Petitioner was not required to monitor the ash content of the coal used for generation. Since the Petitioner's generating station is required to use raw or blended coal with ash content not exceeding 34%, in terms of the MOEF&CC OM dated 26.8.2015, the projected additional capitalization claimed by the Petitioner for the period 2019-21 is allowed under Regulation 26(1)(b) of the 2019 Tariff Regulations. The Petitioner is, however, directed to furnish, at the time of truing-up of tariff, a detailed note in respect of the working of 'Online Coal Analysers', including the coal parameters measured and details as to how the said analyzers are better than the conventional laboratory methods to measure coal quality parameters. The detailed note shall also indicate the reasons for the Petitioner to defer the procurement of these analyzers for about five years from the date of the said OM.

Ash Water Recirculation System

21. The Petitioner has claimed projected additional capitalization of Rs.100.00 lakh in 2019-20 and Rs.93.60 lakh in 2020-21 towards Ash Water Recirculation System (AWRS) under Regulation 26(1)(b) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that AWRS was projected for capitalization during the 2014-19 tariff period and the Commission had approved the additional expenditure under 'Change in law' as the same was based on the directions of the Uttar Pradesh Pradushan Nigam Board in terms of its letter dated 15.7.1996. The Petitioner has submitted that the work was awarded to M/s ADPL and it was expected to be completed during 2015-16, but M/s ADPL had stopped work since October 2015. The Petitioner has stated that the contract with M/s ADPL was terminated on 4.10.2016 and since major work was already completed, the re-

tendering was done for the balance work, which is expected to be completed during the year 2019-20. Accordingly, the Petitioner has prayed that the Commission may allow the same under 'Change in law' as the additional expenditure claimed is for compliance with the existing law.

22. The matter has been examined. It is noticed that the Petitioner in Petition No. 289/GT/2014 had claimed projected additional capital expenditure of Rs.1450.00 lakh in 2015-16 towards AWRS on the ground that the same was in order to comply with the terms and conditions of the Environmental Clearance/ NOC issued by the Uttar Pradesh Pradushan Nigam Board vide letter dated 15.7.1996. In consideration of the fact that the effluents of the plant are required to be properly treated to conform to Pollution Board's standards, prior to discharge from the plant, the projected additional capitalisation of the said amount was allowed in 2015-16 by order dated 31.3.2017 Petition No. 289/GT/2014. However, the actual additional capitalisation of this asset was not claimed by the Petitioner in the petition for truing-up of tariff of the generating station (Petition No. 300/GT/2020). The Petitioner has submitted that major works got completed during the 2014-19 tariff period and the balance work is expected to be completed during the period 2019-21, as the contractor M/s ADPL had abandoned the work in October 2015. It is evident that against the projected additional capital expenditure for Rs.1450 lakh allowed in 2015-16, the Petitioner has only claimed additional capitalization of Rs.100.00 lakh in 2019-20 and Rs.93.60 lakh in 2020-21. It is not clear as to whether the Petitioner has recovered any LD amount from the contractor for abandoning the said work. In view of this, we are presently not allowing the projected additional capital expenditure claimed for AWRS. The Petitioner may claim the actual additional capital expenditure incurred for this asset, at the time of truing-up of tariff for the 2019-24 tariff period, along with a detailed note on the scope of the work, the justification for drastic

reduction in the additional expenditure claimed (as compared to that allowed vide order dated 31.3.2017 in Petition No. 289/GT/2014), the circumstances/ reasons for which the contractor abandoned the works and the LD amount, if any, recovered from the contractor. In view of this, the projected additional capital expenditure of Rs.100.00 lakh in 2019-20 and Rs.93.60 lakh in 2020-21 claimed by the Petitioner is not being allowed in this petition.

COLD FOG Dust Suppression system for Secondary crusher

23. The Petitioner has claimed projected additional capital expenditure of Rs.8.29 lakh in 2019-20 for 'COLD FOG Dust suppression system for Secondary crusher' under Regulation 26(1)(b) of the 2019 Tariff Regulations. In support of the said claim, the Petitioner has submitted the Central Pollution Control Board (CPCB) notification dated 18.11.2009 pertaining to National Ambient Air Quality Standards which indicate the Particulate Matter sizes and concentration in ambient air, which is 100 mg/Nm^3 for all industrial establishments in general. The Respondent, BRPL has submitted that the reasons for delaying the implementation of this system has not been specified by the Petitioner, except that this is a new technology to optimize the application of water to capture dust fines. Hence, the same may be disallowed.

24. The submissions have been considered. The Petitioner has stated that in order to meet the norms for Particulate Matter (PM) emission in air as per National Ambient Air Quality Standards dated 18.11.2009, cold fog system has been implemented and this technology is to optimize the application of water to capture dust fines floating in air. According to the Petitioner, by this approach, very fine water droplets (mist-defined as dry fog) are sprayed in the air where the dust particles are airborne and when the water droplets and dust particles collide, agglomerates are formed. These agglomerates become too heavy to remain airborne and they settle.

