

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 111/GT/2020

Coram:

**Shri I. S. Jha, Member
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member**

Date of Order: 3rd November, 2022

In the matter of:

Petition for approval of tariff for Circulating Fluidized Bed Combustion Technology based NLC Thermal Power Station-II Expansion Units-I & II (500 MW) for the period from 1.4.2019 to 31.3.2024.

And

In the matter of:

NLC India Limited,
135/73, EVR Periyar Salai, Kilpauk,
Chennai – 600 010, Tamil Nadu

.....Petitioner

Vs

1. Tamil Nadu Generation and Distribution Corporation Ltd.
NPKRR Maaligai, 144, Anna Salai,
Chennai – 600002
2. Power Company of Karnataka Limited,
KPTCL Complex, Kaveri Bhavan,
Bangalore – 560009
3. Bangalore Electricity Supply Company Limited,
Krishna Rajendra Circle, Bangalore - 560 001
4. Mangalore Electricity Supply Company Limited
Paradigm Plaza, A.B. Shetty Circle, Mangalore – 575 001
5. Chamundeshwari Electricity Supply Corporation Limited
Corporate Office No 927, L.J.Avenue, New Kantharaj Urs Road
Saraswathipuram, Mysore -570 009
6. Gulbarga Electricity Supply Company Limited
Station Main Road, Gulbarga -585 102, Karnataka
7. Hubli Electricity Supply Company Ltd.,
Corporate office, P. B. Road, Navanagar,
Hubli - 580 025



8. Kerala State Electricity Board Ltd,
Vaidyuthi Bhavanam, Pattom,
Thiruvananthapuram-695004
9. Puducherry Electricity Department,
137, NSC Bose Salai,
Puducherry – 605 001

.... Respondents

Parties Present:

Ms. Anushree Bardhan, Advocate, NLC
Ms. Surbhi Kapoor, Advocate, NLC
Ms. Anukirat Singh, Advocate, NLC
Shri P. Vasughi, NLC
Shri P. Ravikumar, NLC
Shri Srinivasan, NLC
Shri S. Vallinayagam, Advocate, TANGEDCO
Ms. B. Rajeswari, TANGEDCO
Ms. R. Ramalakshmi, TANGEDCO
Shri R. Alamelu, TANGEDCO

ORDER

This petition has been filed by the Petitioner, NLC India Limited for approval of tariff of Circulating Fluidized Bed Combustion (CFBC) Technology based NLC Thermal Power Station-II (Expansion) (2 x 250 MW) (hereinafter referred to as “the generating station”) for the 2019-24 tariff period, in accordance with the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter referred to as 'the 2019 Tariff Regulations').

Background

2. The generating station with an installed capacity of 500 MW comprises of two units of 250 MW each. The date of commercial operation of Unit-I is 5.7.2015 and that of Unit II is 22.4.2015 and for the generating station as a whole is 5.7.2015. The installed capacity of the project is 500 MW with CFBC lignite boilers feeding to turbines. Ministry of Power, GOI, has allocated the power generated from this project amongst the respondent beneficiaries on 9.3.2004. The Petitioner has entered into



Power Purchase Agreements (PPA) with the Respondent beneficiaries on 7.10.2014. The allocation of power from the generating station to the Respondents, as per the MOP, GOI letter dated 9.3.2004 is as under:

Beneficiaries	Allocation (in %)	Allocation (in MW)
Tamil Nadu	46	230
Karnataka	22	110
Kerala	14	70
Pondicherry	3	15
Un-allocated	15	75
Total	100	500

3. The Commission vide its order dated 24.7.2017 in Petition No. 146/GT/2015 had approved the tariff of the generating station for the period from COD of Unit-II to 31.3.2019. Aggrieved by the said order dated 24.7.2017, the Petitioner had filed Review Petition No. 39/RP/2017 and the Commission by its order dated 19.12.2018, while allowing the claim of the Petitioner with regard to the computation of interest on loan, to be considered at the time of truing-up of tariff, also granted liberty to the Petitioner to raise the issue of initial spares, base lignite price and auxiliary power consumption at the time of truing up of tariff. The claims of the Petitioner with regard to the errors on the issues of time overrun, consequential IDC and IEDC, Station Heat Rate and inclusion of cost of limestone for computing interest on working capital, were however rejected by the said order dated 19.12.2018. Against the orders dated 24.7.2017/19.12.2018, the Petitioner has filed appeal (Appeal No. 145/2019) before the Appellate Tribunal for Electricity ('the Tribunal') and the Tribunal passed order dated 23.9.2019 and clarificatory order dated 1.6.2020, on maintainability of the said appeal. The appeal is however pending for final decision on merits. The Petitioner, thereafter, filed Petition No. 367/GT/2020 for revision of tariff of the generating station based on truing-up of the tariff for the 2014-19 tariff period and the Commission vide its order dated 9.6.2022 determined the annual fixed charges and the capital cost as



under:

Capital Cost allowed

	2015-16		2016-17	2017-18	2018-19
	22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 31.3.2016 (Units-I & II)			
Opening capital cost	141370.02	302235.23	308921.93	311684.75	312049.06
Additional Capital Expenditure	0.00	6686.71	2762.82	364.31	22.36
Closing capital cost	141370.02	308921.93	311684.75	312049.06	312071.42
Average capital cost	141370.02	305578.58	310303.34	311866.91	312060.24

Annual Fixed Charges allowed

	2015-16		2016-17	2017-18	2018-19
	22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 31.3.2016 (Units-I & II)			
Depreciation	1492.86	11817.39	16206.78	16288.45	16298.54
Interest on Loan	1959.31	15086.92	19136.39	17390.75	15404.25
Return on Equity	1689.68	13375.46	18343.58	18436.01	18497.06
Interest on Working Capital	456.92	3471.99	4982.36	5134.22	5378.05
O&M Expenses	1283.88	9549.57	13754.75	14877.81	16285.58
Total	6882.65	53301.34	72423.86	72127.23	71863.48

Present Petition

4. The Petitioner has filed the present Petition for determination of tariff of the generating station for the 2019-24 tariff period, in accordance with Regulation 9(2) of the 2019 Tariff Regulations and has claimed the following annual fixed charges and capital cost:

Annual Fixed Charges claimed

	(Rs. in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	17341.75	17820.51	17991.20	18080.38	18092.95
Interest on Loan	13457.34	12509.16	11184.24	9755.89	8236.39
Return on Equity	19629.43	20171.35	20364.56	20465.50	20479.73
Interest on Working Capital	4194.91	4234.40	4259.51	4277.30	4292.61
O&M Expenses	17818.79	18532.68	19328.94	20061.93	20880.13
Total	72442.21	73268.10	73128.45	72641.00	71981.80



Capital Cost claimed

Capital cost eligible for Return on Equity at normal rate:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	323676.27	338652.18	341961.48	345171.48	345367.48
Add: Additions during the year	14975.91	3309.30	3210.00	196.00	284.00
Less: Decapitalization during the year	-	-	-	-	-
Less: Reversal during the year	-	-	-	-	-
Add: Discharges during the year	-	-	-	-	-
Closing capital cost	338652.18	341961.48	345171.48	345367.48	345651.48
Average capital cost	331164.23	340306.83	343566.48	345269.48	345509.48

