

**Ffly CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 407/GT/2020

Coram:

**Shri Jishnu Barua, Chairperson
Shri Arun Goyal, Member
Shri Pravas Kumar Singh, Member**

Date of Order: 17th May, 2024

In the matter of:

Petition for truing-up of tariff for the period 2014-19 and for determination of tariff for the period 2019-24 in respect of 262.5 MW gross capacity sale from Kamalanga Thermal Power Plant of GMR-Kamalanga Energy Limited (1050 MW) to GRIDCO.

AND

IN the matter of:

GMR-Kamalanga Energy Limited,
Skip House, 25/1 Museum Road
Bangalore – 5600025

.... Petitioner

Vs

1. GRIDCO Limited,
Janpath, Bhubaneswar- 751022
Orissa
2. TP Central Odisha Distribution Limited,
2nd Floor, Ideo Tower, Janpath
Bhubaneswar -751022, Orissa
3. North Eastern Electricity Supply Company of Orissa Limited,
Januganj, Balasore, 756019, Orissa
4. Western Electricity Supply Company of Orissa Limited,
Burla- Distt- Sambalpur, 768017, Orissa
5. Southern Electricity Supply Company of Orissa,
Courtpetta, Berhampur, Ganjam- 760 004, Orissa

.... Respondents

Parties Present:

Shri Venkatesh, Advocate, GMRKEL
Shri Ashutosh K. Srivastava, Advocate, GMRKEL
Shri Jayant Bajaj, Advocate, GMRKEL



Shri Nihal Bhardwaj, Advocate, GMRKEL
Shri Siddharth Nigotia, Advocate, GMRKEL
Shri Kartikay Trivedi, Advocate, GMRKEL
Shri Abhishek Jaiswal, Advocate, GMRKEL
Shri R.K. Mehta, Advocate, GRIDCO
Ms. Himanshi Andley, Advocate, GRIDCO
Ms. Susmita Mohanty, GRIDCO
Shri Mahfooz Alam, GRIDCO
Shri Anand Kumar Shrivastava, Advocate, TPCODL
Shri Shivam Sinha, Advocate, TPCODL

ORDER

This Petition has been filed by the Petitioner, for the truing-up of the tariff of Kamalanga Thermal Power Plant (1050 MW) (in short, “the generating station”) for the period 2014-19, in terms of Regulation 8(1) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (in short “the 2014 Tariff Regulations”) and for the determination of the tariff of the generating station for the period 2019-24, in accordance with the provisions of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (in short “the 2019 Tariff Regulations”). The generating station, with a capacity of 1050 MW, comprises three units of 350 MW each, and the dates of commercial operation of the units are as under:

Units	Actual COD
Unit-I	30.04.2013
Unit-II	12.11.2013
Unit-III	25.03.2014

2. The Petitioner has executed a Power Purchase Agreement dated 28.9.2006 (PPA) with GRIDCO, valid for a period of 25 years from the date of execution, for the supply of 25% of the power generated. Stage-I of the Project has been awarded the status of Mega Power Project by the Central Government in terms of the Ministry of Power, GOI letter dated 16.3.2009. The evacuation of power from the power plant is through the 400 kV Meramundali-Talcher LILO for Odisha’s share of power. The PPA was approved by Odisha Electricity Regulatory Commission (OERC) by order dated 20.8.2009, in terms of



Section 86 (1)(b) of the Electricity Act, 2003. In the said order, the OERC approved the PPAs executed between GRIDCO and other Independent Power Producers (IPPs).

3. Thereafter, this Commission, vide its order dated 29.6.2018 in Petition No. 61/GT/2016, had approved the capital cost and annual fixed charges of the generating station for the period 2014-19, as under:

Capital cost allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	503239.85	541318.85	551841.85	583765.85	583765.85
Add: Addition during the year/ period	38079.00	10523.00	31924.00	0.00	0.00
Closing capital cost	541318.85	551841.85	583765.85	583765.85	583765.85

Annual Fixed Charges allowed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Return on Equity	23613.59	25415.99	26402.88	27145.11	27145.11
Interest on Loan	43059.41	41268.36	39427.80	37018.66	33238.80
Depreciation	26537.00	27796.13	28862.55	29653.97	29653.97
Interest on Working Capital	7525.56	7642.67	7728.72	7897.69	7909.23
O & M Expenses	22153.18	23476.18	24872.68	26363.68	27949.18
Total Annual Fixed Charges	122888.74	125599.33	127294.63	128079.11	125896.29

Present Petition

4. Clause (1) of Regulation 8 of the 2014 Tariff Regulations provides as under:

“8. Truing up

(1) The Commission shall carry out truing up exercise along with the tariff petition filed for the next tariff period, with respect to the capital expenditure including additional capital expenditure incurred up to 31.3.2019, as admitted by the Commission after prudence check at the time of truing up:

Provided that the generating company or the transmission licensee, as the case may be, shall make an application for interim truing up of capital expenditure including additional capital expenditure in FY 2016-17.”

5. In terms of the above regulations, the Petitioner, vide affidavit dated 31.1.2020, has claimed the capital cost and annual fixed charges for the period 2014-19 as under:



Capital Cost claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	503239.85	541319.28	551841.52	556727.44	557544.24
Add: Addition during the year/ period	28977.83	8127.16	1723.70	99.77	163978
Less: Decapitalization during the year / period	72.99	183.74	35.38	461.44	563.30
Less: Reversal during the year / period	-	-	-	-	-
Add: Discharges during the year / period	9174.60	2578.81	3197.61	1178.47	323.19
Closing capital cost	541319.28	551841.52	556727.44	557544.24	558943.91

Annual Fixed Charges claimed

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	26538.52	27778.20	28176.76	28327.43	28410.65
Interest on Loan	43822.74	40600.80	38471.83	33423.83	31641.10
Return on Equity	23613.60	25415.99	25774.23	25906.82	25958.35
Interest on Working Capital	8249.46	8388.21	8746.57	9455.57	9106.24
O&M Expenses including Water Charges	22210.15	23431.42	24872.72	26497.05	28082.55
Additional O&M expenses (Fly ash transportation charges)	-	-	-	-	1500.00
Total	124434.48	125614.62	126042.11	123610.69	124698.89

6. With regards the capital cost claimed, the Petitioner has submitted that it has considered the capital cost as approved vide order dated 29.6.2018 in Petition No. 61/GT/2016, without prejudice to its contentions on the issue of disallowance of Non-EPC costs, which is being considered by APTEL in the appeal (Appeal No.326/2018) filed by the Petitioner. Accordingly, the Petitioner has submitted that in case the appeal filed by the Petitioner is allowed, the impact of the same may be allowed separately.

7. The Respondents, GRIDCO and TP Central Odisha Distribution Limited (TPCODL) have filed their replies vide affidavits dated 19.6.2021 and 21.6.2021. The Petitioner, vide affidavit dated 10.9.2021, has filed its rejoinder to the said replies of the Respondents. The Petition was heard on 9.11.2022, and the Commission, after directing the Petitioner to file certain additional information, reserved its order in the matter. In compliance with



the directions of the Commission, the Petitioner has filed the additional information and has served copies of the same on the respondents. However, since the order in the Petition (reserved on 9.11.2022) could not be issued prior to one Member of the Commission, who formed part of the Coram, demitting office, the Petition was re-heard on 6.2.2024, and based on the consent of the parties, orders were reserved in the matter. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed to truing-up the tariff of the generating station for the period 2014-19, as stated in the subsequent paragraphs.

Capital Cost

8. Clause (1) of Regulation 9 of the 2014 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 the determination of tariff for existing and new projects.

Clause (3) of Regulation 9 of the 2014 Tariff Regulations provides as under:

“(3) The Capital cost of an existing project shall include the following:

- (a) the capital cost admitted by the Commission prior to 1.4.2014 duly trued up by excluding liability, if any, as on 1.4.2014;*
 - (b) additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with Regulations 14;*
 - (c) expenditure on account of renovation and modernization as admitted by this Commission in accordance with Regulation 15;*
- xxxx”*

9. The Commission, vide its order dated 29.6.2018, approved the closing capital cost of Rs. 503239.85 lakh, as on 31.3.2014. The Petitioner, also claimed the opening capital cost of Rs. 503239.85 lakh, as on 1.4.2014. Accordingly, the capital cost of Rs. 503239.85 lakh, as on 31.3.2014, has been considered the opening capital cost as on 1.4.2014, for the purpose of truing-up the tariff for the period 2014-19.

Additional Capital Expenditure

10. Regulation 14 of the 2014 Tariff Regulations, provides as under:



“14. Additional Capitalization and De-capitalization:

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

(i) Un-discharged liabilities recognized to be payable at a future date;

(ii) Works deferred for execution;

(iii) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 13;

(iv) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law; and

v) Change in law or compliance of any existing law:

Provided that the details of works asset wise/work wise included in the original scope of work along with estimates of expenditure, liabilities recognized to be payable at a future date and the works deferred for execution shall be submitted along with the application for determination of tariff.”

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

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;

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

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

(iv) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.

(3) 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 after the cut-off date, may be admitted by the Commission, subject to prudence check:

(i) Liabilities to meet award of arbitration or for compliance of the order or decree of a court of law;

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

(iii) Any expenses to be incurred on account of need for higher security and safety of the plant as advised or directed by appropriate Government Agencies of statutory authorities responsible for national security/internal security;

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

(v) Any liability for works executed prior to the cut-off date, after prudence check of the details of such un-discharged liability, total estimated cost of package, reasons for such withholding of payment and release of such payments etc.;

(vi) Any liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments;

(vii) Any additional capital expenditure which has become necessary for efficient operation of generating station other than coal /lignite based stations or transmission system as the case may be. The claim shall be substantiated with the technical justification duly supported by the documentary evidence like test results carried out by an independent agency in case of deterioration of assets, report of an independent agency in case of damage caused by natural calamities, obsolescence of technology, up-gradation of capacity for the technical reason such as increase in fault level;

(viii) In case of hydro generating stations, any expenditure which has become necessary on account of damage caused by natural calamities (but not due to flooding of power



house attributable to the negligence of the generating company) and due to geological reasons after adjusting the proceeds from any insurance scheme, and expenditure incurred due to any additional work which has become necessary for successful and efficient plant operation;

(ix) In case of transmission system, any additional expenditure on items such as relays, control and instrumentation, computer system, power line carrier communication, DC batteries, replacement due to obsolescence of technology, replacement of switchyard equipment due to increase of fault level, tower strengthening, communication equipment, emergency restoration system, insulators cleaning infrastructure, replacement of porcelain insulator with polymer insulators, replacement of damaged equipment not covered by insurance and any other expenditure which has become necessary for successful and efficient operation of transmission system; and

(x) Any capital expenditure found justified after prudence check necessitated on account of modifications required or done in fuel receiving system arising due to non-materialization of coal supply corresponding to full coal linkage in respect of thermal generating station as result of circumstances not within the control of the generating station:

Provided that any expenditure on acquiring the minor items or the assets including tools and tackles, furniture, air-conditioners, voltage stabilizers, refrigerators, coolers, computers, fans, washing machines, heat convectors, mattresses, carpets etc. brought after the cut-off date shall not be considered for additional capitalization for determination of tariff w.e.f. 1.4.2014:

Provided further that any capital expenditure other than that of the nature specified above in (i) to (iv) in case of coal/lignite-based station shall be met out of compensation allowance:

Provided also that if any expenditure has been claimed under Renovation and Modernization (R&M), repairs and maintenance under (O&M) expenses and Compensation Allowance, same expenditure cannot be claimed under this regulation.

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

11. The Petitioner has claimed the additional capital expenditure for the period 2014-19, duly supported by the auditor certificate, as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Add: Addition during the year/period	28977.83	8127.16	1723.70	99.77	1639.78
Less: De-Capitalization Claimed during the year/period	72.99	183.74	35.38	461.44	563.30
Add: Discharges during the year/period	9174.60	2578.81	3197.60	1178.47	323.19
Total	38079.44	10522.23	4885.92	816.80	1399.67

12. The Petitioner has further submitted that it has incurred additional capital expenditure as per Regulation 14 (1)(ii) of the 2014 Tariff Regulations till 31.3.2017, i.e.,



up to the cutoff date of the generating station. Further, the Petitioner has stated that it has also claimed additional capital expenditure as per Regulation 14(3)(iv) of the 2014 Tariff Regulations after the cut-off date of the generating station. The details of the additional capital expenditures claimed by the Petitioner are as under:

(Rs in lakh)

	Additional capital expenditure claimed	Regulation	Head of Work/Equipment
2014-15	28977.83	14(1)(ii)	Plant and equipment (Transmission Line)
2015-16	8127.16	14(1)(ii)	Plant and equipment (Project Spares)
2016-17	1723.70	14(1)(ii)	Plant and equipment (Project Spares)
2017-18	99.77	14(3)	Building-Internal Road
2018-19	1639.78	14(3)(iv)	Building- Ash Dyke Raising & Ash recovery tank

13. The Commission, vide order dated 29.6.2018 in Petition No. 61/GT/2016, had allowed the projected additional capital expenditure for the period 2014-19 as under:

(Rs. in lakh)

Package Name	2014-15	2015-16	2016-17	2017-18	2018-19
Land	470.00	165.00	0.00	0.00	0.00
EPC works	2232.00	2130.00	0.00	0.00	0.00
Non-EPC works	24037.00	294.00	3200.00	0.00	0.00
Initial Spares procured within the Original scope	2168.00	5355.00	2485.00	0.00	0.00
Retention Money paid & liabilities discharged	9172.00	2579.00	26239.00	0.00	0.00
Total	38079.00	10523.00	31924.00	0.00	0.00

Actual Additional Capital Expenditure for the period 2014-19

14. The COD of the generating station is 25.3.2014, and accordingly, the cut-off date of the generating station is 31.3.2017. Based on the information furnished in the auditor-certified Form 9A and Form 18, the claims of the Petitioner for actual additional capital expenditure for the period 2014-19 are examined year-wise, considering the submission of the parties and the documents available on record and on prudence check, as stated below:

2014-15

15. The additional capital expenditure claimed by the Petitioner as under:



(Rs. in lakh)

Sl. No.	Head of Work / Equipment	ACE claimed (actual)				Regulation
		Accrual basis	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3	
(1)	(2)	(3)	(4)	(5=3-4)	(6)	(7)
1	Leasehold Land	470.00	-	470.00	-	14(1)(ii)
2	Building	518.58	-	518.58	-	
3	Computers & Software	61.08	-	61.08	-	
4	Plant and Equipment (less Common asset Unit-4)	124.89	-	124.89	-	
5	Plant and Equipment (Forex)	1713.64	-	-	-	
6	Plant and Equipment (Project Spares)	2160.02	-	2160.02	-	
7	Plant and Equipment (Transmission Line)	23826.39	-	23826.39	3708.66	
8	Office Equipment's	56.37	-	56.37	-	
9	Medical Equipment	12.25	-	12.25	-	
10	Furniture and Fixtures	34.61	-	34.61	-	
	Total	28977.83	-	28977.83	3708.66	

16. The Petitioner has claimed the total additional capital expenditure of Rs. 28977.83 lakh in 2014-15, on a cash basis, towards EPC works, Non-EPC works and initial spares namely Leasehold Land, Building, Computers & Software, Plant and Equipment (less Common asset Unit-4), Plant and Equipment (Forex), Plant and Equipment (Project Spares), Plant and Equipment (Transmission Line), Office Equipment, Medical Equipment and Furniture and Fixtures under Regulation 14(1)(ii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that all the works claimed are within the original scope of work and within the cut-off date.

17. Vide order dated 29.6.20218 in Petition No. 61/GT/2016, a total additional capital expenditure of Rs.38079 lakh was allowed on a projection basis, in 2014-15, under Regulation 14(1)(ii) of the 2014 Tariff Regulations, which included the additional capital expenditures of Rs. 470.00 lakh, Rs. 2232.00 lakh, Rs. 24037.00 lakh, Rs.2168 lakh and Rs. 9172 lakh in respect of Land, EPC works, Non-EPC works, Initial spares and Retention Money paid & liabilities discharge, respectively. The Petitioner was also directed to furnish the breakup of the EPC and Non-EPC works at the time of the truing-up of the tariff. This has, however, not been furnished by the Petitioner. Subsequently,



the Petitioner was directed vide ROP of hearing dated 4.1.2022 to furnish the audited statement, clearly indicating all major sub-components of Plant and Machinery, under the EPC contract and Non-EPC contract, including the cost, along with the segregated list of equipment's capitalized under the EPC and Non-EPC contract. In compliance with the same, the Petitioner, vide affidavit dated 4.7.2022, has submitted the auditor-certified major sub-components of Plant and Machinery capitalized under the EPC and Non-EPC contract as under:

		<i>(Rs. in lakh)</i>	
		2014-15	2015-16
EPC Assets capitalized	EPC- Civil – Direct Approach Road	45949937	-
	EPC – Civil – Boundary Wall	5908190	-
	EPC – Plant and Machineries (Forex Restatement of SEPCO Retention Money)	76594546	58090741
	EPC – Plant and Machineries (Forex Restatement of ECB Loan)	94769631	154896214
Sub-Total		223222303	212986954
Non-EPC Assets capitalized	Computer & software	6107722	7700441
	Plant & Machinery (Transmission Line)	2382639401	-
	Plant & Machineries (Others)/ Plant & Equipment (Others)	12488792	12942232
	Office Equipment's	5636505	6894206
	Medical Equipment's	1225000	-
	Furniture & Fixtures	3461219	1945361
	Vehicles (Net of Sales)	7299324	-
Sub-Total		2404259315	29482240

18. From the above details, it is observed that the Petitioner has capitalized an amount of Rs. 2232.22 lakh under EPC assets and Rs. 24042.59 lakh under Non-EPC assets. On perusal of the submissions of the Petitioner, it is noticed that the heads such as 'Building,' and 'Plant and Equipment (Forex)' constitute EPC works, and the heads such as 'Computers & Software,' 'Plant, and Equipment (less Common asset Unit-4),' 'Plant and Equipment (Transmission Line),' 'Office equipment,' 'Medical equipment,' 'Furniture and Fixtures' constitute Non-EPC works. Since the Petitioner, in Form 9A, has not claimed any capitalization of Rs. 1713.64 lakh, on a cash basis, towards the EPC assets under the head 'Plant and Equipment (Forex)' [Rs.765.95 lakh towards EPC Plant and



Machineries (Forex Restatement of SEPCO Retention Money) + Rs.947.69 lakh towards EPC Plant and Machineries (Forex Restatement of ECB Loan)]. However, Petitioner has claimed the same on accrual basis for which the details have been furnished by the Petitioner vide affidavit dated 4.7.2022. Therefore, the additional capital expenditure of Rs. 1713.64 lakh towards EPC asset under the head 'Plant and Equipment (Forex)' is **not allowed.**

19. Further, the Petitioner had also included initial spares under the head 'Plant and Equipment (Project spares)' for Rs.2160.02 lakh in the additional capital expenditure in 2014-15. Subsequently, the Petitioner vide affidavit dated 30.8.2021 clarified that it had inadvertently submitted the claim for Project spares for Rs.2160.02 lakh and that the actual Project spares for 2014-15 are Rs. 2167.68 lakh, for which the item-wise and year-wise detailed breakup of the capital spares have been furnished. The Petitioner has also claimed the capitalization of initial spares for Rs.5354.88 lakh and Rs. 1723.70 lakh, in 2015-16 and 2016-17, respectively. In this regard, the Commission, in its order dated 29.6.20218 in Petition No. 61/GT/2016, had allowed the capitalisation of initial spares for Rs. 10008.00 lakh in 2014-17 as under:

"112. The petitioner has claimed additional capital expenditure of `2168.00 lakh in 2014-15, `5355.00 lakh in 2015-16 and `2485.00 lakh in 2016-17 towards Initial Spares procured within the original scope of work. As regards initial spares, the Commission in its order dated 12.11.2015 in Petition No 77/GT/2013 had observed as under:

"58. The petitioner has submitted that initial spares amounting to Rs.10000 lakh is proposed to be capitalized after 31.3.2014 as additional capital expenditure. It is noticed that there is no actual expenditure incurred on initial spares as on COD of the generating station as per audited capital cost. Hence, expenditure on initial spares has not been considered during this tariff period."