This kind of fog systems provide highly effective, inexpensive dust capture combined with low cost for both installation and operation.

25. It is observed that CPCB notification dated 18.11.2009 pertaining to ‘National Ambient Quality standards’ required the particulate matter sizes and concentration in the ambient air, which is 100 mg/Nm^3 for any industrial establishment in general. The Petitioner has, however, not indicated the limits of the Particulate Matter concentration/ dust applicable for this generating station, prior to and after this notification. Also, the Petitioner has not demonstrated as to how the notification is a ‘change in law’ event requiring additional expenditure to be incurred on the asset/ works. Moreover, the Petitioner has not furnished any justification for postponing the implementation of ‘dust suppression’ up to 2019-20. It is pertinent to mention that the Petitioner’s claim for actual additional capital expenditure of Rs10.15 lakh of this ‘asset/work’ in 2018-19 under Regulation 14(3) (ii) of 2014 Tariff Regulations in Petition No. 300/GT/2020, had been rejected by order dated 2.9.2021. In view of the above, the projected additional capital expenditure of Rs.8.29 lakh in 2019-20 for ‘COLD FOG Dust Suppression System’ is not allowed. In respect of other submissions of the Petitioner, such as minimizing the water requirement in the generating station as per new environmental norms in terms of the MOEF&CC notification dated 7.12.2015 and the CEA Standard of Design Criteria/ Guidelines for Balance of Plant, the Petitioner may claim the same, if any, in Petition to be filed under Regulation 29(4) of the 2019 Tariff Regulations in terms of order dated 17.11.2021 in Petition No. 496/MP/2020.

Fire Alarm system

26. The Petitioner has claimed projected additional capital expenditure of Rs.150.00 lakh in 2019-20 and Rs.31.00 lakh in 2020-21 for ‘Fire alarm system’ under Regulation 26(1)(d) of 2019 Tariff Regulations. In justification for the same, the

Petitioner has submitted that firefighting system for Coal Handling Plant (CHP) area is essentially required to prevent any catastrophic damage in case of fire break out in CHP, as presence of coal in CHP area makes it vulnerable to fire and mobile fire protection equipment's are not sufficient to control the spread of fire. The Petitioner has submitted that the work which was projected in the 2014-19 tariff period is expected to be completed during 2020-21. The Respondent, UPPCL has submitted that the Petitioner has not placed on record the (i) confirmation that the expenditure is in compliance with the TAC guidelines and (ii) discount, if any, received as directed by the Commission in order dated 31.3.2017 in Petition No. 289/GT/2014. The Respondent, BRPL has submitted that the Petitioner has not furnished any advice or direction, from the appropriate Indian Government Instrumentality or statutory authorities which are responsible for national or internal security and, therefore, the claim may be rejected. In response, the Petitioner has confirmed that the expenditure is in compliance with the TAC guidelines and details of the discount will be submitted after capitalization of the said work.

27. The matter has been examined. It is observed that the Petitioner had claimed projected additional capital expenditure of Rs.198.15 lakh towards 'Fire alarm system' in 2016-17 under the Regulation 14(3)(iii) of the 2014 Tariff Regulations and the Commission relying upon its decision dated 16.2.2017 in Petition No. 293/GT/2014 *(tariff of Talcher STPS-II for the period 2014-19),* disposed of the claim of the Petitioner as under:

> *"22. We have examined the matter. It is observed that similar claim of the Petitioner in Petition No. 293/GT/2014 (tariff of Talcher STPS-II for the period 2014-19) had been disposed of by the Commission by order dated 16.2.2017 as under:*
>
> > *"…. Accordingly, the Commission has decided to consult the CEA in this regard. Therefore, the Staff of the Commission is directed to refer the matter to CEA for necessary clarification. Pending clarification in the matter, the claim of the Petitioner has not been decided in this order. If on the basis of the report of the CEA, the Commission comes to a decision to allow the expenditure for augmentation of fire-fighting/protection system under Change in law and for Safety and security of the plant, and in that event, the claim of the Petitioner shall be considered at the time of*

truing-up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations. The Petitioner shall also place on record the confirmation that the expenditure on augmentation of firefighting system/protection system is in compliance with the TAC guidelines and the discount, if any, received from the Insurance companies at the time of truing-up."

23. In line with the above decision, the claim of the Petitioner shall be considered at the time of truing- up in terms of Regulation 8 of the 2014 Tariff Regulations. The Petitioner shall also place on record the confirmation that the expenditure is in compliance with the TAC guidelines and the discount, if any, received at the time of truing-up."