5. The Respondent, TANGEDCO and the Respondent KSEBL have filed their replies vide affidavits dated 27.11.2020 and 9.4.2021 respectively. The Petitioner has filed its rejoinder to the said replies, on 27.5.2021 and 24.6.2021 respectively. This Petition, was heard through video conferencing on 27.7.2021 and the Commission, after directing the Petitioner to submit certain additional information, reserved its order. In compliance to the directions, the Petitioner has filed the additional information vide its affidavit dated 17.9.2021, after serving copies to the Respondents. However, as the order in the petition could not be passed, prior to Chairperson Shri P.K. Pujari demitting office, this Petition was re-listed and heard through virtual hearing on 10.8.2022 and the Commission reserved its order in the petition. Based on the submissions of the parties and documents available on record and after prudence check, we proceed for determination of tariff of the generating station, in this petition, 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:

“ 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 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 is based on opening capital cost of Rs. 323676.27 lakh, as against the closing capital cost of Rs. 312071.42 lakh, on cash basis, as on 31.3.2019, allowed by order dated 9.6.2022 in Petition No. 367/GT/2020. Since, the Commission had allowed the closing capital cost of Rs 312071.42 lakh as on 31.3.2019 after truing up for the period 2014-19, the capital cost of Rs.312071.42 lakh, on cash basis, has been considered as the opening capital cost as on 1.4.2019, for the 2019-24 tariff period.

Additional Capital Expenditure

8. Regulation 25 and 26 of the 2019 Tariff Regulations, provides 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 decapitalisation 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 Petitioner has claimed direct addition of capital assets as under:



<i>(Rs. in lakh)</i>					
	2019-20	2020-21	2021-22	2022-23	2023-24
Direct Assets	14975.91	3309.30	3210.00	196.00	284.00

10. The Petitioner, in the petition, has not indicated the relevant sub-clauses of the Regulations under which the additional capital expenditure has been claimed. Accordingly, the Commission vide ROP of the hearing dated 27.7.2021, directed the Petitioner to submit revised Form-9, clearly indicating the sub-clauses of the regulations, under which the additional capital expenditure has been claimed, duly supported by linkages to packages in Form 5B, as on the cut-off date, if the additional capital expenditure claimed is within the original scope of work. The Petitioner vide affidavit dated 17.9.2021, has submitted that the additional capital expenditure projected to be incurred during the period 2019-24, has been claimed under Regulation 24 and Regulation 25 of the 2019 Tariff Regulations. The Petitioner has only furnished revised Form 9 A for the year 2019-20, but has not furnished the detailed Form 9A for rest of the tariff period. The break-up details of the additional capital expenditure claimed by the Petitioner, towards direct assets for the period 2019-24 are as under:

<i>(Rs. in lakh)</i>					
Regulations	2019-20	2020-21	2021-22	2022-23	2023-24
25(1)(f)	12274.00	0.00	0.00	0.00	0.00
25(2)(a)	324.51	0.00	0.00	0.00	0.00
25(2)(c)	2377.41	0.00	0.00	0.00	0.00
No Regulation	0.00	3309.30	3210.00	196.00	284.00
Total	14975.92	3309.30	3210.00	196.00	284.00

11. The Respondents TANGEDCO and KSEBL has submitted that the additional capital expenditure claimed by the Petitioner do not fall under Regulation 25 of the 2019 Tariff Regulations. The Respondents KSEBL has also submitted that most of the additional capital expenditure claimed by the Petitioner are in the nature of purchase



of testing kits or tools which can be met from the O&M expenses allowed to the generating station. The Petitioner, in response, has submitted that the additional capital expenditure projected to be incurred during the period 2019-24 has been claimed under Regulation 24 (original scope within cut-off date) and Regulation 25 (original scope but after cut-off date), and as such these expenditures are specifically earmarked towards discharge of undischarged liability and for the equipment's which had been included in the original scope, but could not be procured as the COD of the station got delayed.

12. The Petitioner has also prayed for extension of cut-off date of the generating station, due to multifarious technological surprises and execution glitches which the Petitioner had encountered in completion of the Project, being CFBC technology based lignite fuelled 250 MW power plant, is the first of its kind in Southeast Asia. The Petitioner has also submitted that the discharge of undischarged liabilities as contemplated by the Petitioner, could not be made within the stipulated cut-off date, since the contractual obligations, are to be complied in toto without any shortcoming.

Accordingly, the Petitioner has furnished the following justification:

- a) The station COD was declared on 5.7.2015 and the cut-off date falls on 31.3.2018, in terms of Regulation. However, the amount due and payable to the contractors could be paid, as and when the specific performance of the contractual obligations envisaged in the contract have been completely fulfilled, more particularly on the aspect of the Performance guarantee compliances.
- b) Despite all out efforts, the Performance Guarantee test compliances got delayed due to technical nuances involved and frequent outages of units on account of the adoption of new CFBC technology for this new 250 MW unit size plants.
- c) The issues/impediments for completion of the Performance Guarantee test as on 12.12.2019 as discussed in the high-level meeting between the Petitioner and M/s BHEL. are enumerated below, The brief aspects of the discussions in the meeting are as under:
 - Frequent FBHE failures in Boiler 1 and modifications there for;
 - Failures in FBHE hanger tubes in support block area;



- Failure in Top Block area due to remnant cracks prior to T91 hanger replacement;
 - Failures due to Linear movements in hangers/huge lateral forces;
 - Failures of dog bones and shearing of pins on either side;
 - Temperature rises of back pass hanger tube during start up and part load operation; and
 - Non-destructive testing of top blocks.
- d) After encountering the multifaceted problems after station COD, Performance Guarantee tests (PG) for the Turbo-generator (TG) and Boiler of Main Plant Package were completed by M/s BHEL and accepted by the Petitioner with imposition of Liquidated damages on M/s BHEL as follows:

- **PG test of Unit-1:** The PG tests on the Steam Generator, Steam Turbo Generator and ESP of Unit-1 were carried out by M/s BHEL as per the approved PG test procedure and completed on 18.10.2018. The PG test results furnished by BHEL were accepted with LD for excess APC of 240.156 kW as per contract vide MOM held between M/s BHEL & Petitioner on 12.12.2019. An LD amount of Rs. 4,08,26,520/- was levied for excess Auxiliary Power Consumption (APC) in Steam Generator of Unit-1 @ Rs. 0.17 million per kW for 240.156 kW.
- **PG test of Unit-2:** The PG tests on the Steam Generator, Steam Turbo Generator and ESP of Unit-2 were carried out by M/s BHEL, as per the approved PG test procedure and completed on 30.07.2018. However, the APC test parameters were not accepted. After carrying out the flue gas duct modification works in Unit-2 in October 2019, the APC test was repeated on 28.12.2019 and completed. The PG test results of Unit 2 furnished by M/s BHEL were accepted with LD for excess APC of 283.45 kW as per contract vide MOM held between M/s BHEL & Petitioner on 18.2.2020. An LD amount of Rs. 4,81,86,500/- was levied for excess Auxiliary Power Consumption (APC) in Steam Generator of Unit-2 @ Rs. 0.17 Million per kW for 283.45 kW.
- **PG tests on Major Sub systems:** M/s BHEL has carried out the PG tests on all the sub systems of the main plant package like bed ash system, fire protection system, ventilation system etc., on 29.1.2021. and thereby , all the contractual obligations regarding the Performance testing of A01 package are met as per the terms and conditions of the contract.
- **LD for shortfall in Availability Guarantee:** As per the contract, the unit availability shall not be less than 85% and the same has to be guaranteed during the warranty period. Based on the above, the availability shortfall in the warranty period for Unit-1 as on 17.10.2019 worked out to 27.12% and for Unit-2 as on 27.12.2020 worked out to 22.18%. For every 1% loss in plant availability during warranty period as computed at the end of warranty period for each unit, LD shall be Rs. 23



Million. Hence, the LD for Unit-1 and Unit-2 availability worked out to Rs. 62.367 Crores and Rs. 51.014 Crores respectively. Accordingly, the Liquidated Damages for non-fulfillment of Availability Guarantee for Unit-1 and Unit-2 @ 5% of the total contract price of A01 package was levied on BHEL.