113. The capital cost of the project as on cut-off date (31.3.2017) is `583765.85 lakh. The initial spares allowed in terms of the 2009 Tariff Regulations is 2.5% of the capital cost, as on cut-of date of the generating station. Accordingly, the initial spares work out to `14594.15 lakh. Thus, the claim of the petitioner is less than the initial spares admissible under the said regulation as on the cut-off date. In view of this, initial spares amounting to `10008.00 lakh during 2014-17 (`2168.00 lakh in 2014-15, `5355.00 lakh in 2015-16 and `2485.00 lakh in 2016-17) is allowed to be capitalized under Regulation 14(1) (iii) of the 2014 Tariff Regulations."



20. The matter has been considered. It is noticed that the capital cost of the project as on the cut-off date (31.3.2017) is Rs. 583765.85 lakh. The initial spares allowed in terms of the 2009 Tariff Regulations is 2.5% of the capital cost, as on the cut-off date of the generating station. Accordingly, the initial spares work out to Rs. 14594.15 lakh. The Petitioner claimed total initial spares for Rs. 9246.26 lakh in 2014-17 (Rs. 2167.68 lakh in 2014-15, Rs. 5354.88 lakh in 2015-16. and Rs. 1723.70 lakh in 2016-17). Thus, the claim of the Petitioner is less than the initial spares admissible under the said regulation, as on the cut-off date. In view of this, the capitalization of initial spares for Rs. 9246.26 lakh in 2014-17 (Rs. 2167.68 lakh in 2014-15, Rs. 5354.88 lakh in 2015-16 and Rs. 1723.70 lakh in 2016-17) **is allowed** under Regulation 14(1) (iii) of the 2014 Tariff Regulations. Further, considering the submissions of the Petitioner and on prudence check, we observe that the claim for additional capital expenditure of Rs. 27264.19 lakh (Rs. 28977.83 lakh-Rs.1713.64 lakh) in 2014-15 is inclusive of Rs.72.99 lakh for the asset 'Vehicle,' and the same is within the original scope and within the cut-off date. Accordingly, the claim for Rs. 27264.19 lakh **is allowed** under Regulation 14(1)(ii) of the 2014 Tariff Regulations. However, the deletion of Rs. 72.99 lakh for the asset 'Vehicle' in 2014-15 is considered under 'Decapitalization.'

2015-16

21. The additional capital expenditure claimed by the Petitioner is as under:

<i>(Rs. in lakh)</i>						Regulation
Sl. No.	Head of Work / Equipment	Additional capital expenditure claimed (actual)				
		Accrual basis	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3	
(1)	(2)	(3)	(4)	(5=3-4)	(6)	(7)
1	Freehold Land	347.24	-	347.24	-	14(1)(ii)
2	Computers & Software	77.00	-	77.00	-	
3	Plant and Equipment	129.42	-	129.42	-	



4	Plant and Equipment (Project Spares)	5354.88	-	5354.88	-
5	Plant and Equipment (Forex)	2129.87	-	2129.87	-
6	Office Equipment	68.94	-	68.94	-
7	Furniture and Fixtures	19.45	-	19.45	-
8	Vehicles	0.35	-	0.35	-
	Total	8127.16	-	8127.16	-

22. The Petitioner has claimed total additional capital expenditure of Rs. 8127.16 lakh in 2015-16, on a cash basis, towards EPC works, Non-EPC works and initial spares namely Freehold Land, Computers & Software, Plant and Equipment, Plant and Equipment (Project spares), Plant and Equipment (Forex), Office Equipment, Furniture and Fixtures, Vehicles within the original scope of work under Regulation 14(i)(ii) of the 2014 Tariff Regulations. In justification for the same, The Petitioner has submitted that all works claimed are within the original scope of work and within the cut-off date.

23. The matter has been examined. It is observed that vide order dated 29.6.2018 in Petition No. 61/GT/2016; the Commission had allowed an amount of Rs. 10523.00 lakh in 2015-16 (Rs. 165.00 lakh, Rs. 2130.00 lakh, Rs. 294.00 lakh, Rs. 5355 lakh, and Rs. 2579.00 lakh in respect of Land, EPC works, Non-EPC works, Initial Spares and Retention Money paid & liabilities discharge, respectively), which are within the original scope of work and within the cut-off date of the generating station under Regulation 14(1)(ii) of the 2014 Tariff Regulations. The Petitioner was further directed to furnish the breakup of EPC and Non-EPC works at the time of truing up. However, the same was not furnished by the Petitioner. The Petitioner was also directed vide ROP of the hearing dated 4.1.2022 to furnish the audited statement, clearly indicating all major sub-components of plant and machinery under the EPC contract and Non-EPC contract, including the cost, along with a segregated list of equipment's capitalized under EPC contract and Non-EPC contract. In compliance thereof, the Petitioner vide affidavit dated



4.7.2022, has submitted the auditor-certified major sub-components of plant and machinery capitalized under the EPC contract and Non-EPC contract.

24. As regards the variation in the additional capital expenditure allowed on an actual basis during the period 2014-16 and the additional capital expenditure claimed for truing-up during the period 2014-16. (Example: Land, Commission has allowed Rs.165.00 lakh on actual claims during 2015-16, whereas the Petitioner has now claimed 347.24 lakh for the same), the Petitioner, vide affidavit dated 30.8.2021, has submitted that the additional capital expenditure varies particularly on account of the value of the land. The Petitioner has also submitted that due to an inadvertent error, it did not consider the de-capitalization of lease land in 2015-16. Accordingly, the Petitioner stated that the revised additional capital expenditure of freehold land in 2015-16 is Rs. 347.24 lakh, whereas the de-capitalization of lease land in 2015-16 is Rs.182.23 lakh. Further, the Petitioner has clarified that in accordance with the Memorandum of Understanding (MoU) signed between the Petitioner and the Government of Odisha, it was Odisha Industrial Infrastructure Development Corporation (IDCO) that was supposed to purchase land on behalf of the Petitioner, and the cost of land acquisition was to be borne by the Petitioner. Accordingly, the land was purchased by IDCO and subsequently, it was leased to the Petitioner. It has further submitted that the land was initially capitalized based on the cost of land paid to IDCO by the Petitioner.

25. Accordingly, the revised additional capital expenditure incurred towards freehold land and leasehold land from 2014-15 to 2019-20, within the original scope of work, is as under:

	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20	
	Addition	Deletion	Addition	Deletion	Addition	Deletion	Addition	Deletion	Addition	Deletion	Addition	Deletion
Freehold land	-	-	347.24	-	8.81	-	45.09	-	-	-	-	-

(Rs. in lakh)



Leasehold land	470.00	-	-	182.23	12.85	-	-	-	42.70	-	-	-
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Note: Deletion is on account of Surrender of land to Govt.

26. The Petitioner has further submitted that there are still various Government lands yet to be leased to the Petitioner, which were granted under permissive possession by the Government of Odisha. The Petitioner has further pointed out that these parcels of land are pending registration/lease due to reasons beyond the control of the Petitioner. Therefore, the Petitioner has clarified that the charges towards registration of balance land will be capitalized once the lease is completed between IDCO and the Petitioner.

27. The matter has been considered. It is noticed from the above submissions that the expenditure for land is deferred work within the original scope of work and within the cut-off date. Further, in compliance with the direction of the Commission vide ROP for the hearing dated 29.6.2021, the Petitioner has submitted that the total addition in the Freehold Land is Rs.347.24 lakh in 2015-16. However, the Petitioner has made a deletion of Rs. 182.23 lakh for Leasehold Land in 2015-16 on account of the surrender of Land to the Government. Accordingly, the additional capital expenditure of Rs. 347.24 lakh in 2015-16 towards Freehold Land under Regulation 14(1)(ii) of the 2014 Tariff Regulations **is allowed**. Further, the deletion of Rs. 182.23 lakh for Leasehold land in 2015-16 is considered under 'Decapitalization.'

28. It is also noticed that the Petitioner has included initial spares amounting to Rs.5354.88 lakh in the additional capital expenditure in 2015-16. The same has already been discussed in para [20] of this order above, and accordingly, the capitalization of initial spares amounting to Rs. 5354.88 lakh in 2015-16 under Regulation 14(1) (iii) of the 2014 Tariff Regulations is allowed. Further, based on the submissions of the Petitioner and considering the fact that the claim of the Petitioner is within the original scope and



within the cut-off date, the expenditure of Rs. 8127.16 lakh in 2015-16 **is allowed** under Regulation 14(1)(ii) of the 2014 Tariff Regulations.

2016-17

29. The additional capital expenditure claimed by the Petitioner is as under:

<i>(Rs. in lakh)</i>							
Sl. No.	Head of Work / Equipment	Additional capital expenditure claimed (Actual)				Regulations	Justification
		Accrual basis	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3		
(1)	(2)	(3)	(4)	(5=3-4)	(6)	(7)	(8)
1	Plant and Equipment (Project Spares)	1723.70	-	1723.70	-	14(1)(iii)	Claimed within the Cut -off date and under the original Scope
	Total	1723.70	-	1723.70	-		

30. The Petitioner has claimed a total additional capital expenditure of Rs.1723.70 lakh in 2016-17, on a cash basis, towards the initial spares under the head 'Plant and Equipment (Project Spares)' under Regulation 14(1)(iii) of the 2014 Tariff Regulations. In justification for the same, the Petitioner has submitted that all works claimed are within the original scope of work and within the cut-off date. In light of the discussions made in para [20] above, the capitalization of initial spares for Rs. 1723.70 lakh in 2016-17 **is allowed** under Regulation 14(1) (iii) of the 2014 Tariff Regulations.

2017-18

31. The additional capital expenditure claimed by the Petitioner for the period 2017-18 is as under:

<i>(Rs. in lakh)</i>			
Sl. No.	Head of Work / Equipment	Additional capital expenditure claimed (Projected)	Regulation



		Accrual basis	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3	
(1)	(2)	(3)	(4)	(5=3-4)	(6)	(7)
1	Building-Internal Road	99.77	-	99.77	-	14(3)(vii)
	Total	99.77	-	99.77	-	

32. The Petitioner has claimed the total additional capital expenditure of Rs. 99.77 lakh, in 2017-18, on a cash basis, towards 'Building-Internal Road' under Regulation 14(3)(vii) of the 2014 Tariff Regulations. In this regard, the Commission vide ROP of the hearing dated 27.7.2020, had directed the Petitioner to furnish the following additional information:

".....(i) The Petitioner has claimed additional capitalization of ₹99.97 lakh pertaining to construction of road during 2017-2018 under Regulation 14(3) (vii). However, Regulation 14(3) (vii) does not pertain to coal-based plants. As such, the petitioner shall furnish the reason for delay in capitalization of the asset within the original scope and after the cut-off date. The Petitioner shall also submit the details of the asset including its location and justification for incurring the expenditure on the assets...."

33. In compliance thereof, the Petitioner, vide its affidavit dated 18.9.2020, has submitted that there was a public road named L-56, existing inside the compact patch of acquired land of the Petitioner's Project and to avoid public interference, the said road was required to be re-routed outside plant boundary. The Petitioner has also submitted that in order to reroute the road, necessary approvals from the Rural Works Department ("RWD"), Government of Odisha, were obtained. The Petitioner has further stated that in order to cater to the immediate requirement, a roadbed was made by the Petitioner during the project period with the consent of the District Authority so that the traffic from the existing road would be diverted. However, it has been stated that the necessary approval for building the road was received in 2017-18 only and, in view of this, the road was completed only in January 2018 and, accordingly, capitalized in 2017-18. Therefore, the said work could not have been completed without the statutory approval from the Govt. of Odisha. Therefore, the delay in the completion of the works and the capitalization of



the asset, within the original scope beyond the cut-off date, was beyond the control of Petitioner. Accordingly, the Petitioner has claimed the additional capital expenditure of Rs. 99.97 lakh in 2017-18 under Regulation 54 (Power to Relax) of the 2014 Tariff Regulations.

34. The matter has been considered. It is noticed that the Petitioner has claimed an amount of Rs. 99.77 lakh, in 2017-18, on a cash basis, towards 'Building-Internal Road' under Regulation 14(3)(vii) of the 2014 Tariff Regulations in Form 9A. It is noticed that regulation 14(3)(viii) is not applicable to thermal power plants. Further, as this claim pertains to a Public road that was re-routed outside the plant boundary in order to avoid public interference, and the asset does not belong to the Petitioner, we do not find sufficient reason to exercise Regulation 54 (Power to Relax) of the 2014 Tariff Regulations. Therefore, the additional capital expenditure of Rs. 99.77 lakh in 2017-18 towards 'Building-Internal Road' **is not allowed**.

2018-19

35. The additional capital expenditure claimed by the Petitioner is as under:

Sl. No.	Head of Work / Equipment	Additional capital expenditure claimed (Actual)				Regulation
		Accrual basis	Un-discharged Liability included in col. 3	Cash basis	IDC included in col. 3	
(1)	(2)	(3)	(4)	(5=3-4)	(6)	(7)
1	Building-Ash Dyke raising & Ash recovery tank	957.77	-	957.77	-	14(2)(iii)
2	Plant & Equipment-Fly Ash Conveying System	561.68	-	561.68	-	
3	Plant & Equipment-Hot Valve Gate	120.33	-	120.33	-	
	Total	1639.78	-	1639.78	-	



36. The Petitioner has claimed the total additional capital expenditure of Rs. 1639.78 lakh in 2018-19, on a cash basis, towards 'Building-Ash Dyke raising & Ash recovery tank', 'Plant & Equipment-Fly Ash Conveying System' and 'Plant & Equipment-Hot Valve Gate' under Regulation 14(2)(iii) of the 2014 Tariff Regulations, which are within the original scope of work, but after the cut-off date.

37. The matter has been considered. It is noticed that the Petitioner has claimed an amount of Rs. 957.77 lakh in 2018-19, on a cash basis, towards 'Building-Ash Dyke raising & Ash recovery tank' under Regulation 14(2)(iii) of the 2014 Tariff Regulations. Considering the fact that the above works are deferred works relating to ash pond or ash handling system within the original scope of work and after the cut-off date, the additional capital expenditure of Rs. 957.77 lakh claimed in 2018-19 **is allowed** under Regulation 14(3) (iv) of the 2014 Tariff Regulations.

38. Further, in justification of the claims for Rs.561.68 lakh towards 'Plant & Equipment-Fly Ash Conveying System' and Rs.120.33 lakh towards 'Plant & Equipment-Hot Valve Gate,' the Petitioner, vide affidavit dated 30.8.2021 has submitted that during the course of operation, it was noticed that the sliding type pneumatic hot air isolation gates for each mill were leaking, which posed a major fire hazard threat to the maintenance workmen and the coal lying in the Ducts and Coal Bunker causing a reduction in the availability of mills and forced outages of the plant to carry out small maintenance work. The Petitioner has also submitted that the maintenance work in various sections of the generating station could not be taken up. Therefore, it had to either forcefully shut down the generating station or wait for an opportunity to shut it down. Accordingly, the Petitioner has stated that rather than repairing and refurbishing the gates for 18 Coal Mills, they were replaced in 2018-19. It was observed by the Petitioner in 2018



that the conveying of Ash from the ESP hopper was not functioning properly, and the vessels below the hopper were inadequate to convey the ash generated; this inadequacy was due to high ash content in MCL Coal as received is more than 42%. Accordingly, the Petitioner has submitted that the arrangement below the hopper has been completely replaced with new equipment.

39. The matter has been considered. The Petitioner has stated that the sliding-type pneumatic hot air isolation gates for each mill were leaking during the course of the operation, and the conveying of Ash from the ESP hopper has not been functioning properly since 2018. Accordingly, the Petitioner had replaced the faulty equipment with a new one rather than repairing or refurbishing it. It is neither clear as to whether the useful life or any warranty guaranteed by the OEM and Equipment for Fly Ash Conveying system and Hot Valve Gate were over, nor are the reasons for undertaking replacement justified by the Petitioner. Since the faults have arisen just four years from the station's COD, it is the responsibility of the Petitioner to prevent such early replacement of asset from taking place, and the expenses incurred thereof should not be passed on to the beneficiaries. In view of this, the claims for additional expenditures under this head, **are not allowed**.