28. Admittedly, the expenditure for this asset had not materialized during the 2014-19 tariff period and hence the Petitioner has deferred the same to the 2019-24 tariff period. The Petitioner has placed on record a letter dated 3.8.2020, received by it, from M/s Technico India Private Limited, which states that all drawings & data sheets submitted to the Petitioner, have been prepared in line with TAC rules and regulations. The letter further states that the erection work has been done in accordance with the approved drawings which are in line with the guidelines of the TAC. However, from the references mentioned in the said letter, it is noticed that the works mentioned therein is with respect to the 'Fire detection and Protection system' and not 'Fire alarm system' as claimed in the petition. The justification furnished by the Petitioner also refers to the "Firefighting system" and not 'Fire alarm system'. However, considering the fact that the total projected additional capital expenditure of Rs. 181.00 lakh in 2019-21 claimed by the Petitioner is for the safety and security of the plant, we allow the same under Regulation 26(1)(d) of the 2019 Tariff Regulations. The Petitioner is, however, directed to submit the relevant documents in support the claim at the time of true up, confirming that the fire alarm system is in compliance with the TAC guidelines along with the complete scope of work, including a certificate to the affect that the asset has been put to use.

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

(Rs. in lakh)

	Projected additional capital expenditure				
	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Online Coal analyzer	46.00	15.33	0.00	0.00	0.00
Fire alarm system	150.00	31.00	0.00	0.00	0.00
Total additional capital expenditure allowed	**196.00**	**46.33**	**0.00**	**0.00**	**0.00**

Capital cost allowed

30. Accordingly, the capital cost approved for the 2019-24 tariff period is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	130366.47	130562.47	130608.80	130608.80	130608.80
Add: Additional capital expenditure	196.00	46.33	0.00	0.00	0.00
Closing Capital Cost	**130562.47**	**130608.80**	**130608.80**	**130608.80**	**130608.80**
Average Capital Cost	130464.47	130585.64	130608.80	130608.80	130608.80

Debt Equity Ratio

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

(1) For 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 a 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 modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.*

32. The gross loan and equity amounting to Rs.91256.52 lakh and Rs.39109.94 lakh, respectively as on 31.3.2019, was considered in order dated 2.9.2021 in Petition No. 300/GT/2020. The proportionate equity as a percentage of admitted capital cost as on 31.3.2019 is 30%. Accordingly, the gross loan and equity amounting to Rs.91256.52 lakh and Rs.39109.94 lakh, has been considered as gross loan and equity as on 1.4.2019. Further, the additional capital expenditure approved as above has been allocated in debt-equity ratio of 70:30.

Return on Equity

33. 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."

Tax on Return on Equity

34. 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 1,000 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."

35. The Petitioner has claimed tariff considering 18.782% i.e. base rate of 15.50% and MAT Rate of 17.472% (i.e., MAT Rate of 15% + Surcharge of 12% + HEC of 4%) as the rate of Return on Equity (ROE) for the 2019-24 tariff period and the same has been considered. This is subject to truing-up. Accordingly, ROE has been worked out as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Notional Equity- Opening	39109.94	39168.74	39182.64	39182.64	39182.64
Addition of Equity due to additional capital expenditure	58.80	13.90	0.00	0.00	0.00
Normative Equity – Closing	39168.74	39182.64	39182.64	39182.64	39182.64
Average Normative Equity	39139.34	39175.69	39182.64	39182.64	39182.64
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for the years	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	**7351.15**	**7357.98**	**7359.28**	**7359.28**	**7359.28**

<u>Interest on Loan</u>

36. 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-capitalisation 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 loans shall be reflected from the date of such re-financing."

37. Interest on loan has been worked out as under**:**

(i) The gross normative loan amounting to Rs.91256.52 lakh as on 31.3.2019 as considered in order dated 2.9.2021 in Petition No. 300/GT/2020 has been considered as on 1.4.2019;

(ii) Cumulative repayment amounting to Rs.91256.52 lakh as on 31.3.2019 as considered in order dated 2.9.2021 in Petition No. 300/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 nil;

(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 tariff period 2019-24;

(vi) The Petitioner has claimed interest on loan applying weighted average rate of interest of 8.2575% for the 2019-24 tariff period, the same has been considered for the purpose of tariff.

38. Necessary calculation for interest on loan is as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Gross opening loan	91256.52	91393.72	91426.16	91426.16	91426.16
Cumulative repayment of loan upto previous year / period	91256.52	91393.72	91426.16	91426.16	91426.16
Net Loan Opening	0.00	0.00	0.00	0.00	0.00
Addition due to Additional capital Expenditure	137.20	32.43	0.00	0.00	0.00
Repayment of loan during the year	137.20	32.43	0.00	0.00	0.00
Net Loan Closing	0.00	0.00	0.00	0.00	0.00
Average Loan	0.00	0.00	0.00	0.00	0.00
Weighted Average Rate of Interest on Loan	8.2575%	8.2575%	8.2575%	8.2575%	8.2575%
Interest on Loan	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Depreciation

39. 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."