- Further, BHEL has not yet supplied the pending mandatory spares for TPSII Expansion as per the T&C of contract. Hence, 5% retention amount for final take over will be released to BHEL only after completion of Final Take Over with the acceptance for the back charges for the works carried out by the Petitioner on behalf of BHEL till the completion of warranty period.

13. Accordingly, the Petitioner has submitted that keeping in view the unique issues of this project, the Commission may kindly extend the cut-off date till 31.3.2020, in exercise of the 'power to relax' and 'power to remove difficulties' and allow the additional capital expenditure incurred towards discharge of undischarged liabilities and projected additional capital expenditure during the period 2019-24.

14. The matter has been examined. We observe that the Petitioner has admittedly faced numerous challenges in the execution of works of the project. Keeping in view that these factors, which are force majeure events and beyond the control of the Petitioner, we are inclined to consider the additional capitalization claimed by the Petitioner, after the cut-off date, under Regulation 25(1)(e) of the 2019 Tariff Regulations. However, the extension of the cut-off date is not allowed to the generating station.

15. Further, the additional capital expenditure claimed by the Petitioner for the period 2019-24 is discussed in the subsequent paragraphs.

Direct Assets

2019-20

16. The Petitioner has claimed the following additional capital addition for direct assets in 2019-20 as under:



(Rs. in lakh)

Sl. No.	Head of Work / Equipment's	Claim	Regulations
1	Purchase of 950 sqm of Chute liners for Lignite Chutes in LHS - LTE	24.33	25(2)a
2	Purchase of 5 types of garland idlers and 2 types of fixed idlers for conveyors - LTE - PTE waiver	75.84	-do-
3	Purchase of 5 types of garland idlers and 2 types of fixed idlers for conveyors - PTE	109.68	
4	100 T double acting hollow plunger cylinder	12.00	
5	200T double acting hydraulic H frame press	13.00	
6	Slew bearing for stacker cum re-claimer	118.00	
7	Purchase of SOV and actuators for LSHS-LTE	11.98	
8	Purchase of Ladder & Tools for C&I Maintenance works - LTE	0.72	
9	CMMS Server & Software Upgradation	200.00	
10	Server for Central Data Centre	20.00	
11	LHS PLC Software Upgradation	30.00	
12	Anti-Virus Software	1.00	25(2)c
13	AHS, WTP & LSHS PLC Software Upgradation	65.00	
14	Procurement of Electronic Control Module (ECM) – STE	8.51	
15	Dissolved Oxygen meter	8.00	
16	Purchase of Nephelometer (Turbidity Meter) – GeM	1.73	
17	Purchase of Air Nozzle's cap and plug - LTE	24.52	
18	LTC-1D, 2C & 2D Drive head relocation – STE	78.76	
19	Procurement of Soft good kits LPBP stop and control valves, spray valves - STE	52.52	
20	Procurement of valve Lapping Machine-LTE	14.40	
21	Boiler Feed Pump Cartridge	174.60	
22	Emergency Boiler Feed Pump Cartridge	129.05	
23	Procurement of carbon steel seamless pipes – LTE	22.94	25(2)a
24	Procurement of Dial Type thermo meters for HT Motors-LTE	3.07	
25	Procurement of one number double interrupter assembly for 400 kV SF6 Circuit Breaker - STE	30.98	
26	Purchase of Forklift	10.00	
27	Purchase of Hydraulic work platform for Switch yard	36.00	
28	Spare Generator Transformer	824.00	
29	Additional Spare PA Fan motor	58.00	
30	Purchase of SATEC make Energy meter 0.2s class on STE basis	1.75	
31	Purchase of two nos. of 6.6kV/ 2.3kV,	38.23	



Sl. No.	Head of Work / Equipment's	Claim	Regulations	
	1700KVA, converter duty transformers for VFD Drive of ID fans-STE			
32	Procurement of Portable Three phase power Analyser -LTE	4.29	25(1)a	
33	Procurement of Schneider Electric make MiCom Numerical Protection relays - LTE	19.37		
34	Purchase of 220 V Battery banks for main plant DC system, LHS DC system, communication system and UPS system – GTE	236.86	25(2)a	
35	Procurement of one number of double interrupter assembly for SF6 circuit breaker – STE	3.98		
36	Purchase of 2 Nos of bearing shell assembly for generator -STE	72.99		
37	Procurement of DC link reactors for ID fan VFD system -LTE	30.84		
38	Providing roof over ESP in unit 1 & unit 2	50.00		
39	Construction of extension of LHS maintenance building for electrical division	25.00		
40	Providing sustainable waste treatment for treating canteen wastes	5.00		
41	Providing rainwater harvesting system for all plant and non-plant buildings in TPS II Expansion	25.00		
42	Providing 5 Nos of 250 lit capacity RO units in TPS II Expansion	10.00		
43	Procurement of portable ladders for civil maintenance purposes	5.00		
44	Construction of separate LPG gas chamber with gas pipe lines in the canteen	15.00		
45	Liabilities to be discharged (Main Plant Package)	12274.00		25(1)f
	Total	14975.91		

Items claimed under Regulation 25(1)(f) of the 2019 Tariff Regulations

Discharge of Liabilities (Main Plant Package)

The Commission vide its order dated 9.6.2022 in Petition No. 367/GT/2020 had approved the total un-discharged liability of Rs.25076.97 lakh. Out of this total un-discharged liability, the Petitioner has claimed the discharge of Rs. 12803.00 lakh during the 2014-19 tariff period. The Commission has allowed discharges amounting to Rs. 9836.20 lakh during the 2014-19 tariff period vide order dated 9.6.2022. The Petitioner has claimed the additional capital expenditure of Rs. 12274.00 lakh in 2019-



20 on account of liabilities, to be discharged, corresponding to main plant package vide Form 9A, on projection basis. However, the Petitioner has not furnished the duly filled Form 9A. Since the Petitioner has claimed the discharge of liabilities, on projection basis, the same is **allowed**.

17. The Petitioner is however, directed to submit the package-wise liability flow statement since COD i.e., 5.7.2015 in terms of the order dated 9.6.2022 along with details of Form 9A and Form 9D, at the time of truing up of tariff for the 2019-24 tariff period, for revision of un-discharged liabilities, if any.