40. Based on the above discussions, the additional capital expenditure allowed for the period 2014-19 is summarized below:

(Rs. in lakh)

S. No.	Head of Work / Equipment	Additional capital expenditure allowed on a cash basis						Regulation
		2014-15	2015-16	2016-17	2017-18	2018-19	Total	
1.	Leasehold Land	470.00	0.00	0.00	0.00	0.00	470.00	14(1)(ii)
2.	Building	518.58	0.00	0.00	0.00	0.00	518.58	
3.	Computers & Software	61.08	77.00	0.00	0.00	0.00	138.08	
4.	Plant and Equipment (less Common asset Unit-4)	124.89	0.00	0.00	0.00	0.00	124.89	



S. No.	Head of Work / Equipment	Additional capital expenditure allowed on a cash basis						Regulation
		2014-15	2015-16	2016-17	2017-18	2018-19	Total	
5.	Plant and Equipment (Forex)	0.00	2129.87	0.00	0.00	0.00	2129.87	
6.	Plant and Equipment (Project Spares)	2160.02	5354.88	1723.70	0.00	0.00	9238.60	14(1)(iii)
7.	Plant and Equipment (Transmission Line)	23826.39	0.00	0.00	0.00	0.00	23826.39	14(1)(ii)
8.	Office Equipment	56.37	68.94	0.00	0.00	0.00	125.31	
9.	Medical Equipment	12.25	-	0.00	0.00	0.00	12.25	
10.	Furniture and Fixtures	34.61	19.45	0.00	0.00	0.00	54.06	
11.	Freehold Land	0.00	347.24	0.00	0.00	0.00	347.24	
12.	Plant and Equipment	0.00	129.42	0.00	0.00	0.00	129.42	14(1)(ii)
13.	Vehicles	0.00	0.35	0.00	0.00	0.00	0.35	
14.	Building-Internal Road	0.00	0.00	0.00	0.00	0.00	0.00	54
15.	Building-Ash Dyke raising & Ash recovery tank	0.00	0.00	0.00	0.00	957.77	957.77	14(3)(iv)
16.	Plant & Equipment-Fly Ash Conveying System	0.00	0.00	0.00	0.00	0.00	0.00	
17.	Plant & Equipment-Hot Valve Gate	0.00	0.00	0.00	0.00	0.00	0.00	
Total additional capital expenditure allowed		27264.19	8127.16	1723.70	0.00	957.77	38072.82	

Decapitalization

41. Clause (4) of Regulation 14 of the 2014 Tariff Regulations provides as under:

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



42. The Petitioner has claimed the de-capitalization of Rs. 1316.86 lakh against assets such as Vehicle, Lease Hold Land, Buildings, Plant and Equipment, Computers, Office Equipment, Furniture, and Fixtures, as summarized below:

		<i>(Rs. in lakh)</i>					
		2014-15	2015-16	2016-17	2017-18	2018-19	Total
1	Decapitalization of Vehicle	(-)72.99	(-)1.50	(-)11.11	(-)32.15	(-)10.48	(-)128.23
2	Decapitalization of Lease Hold Land	-	(-)182.24	-	-	-	(-)182.24
3	Decapitalization of Buildings	-	-	(-)14.76	-	-	(-)14.76
4	Decapitalization of Plant and Equipment	-	-	(-) 0.35	(-) 429.28	(-) 546.39	(-)976.02
5	Decapitalization of Computers	-	-	(-) 0.21	-	(-) 6.44	(-)6.65
6	Decapitalization of Office Equipment	-	-	(-) 6.35	-	-	(-)6.35
7	Decapitalization of Furniture and Fixtures	-	-	(-) 2.61	-	-	(-)2.61
	Total	(-) 72.99	(-) 183.74	(-) 35.38	(-)461.44	(-) 563.30	(-) 1316.86

43. In response to the directions of the Commission vide ROP of the hearing dated 4.1.2022, the Petitioner vide affidavit dated 4.7.2022, has furnished the list of equipments decapitalized during the years 2015-16 and 2016-17, along with the cost and the date of put to use of the said assets. Since the aforesaid assets are not in use, the decapitalization claimed under this head, is allowed for the purpose of tariff.

Exclusions

44. The Petitioner, vide affidavit dated 4.7.2022, has stated that no exclusions have been claimed during the period 2014-19.

Discharge of Liabilities

45. The liabilities as on 31.3.2014, amounting to Rs.44294.23 lakh (Rs.51006.23 lakh-Rs.6712.00 lakh), had been considered by the Commission vide order dated 29.6.2018 in Petition No.61/GT/2016. The Petitioner was directed to furnish the liability flow



statement vide ROP of the hearing dated 9.11.2022. In compliance with the same, the Petitioner has furnished the revised liability flow statement for Units-I to III, duly certified by the auditor. The discharge and reversals, as per the liability flow statement, as submitted by the Petitioner, as under, has been considered:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Liability Opening	44294.23	25488.43	22909.62	12515.56	7234.68
Addition	0.00	0.00	0.00	0.00	0.00
Less: Discharges	9174.60	2578.81	3197.61	1178.48	323.19
Less: Reversal	9631.20	0.00	7196.45	4102.41	254.56
Liability Closing	25488.43	22909.62	12515.56	7234.68	6656.93

46. Accordingly, the net additional capital expenditure, allowed on a cash basis, for the period 2014-19, is summarized below:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Additional capital expenditure allowed	25096.51	2772.27	0.00	0.00	957.77
Add: Capitalisation of Initial Spares	2167.68	5354.88	1723.70	0.00	0.00
Less: Decapitalization considered	(-) 72.99	(-) 183.74	(-) 35.39	(-)461.43	(-) 563.31
Add: Discharge of Liabilities	9174.60	2578.81	3197.61	1178.48	323.19
Net Additional capital expenditure allowed	36365.79	10522.23	4885.92	717.04	717.66

Capital cost allowed for the period 2014-19

47. Based on the above, the capital cost allowed for the period 2014-19 is as under:

	(Rs. in lakh)				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Capital Cost	503239.85	539605.63	550127.86	555013.78	555730.82
Add: Additional capital expenditure allowed	36365.79	10522.23	4885.92	717.04	717.66
Closing Capital Cost	539605.63	550127.86	555013.78	555730.82	556448.48
Average Capital Cost	521422.74	544866.75	552570.82	555372.30	556089.65

Debt Equity Ratio

48. Regulation 19 of the 2014 Tariff Regulations provides as under:

“19. Debt-Equity Ratio: (1) For a project declared under commercial operation on or after 1.4.2014, the debt-equity ratio would be considered as 70:30 as on COD. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:



Provided that: i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:

ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:

iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.

Explanation.-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve, for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) The generating company or the transmission licensee shall submit the resolution of the Board of the company or approval from Cabinet Committee on Economic Affairs (CCEA) regarding infusion of fund from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, debt: equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2014 shall be considered.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2014, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2014, the Commission shall approve the debt: equity ratio based on actual information provided by the generating company or the transmission licensee as the case may be.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2014 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this regulation.”

49. The gross normative loan and equity amounting to Rs.356447.79 lakh and Rs.146792.06 lakh, respectively, as on 31.3.2014, as considered in the order dated 29.6.2018 in Petition No.61/GT/2016, have been considered as the normative loan and equity, as on 1.4.2014. Further, the Petitioner has claimed the debt: equity ratio of 70.83:29.17 for the years 2014-15 and 70:30 for the period 2015-19 for the purpose of additional capital expenditure and the same has been considered. The decapitalization of assets has been deducted from the corresponding loan as well as equity, taking into consideration the debt-equity ratio applied in the year in which it was capitalized, as per



Regulation 19(4) of the 2014 Tariff Regulations. Accordingly, the opening and closing debt and equity are as under:

(Rs. in lakh)

	As on 1.4.2014		Additional Capital expenditure		Decapitalization		As on 31.3.2019	
	Amount	(in %)	Amount	(in %)	Amount	(in %)	Amount	(in %)
Debt	356447.79	70.83%	38470.50	70.56%	932.74	70.83%	393985.55	70.80%
Equity	146792.06	29.17%	16054.99	29.44%	384.12	29.17%	162462.93	29.20%
Total	503239.85	100.00%	54525.49	100.00%	1316.86	100.00%	556448.48	100.00%

Return on Equity

50. Regulation 24 of the 2014 Tariff Regulations provides as under:

“24. Return on Equity: (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with regulation 19.

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

Provided that:

i. in case of projects commissioned on or after 1st April 2014, an additional return of 0.50 % shall be allowed, if such projects are completed within the timeline specified in Appendix-I:

ii. the additional return of 0.5% shall not be admissible if the project is not completed within the timeline specified above for reasons whatsoever:

iii. additional RoE of 0.50% may be allowed if any element of the transmission project is completed within the specified timeline and it is certified by the Regional Power Committee/National Power Committee that commissioning of the particular element will benefit the system operation in the regional/national grid:

iv. the rate of return of a new project shall be reduced by 1% for such period as may be decided by the Commission, if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO)/ Free Governor Mode Operation (FGMO), data telemetry, communication system up to load dispatch centre or protection system:

v. as and when any of the above requirements are found lacking in a generating station based on the report submitted by the respective RLDC, RoE shall be reduced by 1% for the period for which the deficiency continues:

vi. additional RoE shall not be admissible for transmission line having length of less than 50 kilometers.”

51. Regulation 25 of the 2014 Tariff Regulations provides as under:

“Tax on Return on Equity: (1) The base rate of return on equity as allowed by the Commission under Regulation 24 shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on



the basis of actual tax paid in the respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee, as the case may be. The actual tax income on other income stream (i.e., income of non-generation or non-transmission business, as the case may be) shall not be considered for the calculation of “effective tax rate”

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

$$\text{Rate of pre-tax return on equity} = \text{Base rate} / (1-t)$$

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

(3) The generating company or the transmission licensee, as the case may be, shall true up the grossed up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon, duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2014-15 to 2018-19 on actual gross income of any financial year. However, penalty, if any, arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under- recovery or over recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long-term transmission customers/DICs as the case may be on year to year basis.”

52. The Petitioner has not paid any income tax during the period 2014-19 and has claimed the Return on Equity (ROE) at the rate of 15.50% as per the 2014 Tariff Regulations. Accordingly, the ROE has been computed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Equity (A)	146792.06	157399.74	160557.94	162024.01	162242.95
Addition of Equity due to additional capital expenditure (B)	10607.68	3158.19	1466.07	218.94	219.98
Equity- Closing (C) =(A) + (B)	157399.74	160557.94	162024.01	162242.95	162462.93
Average Equity (D)=(A+C)/2	152095.90	158978.84	161290.97	162133.48	162352.94
Base Rate (%) (E)	15.500%	15.500%	15.500%	15.500%	15.500%
Tax Rate (%) (F)	0.000%	0.000%	0.000%	0.000%	0.000%
Effective ROE Rate (%) (G)	15.500%	15.500%	15.500%	15.500%	15.500%
Return on Equity (H)= (G)*(D)	23574.86	24641.72	25000.10	25130.69	25164.71

Interest on Loan

53. Regulation 26 of the 2014 Tariff Regulations provides as under:

“26. Interest on loan capital: (1) The loans arrived at in the manner indicated in regulation 19 shall be considered as gross normative loan for calculation of interest on loan.



(2) The normative loan outstanding as on 1.4.2014 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2014 from the gross normative loan.

(3) The repayment for each of the year of the tariff period 2014-19 shall be deemed to be equal to the depreciation allowed for the corresponding year/period. In case of Decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-capitalization of such asset

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

(5) The rate of interest shall be the weighted average rate of interest calculated on the basis of the actual loan portfolio after providing appropriate accounting adjustment for interest capitalized Provided that if there is no actual loan for a particular year but normative loan is still outstanding, the last available weighted average rate of interest shall be considered: Provided further that if the generating station or the transmission system, as the case may be, does not have actual loan, then the weighted average rate of interest of the generating company or the transmission licensee as a whole shall be considered

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

(7) The generating company or the transmission licensee, as the case may be, shall make every effort to re-finance the loan as long as it results in net savings on interest and in that event the costs associated with such refinancing shall be borne by the beneficiaries and the net savings shall be shared between the beneficiaries and the generating company or the transmission licensee, as the case may be, in the ratio of 2:1.

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

(9) In case of dispute, any of the parties may make an application in accordance with the Central Electricity Regulatory Commission (Conduct of Business) Regulations, 1999, as amended from time to time, including statutory re-enactment thereof for settlement of the dispute: Provided that the beneficiaries or the long term transmission customers /DICs shall not withhold any payment on account of the interest claimed by the generating company or the transmission licensee during the pendency of any dispute arising out of re-financing of loan.”

54. The Petitioner was directed to submit the ‘Statement showing changes in the rate of interest corresponding to each loan, if any, from 1.4.2014 till 31.3.2019, along with the documentary evidence in respect of interest rates considered for the calculation of the weighted average rate of interest in Form-13. In compliance with the same, the Petitioner has submitted the auditor’s certificate in respect of the weighted average rate of interest on the loan vide affidavit dated 2.3.2023.

55. Based on the above, Interest on the loan has been computed as under:



- i) The gross normative loan amounting to Rs.356447.79 lakh as on 1.4.2014, as considered in the order dated 29.6.2018 in Petition No.61/GT/2016, has been considered as on 1.4.2014.
- ii) Cumulative repayment amounting to Rs.12307.60 lakh as on 1.4.2014, as considered in the order dated 29.6.2018 in Petition No.61/GT/2016, has been considered as on 1.4.2014.
- iii) Accordingly, the net normative opening loan as on 1.4.2014 works out to Rs.344140.19 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 a normative loan during the respective year of the period 2014-19. Further, the repayments have been adjusted for the decapitalization of assets considered for the purpose of tariff.
- vi) The weighted average rate of interest on the loan has been arrived at after rectifying the computational error in Form-13. Accordingly, the WAROI has been calculated as 12.708% in 2014-15, 12.222% in 2015-16, 12.470% in 2016-17, 11.875% in 2017-18 and 12.483% in 2018-19.

(Rs. in lakh)

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross opening loan (A)	356447.79	382205.89	389569.93	392989.78	393487.87
Cumulative repayment of loan up to previous year (B)	12307.60	38799.68	66491.25	94594.03	122757.57
Net Loan Opening C= (A-B)	344140.19	343406.21	323078.67	298395.75	270730.30
Addition due to additional capital expenditure (D)	25758.10	7364.03	3419.85	498.10	497.68
Repayment of loan during the year (E)	26495.66	27709.32	28107.94	28253.83	28282.83
Less: Repayment adjustment on account of de-capitalization (F)	3.58	17.75	5.16	90.29	138.61
Net Repayment of loan during the year (G=E-F)	26492.08	27691.57	28102.78	28163.54	28144.22
Net Loan Closing (H= C+D-G)	343406.21	323078.67	298395.75	270730.30	243083.76
Average Loan (I= (C+H)/2)	343773.20	333242.44	310737.21	284563.02	256907.03
Weighted Average Rate of Interest of loan (J)	12.708%	12.222%	12.470%	11.875%	12.483%
Interest on Loan (K= I*J)	43687.86	40728.81	38748.49	33791.62	32068.97

Depreciation

56. Regulation 27 of the 2014 Tariff Regulations provides as under:



“27. Depreciation: (1) Depreciation shall be computed from the date of commercial operation of a generating station or unit thereof or a transmission system including communication system or element thereof. In case of the tariff of all the units of a generating station or all elements of a transmission system including communication system for which a single tariff needs to be determined, the depreciation shall be computed from the effective date of commercial operation of the generating station or the transmission system taking into consideration the depreciation of individual units or elements thereof.

Provided that effective date of commercial operation shall be worked out by considering the actual date of commercial operation and installed capacity of all the units of the generating station or capital cost of all elements of the transmission system, for which single tariff needs to be determined.

(2) The value base for the purpose of depreciation shall be the capital cost of the asset admitted by the Commission. In case of multiple units of a generating station or multiple elements of transmission system, weighted average life for the generating station of the transmission system shall be applied. Depreciation shall be chargeable from the first year of commercial operation. In case of commercial operation of the asset for part of the year, depreciation shall be charged on pro rata basis.

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset: Provided that in case of hydro generating station, the salvage value shall be as provided in the agreement signed by the developers with the State Government for development of the Plant:

Provided further that the capital cost of the assets of the hydro generating station for the purpose of computation of depreciated value shall correspond to the percentage of sale of electricity under long-term power purchase agreement at regulated tariff:

Provided also that any depreciation disallowed on account of lower availability of the generating station or generating unit or transmission system as the case may be, shall not be allowed to be recovered at a later stage during the useful life and the extended life.

(4) Land other than the land held under lease and the land for reservoir in case of hydro generating station shall not be a depreciable asset and its cost shall be excluded from the capital cost while computing depreciable value of the asset.

(5) Depreciation shall be calculated annually based on Straight Line Method and at rates specified in Appendix-II to these regulations for the assets of the generating station and transmission system:

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

(6) In case of the existing projects, the balance depreciable value as on 1.4.2014 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2014 from the gross depreciable value of the assets.

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

(8) In case of de-capitalization of assets in respect of generating station or unit thereof or transmission system or element thereof, the cumulative depreciation shall be adjusted by taking into account the depreciation recovered in tariff by the decapitalized asset during its useful services.”



57. The COD of the generating station is 25.3.2014, and therefore, the generating station has not completed 12 years of operation as on 1.4.2014. Accordingly, depreciation has been computed and allowed as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening Gross block (A)	503239.85	539605.63	550127.86	555013.78	555730.82
Net Additional capital expenditure during 2014-19 (B)	36365.79	10522.23	4885.92	717.04	717.66
Closing gross block (C=A+B)	539605.63	550127.86	555013.78	555730.82	556448.48
Average gross block (D)=(A+C)/2	521422.74	544866.75	552570.82	555372.30	556089.65
Value of Free Hold Land	13.36	186.98	365.00	391.95	414.50
Depreciable Value (E= (D-Land value) *90%))	469268.44	490211.79	496985.24	499482.32	500107.64
Remaining Depreciable Value at the beginning of the year (F=E-Cum Dep at 'L' at the end of previous year)	456960.84	451412.10	430493.99	404888.29	377350.07
Rate of Depreciation (G)	5.081%	5.086%	5.087%	5.087%	5.086%
Balance useful Life (H)	24.98	23.98	22.98	21.98	20.98
Depreciation (I=D*G)	26495.66	27709.32	28107.94	28253.83	28282.83
Cumulative Depreciation at the end of the year (J=I+ Cum Dep at 'L' at the end of previous year)	38803.26	66509.00	94599.19	122847.86	151040.39
Less: Depreciation adjustment on account of de-capitalization (K)	3.58	17.75	5.16	90.29	138.61
Cumulative Depreciation at the end of the year (L)	38799.68	66491.25	94594.03	122757.57	150901.79

*Cumulative Depreciation as on 31.3.2014 is Rs.12307.60 lakh

Operation & Maintenance Expenses

58. The Petitioner has claimed the total O&M expenses as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses under Regulation 29(1)	20947.50	22270.50	23667.00	25158.00	26743.50
O&M Expenses under Regulation 29(2)					
Water Charges	1262.65	1160.92	1205.72	1339.05	1339.05
Total O&M Expenses	22210.15	23431.42	24872.72	26497.05	28082.55

59. Regulation 29(1) (a) of the 2014 Tariff Regulations provides for the following normative O&M expenses for 350 MW units of coal-based generating stations:

<i>(Rs. in lakh/MW)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
19.95	21.21	22.54	23.96	25.47



60. As the normative O&M expenses claimed by the Petitioner, as above are in terms of Regulation 29(1)(a) of the 2014 Tariff Regulations, the Petitioner's claim is allowed.

Water Charges

61. Regulation 29(2) of the 2014 Tariff Regulations provides as under:

“29. (2) The Water Charges and capital spares for thermal generating stations shall be allowed separately:

Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check.

The details regarding the same shall be furnished along with the Petition:

Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance or special allowance or claimed as a part of additional capitalisation or consumption of stores and spares and renovation and modernization”.

62. In terms of the above regulation, water charges are to be allowed based on the water consumption, depending upon the type of plant, type of cooling water system etc., subject to prudence check. The Commission, vide its order dated 29.6.2018 in Petition No. 61/GT/2016, allowed the water charges for the period 2014-19, based on the actual water charges for the year 2013-14, subject to revision at the time of truing-up of tariff, as under:

		<i>(Rs. in lakh)</i>				
Sl. No		2014-15	2015-16	2016-17	2017-18	2018-19
1	Rate (Rs/m ³)	4.50	4.50	4.50	4.50	4.50
2	Consumption (m ³)	26792992	26792992	26792992	26792992	26792992
3	Water Charges	1205.68	1205.68	1205.68	1205.68	1205.68

63. The Petitioner has claimed the following water charges:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
1262.65	1160.92	1205.72	1339.05	1339.05

64. The Commission, vide ROP of the hearing dated 27.7.2020, had directed the Petitioner to furnish the details in respect of water charges, such as the computation of water charges, including water consumption, the rate, and the Auditor's certificate in



respect of the actual water charges claimed. In response, the Petitioner, vide affidavit dated 18.9.2020, has submitted the details of the computation of actual water charges for 2014-15 to 2018-19, as under:

		<i>(Rs. in lakh)</i>				
Sl. No		2014-15	2015-16	2016-17	2017-18	2018-19
1	Rate (Rs/m ³)	4.50	4.50	4.50	4.95	5.40
2	Consumption (m ³)	26792992	26866397	26792992	27051460	21770264
3	Water Charges	1205.68	1208.99	1205.68	1326.25	1175.61
4	Interest Charged	6.14	-	-	-	-
5	Prior period adjustments*	50.82	(48.07)	0.04	12.79	-
6	Total water charges	1262.64	1160.91	1205.72	1339.05	1175.61

*Note: Prior period adjustment is towards actual water charges for the period prior to FY 2014-15 for which adjustment / payments were made in subsequent years.