40. The cumulative depreciation amounting to Rs.95222.06 lakh as on 31.3.2019 in accordance with order dated 2.9.2021 in Petition No. 300/GT/2020 has been retained for the purpose of tariff. Further, the value of freehold land included in the average capital cost, has been adjusted while calculating depreciable value for the purpose of tariff. Accordingly, the balance depreciable value (before providing depreciation) for the year 2019-20 works out to Rs.21735.60 lakh. Since as on 1.4.2019, the lapsed life of the generating station (i.e., 18.67 years) exceeds 12 years from the effective station COD (of 1.8.2000), the depreciation has been calculated by spreading over the balance depreciable value for the respective years. Accordingly, depreciation has been computed as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Opening capital cost (A)	130366.47	130562.47	130608.80	130608.80	130608.80
Add: Net projected additional capital expenditure allowed (B)	196.00	46.33	0.00	0.00	0.00
Closing capital cost (C)	130562.47	130608.80	130608.80	130608.80	130608.80
Average capital cost (D) = [(A+C)/2]	130464.47	130585.63	130608.80	130608.80	130608.80
Value of freehold land included above (E)	436.51	436.51	436.51	436.51	436.51
Value of IT equipment & software included above (F)*	0.00	0.00	0.00	0.00	0.00
Aggregated depreciable value (G) = [(D-E-F)X90% + F]	117025.16	117134.21	117155.06	117155.06	117155.06
Remaining aggregated depreciable value at the beginning of the year: (H) = [G – Cumulative Depreciation (shown at 'O') at the end of previous year]	21803.10	18469.56	15027.36	11559.51	8091.66
No. of completed years at the beginning of the year (I)	18.67	19.67	20.67	21.67	22.67
Balance useful life at the beginning of the year (J)	6.33	5.33	4.33	3.33	2.33
Weighted Average Rate of Depreciation (WAROD) (K) (As per 'Annexure – I')	2.64	2.65	2.66	2.66	2.66
Combined depreciation during the year (L)	3442.60	3463.04	3467.85	3467.85	3467.85

Cumulative depreciation at the end of the year (before adjustment for de-capitalization) (M) = [L + Cumulative depreciation (shown at 'O') at the end of previous year*]	98664.66	102127.70	105595.55	109063.40	112531.26
Less: Depreciation adjustment on account of de-capitalization (N)	0.00	0.00	0.00	0.00	0.00
Cumulative depreciation at the end of the year (O)	98664.66	102127.70	105595.55	109063.40	112531.26

Details of IT Equipment to be provided by petitioner at the time of truing up
Note: The cumulative depreciation at the end of 2018-19 is Rs. 95222.06 lakh.

Fly Ash Transportation cost

41. The Ministry of Environment, Forest and Climate Change ('MoEF&CC') vide notification dated 25.1.2016 inter alia stipulated that the cost of transportation of ash for road construction projects/ other identified activities within the radius of 100 km of the power plant, shall be borne by such coal based thermal power plants. It also provides that the cost of transportation of fly ash beyond the radius of 100 km and up to 300 km shall be equally shared between the user and the coal based thermal power plants. The Petitioner vide affidavit dated 14.7.2021 has submitted that pursuant to the MOEF&CC notification dated 25.1.2016, Petition No. 172/MP/2016 (NTPC v UPPCL & Ors.) was filed seeking recovery of the additional expenditure incurred due to sharing of fly ash transportation cost and by order dated 5.11.2018, the Commission had recognized that the MOEF&CC notification dated 25.1.2016 was a Change in law event. The Petitioner has submitted that in terms of the order dated 5.11.2018, the actual fly ash transportation charges incurred for the generating station during 2019-20 and 2020-21, after adjustment of the amounts from sale of fly ash are as under:

(*Rs. in crore)*

Year	Opening ash sale fund as on 1.4.2019	Sale of ash	Available ash fund for meeting ash transportation expenses	Total ash transportation expenses	Ash transportation met out of ash fund	Ash transportation charges to be recovered from beneficiaries
	A	**B**	**C=A+B**	**D**	**E= D (ifC>=D)** **E = C (if C<D)**	**F = 0 (if C>=D)** **F= D-C (if C<D)**
2019-20	-	3.90	3.90	24.19	3.90	20.29
2020-21	-	3.60	3.60	42.86	3.60	39.26