Items claimed under Regulation 25(2)(C) of the 2019 Tariff Regulations

CMMS Server & Software Upgradation

18. The Petitioner has claimed additional capital expenditure of Rs. 200.00 lakh in 2019-20 towards CMMS Server & Software Upgradation under Regulation 25(2)(C) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that Computerized Maintenance Management System (CMMS) is in service for Maintenance management and Line Clearing System. It has also submitted that the system was supplied by project contractor M/s. BHEL and was based on Windows Server OS. Both the OS and Server hardware units have become obsolete now and no software support is available anymore. Accordingly, the Petitioner has submitted that it was absolutely necessary to upgrade both the hardware & software to newer versions. Since the expenditure on account of upgradation of CMMS Server & Software is necessary for the efficient and successful operation of the generating station, the same is **allowed**. This is however subject to the Petitioner furnishing relevant documentary evidence in respect of the obsolescence of technology, at the time of truing up of tariff. As the Petitioner has not furnished the decapitalised value of the old asset., the same has been computed as per the consistent methodology and



adjusted under 'Assumed deletions'

Server for Central Data Centre

19. The Petitioner has claimed additional capital expenditure of Rs. 20.00 lakh in 2019-20 on account of Server for Central Data Centre. The Petitioner, in justification for the same, has submitted that Centralized Monitoring System was proposed to be established for monitoring all generating stations of the Petitioner, round the clock. It has also submitted that the generating station process parameter data are to be sent to this system as per the scheme and hence it was proposed to procure Data servers to send Data from the generating station DCS to CMS clients. As the expenditure on account of Server for Central Data system is necessary for the efficient and successful operation of the generating station, the same is **allowed**. This is however subject to the Petitioner furnishing relevant documentary evidence in respect of the obsolescence of technology, at the time of truing up of tariff. As the Petitioner has not furnished the decapitalised value of the old asset., the same has been computed as per the consistent methodology and adjusted under 'Assumed deletions'.

LHS PLC Software Up-gradation

20. The Petitioner has claimed additional capital expenditure of Rs. 30.00 lakh in 2019-20 towards LHS PLC Software Up-gradation. The Petitioner, in justification for the same has submitted that Allen Bradley (Rockwell) & Siemens PLC Systems are in service for Automatic operation of Lignite receipt & Feeding system. It has also submitted that the PLC systems and their HMI- Workstations were supplied along with the project by the respective Project contractors. The Petitioner has further stated that the software in these workstations, both the Operating System and PLC applications, have become obsolete, and no support was available and therefore, it



was essential to procure newer version workstations & software, to ensure continuous operation of LHS systems which is essential and mandatory. Since the expenditure on account of LHS PLC Software upgradation is necessary for the efficient and successful operation of the generating station, the same is **allowed**. This is however subject to the Petitioner furnishing relevant documentary evidence in respect of the obsolesce of technology, at the time of truing up of tariff. As the Petitioner has not furnished the decapitalised value of the old asset., the same has been computed as per the consistent methodology and adjusted under 'Assumed deletions'

AHS, WTP & LSHS PLC Software Upgradation

21. The Petitioner has claimed additional capital expenditure of Rs. 65.00 lakh during 2019-20 on account of AHS, WTP & LSHS PLC Software Upgradation. The Petitioner, in justification for the same, has submitted that for the generating station, AHS, WTP & LSHS Systems are fully automated with GE Fanuc PLC Systems. It has also stated that the HMI- Workstations are Windows XP based systems and PLC applications are compatible with XP OS only and these Windows XP and PLC software are obsolete now and no Windows XP based workstations are available in the market now. The Petitioner has further submitted that since Window 7/10 OS based workstations are only available in the market now, it is necessary and mandatory to procure Windows 7/10 based PLC software applications and upgrade the HMIs. Since the expenditure on account of AHS, WTP & LSHS PLC Software Upgradation is necessary for the efficient and successful operation of the generating station, the same is **allowed**. This is however subject to the Petitioner furnishing relevant documentary evidence in respect of the obsolesce of technology, at the time of truing up of tariff. As the Petitioner has not furnished the decapitalised value of the old asset., the same has been computed as per the consistent methodology and adjusted under 'Assumed



deletions'

Procurement of Electronic Control Module (ECM) - STE

22. The Petitioner has claimed additional capital expenditure of Rs. 8.51 lakh in 2019-20 towards the procurement of Electronic Control Module (ECM). However, the Petitioner has not furnished any justification for the expenditure incurred. Since the expenditure claimed by the Petitioner is in the nature of O&M expenses, the additional capital expenditure claimed is **not allowed**.

Antivirus Software

23. The Petitioner has claimed additional capital expenditure of Rs. 1.00 lakh in 2019-20 towards Antivirus software. The Petitioner, in justification for the same, has submitted that in TPS-II Expansion, DCS PLC Systems and HMI Workstations are linked to Management Information Systems and Intranet for various data / information transfer. It has also stated that to ensure the security of DCS / PLC System, antivirus software is being used. The Petitioner has further submitted that as the existing antivirus software and the workstations have become obsolete, newer version antivirus software is essential for ensuring the complete security of systems, which is essential and mandatory. Since the expenditure claimed by the Petitioner is in the nature of O&M expenses, the additional capital expenditure claimed is **not allowed**.

Items claimed under Regulation 25(1)(a), Regulation 25(2)(a) and Regulation 25(2)(b) of the 2019 Tariff Regulations

Other Items

24. The Petitioner has claimed total additional capital expenditure of Rs. 2377.41 lakh in 2019-20 towards certain items like Purchase of 950 sqm of Chute liners for



Lignite Chutes in LHS – LTE, Purchase of 5 types of garland idlers and 2 types of fixed idlers for conveyors - LTE - PTE waiver, Purchase of 5 types of garland idlers and 2 types of fixed idlers for conveyors – PTE, 100 T double acting hollow plunger cylinder, 200T double acting hydraulic H frame press, Slew bearing for stacker cum re-claimer, Purchase of SOV and actuators for LSHS-LTE, Purchase of Ladder & Tools for C&I Maintenance works – LTE, Dissolved Oxygen meter, Purchase of Nephelometer (Turbidity Meter) – GeM, Purchase of Air Nozzle's cap and plug – LTE, LTC-1D, 2C & 2D Drive head relocation – STE, Procurement of Soft good kits LPBP stop and control valves, spray valves – STE, Procurement of valve Lapping Machine-LTE, Boiler Feed Pump Cartridge, Emergency Boiler Feed Pump Cartridge, Procurement of carbon steel seamless pipes – LTE, Procurement of Dial Type thermometers for HT Motors-LTE, Procurement of one number double interrupter assembly for 400 kV SF6 Circuit Breaker – STE, Purchase of Fork Lift, Purchase of Hydraulic work platform for Switch yard, Spare Generator Transformer, Additional Spare PA Fan motor, Purchase of SATEC make Energy meter 0.2s class on STE basis, Purchase of two nos. of 6.6kV/ 2.3kV ,1700KVA ,converter duty transformers for VFD Drive of ID fans-STE, Procurement of Portable Three phase power Analyser -LTE, Procurement of Schneider Electric make MiCom Numerical Protection relays – LTE, Purchase of 220 V Battery banks for main plant DC system, LHS DC system, communication system and UPS system – GTE, Procurement of one number of double interrupter assembly for SF6 circuit breaker – STE, Purchase of 2 Nos of bearing shell assembly for generator -STE, Procurement of DC link reactors for ID fan VFD system -LTE, providing roof over ESP in unit 1 & unit 2, construction of extension of LHA maintenance building for electrical division, Providing sustainable waste treatment for treating canteen wastes, Providing rain water harvesting system for all plant and non-plant buildings in TPS-II Expansion, Providing 5 Nos of 250 Litre capacity RO units in



TPS-II Expansion, Procurement of portable ladders for civil maintenance purposes and Construction of separate LPG gas chamber with gas pipe lines in the canteen. It is however noticed that the Petitioner has not furnished any justification along with documentary evidence in support of these claims in terms of the provisions of the regulations under which the assets have been claimed. In the absence of this, we are not inclined to allow the additional capital expenditure claimed by the Petitioner in respect of these assets. However, the Petitioner is at liberty to claim the capitalisation of these assets in terms of the relevant regulations along with proper justification/documentary evidence, at the time of truing up of tariff.