65. The Petitioner has also furnished the auditor-certified statement of the above actual water charges of Rs. 6122.21 lakh claimed during the period 2014-19 (Rs. 1205.68 lakh in 2014-15, Rs. 1208.99 lakh in 2015-16, Rs. 1205.68 lakh in 2016-17, Rs. 1326.25 lakh in 2017-18 and Rs. 1175.61 lakh in 2018-19).

66. The Respondents, GRIDCO, and TPCODL have submitted that the amount of Rs. 6.14 lakh, claimed as interest charged by the Petitioner, is not liable to be paid by the Respondents. The Respondents have also pointed out that the Petitioner has not furnished any details regarding the claims shown against the prior period adjustments (i.e., prior to 2014-15), and therefore, the said claims are liable to be rejected. In response, the Petitioner has submitted that prior to 2014-15, the water charges were allowed under the head of O&M expenses; however, with the introduction of Regulation 29 (2) in the 2014 Tariff Regulations, especially the second proviso, the water charges borne by the generating company are to be allowed separately, and the said charges do not form the basis of the O&M expenses, normatively determined by the Commission. The Petitioner has stated that it has furnished the auditor certificate for the actual water charges claimed.



67. The matter has been considered. On scrutiny of documents and the submissions made by the parties, it is observed that the Petitioner has claimed the total water charges of Rs.6143.93 lakh for 2014-19 (Rs. 1262.64 lakh in 2014-15, Rs. 1160.91 lakh in 2015-16, Rs. 1205.72 lakh in 2016-17, Rs. 1339.05 lakh in 2017-18 and Rs. 1175.61 lakh in 2018-19), which includes an amount of Rs. 6.14 lakh, as interest for 2014-15 and the claims pertain to prior period adjustments (i.e., prior to 2014-15). As regards the additional claim for water charges, the Petitioner has submitted that these amounts pertain to the period prior to 2014-15 for adjustment towards actual water charges, for which adjustment/payments were made in the subsequent years. It is noticed that the Petitioner has not furnished the details for the above additional claims as contended by the Respondents. In the absence of the above details of the claim, and considering the fact that the claim of the Petitioner is for the period prior to the period 2014-19, which is beyond the scope of the present Petition, the additional claim for Rs. 6.14 lakh towards interest in 2014-15 and the claims pertaining to prior period adjustments (i.e., prior to 2014-15) are **not allowed**. Since the Petitioner has furnished the auditor certified copies for the claim of Rs. 6122.21 lakh towards the actual water charges incurred for the period 2014-19, the same are **allowed** as under:

		<i>(Rs. in lakh)</i>				
Sl. No		2014-15	2015-16	2016-17	2017-18	2018-19
1	Rate (Rs/m ³)	4.50	4.50	4.50	4.95	5.40
2	Consumption (m ³)	26792992	26866397	26792992	27051460	21770264
3	Water Charges	1205.68	1208.99	1205.68	1326.25	1175.61

Capital spares

68. The last proviso to Regulation 29(2) of the 2014 Tariff Regulations provides as under:

“29(2) The Water Charges and capital spares for thermal generating stations shall be allowed separately:



XXXX

Provided that the generating station shall submit the details of year wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance or special allowance or claimed as a part of additional capitalization or consumption of stores and spares and renovation and modernization.”

69. The Petitioner has not claimed any expenses towards capital spares as per Form-17 in the Petition. However, in response to the ROP of the hearing dated 29.6.2021, the Petitioner vide affidavit dated 30.8.2021, has claimed an amount of Rs. 9246.26 lakh towards mandatory spares for the period 2014-17 (Rs. 2167.68 lakh in 2014-15, Rs. 5354.88 lakh in 2015-16 and Rs. 1723.70 lakh in 2016-17) and has also furnished the detailed item-wise and year-wise break-up of the same. The Petitioner has submitted that the same has been claimed as additional capitalization.

70. The matter has been considered. On perusal of the above submission, it is noted that the claim for Rs. 9246.26 lakh towards mandatory spares during 2014-17 (Rs. 2167.68 lakh in 2014-15, Rs. 5354.88 lakh in 2015-16 and Rs. 1723.70 lakh in 2016-17) has already been claimed and allowed under the head ‘initial spares’ in para 20 above. In view of this, the expenditure claimed under this head has not been considered.

Fly ash transportation charges

71. The Petitioner has claimed an amount of Rs.1500 lakh in 2018-19 towards Fly Ash transportation charges as additional O&M expenses, in terms of the order dated 5.11.2018 in Petition No. 172/MP/2016. In justification for the same, the Petitioner has submitted that the Commission, vide its order dated 5.11.2018, had held that the transportation of Fly ash is an additional revenue expenditure not contemplated under the normative O&M expenses specified in the regulations and, therefore, has permitted the recovery of the said revenue expenditure additionally from the beneficiaries.



72. The Commission, vide ROP of the hearing dated 27.7.2020, had directed the Petitioner to furnish the following additional information:

- a) *Award of fly ash transportation contract through a transparent competitive bidding procedure. Alternatively, the schedule rates of the respective State Governments, as applicable for transportation of fly ash;*
- b) *Details of the actual additional expenditure incurred on Ash transportation after 25.1.2016, duly certified by auditors;*
- c) *Details of the Revenue generated from sale of li/ fly ash products and the expenditure incurred towards Ash utilization up to 25.1.2016 and from 25.1.2016 to till date, separately;*
- d) *Revenue generated from fly Ash sales maintained in a separate account as per the MoEF notification;*
- e) *Accordingly, the Petitioner shall confirm that it has complied with the above conditions and submit the details thereof along with the computation of the claimed cost towards Ash Transportation. This shall include the name of the transporters, distance of the end user (in km.), awarded rate in Rs./ton per kilometer etc. and any other details considered relevant to the claim in terms of the 2016 Notification of MOEF&CC.*

73. In response, the Petitioner, vide its affidavit dated 18.9.2020, has submitted the following:

- i) The contract for ash transportation has already been awarded following a transparent competitive bidding process as under:
 - a) On 2.7.2018, an open tender was floated for awarding the contract for the transportation of fly ash through Procure Tiger, a reputed e-procurement website, with Event ID No. 25053. Accordingly, two vendors namely Ashtech India Pvt. Ltd. (AIPL) and Samal Builders Pvt. Ltd. (SBML) participated in the bidding process and submitted their proposals.
 - b) On 30.7.2018, the submitted Bids were opened and evaluation was completed on 7.8.2018. Thereafter, on 08.08.2018, negotiations were held with both vendors and subsequently, revised offers were submitted by both bidders.
 - c) On 9.8.2018, considering the value of the work, the Petitioner decided to equally split the quantity of fly ash between both bidders and awarded the contract by issuing the Letter of Intent (LoI) to both the bidders on the same date.
 - d) Accordingly, agreements were executed between the Petitioner and the successful bidders for off-take of the fly ash generated by the Petitioner on 11.8.2018.
- ii) The Petitioner incurred expenses to the tune of Rs. 1494.17 lakh (including GST) on ash transportation up to June 2019. Post June 2019, an additional 1964.51 lakh (including GST), has been incurred till June 2020. Thus, the total expense towards Ash transportation expenses amount to Rs. 3458.68 lakh. In support of the above claim, the auditor certificate of the said amounts towards Ash Transportation expenditure has been submitted. The Petitioner is entitled to the carrying cost (associated with the expenditure incurred on transportation of fly ash) in terms of the judgment passed by the Hon'ble Supreme Court in the case titled UHBVNL



Vs. Adani Power Ltd. & Ors (2019) 5 SCC 325. Accordingly, the estimated carrying cost for the same is Rs. 68 lakhs as on 22.10.2019.

- iii) The revenue has not been generated from the disposal of fly ash till now. However, a separate record of any revenue generated from Fly Ash sales would be maintained by the Petitioner in terms of the MoEF&CC Notification dated 25.1.2016.
- iv) The Petitioner has complied with all the directions of the Commission. Further, the Ash transportation charges from July 2018 to June 2020, based on the actual charges paid and the invoices for the same, has been submitted by the Petitioner.

74. The Respondents, GRIDCO and TPCODL, have submitted that the claim of the Petitioner towards Fly ash transportation charges does not fall under the provisions of the 2014 Tariff Regulations and, therefore, the claim for Rs. 1500 lakh is not maintainable. The Respondent, GRIDCO, has further submitted that the claim beyond 2018-19 should be considered under the 2019 Tariff Regulations, and accordingly, the Petitioner has failed to follow Regulation 62 of the 2019 Tariff Regulations, as well as the MOEFF Notification dated 25.1.2016. The Respondent has, thus, stated that the cost of transportation of fly ash should be adjusted from the normative O&M expenses (2014-19). In response, the Petitioner has reiterated the submissions in justification of the said claim, as made in the main Petition. It has also been submitted that the Fly ash transportation charges are being incurred by the Petitioner in accordance with the MoEF&CC Notification dated 25.1.2016, which amounts to a 'change in law' under the 2014 Tariff Regulations, as well as the 2019 Tariff Regulations. It has added that apart from a mechanism for the recovery of the expenditure towards the transportation of Fly ash provided by the Commission vide its order dated 22.3.2021 in Petition No. 405/MP/2019, the Commission has also vide order dated 28.10.2022 in Petition No. 205/MP/2021, had allowed the recovery of Fly ash transportation charges.

75. The matter has been considered. As regards the reimbursement of Fly ash transportation charges, the Commission, in its order dated 5.11.2018 in Petition



No.172/MP/2016, while directing the Petitioner for compliance with certain conditions, had granted liberty to the Petitioner to approach the Commission at the time of truing-up of tariff, for the period 2014-19, along with all details/information, duly certified by an auditor. It is noticed that the Petitioner has complied with the methodology and procedure laid down by the Commission in the order dated 5.11.2018 in Petition No 172/MP/2016 in respect of the expenses incurred towards the transportation of fly ash, in compliance with the MOEF&CC notification dated 25.1.2016.

76. It is noticed that the Petitioner has submitted an actual expenditure for an amount of Rs.1423.02 lakh towards ash transportation cost excluding GST for the months of August 2018 to May 2019 and the GST amount of Rs.71.15 lakh towards the same period duly certified by the auditor. Accordingly, we have considered the ash transportation cost of Rs.882.47 lakh for the tariff period 2014-19, i.e., up to March 2019. As regards the GST amount, the Petitioner has not provided breakup details for the same. However, it is noticed that the GST amount of Rs.71.15 lakh is 5% of the Rs.1423.02 lakh of ash transportation cost based on calculation. Accordingly, an amount of Rs 44.12 lakh of GST @ 5% for the tariff period 2014-19, i.e., up to March 2019, is considered. In view of this, **we allow** the actual fly ash transportation charges of Rs. 926.59 lakh, including GST (Rs.882.47 lakh + Rs 44.12 lakh) incurred by the Petitioner in 2018-19 (up to March 2019). However, the said charges based on audited figures shall be recovered from the beneficiaries by the Petitioner in 6 (six) equal interest-free monthly instalments, without any carrying cost. Also, considering the fact that the said recovery of the fly ash transportation charges, is being allowed based on the MOEF&CC notification, these expenses shall not be made part of the O&M expenses and the consequent annual fixed charges allowed to the generating station.



77. Based on the above, the total O&M expenses allowed for the period 2014-19 is as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
O&M Expenses under Regulation 29(1)	20947.50	22270.50	23667.00	25158.00	26743.50
O&M Expenses under Regulation 29(2)					
Water Charges	1205.68	1208.99	1205.68	1326.25	1175.61
Total O&M Expenses allowed	22153.18	23479.49	24872.68	26484.25	27919.11

Operational Norms

78. The operational norms considered by the Petitioner for the generating station are as under:

Target Availability (%)	85.0
Heat Rate (kcal/kwh)	2369.02
Auxiliary power consumption %	5.75
Specific Oil Consumption (ml/kwh)	0.50

79. The Petitioner has submitted that it has filed an appeal before APTEL on the issue of Gross Station Heat Rate and Auxiliary Power Consumption, and the judgment of APTEL on this issue is still awaited.

Target Availability

80. Regulation 36(A)(a) of the 2014 Tariff Regulations provides as under:

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

(a) All Thermal generating stations, except those covered under clauses (b)(c) (d) & (e)- 85%.

Provided that in view of the shortage of coal and uncertainty of assured coal supply on sustained basis experienced by the generating stations, the NAPAF for recovery of fixed charges shall be 83% till the same is reviewed. The above provision shall be reviewed based on actual feedback after 3 years from 1.4.2014.”

81. The Petitioner has considered the Target Availability of 85% for the period 2014-19. The Commission, due to the shortage of domestic coal supply, has relaxed the Target Availability norm to 83% for the first 3 years, from 1.4.2014. Accordingly, in terms of



Regulation 36(A) of the 2014 Tariff Regulations, the Target Availability of 83% is considered for the period 2014-17 and 85% for the period 2017-19.

Gross Station Heat Rate

82. Regulation 36(C)(c) of the 2014 Tariff Regulations provides as under:

“36(C) Gross Station Heat Rate:-

(c) Thermal Generating Station having COD on or after 1.4.2009 till 31.3.2014 (i) Coal-based and lignite-fired Thermal Generating Stations=1.045 x Design Heat Rate (kCal/kWh)

Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure:

Provided that the heat rate norms computed as per above shall be limited to the heat rate norms approved during FY 2009-10 to FY 2013-14.

83. The Petitioner, in Form-2 vide affidavit dated 4.5.2020, has furnished the Turbine Cycle Heat Rate of 1945 Kcal/ kWh and Boiler Efficiency of 87.20%. Accordingly, the Gross Station Heat Rate of the generating station for the period 2014-19 has been computed as 2330.88 Kcal/kWh (1.045x1945/0.872). The Commission, in its order dated 12.11.2015 in Petition No. 77/GT/2013, had considered the Gross Station Heat Rate of 2423.97 kCal/kWh for 2013-14 in terms of Regulation 26(B)(a) of the 2009 Tariff Regulations. The Petitioner has, however, computed the Gross Station Heat Rate of the generating station for the period 2014-19 as 2369.02 Kcal/kWh (1.045x2267), which is for the new thermal generating station achieving COD on or after 1.4.2014. Therefore, based on Regulation 36(C)(c) of the 2014 Tariff Regulations, the Gross Station Heat rate of 2330.88 Kcal/kWh (1.045x1945/0.872), as considered in the order dated 29.6.2018 in Petition No. 61/GT/2016, is allowed. This is, however, subject to the final decision of APTEL in the said appeal.

Auxiliary Power Consumption

84. Regulation 36(E)(a)(i) of the 2014 Tariff Regulation provides for the Auxiliary power consumption as under:



(E) Auxiliary Energy Consumption

(a) Coal-based generating stations except at (b) below:

	With Natural Draft cooling tower or without cooling tower
(i) 200 MW series	8.5%
(ii) 300/330/350/500 MW and above	
Steam driven boiler feed pumps	5.25%
Electrically driven boiler feed pumps	7.75%

Provided further that for thermal generating stations with induced draft cooling tower, the norms shall be further increased by 0.5%.

85. The Petitioner has considered the Auxiliary Power Consumption (APC) of 5.75% for the period 2014-19, in accordance with the norm of 5.75 % for 350 MW units with induced draft cooling under the 2014 Tariff Regulations. Accordingly, the APC of 5.75% as considered by the Petitioner, is allowed.

Specific Oil Consumption

86. Regulation 36(D)(a) of the 2014 Tariff Regulations provides for the Secondary fuel oil consumption of 0.50 ml/kWh for coal-based generating stations, and the same is allowed.

87. Based on the above, the operational norms allowed for the period 2014-19 are as under:

Target Availability	For 2014-2017	83%
	For 2017-2019	85%
Heat Rate (kcal/kwh)		2330.88
Auxiliary Power Consumption (%)		5.75
Specific Oil Consumption (ml/kwh)		0.50

Interest on Working Capital

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

“28. Interest on Working Capital:

(1) The working capital shall cover:

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



- (i) Cost of coal or lignite and limestone towards stock if applicable for 15 days for pit-head generating stations and 30 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;
 - (ii) Cost of coal or lignite and limestone for 30 days for generation corresponding to the normative annual plant availability factor;
 - (iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor and in case of use of more than one secondary fuel oil cost of fuel oil stock for the main secondary fuel oil;
 - (iv) Maintenance spares @ 20% of operation and maintenance expenses specified in regulation 29;
 - (v) Receivables equivalent to two months of capacity charges and energy charges for sale of electricity calculated on the normative annual plant availability factor; and
 - (vi) Operation and maintenance expenses for one month.
- (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 cost incurred (taking into account normative transit and handling losses) by the generating company and gross calorific value of the fuel as per actual for the three months preceding the first month for which tariff is to be determined and no fuel price escalation shall be provided during the tariff period.
- (3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 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.
- (4) Interest on working capital shall be payable on normative basis notwithstanding that the generating company or the transmission licensee has not taken loan for working capital from any outside agency.”

Fuel Components and Energy Charges in working capital

89. Clause (2) of Regulation 28 of the 2014 Tariff Regulations provides that the computation of the cost of fuel as a part of Interest on Working Capital (IWC) be based on the landed price and gross calorific value of the fuel as per actuals, for the three months preceding the first month for which the tariff is to be determined. In terms of Clause (6) of Regulation 30 of the 2014 Tariff Regulations, the GCV on an ‘as received’ basis is to be considered for the determination of the energy charges in the working capital. Further, clause (7) of Regulation 30 of the 2014 Regulations provides as under:

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

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



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

90. The Petitioner has submitted that as the actual fuel price and the calorific value data for the period 2014-19 are available, it has considered the weighted average actual fuel prices, blending ratio, and calorific value for the period 2014-19 for computations of energy charge. Accordingly, the energy charges computed by the Petitioner for the period 2014-19 is as under:

	2014-15	2015-16	2016-17	2017-18	2018-19
Gross Station Heat Rate (kCal/kWh)	2369.02	2369.02	2369.02	2369.02	2369.02
Auxiliary Consumption (%)	5.75%	5.75%	5.75%	5.75%	5.75%
Secondary Fuel Oil Consumption (ml/kWh)	0.5	0.5	0.5	0.5	0.5
Landed Secondary Fuel Oil Price (Rs/kL)	57956	39949	34587	41342	50698
Calorific Value of Secondary Fuel Oil (Kcal/ml)	8.82	8.86	8.85	8.87	8.87
Weighted Average Coal Price (Rs/kg)	2.05	2.05	2.13	2.34	2.14
Weighted Average Calorific Value of Coal (kCal/kg)	3652.12	3601.95	3483.85	3363.89	3334.58
Energy Charge (Rs/kWh)	1.356	1.365	1.462	1.669	1.541

91. The matter has been considered. As per Regulation 28(2) of the 2014 Tariff Regulations, IWC should be based on the landed price and gross calorific value of the fuel as per actuals for the three months preceding the first month of the tariff period. It is observed that the Petitioner has not submitted Form-15 and the details of an “as received” GCV of coal procured and burnt for the preceding three months of January, February, and March 2014, as required. However, the Petitioner has submitted the details of the primary and secondary fuel for the period 2014-19 in the tariff filing forms in the main Petition, wherein, it has claimed the ECR, based on this data. The Petitioner has also claimed the Weighted Average GCV of Secondary fuel oil as 8820 Kcal/Litre, 8860



Kcal/Litre, 8850 Kcal/Litre, 8870 Kcal/Litre, and 8870 Kcal/Litre for 2014-15 to 2018-19, respectively, without any justification.