42. The Petitioner has also submitted that fly ash transportation charges are recurring in nature and that the charges, which are to be recoverable from the beneficiaries, will get accumulated and would attract carrying cost, if the recovery of the same is allowed later, at the time of truing up of tariff for the 2019-24 tariff period. Therefore, in order to avoid any interest payment/ carrying cost liability by the beneficiaries, the Petitioner has prayed that it may be permitted to recover/ pass on the fly ash transportation charges, after adjusting the revenue earned from sale of ash, subject to truing-up at the end of the tariff period. The Petitioner while seeking permission to allow the recovery of fly ash transportation charges for the years 2019-20 and 2020-21, for the generating station, has also submitted that for balance period i.e. 2021 to 2024, the billing and recovery of fly ash transportation charges may be allowed provisionally, on monthly basis, based on self-certification, which is subject to truing up based on auditor certificate. The Petitioner, in support of its claim, has referred to Commission's order dated 22.3.2021 in Petition No. 405/MP/2019 (GKEL & anr v DHBVNL & ors) and submitted that the mechanism for recovery of expenditure towards fly ash transportation, devised in the said case, may be adopted in the present case.

43. The Respondent UPPCL vide reply affidavit dated 6.8.2021 has submitted that there is significant variation in the purchase cost of coal, month on month and has made the following observation on the 'details of source wise fuel for computation of energy charges' for October 2018, November 2018 and December 2018' as furnished by the Petitioner:

(a) The purchase cost has varied from Rs. 2974.10 per MT in October 2018 to Rs. 2658.61 per MT in December 2018; even though coal supplied is G-10 for both months;

(b) Coal purchased in November 2018 is lower (vis a vis October 2018) at Rs. 2965.56 per MT, even though it is of higher grade (G 9) as compared to G 10 coal supplied in October 2018;

(c) Grade Recd. of coal for November 2018 and December 2018 is same i.e. G12. So, in ideal conditions after accounting for grade slippage, the landed cost of coal for November 2018 and December 2018 should be same/ similar but for minor variations. However, that is not the case.

44. The Respondent UPPCL has further submitted that Regulation 60(2) of the 2019 Tariff Regulations which provides for sharing of gains, on annual basis, may be adopted on a monthly basis. It has also suggested that the recovery on account of fly ash transportation charges may be clubbed with sharing of gains, due to variation in norms and thus, the net impact on either party will be minimal.

45. We note that the Petitioner has filed Petition No. 205/MP/2021 seeking reimbursement of fly ash transportation charges in respect of its generating stations. The Petitioner has raised similar issues in that petition arguing higher liability of the Respondents therein, on account of interest burden and also cash flow issues that may be faced by the Petitioner. Some of the Respondents therein have raised issues of maintainability of Petition No. 205/MP/2021. Therefore, we are not inclined to decide this issue in this Petition. The reimbursement towards transportation of fly ash shall, therefore, be governed by the decision of the Commission in Petition No. 205/MP/2021.

<u>O&M Expenses</u>

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

"35(1) Thermal Generating Station: Normative Operation and Maintenance expenses of thermal generating stations shall be as follows:

(1) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations, other than the generating stations or units referred to in clauses (2), (4) and (5) of this Regulation:

(Rs. in lakh/ MW)

Year	*200/210/ 250 MW Series*	*300/330/ 350 MW Series*	*500 MW Series*	*600 MW Series*	*800 MW Series and above*
FY 2019-20	*32.96*	*27.74*	*22.51*	*20.26*	*18.23*
FY 2020-21	*34.12*	*28.71*	*23.30*	*20.97*	*18.87*
FY 2021-22	*35.31*	*29.72*	*24.12*	*21.71*	*19.54*
FY 2022-23	*36.56*	*30.76*	*24.97*	*22.47*	*20.22*
FY 2023-24	*37.84*	*31.84*	*25.84*	*23.26*	*20.93*

Provided that where the date of commercial operation of any additional unit(s)of a generating station after first four units occurs on or after 1.4.2019, the O&M expenses of such additional unit(s) shall be admissible at 90% of the operation and maintenance expenses as specified above;

Provided further that operation and maintenance expenses of generating station and the transmission system of Bhakra Beas Management Board (BBMB) and Sardar Sarovar Project (SSP) shall be determined after taking into account provisions of the Punjab Reorganization Act, 1996 and Narmada Water Scheme, 1980 under Section 6-A of the Inter-State Water Disputes Act, 1956 respectively;

Provided also that operation and maintenance expenses of generating station having unit size of less than 200 MW not covered above shall be determined on case to case basis.

47. The Petitioner has claimed O&M expenses as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses under Regulation 35(1) of the 2019 Tariff Regulations	13843.20	14330.40	14830.20	15355.20	15892.80
O&M Expenses under Regulation 35(6) of the 2019 Tariff Regulations					
Water Charges	124.35	124.35	124.35	124.35	124.35
Security Expenses	1029.53	1131.41	1243.41	1366.54	1501.92
Total O&M expenses claimed	**14997.07**	**15586.15**	**16197.95**	**16846.09**	**17519.06**

48. The generating station with a capacity of 420 MW comprises of two units of 210 MW each and the date of commercial operation of Unit-I is 1.1.2001 and Unit-II is 1.3.2000. Accordingly, the normative O&M expenses claimed by the Petitioner in terms of Regulation 35(1)(1) of the 2019 Tariff Regulations is in order and is, therefore, allowed.