Other additional capital expenditure claimed during the years 2020-21, 2021-22, 2023-24 and 2023-24

25. It is observed that the Petitioner has also claimed total additional capital expenditure of Rs. 3309.30 lakh in 2020-21, Rs. 3210.00 lakh in 2021-22, Rs. 196.00 lakh in 2022-23 and Rs. 284.00 lakh in 2023-24 for certain assets/works. However, the Petitioner has neither furnished the provisions of the regulations/justification for the claims in the original petition. It is further noticed that in compliance to the directions vide ROP of the hearing dated 27.7.2021, the Petitioner has only clarified that the additional capital expenditure projected to be incurred during the period 2019-24 , have been claimed under Regulation 24 and Regulation 25 respectively. In the absence of any proper justification with documentary evidence, we find no reason to allow the additional capital expenditure claimed for the assets, during the said years. However, the Petitioner is at liberty to claim the capitalisation of these assets in terms of the relevant regulations along with proper justification/documentary evidence, at the time of truing up of tariff.

26. Based on above discussion, the projected additional capital expenditure allowed



for the 2019-24 tariff period, is summarised below:

		<i>(Rs. in lakh)</i>				
Additional Capital Expenditure		2019-20	2020-21	2021-22	2022-23	2023-24
Claimed		14975.91	3309.30	3210.00	196.00	284.00
Allowed		12589.00	0.00	0.00	0.00	0.00

Assumed Deletions

27. As per consistent methodology adopted by the Commission, the expenditure on replacement of assets, if found justified, is allowed for the purpose of tariff, provided that the capitalization of the said asset is followed by de-capitalization of the original value of the old asset. However, in certain cases where de-capitalization is affected in books during the following years, to the year of capitalization of new asset, the decapitalization of the old asset for the purpose of tariff is shifted to the very same year in which the capitalization of the new asset is allowed. Such de-capitalization which is not a book entry in the year of capitalization is termed as "Assumed deletion". Further, in the absence of the gross value of the asset being de-capitalized, the same is calculated by de-escalating the gross value of new asset @ 5% per annum till the year of capitalization of the old asset.

28. It is observed that the Petitioner has claimed the asset/work such as CMMS Server and software upgradation, server for Central Data Centre, LHS PLC Software Up gradation and AHS, WTP and LSHS PLC Software Upgradation on replacement basis. However, the Petitioner has not provided the de-capitalization value of the old asset/ works which have been replaced. Accordingly, based on above methodology, the assumed deletion (projected) considered for 2019-20 for these assets/works is as under:

(Rs. in lakh)



SI No.	Details	Additions claimed for new asset on replacement	De-capitalization value of old asset Claimed	Assumed Deletions for old asset Allowed	Net Additional Capital Expenditure allowed
2019-20					
1	CMMS Server & Software Upgradation	200.00	0.00	164.54	35.46
2	Server for Central Data Centre	20.00	0.00	16.45	3.55
3	LHS PLC Software Upgradation	30.00	0.00	24.68	5.32
4	AHS, WTP & LSHS PLC Software Upgradation	65.00	0.00	53.48	11.52
	Total	315.00	0.00	259.15	55.85

Net additional capital expenditure allowed

29. The net additional capital expenditure allowed for the 2019-24 tariff period is as under:

	2019-20	2020-21	2021-22	2022-23	2023-24
Admitted additional capital expenditure (a)	12589.00	0.00	0.00	0.00	0.00
Deletions considered during the year (b)	259.15	0.00	0.00	0.00	0.00
Net additional capital expenditure (c)=(a)-(b)	12329.85	0.00	0.00	0.00	0.00

Capital Cost

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

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	312071.42	324401.27	324401.27	324401.27	324401.27
Add: Additional capital expenditure	12329.85	-	-	-	-
Closing Capital Cost	324401.27	324401.27	324401.27	324401.27	324401.27
Average Capital Cost	318236.34	324401.27	324401.27	324401.27	324401.27

(Rs. in lakh)

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. 226354.66 lakh and equity of Rs.97102.88 lakh 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 order dated 9.6.2022 in Petition No. 367/GT/2020 is Rs.218450.00 lakh and Rs.93621.43 lakh respectively, which has been considered as on 1.4.2019. Further, the projected additional capital expenditure approved as above, has been



allocated to debt and equity in ratio of 70:30. Accordingly, debt-equity ratio is worked out as under:

	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	218450.00	70.00	8630.89	70.00	227080.89	70.00
Equity	93621.43	30.00	3698.95	30.00	97320.38	30.00
Total	312071.42	100.00	12329.85	100.00	324401.27	100.00

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.

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 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."

35. The Petitioner has claimed Return on Equity (ROE) considering the base rate of 15.50% and effective tax rate of 21.550% for the opening equity as on 1.4.2019 and projected additional capital expenditure claimed under original scope of work, change in law etc. for the 2019-24 tariff period. Further the Petitioner has not claimed any item which is beyond the original scope of work. For grossing up of ROE, during the 2019-



24 tariff period, the effective tax rate has been considered as MAT rate of 17.472%, 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	93621.43	97320.38	97320.38	97320.38	97320.38
Addition of Equity due to additional capital expenditure	3698.95	0.00	0.00	0.00	0.00
Normative Equity – Closing	97320.38	97320.38	97320.38	97320.38	97320.38
Average Normative Equity	95470.91	97320.38	97320.38	97320.38	97320.38
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)	17931.35	18278.71	18278.71	18278.71	18278.71

Interest on Loan

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-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.”

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



- i) The gross normative loan amounting to Rs. 218450.00 lakh has been retained as on 1.4.2019;
- ii) Cumulative repayment of Rs. 62104.02 lakh as on 31.3.2019 as considered in order dated 9.6.2022 in Petition No. 367/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 be Rs. 156345.99 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; and
- vi) The Petitioner has claimed interest on loan considering weighted average rate of interest of 8.483% during the 2019-24 tariff period. The Commission has considered the weighted average rate of interest as submitted by the Petitioner for 2018-19 and has computed the IOL on the same.

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Gross opening loan (A)	218450.00	227080.89	227080.89	227080.89	227080.89
Cumulative repayment of loan upto previous year (B)	62104.02	78661.08	95604.23	112547.39	129490.54
Net Loan Opening (C=A-B)	156345.98	148419.82	131476.66	114533.51	97590.36
Addition due to additional capital expenditure (D)	8630.89	0.00	0.00	0.00	0.00
Repayment of loan during the year (E)	16621.17	16943.15	16943.15	16943.15	16943.15
Repayment adjustment on account of de-capitalization (F)	64.11	-	-	-	-
Net Loan Closing (G=C+D-E+F)	148419.82	131476.66	114533.51	97590.36	80647.20
Average Loan (H=(G+C)/2)	152382.90	139948.24	123005.09	106061.93	89118.78
Weighted Average Rate of Interest of loan (I)	8.483%	8.483%	8.483%	8.483%	8.483%
Interest on Loan (J=H*I)	12926.91	11872.05	10434.74	8997.42	7560.10

Depreciation

38. 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 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 up to 31.3.2019 from the gross depreciable value of the assets.