92. Subsequently, the Commission, vide ROP of the hearing dated 10.8.2022, had directed the Petitioner to furnish the information for each source procurement, i.e., firm linkage, shakti linkage, linkage tapering, open market, e-auction, imported, alternative coal, etc., as per Form-15 of the 2014 and the 2019 Tariff Regulations, along with supporting documents along with the credit note and the debit note received from the coal companies for each supply during the respective tariff periods. In response, the Petitioner, vide affidavit dated 9.3.2023, has submitted that as the data is very voluminous, copies of supporting documents pertaining to fuel as per Form-15 have been submitted in soft copy (CD). On perusal of the same, it is noticed that the Petitioner has not furnished the required Form-15 (details of primary and secondary fuel) for the period 2014-19 in terms of the said regulation. However, it is observed that the Petitioner has submitted the same weighted average GCV of the linkage coal for the months of January 2014, February 2014, and March 2014, as submitted for the provisional tariff for the period 2014-19 in Petition No. 61/GT/2016.

93. We have noticed that the actual COD of the generating station is 25.3.2014, and the data for fuel for the months of January 2014 to March 2014, as per the regulation, is not available in this Petition. Therefore, we, based on the available information, have considered the values of first three months (January 2014, February 2014 and March 2014) as submitted in Form-15 by the Petitioner in Petition No. 61/GT/2016 (for provisional tariff for the period 2014-19) and computed the weighted average price and the GCV of Primary Fuel (Coal) & Secondary fuel oil (HDO), excluding the opening stock, for the purpose of calculation of the IWC. In this regard, the Petitioner has procured and



burnt secondary fuel oil, LDO in the months of January, February, and March 2014, and HFO in the month of October 2013, prior to the COD of the generating station. In terms of the 2014 Tariff Regulations, if secondary fuel oils are used, then the main secondary fuel oil shall be considered. In the case of HFO & LDO, HFO is the main secondary fuel oil and, hence, is considered for the computation of secondary oil cost in the working capital.

94. Accordingly, the cost for fuel components in the working capital has been computed at 83% NAPAF for the years 2014-15, 2015-16, and 2016-17 and at 85% NAPAF for the year 2017-18 and 2018-19 and based on the GCV of coal (Linkage coal, open market, e-auction, and imported coal) 'as received' and the price of the coal procured and the secondary fuel oil (HFO) for October 2013 (as the Petitioner had not procured any secondary oil for the preceding three months from January 2014 to March 2014), the claim is allowed as under:

	<i>(Rs.in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Cost of Coal for stock-30 days	7129.51	7129.51	7129.51	7301.30	7301.30
Cost of Coal for Generation-30 days	7129.51	7129.51	7129.51	7301.30	7301.30
Cost of Secondary fuel oil 2 months	309.50	310.35	309.50	316.96	316.96

95. Similarly, the Energy Charge Rate (ECR), as worked out, based on the operational norms specified in the 2014 Tariff Regulations and GCV of coal for the three months, i.e., April to June 2014, has been considered for allowing two months of energy charge in working capital as under:

Sl. No.		Unit	2014-19
1	Capacity	MW	3x350
2	Gross Station Heat Rate	Kcal/kWh	2330.88



3	Aux. Energy Consumption	%	5.75
4	Weighted average GCV of oil	Kcal/lit	11000
5	Weighted average GCV of Coal 'as received'	Kcal/kg	3754.03
6	Weighted average price of oil	Rs. /KL	48649.00
7	Weighted average price of Coal	Rs. /MT	1834.27
8	Rate of energy charge ex-bus	Paise/kWh	123.134

Working capital for Maintenance Spares

96. Regulation 28(1)(a)(iv) of the 2014 Tariff Regulations provide for the maintenance spares @ 20% of the O&M expenses as specified in Regulation 29(2) of the 2014 Tariff Regulations. As per the consistent methodology adopted by the Commission, the maintenance spares, including the water charges, have been worked out and allowed as under:

<i>(Rs.in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
4430.64	4695.90	4974.54	5296.85	5583.82

Working capital for Receivables

97. Receivables equivalent to two months of capacity charges and energy charges have been worked out and allowed as under:

<i>(Rs. in lakh)</i>					
	2014-15	2015-16	2016-17	2017-18	2018-19
Receivables (Fixed Charges)	20582.88	20702.93	20740.03	20243.57	20214.60
Receivables (Variable Charges)	14762.49	14802.94	14762.49	15118.21	15118.21
Total	35345.37	35505.87	35502.52	35361.78	35332.81

Working capital for O&M expenses for 1 month

98. Regulation 28(a)(vi) of the 2014 Tariff Regulations provides for the O&M expenses for one month for coal-based generating stations. Accordingly, the 1 (one) month O&M expenses, including the water charges, have been worked out and allowed as under:

<i>(Rs. in lakh)</i>				
2014-15	2015-16	2016-17	2017-18	2018-19
1846.10	1956.62	2072.72	2207.02	2326.59



Rate of interest on working capital

99. Clause (3) of Regulation 28 of the 2014 Tariff Regulations provides as under:

“Interest on working Capital: (3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 or as on 1st April of the year during the tariff period 2014-15 to 2018-19 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.”

100. Accordingly, interest on working capital is worked out and allowed as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Working capital for Coal towards stock - 30 days (A)	7129.51	7129.51	7129.51	7301.30	7301.30
Working Capital for Cost of Coal towards Generation – (30 days generation corresponding to NAPAF) (B)	7129.51	7129.51	7129.51	7301.30	7301.30
Working Capital for Cost of Secondary fuel oil – (2 months generation corresponding to NAPAF) ©	309.50	310.35	309.50	316.96	316.96
Working Capital for Maintenance Spares @ 20% of O&M expenses (D)	4430.64	4695.90	4974.54	5296.85	5583.82
Working Capital for Receivables – (60 days of the sale of electricity at NAPAF (E)	35345.37	35505.87	35502.52	35361.78	35332.81
Working Capital for O&M expenses - 1 month (F)	1846.10	1956.62	2072.72	2207.02	2326.59
Total Working Capital (A to F)	56190.63	56727.76	57118.30	57785.22	58162.80
Rate of Interest	13.50%	13.50%	13.50%	13.50%	13.50%
Interest on Working Capital	7585.73	7658.25	7710.97	7801.00	7851.98

Annual Fixed Charges approved for the period 2014-19

101. Accordingly, the annual fixed charges approved for the generating station for the period 2014-19 are summarized as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	26495.66	27709.32	28107.94	28253.83	28282.83
Interest on Loan	43687.86	40728.81	38748.49	33791.62	32068.97
Return on Equity	23574.86	24641.72	25000.10	25130.69	25164.71
Interest on Working Capital	7585.73	7658.25	7710.97	7801.00	7851.98
O & M Expenses	22153.18	23479.49	24872.68	26484.25	27919.11
Annual Fixed Charges	123497.30	124217.59	124440.18	121461.39	121287.59

Note: 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.



102. The annual fixed charges approved as above, are applicable corresponding to the capacity of 262.5 MW (25% of 1050 MW), which has been contracted for supply to the Respondent beneficiaries.

Month to Month Energy Charges

103. The Petitioner shall determine the month-to-month Energy Charges Rate (ECR) in Rupees per kWh, to three decimal places on ex-power plant, in accordance with the following formulae:

“6. Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal place in accordance with the following formula:

(a) For coal based and lignite fired stations

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

AUX = Normative auxiliary energy consumption in percentage.

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

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

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

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

LC = Normative limestone consumption in kg per kWh.

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

LPPF = Weighted average landed price of primary fuel, in Rupees per kg”

104. The Petitioner shall compute and claim the energy charges, on a month-to-month basis from the beneficiaries based on the formulae given under Regulation 30(6)(a) of the 2014 Tariff Regulations read with the Commission's order dated 25.1.2016 in Petition No. 283/GT/2014.

105. In terms of clause 6.2.2 of the PPA, all cess, duty, tax, governmental levy, etc., incurred by the Petitioner towards the generation of electricity shall be reimbursed to the Petitioner, in proportion to the capacity contracted by the Respondent beneficiaries.

Summary



106. The annual fixed charges allowed vide order dated 29.6.2018 in Petition No. 61/GT/2016 and the annual fixed charges allowed in this order (after truing-up) for the period 2014-19 for the generating station are summarized as under:

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Annual fixed charges claimed by the petitioner	124434.48	125614.62	126042.11	123610.69	124698.89
Annual fixed charges allowed vide order dated 29.6.2018 in Petition No. 61/GT/2016	122888.75	125599.32	127294.62	128079.11	125896.28
Annual fixed charges allowed in this order	123497.30	124217.59	124440.18	121461.39	121287.59

107. The difference between the annual fixed charges recovered by the Petitioner in terms of the order dated 29.6.2018 in Petition No. 61/GT/2016 and the annual fixed charges determined by this order shall be adjusted in terms of the provisions of Regulation 8(13) of the 2014 Tariff Regulations.

DETERMINATION OF TARIFF FOR THE PERIOD 2019-24

108. As stated, the Petitioner has also sought the determination of the tariff of the generating station for the period 2019-24, in accordance with the provisions of the 2019 Tariff Regulations. Accordingly, the capital cost and annual fixed charges claimed by the Petitioner for the period 2019-24 are as under:

Capital cost claimed

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	558943.91	559004.07	588665.14	664762.49	664762.49
Add: Addition during the year/period	60.16	860.97	76097.35	-	-
Add: Discharges during the year/period	-	28800.10	-	-	-
Closing Capital Cost	559004.07	588665.14	664762.49	664762.49	664762.49

Annual Fixed Charges claimed

(Rs. in lakh)



	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	28494.19	29277.07	32065.82	34073.40	34073.40
Interest on Loan	28280.99	25892.63	26681.51	25877.53	21625.36
Return on Equity	33131.79	34012.62	37146.90	39402.15	39402.15
Interest on Working Capital	8026.78	8071.53	8258.59	8395.53	8404.95
Additional O & M Expenses	1500.00	1500.00	1500.00	1500.00	1500.00
O&M Expenses including Water charges and Security	30700.15	31858.14	33070.84	34328.93	35644.20
Total Annual Fixed Charges	130133.91	130611.99	138723.67	143577.54	140650.05

109. Based on the submissions and the documents on record, we proceed to determine the generating station's tariff for the period 2019-24, as stated in the subsequent paragraphs.

Capital Cost

110. 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 the determination of tariff for existing and new projects. Clause (3) of Regulation 19 of the 2019 Tariff Regulations specifies the components to be considered for capital, and Clause (5) of Regulation 19 of the 2019 Tariff Regulations specifies the components to be excluded from the capital cost of new and existing projects. Clauses (1), (3), and (5) of Regulation 19 of the 2019 Tariff Regulations provide as under:

“19. Capital Cost: (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.

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(3) The Capital cost of an existing project shall include the following:

- (a) Capital cost admitted by the Commission prior to 1.4.2019 duly trued up by excluding liability, if any, as on 1.4.2019;*
- (b) Additional capitalization and de-capitalization for the respective year of tariff as determined in accordance with these regulations;*
- (c) Capital expenditure on account of renovation and 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.

xxx

(5) The following shall be excluded from the capital cost of the existing and new projects:

- (a) The assets forming part of the project, but not in use, as declared in the tariff petition;
- (b) De-capitalised Assets after the date of commercial operation on account of replacement or removal on account of obsolescence or shifting from one project to another project:

Provided that in case replacement of transmission asset is recommended by Regional Power Committee, such asset shall be decapitalized only after its redeployment;

Provided further that unless shifting of an asset from one project to another is of permanent nature, there shall be no de-capitalization of the concerned assets.

- (c) In case of hydro generating stations, any expenditure incurred or committed to be incurred by a project developer for getting the project site allotted by the State Government by following a transparent process;
- (d) Proportionate cost of land of the existing project which is being used for generating power from generating station based on renewable energy; and
- (e) Any grant received from the Central or State Government or any statutory body or authority for the execution of the project which does not carry any liability of repayment.”

111. The Commission, in this order, has allowed the closing capital cost of Rs. 556448.48 lakh, as on 31.3.2019. Accordingly, in terms of the above regulations, the closing capital cost of Rs. 556448.48 lakh, as on 31.3.2019, has been considered as the opening capital cost as on 1.4.2019 for the determination of tariff for the period 2019-24.

Additional Capital Expenditure for the period 2019-24

112. Clause (2) of Regulation 9 of the 2019 Tariff Regulations provides that the application for determination of tariff shall be based on the admitted capital cost, including any additional capital expenditure already admitted and incurred up to 31.3.2019 (either based on actual or projected additional capital expenditure) and the estimated additional capital expenditure for the respective years for the period 2019-24, along with the true-up for the period 2014-19, in accordance with the 2014 Tariff Regulations. The relevant



clauses of Regulations 25 and Regulation 26 of the 2019 Tariff Regulations are extracted below:

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

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

- (a) Liabilities to meet award of arbitration or for compliance of the directions or order of any statutory authority, or order or decree of any court of law;*
- (b) Change in law or compliance of any existing law;*
- (c) Deferred works relating to ash pond or ash handling system in the original scope of work;*
- (d) Liability for works executed prior to the cut-off date;*
- (e) Force Majeure events;*
- (f) Liability for works admitted by the Commission after the cut-off date to the extent of discharge of such liabilities by actual payments; and*
- (g) Raising of ash dyke as a part of ash disposal system.*

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

- (a) The useful life of the assets is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;*
- (b) The replacement of the asset or equipment is necessary on account of change in law or Force Majeure conditions;*
- (c) The replacement of such asset or equipment is necessary on account of obsolescence of technology; and*
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.*

26. Additional Capitalization beyond the original scope

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

- (a) Liabilities to meet award of arbitration or for compliance of order or directions of any statutory authority, or order or decree of any court of law;*
- (b) Change in law or compliance of any existing law;*
- (c) Force Majeure.;*
- (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 addition to the original scope of work, on case to case basis:*

Provided also that if any expenditure has been claimed under Renovation and



Modernization (R&M) or repairs and maintenance under O&M expenses, the same shall not be claimed under this Regulation;

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

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

113. The year-wise total projected additional capital expenditure, claimed by the Petitioner as per Form-9A, for the period 2019-24 is as under:

(Rs. in lakh)

Sl. No.	Head of Work /Equipment	Regulation	Additional Capital Expenditure claimed (actual / projected)				
			2019-20	2020-21	2021-22	2022-23	2023-24
1	Plant and Equipment (Future Ash Pond)	25(1)(c)	60.16	-	-	-	-
2	Plant and Equipment (Ash Dyke Raising)	25(1)(g)	-	860.97	-	-	-
3	Plant and Equipment (Fly Ash Conveying System Unit-I)	25(1)(c)	-	-	2597.35	-	-
4	Plant and Equipment (FGD)	-	-	-	73500.00	-	-
Total Additional capital expenditure claimed		-	60.16	860.97	76097.35	-	-

114. We now examine the projected additional capital expenditure claimed by the Petitioner for the period 2019-24 as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Additional Capital expenditure claimed (Ash Dyke + FGD)	60.16	860.97	76097.35	-	-
De-Capitalization Claimed	-	-	-	-	-
Discharges during the year/period	-	28800.10	-	-	-
Total	60.16	29661.07	76097.35	-	-

115. The Petitioner has submitted that the additional capital expenditure claimed towards Ash Dyke raising as a part of the ash disposal system, future Ash pond, and Fly ash conveying unit is in terms of Regulation 26(1)(e) of the 2019 Tariff Regulations and



the installation of FGD is in terms of Regulation 26(1)(b) of the 2019 Tariff Regulations, as under:

<i>(Rs. in lakh)</i>			
	Head of Work/ Equipment	Additional Capital expenditure claimed	Regulation
2019-20	Plant and Equipment (Future Ash Pond)	60.16	26(1)(e)
2020-21	Plant and Equipment (Ash Dyke Raising)	860.97	
2021-22	Plant and Equipment (Fly Ash Conveying System Unit-1)	2597.35	
	Installation of FGD	73500.00	26(1)(b)

Items claimed under Regulation 26(1)(e) of the 2019 Tariff Regulations

(a) Plant and Equipment (Future Ash Pond), Plant and Equipment (Ash Dyke Raising) and Plant and Equipment (Fly Ash Conveying System Unit-1)

116. The Petitioner has claimed a total additional capital expenditure of Rs.3518.48 lakh during 2019-22 (i.e. Rs. 60.16 lakh in 2019-20, Rs. 860.97 lakh in 2020-21, and Rs. 2597.35 lakh in 2021-22) on a cash basis, under the heads 'Plant and Equipment (Future ash pond),' 'Plant and Equipment (Ash dyke raising)' and 'Plant and Equipment (Fly ash conveying system Unit-1)' respectively. In justification for the same, the Petitioner has submitted that the above claims, i.e., raising Ash dyke form part of the Ash disposal system, future Ash pond, and Fly ash conveying unit, are under Regulation 26(1)(e) of the 2019 Tariff Regulations.

117. It is noticed that the Petitioner, in Form-9A, has claimed the additional capital expenditure for the Works relating to the Ash pond, Ash dyke raising, and Ash handling system, which are within the original scope of work and is after the cut-off date of the generating station, thereby, falling under Regulation 25(1)(c)(g) of the 2019 Tariff Regulations. It is also observed that, as per Form-9A, the above expenditure of Rs. 60.16 lakh in 2019-20 under the head 'Plant and Equipment (Future ash pond)' has been claimed on an actual basis, and the expenditures of Rs. 860.97 lakh in 2020-21 and Rs.



2597.35 lakh in 2021-22, under the heads of 'Plant and Equipment (Ash dyke raising)' and 'Plant and Equipment (Fly ash conveying system Unit-1)' respectively, have been claimed on a projected basis. In response to the directions in ROP of the hearing dated 27.7.2020, the Petitioner, vide affidavit dated 4.8.2020, has submitted that the additional capital expenditure of Rs.3518.48 lakh (Rs. 60.16 lakh in 2019-20, Rs. 860.97 lakh in 2020-21, Rs. 2597.35 lakh in 2021-22) claimed under the heads 'Plant and Equipment (Future ash pond),' 'Plant and Equipment (Ash dyke raising)' and 'Plant and Equipment (Fly ash conveying system Unit-1)', respectively, have been claimed on a projected basis, and is beyond the original scope of work, thereby falling under Regulation 26(1)(e) of the 2019 Tariff Regulations.