<u>Water Charges</u>

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

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

Provided that water charges shall be allowed based on water consumption depending upon type of plant and type of cooling water system, subject to prudence check. The details regarding the same shall be furnished along with the petition;

xxxxx."

50. The projected water charges claimed by the Petitioner are as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
124.35	124.35	124.35	124.35	124.35

51. In terms of the Regulation 35(1)(6) of the 2019 Tariff Regulations, the details in respect of water charges, such as type of cooling water system, water consumption, rate of water charges, as furnished by the Petitioner, is as under:

Description	Remarks
Type of Plant	Coal
Type of cooling water system	Closed Cycle
Consumption of Water	462998590 Cubic feet / 14.89 cusec
Rate of Water charges	Rs.12.48 per 1000 cubic feet
Rate of Royalty	Rs.6 lakhs per cusec per year
Total Water Charges (2018-19)	Rs.160.61 lakh

52. The Petitioner has claimed projected water charges of Rs.124.35 lakh for the respective years of the 2019-24 tariff period. It is observed that the Petitioner, in Petition No. 300/GT/2020, had claimed actual water charges as Rs.160.61 lakh for 2018-19, which was allowed by order dated 2.9.2021. The Petitioner has, however, not furnished any justification/ reason as to why the projected water charges claimed during the 2019-24 tariff period is lesser than the actual water charges of Rs.160.61 lakh in 2018-19. Considering that the water charges of Rs.124.35 lakh as claimed by the Petitioner for each year of the 2019-24 tariff period is lower than actual water charges for the year 2018-19, the same are allowed. The Petitioner is directed to furnish details of the actual water charges paid, at the time of truing up of tariff of the generating station for the 2019-24 tariff period.

Security Expenses

53. The second proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations provides as under:

“6) The Water Charges, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately after prudence check:

Xxxx

Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses;

Xxx”

54. The Petitioner has claimed the following security expenses:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1029.53	1131.41	1243.41	1366.54	1501.92

55. The Petitioner has submitted that the claim towards ‘security expenses’ is based on the estimated expenses for the 2019-24 tariff period and the same shall be subject to retrospective adjustment, based on actuals, at the time of truing up of tariff. The Petitioner has, however, not furnished the basis for the said claim for security expenses for the 2019-24 tariff period. Considering the fact that security expenses for the generating stations is required to be allowed separately in terms of the second proviso to Regulation 35(1)(6) of the 2019 Tariff Regulations, the claim of the Petitioner, as projected, is allowed. The Petitioner is directed to furnish the actual security expenses incurred, under each head, at the time of truing up of tariff of the generating station for the 2019-24 tariff period.

Capital spares

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

57. Accordingly, the total O&M expenses, including Water charges ad Security expenses, as claimed by the Petitioner, is allowed for the 2019-24 tariff period as summarized below:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses allowed (b)	13843.20	14330.40	14830.20	15355.20	15892.80
Water charges allowed (d)	124.35	124.35	124.35	124.35	124.35
Security Expenses allowed (f)	1029.53	1131.41	1243.41	1366.54	1501.92
Total O&M expenses allowed (b + d + f)	**14997.07**	**15586.15**	**16197.95**	**16846.09**	**17519.06**

Operational Norms

58. The following norms of operation have been considered by the Petitioner in Form-3 of the petition:

Normative Annual Plant Availability Factor (NAPAF) (%)	85
Heat Rate (kcal/kwh)	2430
Auxiliary Power Consumption (%)	9.80
Specific Oil Consumption (ml/kwh)	0.50

59. The operational norms considered by the Petitioner are in line with the provisions of Regulation 49 of the 2019 Tariff Regulations and hence allowed.

Interest on Working capital

60. Regulation 34(1)(a) 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.

(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.

Fuel Cost and Energy Charges for Working Capital calculations

61. The Petitioner has claimed the cost for fuel component in working capital based on price and "as received" Gross Calorific Value (GCV) of coal and secondary fuel oil procured and burnt during the months of October 2018, November 2018, and December 2018 as per Regulation 34(2) of the 2019 Tariff Regulations. The Petitioner has also considered the opening coal available in stock for computation of fuel component in working capital. The cost claimed by the Petitioner in Form-O of the petition, is as under:

(Rs. in lakh)

	2019-20	**2020-21**	**2021-22**	**2022-23**	**2023-24**
Cost of coal for 50 days	11621.03	11621.03	11621.03	11621.03	11621.03
Cost of Secondary fuel oil for 2 months	146.14	145.74	145.74	145.74	146.14

62. The Petitioner in Form-15 of the petition has not furnished the value of the opening quantity of coal stock and value of stock separately. It has, however, submitted the quantity of coal and the amount charged by coal companies, inclusive of the opening stock of coal. The Respondent, UPPCL has pointed out that by considering the opening balance, the Petitioner has not complied with the provisions of Regulation 34(2) of the 2019 Tariff Regulations.