(7) The generating company or the transmission license, as the case may be, shall submit the details of proposed capital expenditure 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.”



39. The cumulative depreciation amounting to Rs.62104.02 lakh as on 31.3.2019, as considered in order dated 9.6.2022 in Petition No. 367/GT/2020 has been retained as on 1.4.2019. The Petitioner has not considered the cost of IT equipment and software, while calculating the depreciable value and accordingly the same has been considered as nil. Since, the elapsed life of the generating station as on 1.4.2019 is 3.74 years from effective station COD (i.e. 5.7.2015), depreciation for the 2019-24 tariff period, has been computed by considering the weighted average rate of depreciation of 5.22%, as considered in order dated 9.6.2022, since the calculation for the same has not been furnished by the Petitioner. This is subject to truing up. Necessary calculations, in support of depreciation are as under:

		<i>(Rs. in lakh)</i>				
		2019-20	2020-21	2021-22	2022-23	2023-24
A	Average Capital Cost	318236.34	324401.27	324401.27	324401.27	324401.27
B	Value of freehold land included above	-	-	-	-	-
C	Depreciable value [(A-B) x 0.9]	286412.71	291961.14	291961.14	291961.14	291961.14
D	Remaining depreciable value at the beginning of the year (C – Cumulative depreciation as shown at 'I' at the end of the preceding period)	224308.69	213300.06	196356.91	179413.76	162470.60
E	No. of completed years at the beginning of the year	3.74	4.74	5.74	6.74	7.74
F	Balance useful life at the beginning of the year (25 – E)	21.26	20.26	19.26	18.26	17.26
G	WAROD	5.2229%	5.2229%	5.2229%	5.2229%	5.2229%
H	Depreciation during the year (A/F)	16621.17	16943.15	16943.15	16943.15	16943.15
I	Cumulative depreciation at the end (Cumulative depreciation at the end of the preceding period* + H)	78725.19	95604.23	112547.39	129490.54	146433.69
J	Less: Cumulative Depreciation reduction due to decapitalization	64.11	-	-	-	-
K	Cumulative Depreciation after adjustment due to decapitalization (at the end of the period) (I-J)	78661.08	95604.23	112547.39	129490.54	146433.69

*Cumulative Depreciation as on 31.03.2019 is Rs. 62104.02 Lakh.

Operation & Maintenance Expenses

40. The O&M expenses claimed by the Petitioner are as under:



(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses claimed under Regulation 35(1)(1) of the 2019 Tariff Regulations (a)	16480.00	17060.00	17655.00	18280.00	18920.00
O&M expenses under Regulation 35(1)(6) of the 2019 Tariff Regulations:					
- Water Charges	427.46	470.21	571.23	568.95	625.85
- Security Expenses	911.33	1002.47	1102.71	1212.98	1334.28
-Capital Spares consumed	0.00	0.00	0.00	0.00	0.00
Total O&M Expenses claimed	17818.79	18532.68	19328.94	20061.93	20880.13

41. The normative O&M expenses claimed by the Petitioner are in terms of the Regulation 35(1)(1) of the 2019 Tariff Regulations and is in order. Accordingly, same is allowed for the period 2019-24.

Water Charges

42. Regulation 35(1)(6) of the 2019 Tariff Regulations provides for claim towards water charges, security expenses and capital spares 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:

xxxxxx.”

43. The actual water charges claimed by the Petitioner in Petition No. 367/GT/2020 and allowed by order dated 9.6.2022 is as under:

(Rs. in lakh)

Water Charges	2015-16		2016-17	2017-18	2018-19	
	22.4.2015 to 4.7.2015 (Unit-II)	5.7.2015 to 31.3.2016 (Units-I & II)			(up to 4.7.2018)	(from 5.7.2018 to 31.3.2019)
Claimed for the 2014-19 tariff period	55.93	204.82	255.62	382.48	99.81	283.66
Allowed for the 2014-19 tariff period	-	80.91	80.06	94.35		105.42

44. The Water charges claimed for the 2019-24 tariff period are as under

(Rs. in lakh)



2019-20	2020-21	2021-22	2022-23	2023-24
427.46	470.21	571.23	568.95	625.85

45. In terms of Regulation 35(1)(6) of the 2019 Tariff Regulations, 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 Petitioner has claimed water charges consisting of pumping cost incurred by ground water control and storm water control for the year, consent fee payable to Govt. account and personnel charges during the 2014-19 tariff period. However, the Petitioner has not furnished the details of water charges for the 2019-24 tariff period.

46. We have considered the matter. As the Petitioner has not furnished the details of water charges viz., the quantity, pumping charges, consent fee payable to Govt. account and the Personnel charges for claiming water charges under O&M expenses, Water charges, as approved by order dated 9.6.2022 in Petition No. 367/GT/2020 for 2018-19 has been allowed. Accordingly, Water charges for Rs 105.42 lakh has been considered for each year of the 2019-24 tariff period and the same is subject to truing-up, based on actuals. Accordingly, water charges allowed for the purpose of tariff for the period 2019-24 is summarised as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
105.42	105.42	105.42	105.42	105.42

Security Expenses

47. The security expenses claimed by the Petitioner for the 2019-24 tariff period is as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
911.33	1002.47	1102.71	1212.98	1334.28

48. The Petitioner has submitted that above expenses has been claimed based on the estimated expenses for the period 2019-24 and shall be subject to adjustment



based on actuals at the time of truing up. Though the Petitioner has claimed projected security expenses for the generating station, it has not furnished the assessment of security requirement in terms of the 2019 Tariff Regulations. Accordingly, the Petitioner is directed to furnish the requisite details for security expenses, at the time of truing -up of tariff, for prudence check. Considering the fact that the security expenses incurred by the Petitioner is subject truing-up, at the end of the tariff period, we have considered and allowed the projected security expenses claimed by the Petitioner. Accordingly, the security expenses claimed and allowed, for the 2019-24 tariff period is under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Security expenses claimed	911.33	1002.47	1102.71	1212.98	1334.28
Security expenses allowed	911.33	1002.47	1102.71	1212.98	1334.28

Capital Spares

49. The Petitioner has not claimed capital spares during the 2019-24 tariff period, but has 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 of tariff, in terms of the last 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 shall be considered at the time of truing up on merits, after prudence check.