118. The Respondent, GRDICO, has submitted that it is not clear if the above projected additional capital expenditure, claimed by the Petitioner is also for Unit-IV and, therefore, the details of the actual expenditure incurred along with proper classification, may be furnished by the Petitioner. The Respondent, TPCODL, has contended that the claims are beyond the cut-off date and, therefore, may not be allowed, since the Petitioner has failed to comply with the revised environmental norms. In response, the Petitioner has submitted that the proposed additional capital expenditure is for the existing PPAs, and nothing has been planned for Unit-IV. The Petitioner has further submitted that in a Section 62 project, the Ash-related expenditure is incurred in phases, and not at once, depending upon the total Ash generation. The Petitioner has stated that in compliance with the environmental norms, it has been regularly submitting the EC compliance report to the authorities since the present generating station is located in such a vicinity where the demand for fly ash is lower than its supply and the entire ash generated could not be exhausted, the raising of dyke is mandatory.



119. As regards the claims for Ash handling system, the Commission, vide ROP of the hearing dated 29.6.2021, had directed the Petitioner to furnish the following information:

“

(vi) Total original scope and expenditure envisaged at the time of investment approval towards the head of ash handling system and phasing of such expenditure over the life of the project. The amounts claimed under original scope may be reconciled with the total expenses claimed till date and amounts projected to be incurred;

xx

(viii) Re-assessed need for new Ash Pond / Raising of Ash Pond in view of Ash generation and utilization trend of the past 5 years, in view of the projected additional capital expenditure claimed;

120. In response, the Petitioner, vide its affidavit dated 30.8.2021, has submitted the following:

a) The Petitioner envisaged Project cost as per the EIA report filed before MoEF&CC for obtaining the EC was Rs. 4565 crores (which was approved by lenders to be Rs. 4560 crores initially) & expenses towards Ash Handling System was part of Total EPC cost of Rs. 3680 crores (at the prevailing forex as on 2008-2009). The breakup of the project cost has already been submitted during the proceedings in Petition Nos. 77/GT/2013 & 61/GT/2016. Further, an amount of Rs. 12.5 crore was envisaged to be spent, on an annual basis, towards Pollution Control & Environmental requirements. During the period up to 2019, as against Rs. 62.5 crore (12.5 crore x 5 years), the Petitioner spent Rs. 25.76 crore towards the Ash handling system. In addition, during the period 2019-24, another Rs. 62.5 crore was envisaged to be spent.

b) However, the actual expenses incurred up to the COD have been extracted below:

(Rs. in lakh)

	Head	Bottom Ash handling system	HCS D System	Ash Silo etc	Ash Pond	Total
1	Onshore Supply	9,35,21,000	41,94,29,000			51,29,50,000
2	Inland Transportation	28,00,259				28,00,259
3	Civil			93,15,944	66,13,89,122	67,07,05,066
4	Erection			41,50,59,203		41,50,59,203
					Total	1,60,15,14,528

Note: This table does not include the electrical, C&I etc. These 160 cr. & the costs towards associated Electrical, C&I etc. is part of the Total EPC cost.



- c) Over and above the costs mentioned, the Petitioner, from 31.3.2014 up to 2018-19, has incurred Rs. 2576.37 lakh towards the Ash handling system as against Rs. 6250 lakh, as per the EIA report.
- d) The Petitioner has claimed projected additional capital expenditure for the period 2019-24 as under:
- i. Rs. 60.16 lakh towards Future ash pond.
 - ii. Rs. 860.97 lakh towards Ash dyke raising.
 - iii. 2597.35 lakh towards Fly ash conveying system.
- e) The total additional capital expenditure claimed towards the Ash handling system for the period 2019-24 is Rs. 3518.48 lakh, as against Rs. 6250 lakh, as per the EIA report.
- f) The Petitioner has provided details of the expenditure of a capital nature before this Commission in the tariff filing forms for the period 2019-24. Further, the Petitioner has also furnished a certificate from the Auditor regarding the projected capital expenditures during the period 2019-24.
- g) As regards the need for a new Ash pond/Raising of Ash pond, the existing ash pond has been developed over an area of 212 acres, which comprise of main Ash dyke and its associated infrastructure, such as the decanted water storage pond, clear water pond with a recovery system to reuse the decanted water from the pond in the slurry making. The unutilized ash left over from daily generation is pumped to the pond through high concentration slurry disposal ("HCSD") system and discharged into the pond through multiple discharge points, ensuring even distribution. The total capacity of the ash pond is 24,00,000 MT, out of which 14,00,000 MT capacity is presently available. This available capacity would hold the entire ash generated in the next six months only if the plants operated at a PLF of 85%. The utilization of ash generated in the last 5 years is as under:

Financial Year	Quantity Generated (MT)	Quantity Utilized (MT)	Ash Utilization Achieved (%)	PLF (%)
2016-17	14,38,998.00	12,20,208.00	84.80	64.50
2017-18	15,34,254.14	18,12,451.88	118.13	60.74
2018-19	17,86,716.48	17,88,724.90	100.11	72.74
2019-20	17,04,859.21	18,20,567.69	106.79	63.59
2020-21	20,60,592.32	23,82,150.99	115.61	77.20

- h) The total Ash generated in the process of the power generation comprise both the bottom ash and fly ash, in the ratio of 25:75. Fly ash can be potentially utilized in various avenues at some costs, but the bottom ash does not have any potential use except filling/reclaiming low lying areas or dumping into the pond. Therefore, from the above table, it can be observed that in the last five years, more than 100% utilization has been achieved on account of the utilization of left-over unutilized ash in previous years.



- i) The ash produced is presently being utilized in the construction of roads, land developments, etc. However, such utilization avenues are also for short periods. About 60% of the utilized quantity in the past few years has been utilized for the development of the National Highway road within a radius of 100 km, which is expected to be exhausted within a short period, i.e., by the end of 2021.
- j) Utilization of ash for the National Highway road projects involves a huge cost, i.e., 450/- to 500/- per MT, which is an additional pass-through expense under the change in law on account of the MoEF&CC notification dated 25.2.2016, impacting the cash flow in the plant operation, because of the delay in the recovery of the incurred cost. Also, the plant is located in a vicinity where the demand for Ash is significantly lower than its production. This is also one of the major hurdles in the utilization of Ash.
- k) Therefore, looking at the existing utilization trends, disposal issues, limited long term avenues for ash disposal, and the additional recurring burden on the consumers due to the high cost of Ash disposal, the ash storage capacity is required to be increased. As evident from the above, the Plant has been operating at a lower PLF and if the Plant is operated at a higher PLF, the ash generated would pose a bigger problem for its disposal.
- l) As a practice, the height of the Ash pond bund is raised from time to time during the operation phase of the plant based on the availability of storage capacity. As per the EIA report, the Ash pond bund is to be raised 25 meters, and as per industry practice, the bund is raised 5 meters in each phase, to make it less expensive; hence, the five-phase bund raising has already been envisaged during the design phase. One phase of raising was completed in 2017-18. In addition to the bund raising, a separate area of about 110 acres was also provisioned during the design phase and has also been earmarked in the plot plan. Therefore, considering the above, the Petitioner prays that the Commission may allow the additional capital expenditure of Rs. 60.16 lakh towards the development of the Future ash pond and Rs. 860.97 lakh towards the Ash dyke raising.

121. The matter has been considered. It is noticed that the Commission had already allowed the actual additional capital expenditure of Rs. 957.77 lakh towards 'Building-Ash Dyke raising & Ash recovery tank' on a cash basis, during the period 2014-19. Now, the Petitioner claimed the additional capital expenditure of Rs.3518.48 lakh in 2019-22 (Rs. 60.16 lakh in 2019-20, Rs. 860.97 lakh in 2020-21, Rs. 2597.35 lakh in 2021-22) under the heads 'Plant and Equipment (Future Ash Pond)', 'Plant and Equipment (Ash Dyke



Raising)' and 'Plant and Equipment (Fly Ash Conveying System Unit-1)', respectively, on a projection basis. It is observed that the Petitioner, in response to the direction of the Commission regarding the total original scope, the expenditure envisaged at the time of investment approval under the head of 'Ash handling system', etc., has submitted that the Project cost for the generating station is envisaged as per the EIA report filed before the MoEF&CC, GOI for obtaining the EC and the expenses towards Ash handling system form part of the total EPC cost. The Petitioner has further submitted that the total additional capital expenditure towards the Ash handling system for the period 2019-24 is Rs. 3518.48 lakh, as against the amount of Rs. 6250 lakh as per the EIA report. The Petitioner has also furnished a certificate from the Auditor regarding the projected additional capital expenditure for the period 2019-24.

122. It is noticed that the claim of the Petitioner under the heads 'Plant and Equipment (Future ash pond)', 'Plant and Equipment (Ash dyke raising)' and 'Plant and Equipment (Fly ash conveying system Unit-1)', respectively, is beyond the original scope of work. In our view, Ash generation and Ash disposal are a continuous process to be carried out from time to time during the operating life of the plant in order to ensure the successful running of the plant. Accordingly, the claim of the Petitioner, on this count **is allowed** under Regulation 26(1)(e) of the 2019 Tariff Regulations. Considering the vintage of the Plant and the fact that the utilization of fly ash is around 100%, the Petitioner is directed to furnish the details, such as the original scope and the total expenditure envisaged at the time of investment approval, under the head, Ash handling system and phasing of such expenditure over the life of the project, the total ash dyke / pond / lagoon capacity, the raisings and their height already completed, the quantity of ash available at plant, the balance capacity available at plant for Ash storage, Ash generated, the quantity of ash



utilized locally, the quantity of Ash transported, the Ash transportation charges, etc., along with relevant supporting documents, at the time of truing up of tariff.

Items claimed under Regulation 26(1)(b) of the 2019 Tariff Regulations

(b) Installation of Flue gas Desulphurization (FGD)

123. The Petitioner has claimed the projected additional capital expenditure of Rs. 73500.00 lakh in 2021-22 towards the Installation of FGD works under the head, 'Plant and Equipment (FGD)'. In justification for the same, the Petitioner has submitted that as per Section 5 of the Environmental (Protection) Act, 1986, the MOEF&CC vide notification dated 7.12.2015, has directed the TPP units having a capacity of 500 MW & below, installed after 1.1.2003 and up to 31.12.2016, are required to maintain the (Sulphur Dioxide) SO₂ level below 600 mg/Nm³. The Petitioner has also submitted that in order to meet the above-stipulated emission norms, it has furnished the revised feasibility report, providing the details of best-suited technology and the estimated indicative cost to the CEA, and the CEA, vide its letter dated 25.3.2019, has issued the Advisory report detailing the suggested technology and the estimated indicative cost towards the installation of FGD at the generating station. The Petitioner has also submitted that the CEA has also mentioned that the cost of retrofitting FGD for the plant needs to be discovered through open competitive bidding in consultation with the representatives of the major PPA stakeholders. Accordingly, the Petitioner has clarified that it is in the process of carrying out further analysis on the aspects of capital cost for FGD, O&M expenses of FGD, and its impact on the Auxiliary Power Consumption (APC) of the plant. The Petitioner has pointed out that since the CEA, in its advisory report, has indicated the capital cost of Rs. 37 lakh/MW towards the basic cost of the FGD system, which does not include taxes, duties, and other costs, the Petitioner, at present, has claimed the capital cost of Rs. 70 lakh/MW and has prayed for the approval of the additional capital expenditure towards



the FGD at the cost of Rs. 0.70 crore/MW. Further, the Petitioner has submitted that it will approach the Commission for approval of the O&M expenses and APC towards the FGD once the contract is finalized.

124. The Respondent, GRIDCO has contended that the estimated additional capital cost for the installation of FGD, as claimed by the Petitioner, is higher than the indicated capital cost towards the basic cost of FGD. The Respondent has further submitted that the additional capital expenditure, if any, may be considered during the truing-up of the tariff of the generating station for the period 2019-24 and after carrying out a prudence check towards the said proposal for FGD, in Petition No. 300/MP/2018. The Respondent has also pointed out that the consent letters from the two long-term beneficiaries of the States of Haryana and Bihar for such an installation have not been furnished by the Petitioner. The Respondent, TPCODL, has submitted that the FGD system should not be allowed, since the Petitioner has failed to furnish the relevant documents to verify whether the FGD system is suitable for the generating station. In response, the Petitioner has reiterated that it is in the process of carrying out further analysis on the aspects of capital cost for FGD, O&M expenses of FGD and its impact on APC of the plant. It has stated that since the CEA, in its advisory report, has indicated the capital cost of Rs. 37 lakh/MW towards the basic cost of the FGD system, which does not include taxes, duties, and other costs, the Petitioner, at present, has claimed the capital cost of Rs. 70 lakhs/MW and will submit the actual capital cost at the time of truing-up of tariff. The Petitioner has further submitted that the Commission, vide its order dated 20.7.2018 in Petition No. 98/MP/2017, held that the revised norms are to be complied with, irrespective of the age of the thermal plant and the non-compliance of the same, would lead to consequences as per Section 15 & 16 of the Environmental Protection Act, 1986. In this regard, a separate Petition No. 300/MP/2018 (for approval of FGD) filed by the Petitioner, was



withdrawn by the Petitioner vide ROP dated 11.1.2022, with the liberty to approach the Commission again after completion of the bidding process.

125. The Petitioner, vide additional affidavit dated 10.2.2023, has placed on record the current status with respect to the installation of FGD as under:

(i) On 8.11.2019, the Petitioner issued a Notice inviting Tender (NIT) inviting bids for engineering, procurement, and construction of the FGD system through an international competitive bidding process. A total four (4) nos. of Bidders had submitted their offers, as below:

SI No	Name of the Bidder/Vendor	Technology offered	Country of Origin	Remarks
1	L&T	Wet Lime	India	Opted out and no more a participant in the bid.
2	Tuna Envirotech Private Limited, Shandong, China	Wet Lime	Chinese	Technical evaluation completed and commercial evaluation and discussions are at an advanced stage.
3	Jiangsu Fengye Technology and Environmental Group Co Ltd, China	Wet Lime	Chinese	Same as above
4	JET India Pvt. Ltd, Chinese Owned	Ammonia	Chinese	Same as above

(ii) The Chinese EPC contractors are facing challenges in getting Indian Visa to have regular in person meetings to discuss and close the matter. This also poses significant risk in terms of executing the FGD system within the desired timeline.

(iii) In addition to the above, there are certain directives/guidelines issued by the Ministry of Power (MOP) vide its Orders/Office Memorandum No. 11/05/2018-Coord dated 28.12.2018, 10/1/2019-St. Th. (Part-II) dated 20.03.2020 and A-1/2021-FSC-Part (5) dated 16.11.2021 regarding the mandatory procurement of the minimum local content (%) in respect of the thermal power plants.

(iv) Though the Petitioner is pursuing the above 3 Chinese bidders, there is a persisting uncertainty with regard to the timely supply of the equipment, quality assurance, resource availability (Visa and permits) and funding tie up, etc.

(v) In view of the above, the Petitioner, in order to ensure the timely implementation of the FGD System, decided to invite domestic bids through a domestic competitive bidding process and issued NIT on 29.7.2022. The details of the participating domestic vendors and the current status are as under:

SI.	Name of the	Tender Doc	Pre-Bid	Site Visit	Pre-Bid Query reply
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No	Vendor		Queries		status
1.	Powermech Projects	Issued	Received	Confirmed for site visit. Exact Date Awaited	Technical and Commercial replies made and reviewed by committee. Replies getting re-drafted by Technical Department.
2.	Ducon Infra Technologies Ltd., Mumbai own Technology	Issued	Received	Confirmed for site visit. Exact Date Awaited	Technical and Commercial replies made and reviewed by committee. Replies getting re-drafted by Technical Department.
3.	Techno Electric, Kolkata Tech partner KC Cortell	Issued	Received	Site visit completed GKEL 27.9.2022, GWEL 26.9.2022	Technical and Commercial replies made and reviewed by committee. Replies getting re-drafted by Technical Department.
4.	GE Power	Issued	Not yet Submitted		
5.	Apollo International Ltd., Gurgaon Tech partner GE Power	Issued	Not yet Submitted	Confirmed to visit site on 29.9.2022	
6.	Gupta Power. Kolkata	Issued	Not yet Submitted	Visiting site on 28.9.2022	
7.	L&T	Issued	Not yet Submitted	No confirmation. Party visited site during last ICB Tender	
8.	Bridge and Roof	Tender Fee Deposited		Not yet finalized tech partner. Under discussion for finalizing tech partner.	

(vi) Accordingly, the projected cost numbers corresponding to the FGD installation, as submitted by the Petitioner in the earlier submissions, shall be revised, based on the final discovered cost, post the completion of the bidding process.

(vii) In view of the above submissions, the Commission may be pleased to be take the above information on record, as the same is relevant for the adjudication of the present matter.

126. The matter has been considered. It is noticed that the Commission vide its order dated 28.1.2022 in Petition Nos. 300/MP/2018 and 301/MP/2018 had observed that the bidding process for the installation of the FGD system, required to be installed in compliance with the MOEFCC notification dated 7.12.2015, has not been completed by



the Petitioners and, therefore, the in-principle approval for the installation of FGD was not accorded. It is also observed in the present Petition that the Petitioner has not finalized the capital cost towards the installation of ECS, and it is still in the process of carrying out further analysis on the aspects of the capital cost for FGD, O&M expenses of FGD and its impact on the APC of the plant. In view of this, the above claim of the Petitioner on this count, **is not allowed**. However, the Petitioner is granted the liberty to approach the Commission, with a separate Petition, after discovering of cost through competitive bidding at the earliest and also share the details of the same with the beneficiaries of the plant.

127. Accordingly, the projected additional capital expenditure allowed for the period 2019-24, is summarized as under:

(Rs. in lakh)

S. No.	Head of Work / Equipment	Additional Capital Expenditure allowed					Total	Regulation
		2019-20	2020-21	2021-22	2022-23	2023-24		
1.	Plant and Equipment (Future Ash Pond)	60.16	0.00	0.00	0.00	0.00	60.16	26(1)(e)
2.	Plant and Equipment (Ash Dyke Raising)	0.00	860.97	0.00	0.00	0.00	860.97	26(1)(e)
3.	Plant and Equipment (Fly Ash Conveying System Unit-I)	0.00	0.00	2597.35	0.00	0.00	2597.35	26(1)(e)
4.	Plant and Equipment (FGD)	0.00	0.00	0.00	0.00	0.00	0.00	-
Total Additional Capital Expenditure allowed		60.16	860.97	2597.35	0.00	0.00	3518.48	-

Discharge of liabilities

128. The Petitioner has claimed an amount of Rs. 28800.10 lakh as the discharge of liabilities in 2020-21, as per Form 1(i). The liabilities as on 31.3.2019, as in para 45 above, is Rs.6656.93 lakh. The same has been allowed as the discharge of liabilities during 2020-21.