63. It is evident from Regulation 34(2) of the 2019 Tariff Regulations that for computation of Interest on Working Capital (IWC), the landed fuel cost and GCV of

fuel for the third quarter of the preceding financial year is to be considered. However, details were also sought regarding the ‘opening quantity of coal’ and also the ‘quantity of coal supplied by coal company’ during the relevant months. The Petitioner has enclosed the audited Form-15 as per the 2019 Tariff Regulations. It is pertinent to mention that Regulation 34(2) of the 2019 Tariff Regulations do not envisage that while computing IWC, the opening stock is to be added to the coal supplied by the coal company during the month. In view of this, while computing IWC, the weighted average of landed fuel cost and GCV of the fuel procured during the third quarter of preceding financial year has been considered.

64. The Petitioner has considered GCV of 3841.09 kCal/kg (3926.09 – 85) after deducting 85 kCal/kg from 3926.09 kCal/kg (weighted average GCV for three months) and the oil procured and burnt for the three months (October 2018 to December 2018), as specified under the 2019 Tariff Regulations. We have considered the weighted average GCV for the months of October 2018, November 2018 and December 2018, after excluding the stock quantity of coal. We have also considered GCV of 3845.04 kCal/kg (3930.04 – 85), after deducting 85 kCal/kg from 3930.04 kCal/kg (weighted average GCV) as specified under Regulation 43(2)(a) of the 2019 Tariff Regulations, on account of variation during storage. Accordingly, based on the operation norms allowed and the weighted average price and GCV of coal & oil procured during the three months (October 2018 to December 2018), the fuel components in working capital allowed are as under:

(Rs. in lakh)

	2019-20 and 2023-24	**2020-21 to 2022-23**
Cost of Coal for stock (20 days)	4632.94	4632.94
Advance towards cost of coal for Generation (30 days)	6949.42	6949.42
Cost of Secondary fuel oil 2 months	146.10	145.70

Energy Charge Rate

65. The Petitioner has claimed ex-bus Energy Charge Rate (ECR) of Rs.3.038/kWh based on the Weighted Average Price and GCV of coal & Oil procured and burnt during the months of October 2018, November 2018 and December 2018 and considering the coal in stock also. ECR worked out as under, shall be considered for allowing the energy charge for 2 months in working capital:

	Unit	**2019-24**	
Capacity	MW	420	420
Gross Station Heat Rate	Kcal/kWh	2430	2430
Aux. Energy Consumption	%	9.8	9.8
Weighted average GCV of oil	Kcal/lit	9676.91	9676.91
Weighted average GCV of Coal (3930.04-85)	Kcal/kg	3845.04	3845.04
Weighted average price of oil	Rs/KL	55907.09	55907.09
Weighted average price of Coal	Rs/MT	4286.55	4286.55
Rate of energy charge ex-bus	Rs/kWh	3.028	3.028

66. The Energy Charges for 45 days as claimed by the Petitioner, for each year of the 2019-24 tariff period is 10566.80 lakh. However, the Energy Charges for 45 days have been computed and allowed, based on the following:

(a) Ex-bus energy charge rate of Rs.3.028/kWh (rounded off to three decimal places as per 2019 Tariff Regulations);

(b) 45 days ex-bus energy corresponding to installed capacity of 420 MW, normative availability of 85% and Auxiliary Energy Consumption of 9.8% which works out to 347.78 MUs {$420x1000x0.902x45x24x0.85/(10^6)$} for each year of 2019-24.

67. Accordingly, in terms of Regulation 34(a)(v) of the 2019 Tariff Regulations, the Energy charges for 45 days allowed for the computation of working capital is Rs. 10530.63 lakh for the 2019-24 tariff period.

68. In view of the above, the Fuel component and energy charges allowed for working capital are summarized as under:

(Rs. in lakh)

	2019-20 and 2023-24	2020-21 to 2022-23
Cost of Coal towards stock (20 days)	4632.94	4632.94
Advance towards cost of coal for Generation (30 days)	6949.42	6949.42
Cost of Secondary fuel oil (2 months)	146.10	145.70
Energy charges for 45 days	10530.63	10530.63
Total	**22259.09**	**22258.69**

69. The Petitioner, on a month-to-month basis, shall compute and claim the energy charges from the beneficiaries, based on the formulae specified under Regulation 43 of the 2019 Tariff Regulations.