Summary of the O&M expenses

50. Accordingly, the total O&M expenses, including water charges and security expenses, claimed by the Petitioner and those allowed for the 2019-24 tariff period is summarised below:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses	16480.00	17060.00	17655.00	18280.00	18920.00



	2019-20	2020-21	2021-22	2022-23	2023-24
claimed under Regulation 35(1)(1) of the 2019 Tariff Regulations (a)					
Normative O&M expenses allowed under Regulation 35(1)(1) of the 2019 Tariff Regulations (b)	16480.00	17060.00	17655.00	18280.00	18920.00
Water Charges claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (c)	427.46	470.21	571.23	568.95	625.85
Water Charges allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (d)	105.42	105.42	105.42	105.42	105.42
Security Expenses claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (e)	911.33	1002.47	1102.71	1212.98	1334.28
Security Expenses allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (f)	911.33	1002.47	1102.71	1212.98	1334.28
Total O&M expenses claimed under Regulation 35 of the 2019 Tariff Regulations (a + c + e)	17818.79	18532.68	19328.94	20061.93	20880.13
Total O&M expenses allowed under Regulation 35 of the 2019 Tariff Regulations (b + d + f)	17496.75	18167.89	18863.13	19598.40	20359.70

Operational Norms

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

Normative Annual Plant Availability Factor (NAPAF) (%)	80
Heat Rate (kCal/kwh)	2559.94
Auxiliary Power Consumption (%)	10.00
Specific Oil Consumption (ml/kwh)	1.00

Normative Annual Plant Availability Factor

52. Regulation 49(A)(e) of the 2019 Tariff Regulations provides as under:

“(A) Normative Annual Plant Availability Factor (NAPAF)

For Lignite fired Generating Stations using Circulatory Fluidized Bed Combustion (CFBC) Technology and Generating stations based on coal rejects:

1. First Three years from the date of commercial operation – 75%



2. For next year after completion of three years of the date of commercial operation – 80%”

53. The COD of the generating station is 5.7.2015, Accordingly, in terms of Regulation 49(A)(e) of the 2019 Tariff Regulations, the Petitioner has considered NPAF of 80% during the 2019-24 tariff period, and the same is allowed.

Gross Station Heat Rate (kCal/kWh)

54. Regulation 49(C)(a)(iv) of 2019 Tariff Regulations provides as under:

“For Lignite-fired Thermal Generating Stations: For lignite-fired thermal generating stations, except for TPS-I and TPS-II (Stage I & II) of NLC India Ltd, the gross station heat rates specified under sub-clause (i) for coal-based thermal generating stations shall be applied with correction, using multiplying factors as given below:

(a) For lignite having 50% moisture: 1.10

(b) For lignite having 40% moisture: 1.07

(c) For lignite having 30% moisture: 1.04

For other values of moisture content, multiplying factor shall be pro-rated for moisture content between 30-40% and 40-50% depending upon the rated values of multiplying factor for the respective range given under sub-clauses (a) to (c) above.

55. The Petitioner has claimed Gross Station Heat Rate (GSHR) of 2559.94 kCal/kWh considering 40% moisture, in line with Regulation 49(C)(a)(iv) of the 2019 Tariff Regulations. However, the Petitioner has not furnished any documents regarding the 40% moisture content claimed. We however, allow the Gross Station Heat Rate (GSHR) of 2559.94 kCal/kWh, subject to the Petitioner furnishing documentary evidence showing the moisture content of 40% at the time of truing up of tariff.

Secondary Fuel Oil Consumption

56. Regulation 49(D)(b) of 2019 Tariff Regulations provides as under:

“(i) For Lignite-fired generating stations except TPS-I: 1.0 ml/kWh

57. In terms of Regulation 49(D)(b) of the 2019 Tariff Regulations, the Petitioner has considered secondary fuel oil consumption of 1.00 ml/kWh and the same is allowed.



Auxiliary Power Consumption

58. Regulation 49(E)(d) of 2019 Tariff Regulations provides as under:

“(d) For Lignite-fired thermal generating stations:

xxx

(iii) For TPS-I, TPS-I (Expansion) and TPS-II Stage-I&II of NLC India Ltd.:

<i>TPS-I</i>	<i>12.00%</i>
<i>TPS-II</i>	<i>10.00%</i>
<i>TPS-I (Expansion)</i>	<i>8.50%</i>

59. In terms of Regulation 49(E)(d)(iii) of the 2019 Tariff Regulations, the Petitioner has considered the auxiliary energy consumption of 10.00% and the same is allowed.

Interest on Working Capital

60. Sub-section (a) of clause (1) of 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.

xxxxx

(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.”

61. Regulation 36 of 2019 Tariff Regulations regarding input price for coal and lignite from integrated mines provides as under:

(3)The generating company shall, after the Date of Commercial Operation of the integrated mines, till the input price of lignite is determined by the Commission under these regulations, fix the input price of lignite for the generating station at the last available pooled lignite price as determined by the Commission for transfer price of lignite or the estimated price available in the investment approval, whichever is lower;

Provided that the difference between the input price of lignite determined under these regulations and the input price of lignite so fixed prior to such determination, for the quantity of lignite billed, shall be adjusted in accordance with Clause (4) of this Regulation.

(4) In case of excess or short recovery of input price under Clause (2) or Clause (3) of this Regulation, the generating company shall refund the excess amount or recover the short amount, as the case may be, with simple rate of interest, equal to the bank rate prevailing as on 1st April of the respective year of the tariff period, in six equal monthly instalments.

36A. Input Price of coal or Lignite: (1) Input price of coal or lignite from integrated mine shall be computed based on the following components:

- (I) Run of Mine (ROM) Cost; and*
- (II) Additional charges:*
- (III) crushing charges;*
 - a. transportation charge within the mine up to the washery end or coal handling plant associated with the integrated mine, as the case may be;*
 - b. handling charges at mine end;*
 - c. washing charges; and*
 - d. transportation charges beyond the washery end or coal handling plant, as the case may be, and up to the Loading Point:*

Provided that one or more components of additional charges may be applicable on case-to-case basis, based on the scope and nature of the mining activities.

Provided further that the input price of lignite shall be computed based on Run of Mine (ROM) Cost based on the technology such as bucket excavator-conveyor belt-spreader or its combination and handling charges, if any.

Statutory Charges, as applicable, shall be allowed.

Fuel Cost and Energy Charges in working capital

62. The Petitioner has claimed the following cost for fuel components:

- a) Lignite and Secondary fuel rates for October 2018, November 2018 and December 2018 were adopted in the computation of interest on working capital and energy charges in respect of the generating station for the period 1.4.2019 to 31.3.2024.
- b) The price of fuel as computed by the Petitioner is shown as under:



Base price of lignite (Rs. /MT)	2085.00
Royalty @ 6%	125.00
DMF 30%	37.50
NMET @2%	2.50
GST @ 18%	29.70
Average price of Lignite (October, 2018 to December, 2018) per tonne	2279.70

(Rs. In Lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Lignite towards Stock (10 days stock corresponding to NAPAF)	2137.92	2137.92	2137.92	2137.92	2137.92
Cost of Lignite towards Generation (30 days generation corresponding to NAPAF)	6413.77	6413.77	6413.77	6413.77	6413.77
Cost of Limestone towards stock (10 days stock corresponding to NAPAF)	306.43	306.43	306.43	306.43	306.43
Cost of Limestone towards Generation (30 days generation corresponding to NAPAF)	306.43	306.43	306.43	306.43	306.43
Cost of Secondary Fuel Oil (2 months generation corresponding to NAPAF)	270.40	269.66	269.66	269.66	270.40

Lignite Transfer Price and Energy Charges

63. The Petitioner had filed Petition No: 452/MP/2019 for truing-up of lignite transfer price of NLC mines for the 2014-19 tariff period and the Commission vide its order dated 24.3.2022 (read with corrigendum order dated 26.4.2022) had determined the pooled lignite transfer price for the said period, as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
Pooled price of Lignite after truing up (Rs. /Tonne)	1547.00	1689.00	1891.00	1983.00	2021.00

64. The lignite transfer price for the period 2019-24 is the base lignite price only, and it does not include Royalty charges, DMF, NMET and GST. Hence, to work out the landed price of fuel, we have considered the Royalty charges at 6%, DMF @ 30%, NMET @ 2% and GST @ 18%, in line with the Petitioner's claim. Considering the fact that the petition has filed for determination of tariff for the period 2019-24 on 28.10.2019 and the Commission has issued the second amendment on 19.2.2021 for



determination of input price of coal and lignite from integrated mines for the period 2019-24, the Lignite transfer price has been computed considering the lignite price for the period 2018-19, as approved by order dated 24.3.2022 (read with corrigendum order dated 26.4.2022) in Petition No 452/MP/2019.