129. Accordingly, the net additional capital expenditures allowed on a cash basis for the period 2019-24 are summarized below:

	(Rs. in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Additional capital expenditure allowed	60.16	860.97	2597.35	0.00	0.00
Add: Discharge of Liabilities	0.00	6656.93	0.00	0.00	0.00
Net additional capital expenditure allowed	60.16	7517.90	2597.35	0.00	0.00

Capital cost allowed for the period 2019-24

130. Accordingly, the capital cost allowed for the period 2019-24 is as under:

	(Rs. in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	556448.48	556508.64	564026.54	566623.89	566623.89
Net Additional capital expenditure allowed during the year/ period	60.16	7517.90	2597.35	0.00	0.00
Closing Capital Cost	556508.64	564026.54	566623.89	566623.89	566623.89

Debt-Equity Ratio

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

“18. Debt-Equity Ratio: (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 utilized 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 modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.”

132. In terms of the above regulations, the debt: equity ratio was considered as 70:30 for the purpose of additional capitalization. Accordingly, the details of the debt-equity ratio, in respect of the generating station as on 1.4.2019 and as on 31.3.2024, are as under:

<i>(Rs. in lakh)</i>						
	As on 1.4.2019		Additional Capitalization		As on 31.3.2024	
	Amount	(in %)	Amount	(in %)	Amount	(in %)
Debt	393985.55	70.80%	7122.79	70.00%	401108.34	70.79%
Equity	162462.93	29.20%	3052.62	30.00%	165515.55	29.21%
Total	556448.48	100.00%	10175.41	100.00%	566623.89	100.00%

Return on Equity

133. Regulations 30 and 31 of the 2019 tariff Regulations provide 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 station, 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.

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 a generating company or a 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 a transmission licensee paying normal corporate tax including surcharge and cess:



(a) Estimated Gross Income from generation or transmission business for 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 customers, as the case may be, on year to year basis.”

134. The Return on Equity (ROE) for the existing asset base and the additional capital expenditure allowed in this order for the asset/works within the original scope of work has been calculated by grossing up the base ROE at a MAT rate of 17.472%. Further, based on the additional capital expenditure, which is beyond the original scope and allowed in this order, ROE has been calculated, considering the weighted average rate of interest of the relevant year by grossed up at the MAT rate of 17.472%. Accordingly, ROE has been worked out and allowed as under:

Return on Equity at Normal Rate

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Equity (A)	162462.93	162462.93	164460.01	164460.01	164460.01
Total addition due to Capitalization (B)	0.00	1997.08	0.00	0.00	0.00
Closing Equity (C) =(A)+(B)	162462.93	164460.01	164460.01	164460.01	164460.01
Average Equity (D)=(A+C)/2	162462.93	163461.47	164460.01	164460.01	164460.01
Base rate (%) (E)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax rate (%) (F)	17.472%	17.472%	17.472%	17.472%	17.472%
Effective ROE rate (%) (G) =E/(1-F)	18.782%	18.782%	18.782%	18.782%	18.782%
Return on Equity within the original scope of work (H)=(D)*(G)	30513.79	30701.33	30888.88	30888.88	30888.88

ROE at WAROI

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Normative Equity- Opening (A)	0.00	18.05	276.34	1055.54	1055.54



	2019-20	2020-21	2021-22	2022-23	2023-24
Addition of Equity due to additional capital expenditure (B)	18.05	258.29	779.21	0.00	0.00
Normative Equity – Closing (C=A+B)	18.05	276.34	1055.54	1055.54	1055.54
Average Normative Equity D=(A+C)/2	9.02	147.19	665.94	1055.54	1055.54
Return on Equity (Base Rate) (E)	12.484%	12.482%	12.481%	12.480%	12.480%
Effective Tax Rate (F)	17.472%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre-tax) (G) = (E)/(1-F)	15.127%	15.125%	15.123%	15.122%	15.123%
Return on Equity (Pre-tax) - (annualized) (H) =(D)x(G)	1.37	22.26	100.71	159.62	159.63

Total ROE allowed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Return on Equity at Normal Rate (A)	30513.79	30701.33	30888.88	30888.88	30888.88
Return on Equity at WAROI (B)	1.37	22.26	100.71	159.62	159.63
Total Return on Equity allowed (C= A+B)	30515.15	30723.60	30989.59	31048.50	31048.51

Interest on Loan

135. 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 decapitalization of assets, the repayment shall be adjusted by taking into account cumulative repayment on a pro rata basis and the adjustment should not exceed cumulative depreciation recovered up to the date of de-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.”

136. Interest on the loan has been computed as under:

- i) The gross normative loan amounting to Rs.393985.55 lakh, as on 31.3.2019, as considered in this order, has been considered as the opening gross normative loan as on 1.4.2019.
- ii) Cumulative repayment amounting to Rs.150901.79 lakh, as on 31.3.2019, as considered in this order, has been considered as on 1.4.2019.
- iii) Accordingly, the net normative opening loan as on 1.4.2019 works out to Rs.243083.76 lakh.
- iv) Addition to normative loan on account of the admitted additional capital expenditure has been considered.
- v) The Petitioner has claimed interest on loan considering the weighted average rate of interest (WAROI) of 12.484% in 2019-20, 12.482% in 2020-21, 12.481% in 2021-22, 12.480% in 2022-23 and 12.480% in 2023-24. The same has been considered for tariff, subject to the submission of documentary evidence in respect of the reset of the rate of interest on loan at the time of truing up of tariff.
- vi) Depreciation allowed has been considered as repayment of the normative loan during the respective year of the period 2019-24. Further, repayments have been adjusted for the de-capitalization of assets considered for the purpose of tariff.

137. Accordingly, Interest on the loan has been worked out as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Gross opening loan (A)	393985.55	394027.66	399290.19	401108.34	401108.34
Cumulative repayment of loan up to previous year (B)	150901.79	179269.45	207854.99	236780.48	265824.21
Net Loan Opening (C=A-B)	243083.76	214758.21	191435.20	164327.86	135284.12
Addition due to additional capital expenditure (D)	42.11	5262.53	1818.15	0.00	0.00
Repayment of loan during the year (E)	28367.66	28585.54	28925.48	29043.74	29043.74
Less: Repayment adjustment on account of de-capitalization (F)	0.00	0.00	0.00	0.00	0.00
Net Repayment of loan during the year (G=E-F)	28367.66	28585.54	28925.48	29043.74	29043.74
Net Loan Closing (H = C+D-G)	214758.21	191435.20	164327.86	135284.12	106240.39
Average Loan (I= (C+H)/2)	228920.99	203096.71	177881.53	149805.99	120762.26



	2019-20	2020-21	2021-22	2022-23	2023-24
Weighted Average Rate of Interest of loan (J)	12.484%	12.482%	12.481%	12.480%	12.480%
Interest on Loan (K= I*J)	28578.20	25350.73	22200.83	18696.22	15071.67

Depreciation

138. 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 up to 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.”

139. The COD of the generating station is 25.3.2014. The cumulative depreciation as on 31.3.2019 is Rs.150901.79 lakh, and the generating station has not completed 12 years of operation as on 1.4.2019. Accordingly, depreciation has been computed and allowed as under:

	(Rs. in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Gross block (A)	556448.48	556508.64	564026.54	566623.89	566623.89
Net Additional capital expenditure during 2019-24 (B)	60.16	7517.90	2597.35	0.00	0.00
Closing gross block (C=A+B)	556508.64	564026.54	566623.89	566623.89	566623.89
Average gross block (D)=(A+C)/2	556478.56	560267.59	565325.21	566623.89	566623.89
Land Value	414.50	414.50	414.50	414.50	414.50
Depreciable Value [E= (D-Land Value) *90%]	500457.65	503867.78	508419.64	509588.45	509588.45
Remaining Depreciable Value at the beginning of the year (F=E- Cum Dep at 'L' at the end of previous year)	349555.86	324598.33	300564.65	272807.97	243764.24
Rate of Depreciation (G)	5.098%	5.102%	5.117%	5.126%	5.126%
Balance useful Life (H)	19.98	18.98	17.98	16.98	15.98
Depreciation (I=D*G)	28367.66	28585.54	28925.48	29043.74	29043.74
Cumulative Depreciation at the end of the year (J=I+ Cum Dep at 'K' at the end of previous year)	179269.45	207854.99	236780.48	265824.21	294867.95
Adjustment on account of decapitalization (K)	0.00	0.00	0.00	0.00	0.00
Cumulative Depreciation at the end of the year (L=J-K)	179269.45	207854.99	236780.48	265824.21	294867.95

Operation & Maintenance Expenses



140. The Petitioner has claimed the following O&M expenses in terms of the provisions of Regulation 35(1) of the 2019 Tariff Regulations, including the Water charges and the Security expenses, in terms of Regulation 35(6) of the 2019 Tariff Regulations, as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
O&M Expenses Norm (Rs. lakh/MW)	27.74	28.71	29.72	30.76	31.84
Capacity (MW)	1050	1050	1050	1050	1050
Normative O&M expenses	29127.00	30145.50	31206.00	32298.00	33432.00
Additional O & M Expenses	1500	1500	1500	1500	1500
Water Charges	979.26	1077.19	1184.90	1303.40	1433.73
Security Expenses	593.88	635.46	679.94	727.53	778.46
Total O&M Expenses	32200.15	33358.14	34570.84	35828.93	37144.20

141. The normative O&M expenses claimed by the Petitioner are in terms of Regulations 35(1)(1) of the 2019 Tariff Regulations and hence allowed for the purpose of tariff.

Water Charges and Security Expenses

142. Regulation 35(1)(6) of the 2019 Tariff Regulations provides for 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:

Provided further that the generating station shall submit the assessment of the security requirement and estimated expenses; Provided also that the generating station shall submit the details of year-wise actual capital spares consumed at the time of truing up with appropriate justification for incurring the same and substantiating that the same is not funded through compensatory allowance as per Regulation 17 of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 or Special Allowance or claimed as part of additional capitalization or consumption of stores and spares and renovation and modernization.”

Water Charges

143. The Petitioner has claimed the Water charges as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
979.26	1077.19	1184.90	1303.40	1433.73



144. The Petitioner has submitted that as per the current water agreement with the Irrigation Department, Govt. of Orissa, it is withdrawing 24 cusecs of surface water per month and has also furnished a copy of the said agreement. The Petitioner has also submitted that as per the Water agreement, the annual escalation rate applicable in water charges is 10%, and the same has been considered while estimating the water charges.

145. The Respondent, GRIDCO has submitted that the details of the renewed water agreement have not been furnished by the Petitioner. In response, the Petitioner has submitted that it has considered the water charges for computing the O&M expenses, as per Regulation 84(6) of the 2019 Tariff Regulations. It has also stated that the Water agreement with the Irrigation Department, Govt. of Orissa, has already been furnished in the main Petition.

146. The Commission vide ROP of the hearing dated 27.7.2020, had directed the Petitioner to furnish the basis for claiming the additional O&M expenses with regard to the Security expenses, Water charges, and Ash transportation expenses for the period 2019-24 and also to furnish the actual expenses incurred under these heads, for 2018-19. In response, the Petitioner vide affidavit dated 18.9.2020 has submitted that it has claimed the projected additional O&M expenses towards the Water charges, in line with Regulation 35(6) of the 2019 Tariff Regulations. The Petitioner pointed out that at the time of preparation of the Petition for the period 2019-24, the actual figures of Water charges for 2018-19 were not available with the Petitioner, and therefore, the water charges for 2018-19 were provisionally considered as Rs. 1339.05 lakh. He further clarified that the actual water charges paid by the Petitioner in 2018-19 was Rs. 1175.61 lakh. Accordingly, the Petitioner has submitted that since the actual figures are available



now, the revised water charges for 2019-20 to 2023-24, based on the actual water charges for 2018-19 and the water agreement, are as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Water Charges for previous years	1175.61	1293.17	1422.49	1564.74	1721.21
Escalation Factor (%)	10%	10%	10%	10%	10%
Total Water Charges	1293.17	1422.49	1564.74	1721.21	1893.33

147. The matter has been considered. On scrutiny of the documents and submissions above, it is observed that the Petitioner, in Form-19, has claimed the total amount of Rs. 5978.48 lakh for the period 2019-24, towards Water charges, on a projection basis (i.e., Rs. 979.26 lakh in 2019-20, Rs. 1077.19 lakh in 2020-21, Rs. 1184.90 lakh in 2021-22, Rs. 1303.40 lakh in 2022-23 and Rs. 1433.73 lakh in 2023-24). However, it is noticed that the Petitioner, vide affidavit dated 18.9.2020, has revised the claim for Water charges for the period 2019-24 from Rs. 5978.48 lakh to Rs. 7894.94 lakh. In justification for the above claim, the Petitioner has submitted that it has claimed the revised water charges of Rs. 7894.94 lakh for the period 2019-24, based on the actual water charges paid by the Petitioner during 2018-19, considering the annual escalation of water charges as 10% as per the water agreement. The Petitioner has also furnished a copy of the water agreement executed with the Irrigation Department, Govt. of Orissa, and an auditor-certified actual expenditure of the water charges incurred for the period 2014-19, wherein the actual water charges paid by the Petitioner for 2018-19 is Rs. 1175.61 lakh and the same had been allowed in the period 2014-19. It is also noticed that there is a provision of 10% enhancement per annum of the water rate effective from the first day of April as per clause 1 (a) of the above agreement dated 27.4.2019 with the Irrigation Department, Govt. of Orissa. However, the said agreement pertains only to a specific period of supply of water from 24.4.2019 to 23.4.2020. In view of the above, we allow the projected water charges of Rs. 1293.17 lakh in 2019-20, considering the escalation of 10% of the actual



water charges incurred for 2018-19, and restrict the same for the relevant years of the period 2020-24, as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
1293.17	1293.17	1293.17	1293.17	1293.17

148. The Petitioner is directed to submit the year-wise actual generation, water allocation, water consumed, the rate of water charges, the water charges paid, including the bills, etc., along with relevant supporting documents, at the time of truing-up of tariff.

Security Charges

149. The security expenses claimed by the Petitioner are as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
593.88	635.46	679.94	727.53	778.46

150. The Petitioner has submitted that the security expenses have been claimed in accordance with the agreement executed by the Petitioner with M/s RAXA security services for providing security services to the Plant. In response to the directions vide ROP for the hearing dated 27.7.2020, the Petitioner vide affidavit dated 18.9.2020, has submitted that it has claimed the projected additional O&M expenses towards the Security expenses, in line with Regulation 35(6) of the 2019 Tariff Regulations. The Petitioner has also submitted that the actual Security expenses incurred for 2018-19 is Rs. 731.54 lakh, and since, at the time of preparation of the Petition, the actual figures of the Security expenses for 2018-19 were not available with the Petitioner, the Security expenses for the period 2019-24, were projected based on the provisional figures available. The Petitioner has further submitted that since the actual security expenses for 2018-19 are available now, the same has been considered and claimed as projected Security expenses for the period 2019-24, as under:

(Rs. in lakh)



	2019-20	2020-21	2021-22	2022-23	2023-24
Security Expenses for previous years	731.54	782.75	837.54	896.17	958.90
Escalation Factor (%)	7.00%	7.00%	7.00%	7.00%	7.00%
Total Security charges claimed	782.75	837.54	896.17	958.9	1026.02

151. The Respondent, GRIDCO has submitted that the Petitioner has failed to furnish the reasons behind the escalation factor of 7% in respect of Security expenses claimed, and the same should be considered as per the actual expenses incurred in 2018-19, in accordance with the audited accounts for the period 2019-24. In response, the Petitioner has submitted that it has considered the Security expenses for computing the O&M expenses as per Regulation 84(6) of the 2019 Tariff Regulations and reiterated that the Security expenses have been claimed in accordance with the agreement with M/s RAXA security services.

152. The matter has been considered. It is noticed that the Petitioner has claimed the Security expenses on a projection basis, considering the actual security expenses incurred in 2018-19, with an escalation of 7% thereof. Accordingly, the Petitioner claimed the Security expenses for Rs. 782.75 lakh in 2019-20, Rs. 837.54 lakh in 2020-21, Rs. 896.17 lakh in 2021-22, Rs. 958.9 lakh in 2022-23 and Rs. 1026.02 lakh in 2023-24. However, it is observed that the escalation considered by the Petitioner is higher than those specified under the 2019 Tariff Regulations, i.e., 3.51%. In view of the above, the Security charges incurred for 2018-19, along with the annual escalation of 3.51%, have only been considered to work out the Security expenses for the period 2019-24. Accordingly, the Security expenses allowed for the period 2019-24, subject to truing-up, are as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
757.22	783.80	811.31	839.78	869.26



The Petitioner is directed to submit the assessment of the security requirement, details of the Security contract, details of employees, etc., along with relevant supporting documents, at the time of the truing-up of the tariff.

Capital spares

153. The Petitioner has not claimed any capital spares for the period 2019-24. Accordingly, the same has not been considered in this order. The claim of the Petitioner, if any, at the time of truing-up of the tariff shall be considered on merits, after prudence check.

Fly Ash Transportation charges and Water Conservation Fund (WCF)

154. The Petitioner has submitted that even with the enhanced Ash dyke, it will not be able to dispose of the entire ash generated in the plant, and will have to incur certain additional O&M expenses, towards the fly ash transportation. The Petitioner has clarified that it has claimed an amount of Rs.15.00 crores towards fly ash transportation charges for each year of the period 2019-24, based on the actual expenses incurred in 2018-19 and will also furnish the details of the actual expenses incurred on this count, at the time of truing-up of tariff.

155. The Petitioner has also submitted that the Government of Odhisa, Department of Water Resources, on the recommendation of the Water Resource Board, has approved the "Water Conservation Fund (WCF)," wherein it has been decided that a corpus fund will be created by way of receipt of the one-time contribution of Rs. 2.50 crore per cusec of water allocated to the industries, which will be utilized for the construction of different water conservation projects. Accordingly, the Petitioner has stated that the office of Executive Engineer, Rengali Right Canal Division No. II, Dhenkanal, vide its letter dated 19.6.2015, has requested the Petitioner to deposit Rs.75 crore towards this fund and has also furnished a copy of the said letter. The Petitioner has stated that it has not deposited



the fund amount now since some of the industries in the State of Odisha, have challenged the direction of the Govt of Odisha for the creation of such fund, and the matter is sub-judice before the Hon'ble High Court. The Petitioner has therefore prayed for allowing the reimbursement of the amount deposited towards the Water conservation fund, as and when the amount is deposited by them.

156. As regards the Fly ash transportation charges claimed as part of the additional O&M charges, the Petitioner, vide affidavit dated 18.9.2020, has reiterated its submissions made in the Petition. While pointing out that the Commission vide its order dated 5.11.2018 in Petition No. 172/MP/2016 had admitted the MoEF&CC notification dated 25.1.2016 as a 'change in law' event, the Petitioner has stated that a generator may approach the Commission during the revision of tariff to claim the fly ash transportation charges as additional O&M expenses. Accordingly, the Petitioner has stated that it has claimed the additional expenses towards fly ash transportation charges for the period 2019-24 in the present petition, based on the actual expenses of Rs. 1500.00 lakh incurred till May 2019. The Petitioner has, however, revised the amount on this count to Rs. 1804.53 lakh per annum, based on the average monthly expenses incurred till June 2020 (total expenses incurred till June 2020 is Rs. 3458.68 lakh).