Working capital for Maintenance spares

70. The Petitioner has claimed maintenance spares as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
2999.41	3117.23	3239.59	3369.22	3503.81

71. Regulation 34(1)(a)(iv) of the 2019 Tariff Regulations provides for maintenance spares @ 20% of the O&M expenses, including water charges and security expenses. The maintenance spares claimed by Petitioner are in order and, hence, the same is allowed.

Working capital for Receivables

72. Receivables equivalent to 45 days of fixed and energy charges, after taking account the mode of operation of the station on secondary fuel, has been worked out and allowed in terms of Regulation 34(1)(a)(v) of the 2019 Tariff Regulations as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Variable Charges – for 45 days	10530.63	10530.63	10530.63	10530.63	10530.63
Fixed Charges – for 45 days	3617.33	3676.65	3727.67	3811.03	3886.81
Total	**14147.96**	**14207.28**	**14258.30**	**14341.66**	**14417.44**

Working capital for O&M Expenses (1 month)

73. O&M expenses for 1 month, as claimed by the Petitioner, including water charges and security expenses in terms of Regulation 34(1)(a)(vi) of the 2019 Tariff Regulations is allowed as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1249.76	1298.85	1349.83	1403.84	1459.92

Rate of Interest on working capital

74. In line with Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital shall be considered as 12.05% (i.e., one year SBI MCLR of 8.55% as on 1.4.2019 + 350 bps) for the 2019-24 tariff period. Further, the aforesaid rate of interest is subject to truing-up based on one year SBI MCLR as on 1st April of the respective financial years. The tariff of the generating station is decided during the year 2021-22 and one year SBI MCLR as on 1.4.2020 (7.75%), as on 1.4.2021 (7.00%) is available. Hence, in order to safeguard against additional interest burden due to excess/ under recovery or tariff, we deem it prudent to consider the rate of interest on working capital as 11.25% for the period from 1.4.2020 to 31.3.2021 (i.e., one year SBI MCLR of 7.75% as on 1.4.2019 + 350 bps) and 10.50% from 1.4.2021 to 31.3.2024 (i.e., one year SBI MCLR of 7.00% as on 1.4.2021 + 350 bps). Accordingly, interest on working capital has been considered as 12.05% in 2019-20, 11.25% in 2020-21 and 10.50% for the period from 2021-24 and allowed as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of coal – 20 days	4632.95	4632.95	4632.95	4632.95	4632.95
Advance towards cost of coal – 30 days	6949.42	6949.42	6949.42	6949.42	6949.42
Cost of secondary fuel oil - 2 months	146.10	145.70	145.70	145.70	146.10
Working capital for Maintenance Spares @ 20% of O&M expenses	2999.41	3117.23	3239.59	3369.22	3503.81
Working capital for Receivables – 45 days	14147.96	14207.28	14258.30	14341.66	14417.44
Working capital for O&M expenses – one	1249.76	1298.85	1349.83	1403.84	1459.92

month					
Total Working Capital	**30125.59**	**30351.42**	**30575.78**	**30842.79**	**31109.63**
Rate of Interest	12.05%	11.25%	10.50%	10.50%	10.50%
Interest on Working Capital	**3630.13**	**3414.53**	**3210.46**	**3238.49**	**3266.51**

Annual Fixed Charges

75. 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	3442.60	3463.04	3467.85	3467.85	3467.85
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	7351.15	7357.98	7359.28	7359.28	7359.28
Interest on Working Capital	3630.13	3414.53	3210.46	3238.49	3266.51
O&M Expenses	14997.07	15586.15	16197.95	16846.09	17519.06
Total annual fixed charges	**29420.95**	**29821.71**	**30235.54**	**30911.72**	**31612.71**

76. The annual fixed charges approved as above, is subject to truing-up in terms of Regulation 13 of the 2019 Tariff Regulations.

Filing Fee and Publication expenses

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

78. Petition No.438/GT/2020 is disposed of in terms of the above.

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

Annexure – I

Depreciation for the 2019-24 tariff period

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost (A)	130366.47	130562.47	130608.80	130608.80	130608.80
Net Addition during the year/ period (B)	196.00	46.33	0.00	0.00	0.00
Closing Capital Cost (C) = [A+B]	130562.47	130608.80	130608.80	130608.80	130608.80
Average Capital Cost (D) = [(A+C)/2]	130464.47	130585.63	130608.80	130608.80	130608.80
Remaining Depreciable Value (E)	21803.10	18469.56	15027.36	11559.51	8091.66
Balance Useful life of the asset (in years) (F)	6.33	5.33	4.33	3.33	2.33
Depreciation (for the period) (G) = [E/F]	3442.60	3463.04	3467.85	3467.85	3467.85
Effective Weightage Average Rate of Depreciation (H) = [G/D]	2.64	2.65	2.66	2.66	2.66