	Particulars	2018-19
A	Base Price Excluding Royalty Rs/T	2021.00
B	Royalty @ 6% on (A)	121.00
C	DMF @ 30% on (B)	36.30
D	NMET @ 2% on (B)	2.42
E	Total Royalty (B+C+D)	159.72
F	GST on Royalty on (E)	28.75
G	Transfer Price (A+E+F) Rs. /T	2209.47

65. This is however subject to revision based on the decision in Review Petition No.17/RP/2022 filed by the Petitioner, which is pending before this Commission. Also, the Petitioner, in its computation of working capital has considered two types of secondary fuel oil i.e. HFO and LDO. However, in terms of Regulation 34(1)(a)(iii) of the 2019 Tariff Regulations, working capital shall cover 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 shall be considered. Therefore, in terms of the said regulations, we have considered the main secondary fuel oil as HFO. The Petitioner has also not provided the details of Form 15 for Lignite. Accordingly, the price and GCV of lignite for the period from 2019-20 to 2023-24 and the secondary oil, considered by the Petitioner and allowed for the computation of lignite cost, secondary oil and 2-month energy charges in working capital is as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Price of Lignite (Rs. / Tonne)	2209.47	2209.47	2209.47	2209.47	2209.47
GCV of Lignite (kCal/kg)	2610.33	2610.33	2610.33	2610.33	2610.33
Price of Secondary fuel oil (Rs./kL)	44038.04	44038.04	44038.04	44038.04	44038.04
GCV of secondary fuel oil (kCal/kg)	9957.94	9957.94	9957.94	9957.94	9957.94
Price of Limestone (Rs/MT)	2313.00	2313.00	2313.00	2313.00	2313.00



66. Accordingly, the weighted average GCV and cost for fuel components as claimed, the working capital and two months energy charges are worked out as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Lignite for 40 days (including stock and generation)	8288.22	8288.22	8288.22	8288.22	8288.22
Cost of Limestone for 40 days (including stock and generation)	408.57	408.57	408.57	408.57	408.57
Cost of secondary fuel oil for 2 months	257.89	257.18	257.18	257.18	257.89
Energy Charge for 45 days	9972.72	9972.72	9972.72	9972.72	9972.72

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

Working Capital for Maintenance Spares

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

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
3,563.76	3,706.54	3,865.79	4,012.39	4,176.03

69. Regulation 34(1)(a)(iv) of the 2019 Tariff Regulations provide for maintenance spares @ 20% of the O&M expenses (including water charges and security expenses). Accordingly, maintenance spares @ 20% of the O&M expenses (including the water charges and security expenses) allowed for the 2019-24 tariff period is as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
3499.35	3633.58	3772.63	3919.68	4071.94

Working Capital for Receivables



70. In terms of Regulation 34(1)(a)(v) of the 2019 Tariff Regulations, the receivables equivalent to 45 days of capacity charges and energy charges is worked out and allowed as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Variable Charges - for 45 days	9972.72	9972.72	9972.72	9972.72	9972.72
Fixed Charges - for 45 days	8468.20	8497.75	8377.13	8292.17	8187.84
Total	18440.92	18470.47	18349.85	18264.89	18160.56

71. As per Regulation 34(2) of the 2019 Tariff Regulations, the cost of fuel (Lignite in this case) shall be based on landed fuel cost (taking into account normative transit and handling losses in terms of Regulation 39 of the 2019 Tariff Regulations) by the generating station and GCV of fuel as per the actual weighted average for the third quarter of preceding financial year. Hence, the Petitioner shall, at the time of truing up, furnish the details of quantity of lignite as per Regulation 34(2) of 2019 Tariff Regulations. The Petitioner shall not alter or modify any of the column and lines provided in the forms/annexures and shall submit the details strictly in accordance with the said forms/ annexures of the 2019 Tariff Regulations. The Petitioner is directed to calculate the input price of lignite as per Regulation 36 of the 2019 Tariff Regulations.

Working Capital for O&M Expenses for 1 month

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

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
1484.90	1544.39	1610.75	1671.83	1740.01

73. Regulation 34(1)(a)(vi) 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 is as under:



(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
1458.06	1513.99	1571.93	1633.20	1696.64

74. 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, 10.50% (i.e. 1 year SBI MCLR of 7.00% as on 01.04.2021 + 350 bps) for the year 2020-21 and 10.50% (i.e. 1 year SBI MCLR of 7.00% as on 01.04.2022 + 350 bps) for the period 2022-24.

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

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Lignite towards Stock - (10 days stock corresponding to NAPAF)	2072.05	2072.05	2072.05	2072.05	2072.05
Cost of Lignite towards Generation - (30 days stock corresponding to NAPAF)	6216.16	6216.16	6216.16	6216.16	6216.16
Cost of Limestone for 40 days	408.57	408.57	408.57	408.57	408.57
Cost of Secondary fuel oil - (2 months stock corresponding to NAPAF)	257.89	257.18	257.18	257.18	257.89
Maintenance Spares @ 20% of O&M expenses	3499.35	3633.58	3772.63	3919.68	4071.94
Receivables - 45 days	18440.92	18470.47	18349.85	18264.89	18160.56
O&M expenses - 1 month	1458.06	1513.99	1571.93	1633.20	1696.64
Total Working Capital	32353.01	32572.00	32648.37	32771.74	32883.82
Rate of Interest	12.0500%	11.2500%	10.5000%	10.5000%	10.5000%
Interest on Working Capital	3898.54	3664.35	3428.08	3441.03	3452.80

Annual Fixed Charges

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

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	16621.17	16943.15	16943.15	16943.15	16943.15
Interest on Loan	12926.91	11872.05	10434.74	8997.42	7560.10
Return on Equity	17931.35	18278.71	18278.71	18278.71	18278.71
Interest on Working Capital	3898.54	3664.35	3428.08	3441.03	3452.80
O&M Expenses	17496.75	18167.89	18863.13	19598.40	20359.70
Total annual fixed charges approved	68874.71	68926.16	67947.81	67258.72	66594.47

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.



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

Application Fee and Publication expenses

77. 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.

78. Similarly, RLDC Fees & Charges paid by the Petitioner in terms of the Central Electricity Regulatory Commission (Fees and Charges of Regional Load Dispatch Centre and other related matters) Regulations, 2019, shall be recovered from the beneficiaries. In addition, the Petitioner is entitled recovery of statutory taxes, levies, duties, cess etc. levied by the statutory authorities in accordance with the 2019 Tariff Regulations.

79. Petition No. 111/GT/2020 is disposed of in terms of the above.

**Sd/-
(Pravas Kumar Singh)
Member**

**Sd/-
(Arun Goyal)
Member**

**Sd/-
(I.S Jha)
Member**