157. The matter has been considered. As regards the reimbursement of Fly ash transportation charges, the Commission vide its order dated 28.10.2022 in Petition No. 205/MP/2021 had allowed the Ash transportation expenses incurred by the Petitioner for the period 2019-22 in six equal monthly instalments and recover the 90% of subject expenses through supplementary bills during 2022–24. It is noticed that the Petitioner has claimed Rs. 1804.53 lakh per annum on a projection basis for the Tariff period 2019-24, based on the average monthly expenditure towards ash transportation incurred till June



2020. Therefore, in accordance with the decision in Petition No. 205/MP/2021, the Petitioner is allowed to recover 90% of expenditure actually incurred towards fly ash transportation (based on proof of amount actually paid and duly certified by the auditor) pertaining to the period 2019-24 directly from the beneficiaries in 6 equal monthly interest-free instalments. The Petitioner is also directed to submit auditor-certified information such as actual generation, the quantity of ash generated, the quantity of ash utilised locally, the quantity of ash transported and distance thereof, ash transportation charges incurred, scheduled rate, details of competitive bidding process followed, etc., at the time of truing up of tariff for prudence check and further consideration under relevant regulations.

158. As regards the claim for the reimbursement of Rs. 2.50 crore per cusec allocated to the 'Water Conservation Fund' as and when the amount is deposited to the Govt. of Odisha, we note from the submissions of the Petitioner that the matter is sub judice before the Hon'ble High Court of Odisha and the payment towards the said fund, has also not been made by Petitioner. In view of this, the prayer of the Petitioner on this count, has not been considered in this order.

159. Based on the discussion, the O&M expenses allowed is summarized below:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses (Rs. lakh /MW)	27.74	28.71	29.72	30.76	31.84
Capacity (MW)	1050	1050	1050	1050	1050
Normative O&M expenses	29127.00	30145.50	31206.00	32298.00	33432.00
Water Charges	1293.17	1293.17	1293.17	1293.17	1293.17
Security Expenses	757.22	783.8	811.31	839.78	869.26
Total O&M Expenses allowed	31177.39	32222.47	33310.48	34430.95	35594.43

Operational Norms

160. The Petitioner has considered the following operational norms, for the period 2019-24:



Normative Annual Plant Availability Factor (NAPAF) (%)	85
Heat Rate (kCal/kwh)	2380.35
Auxiliary Power Consumption (%)	6.25
Specific Oil Consumption (ml/kwh)	0.50

(a) Normative Annual Plant Availability Factor

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

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

- (a) For all thermal generating stations, except those covered under clauses (b), (c), (d), & (e) - 85%;
- (b) xxx.”

162. As the Petitioner has considered the NAPAF of 85%, in terms of Regulation 49(A)(a) of the 2019 Tariff Regulations, the same is allowed.

(b) Gross Station Heat Rate (kCal/kWh)

163. Regulation 49(C)(b)(i) of 2019 Tariff Regulations provides as under:

*“(i) For Coal-based and lignite-fired Thermal Generating Stations:
1.05 X Design Heat Rate (kCal/kWh)*

Where the Design Heat Rate of a generating unit means the unit heat rate guaranteed by the supplier at conditions of 100% MCR, zero percent make up, design coal and design cooling water temperature/back pressure.

Provided that the design heat rate shall not exceed the following maximum design unit heat rates depending upon the pressure and temperature ratings of the units:

Pressure Rating (Kg/cm ²)	150	170	170
SHT/RHT (°C)	535/535	537/537	537/565
Type of BFP	Electrical Driven	Turbine Driven	Turbine Driven
Max Turbine Heat Rate (kCal/kWh)	1955	1950	1935
<i>Min. Boiler Efficiency</i>			
Sub-Bituminous Indian Coal	0.86	0.86	0.86
Bituminous Imported Coal	0.89	0.89	0.89
<i>Max. Design Heat Rate (kCal/kWh)</i>			
Sub-Bituminous Indian Coal	2273	2267	2250
Bituminous Imported Coal	2197	2191	2174

Pressure Rating (Kg/cm ²)	247	247	270	270
SHT/RHT (°C)	537/565	565/593	593/593	600/600
Type of BFP	Turbine Driven	Turbine Driven	Turbine Driven	Turbine Driven
Max Turbine Heat Rate (kCal/kWh)	1900	1850	1810	1800



<i>Min. Boiler Efficiency</i>				
<i>Sub-Bituminous Indian Coal</i>	<i>0.86</i>	<i>0.86</i>	<i>0.865</i>	<i>0.865</i>
<i>Bituminous Imported Coal</i>	<i>0.89</i>	<i>0.89</i>	<i>0.895</i>	<i>0.895</i>
<i>Max. Design Heat Rate (kCal/kWh)</i>				
<i>Sub-Bituminous Indian Coal</i>	<i>2222</i>	<i>2151</i>	<i>2105</i>	<i>2081</i>
<i>Bituminous Imported Coal</i>	<i>2135</i>	<i>2078</i>	<i>2034</i>	<i>2022</i>

Provided further that in case pressure and temperature parameters of a unit are different from above ratings, the maximum design heat rate of the unit of the nearest class shall be taken:

Provided also that where heat rate of the unit has not been guaranteed but turbine cycle heat rate and boiler efficiency are guaranteed separately by the same supplier or different suppliers, the design heat rate of the unit shall be arrived at by using guaranteed turbine cycle heat rate and boiler efficiency:

Provided also that where the boiler efficiency is lower than 86% for Subbituminous Indian coal and 89% for bituminous imported coal, the same shall be considered as 86% and 89% for Sub-bituminous Indian coal and bituminous imported coal respectively, for computation of station heat rate:

Provided also that maximum turbine cycle heat rate shall be adjusted for type of dry cooling system:

Provided also that in case of coal based generating station if one or more generating units were declared under commercial operation prior to 1.4.2019, the heat rate norms for those generating units as well as generating units declared under commercial operation on or after 1.4.2019 shall be lowest of the heat rate norms considered by the Commission during tariff period 2014-19 or those arrived at by above methodology or the norms as per the sub-clause (C)(a)(i) of this Regulation:

Provided also that in case of lignite-fired generating stations (including stations based on CFBC technology), maximum design heat rates shall be increased using factor for moisture content given in sub-clause (C)(a)(iv) of this Regulation:

Provided also that for Generating stations based on coal rejects, the Commission shall approve the Station Heat Rate on case to case basis.

Note: In respect of generating units where the boiler feed pumps are electrically operated, the maximum design heat rate of the unit shall be 40 kCal/kWh lower than the maximum design heat rate of the unit specified above with turbine driven Boiler Feed Pump.”

164. The Petitioner has claimed the Gross Station Heat Rate (GSHR) for the period 2019-24 as 2380.35 Kcal/kWh. In justification for the same, the Petitioner has submitted that the above GSHR was computed as per the 2019 Tariff Regulation, which is 1.05 times of Design Heat Rate.

165. The matter has been considered. It is noticed that the Petitioner vide affidavit dated 4.5.2020 has furnished the Turbine Cycle Heat Rate of 1945 Kcal/ kWh and the Boiler Efficiency of 87.20%, in Form-2, for the period 2014-19. However, Form-2 was revised by



the Petitioner for the period 2019-24, wherein the Turbine Cycle Heat Rate and Boiler Efficiency details have not been furnished. It is also noticed that the Petitioner, in compliance with the directions in ROP of the hearing dated 27.7.2020, has vide affidavit dated 18.9.2020, furnished the revised Form-2, duly certified by the auditor, for the period 2019-24. The details of the plant characteristics as submitted in Form-2 are however, found to be inconsistent.

166. In view of the above discussions and as per the available documents, the Commission has considered the Form-2 as submitted for the period 2014-19 for computation of the GSHR for the period 2019-24. Accordingly, considering the Turbine Cycle Heat Rate of 1945 Kcal/ kWh and the Boiler Efficiency of 87.20%, the GSHR works out to 2342.03 kCal/kwh $\{1.05 \times (1945/0.872)\}$ as per Regulation 49 (C) (b)(i) of the 2019 Tariff Regulations, and the same is allowed for the purpose of tariff.

(c) Specific Oil Consumption

167. Regulation 49(D)(a) of 2019 Tariff Regulations provides as under:

“(a) For Coal-based generating stations other than at (c) below: 0.50 ml/kWh”

168. The secondary oil claimed by the Petitioner is in terms of Regulation 49(D)(a) of the 2019 Tariff Regulations, and hence, the same is allowed.

(d) Auxiliary Power Consumption

169. Regulation 49(E)(a) of 2019 Tariff Regulations provides as under:

“(a) For Coal-based generating stations except at (b) below:

S.No.	Generating Station	With Natural Draft cooling tower or without cooling tower
(i)	200 MW Series	8.50%
(ii)	300 MW and above	
	Steam driven boiler feed pumps	5.75%
	Electrically driven boiler feed pumps	8.00%



Provided that for thermal generating stations with induced draft cooling towers and where tube type coal mill is used, the norms shall be further increased by 0.5% and 0.8%, respectively:

Provided further that Additional Auxiliary Energy Consumption as follows shall be allowed for plants with Dry Cooling Systems:

Type of Dry Cooling System	(% of gross generation)
Direct cooling air cooled condensers with mechanical draft fans	1.0%
Indirect cooling system employing jet condensers with pressure recovery turbine and natural draft tower	0.5%

Note: The auxiliary energy consumption for the unit capacity of less than 200 MW sets shall be dealt on case-to-case basis.”

170. Since the Petitioner has claimed the auxiliary energy consumption of 6.25% in terms of Regulation 49(E)(a) of the 2019 Tariff Regulations, the same is allowed.

171. Based on the above, the operational norms considered for the determination of energy charges for the generating station for the period 2019-24 are as under:

Normative Annual Plant Availability Factor (%)	85.00
Heat Rate (kcal/kWh)	2342.03
Auxiliary Power Consumption (%)	6.25
Specific Oil Consumption (ml/kWh)	0.50

Interest on Working Capital

172. Sub-section (a) 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) (vi) Operation and maintenance expenses, including water charges and security expenses, for one month.”

173. Regulation 34(3) of the 2019 Tariff Regulations provides as under:

34(3) Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 1.4.2014 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.”

174. Regulation 3(7) of the 2019 Tariff Regulations defines Bank Rate as under:

*“In these regulations, unless the context otherwise requires: -
Bank Rate’ means the one-year marginal cost of lending rate (MCLR) of the State Bank of India issued from time to time plus 350 basis points;”*

175. The Petitioner has claimed the Interest on working capital, considering the rate of interest on working capital of 11.75% (SBI 1 Year MCLR plus 350 basis points) as under:

(Rs in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of coal for stock	8054.54	8098.74	8076.61	8076.61	8076.61
Cost of coal for generation	12081.81	12148.11	12114.91	12114.91	12114.91
Cost of secondary fuel oil (2 months)	353.97	355.92	354.94	354.94	354.94
O&M expenses (1 month)	2558.35	2654.85	2755.90	2860.74	2970.35
Maintenance Spares	6140.03	6371.63	6614.17	6865.79	7128.84
Receivables	38937.71	39064.65	40369.34	41178.31	40690.40
Total Working Capital	68126.41	68693.88	70285.88	71451.31	71336.06
Rate of Interest on Working Capital	11.75%	11.75%	11.75%	11.75%	11.75%
Interest on Working Capital	8026.78	8071.53	8258.59	8395.53	8404.95

Fuel Cost and Energy Charges in Working Capital

176. Regulation 34(2) of the 2019 Tariff Regulations provides that the computation of the cost of fuel as part of Interest on Working Capital (IWC) is to be based on the landed price and GCV of fuel as per actuals for the third quarter of preceding financial year in case of each financial year for which tariff is to be determined. Regulation 43(2) of the 2019 Tariff Regulations provides as under:

“(2) Energy charge rate (ECR) in Rupees per kWh on ex-power plant basis shall be determined to three decimal places in accordance with the following formulae:

(a) For coal based and lignite fired stations:



$$ECR = \frac{\{(SHR - SFC \times CVSF) \times LPPF / CVPF + SFC \times LPSFi + LC \times LPL\} \times 100}{(100 - AUX)}$$

(b) For gas and liquid fuel-based stations:

$$ECR = SHR \times LPPF \times 100 / \{(CVPF) \times (100 - AUX)\}$$

Where,

AUX = Normative auxiliary energy consumption in percentage.

CVPF = (a) Weighted Average Gross calorific value of coal as received, in kCal per kg for coal based stations less 85 Kcal/Kg on account of variation during storage at generating station;

(b) Weighted Average Gross calorific value of primary fuel as received, in kCal per kg, per litre or per standard cubic meter, as applicable for lignite, gas and liquid fuel based stations;

(c) In case of blending of fuel from different sources, the weighted average Gross calorific value of primary fuel shall be arrived in proportion to blending ratio:

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

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

SHR = Gross station heat rate, in kCal per kWh

LC = Normative limestone consumption in kg per kWh;

LPL = Weighted average landed cost of limestone in Rupees per kg;

LPPF = Weighted average landed fuel cost of primary fuel, in Rupees per kg, per litre or per standard cubic metre, as applicable, during the month. (In case of blending of fuel from different sources, the weighted average landed fuel cost of primary fuel shall be arrived in proportion to blending ratio);

SFC = Normative specific fuel oil consumption, in ml per kWh;

LPSFi = Weighted Average Landed Fuel Cost of Secondary Fuel in Rs./ ml during the month;

Provided that energy charge rate for a gas or liquid fuel based station shall be adjusted for open cycle operation based on certification of Member Secretary of respective Regional Power Committee during the month."

177. The Petitioner has claimed the energy charges, considering the operational norms as specified in the 2019 Tariff Regulations as follows:

- Gross Station Heat Rate: 2380.35 kCal/kWh (1.05 times Design Heat Rate)
- Secondary Fuel Oil Consumption: 0.5 ml/kWh
- Auxiliary Consumption of 6.25%

178. As regards the fuel prices, the Petitioner has submitted that the 2019 Tariff Regulations provide for fuel cost and calorific value, which is considered based on the actual fuel price for the preceding three months of the third quarter, before the start of the tariff period. Accordingly, the Petitioner has submitted that it has considered the fuel prices and calorific value for the period October 2018 to December 2018 for the purpose



of tariff calculations and has submitted the energy charges for the period 2019-24, as under:

	2019-20	2020-21	2021-22	2022-23	2023-24
Gross Station Heat Rate (kCal/kWh)	2380.35	2380.35	2380.35	2380.35	2380.35
Auxiliary Consumption (%)	6.25%	6.25%	6.25%	6.25%	6.25%
Secondary Fuel Oil Consumption (ml/kWh)	0.5	0.5	0.5	0.5	0.5
Landed Secondary Fuel Oil Price (Rs/kL)	55236	55236	55236	55236	55236
Calorific Value of Secondary Fuel Oil (Kcal/ml)	8.87	8.87	8.87	8.87	8.87
Weighted Average Coal Price (Rs/kg)	2.46	2.46	2.46	2.46	2.46
Weighted Average Calorific Value of Coal (kCal/kg)	3095	3095	3095	3095	3095
Energy Charge (Rs/kWh)	1.914	1.914	1.914	1.914	1.914

179. The Respondent, GRIDCO vide affidavit dated 19.6.2021, has submitted that ECR has been considered as Rs.1.914/kWh, which is quite high due to consideration of the source of coal other than the SHAKTI coal and the linkage coal, and as per the OERC order dated 9.4.2019, the Respondent, GRIDCO is liable to pay the cost of linkage coal and SHAKTI coal only. The Respondent has further submitted that from the soft copy of Form 15 (Coal), it is found that the data for the third quarter of 2018-19 (October 2018, November 2018, and December 2018) has been considered by the Petitioner. However, the consideration of Open Market, E-auction, and Imported coal, has been disputed by the Respondent. The Respondent has further stated that since the years 2019-20 and 2020-21 are already over, the ECR may be determined considering the weighted average landed cost and GCV of linkage coal and SHAKTI coal only, with reference to the actual ECR for 2019-20 and 2020-21. The Respondent has also stated that the Petitioner has shown the weighted average GCV of the Secondary Fuel Oil as 10,400 Kcal/Litre, but has considered $10,400/0.853$, i.e., 8,870 KCal/Litre in the soft copy of the “working capital component” excel sheet (for the period 2014-19), without any justification, and the same may be prudently scrutinized. The Respondent has pointed out that the Petitioner has



also not shared the third-party sampling report of CIMFR every month while claiming the monthly energy charges at actual ECR, and therefore, the various parameters of adjustment, i.e., % of Inherent Moisture and % of Total Moisture, “as billed” GCV of coal, etc., to derive the ECR for the purpose of tariff determination, cannot be verified by the Respondent. Subsequently, the Respondent, GRIDCO, vide affidavit dated 9.11.2022, has reiterated the above submissions and requested for revision of the ECR considered for deriving coal cost for working capital, subject to the outcome of the pending Civil Appeals before the Hon’ble Supreme Court.

180. The Respondent, TPCODL, vide affidavit dated 21.6.2021, has submitted that the Petitioner has shown a wide disparity in what has been claimed for the period 2014-19 and the claims for the period 2019-24. It has further stated that the energy charges for the said period have been calculated on the basis of consumption of all versions of coal, i.e., linkage coal (MCL and Shakti), Open market, e-auction, and imported coal, and during the period 2014-19, the usage of coal for a generation was predominantly based on MCL linkage coal and Shakti linkage coal. The Respondent has further stated that the Petitioner has wrongly calculated the energy cost, and the same is in complete deviation from the terms of the PPA. It has further pointed out that the usage of coal is dependent on the requirement of the procurers, which has been primarily based on the linkage coal in the past, and the Petitioner, in the entire petition, has adjusted the costs based on the previous term costs. However, for this particular cost, it has deviated from its normal route and has erroneously quoted an increased cost. The Respondent has submitted that the energy charges should be fixed based on the usage of linkage coal, which is also hinged on the requirement of the procurers and fuel usage as approved by the Respondent GRIDCO on a real-time basis.



181. In response to the above, the Petitioner, vide affidavit dated 6.3.2023, has submitted that the Interest on Working Capital (IWC) has been computed in accordance with the provisions of Regulation 34 of the 2019 Tariff Regulations. The Petitioner has further submitted that ECR has to be determined based on the prevalent regulations and the coal utilized to supply power to GRIDCO. Accordingly, it has stated that GRIDCO is being supplied power not only from linkage and SHAKTI coal but also from other costly market coals and the same is evident from the audited monthly bills being sent to GRIDCO. As regards the contention that the Petitioner has not provided a CIMFR report to measure the "as billed" GCV, the Petitioner has clarified that the same is in contravention of Regulation 40(1), and there is no need to provide the sending end sampling report, as the GCV is to be considered on "as received" basis. The Petitioner has also stated that as per Regulation 40(2) of the 2019 Tariff Regulations, it is required to provide in Form-15 all the requisite details, and accordingly, it has provided all the information as mandated in Form-15, duly certified by the Auditor, every month, along with the monthly bills. In view of the above, the Petitioner has submitted that the calculation of ECR of Rs. 1.531 for the period 2019-24 by the Respondent, GRIDCO, is incorrect and is liable to be rejected. The Petitioner has stated that the Weighted Average GCV of Secondary fuel Oil, the GCV of secondary fuel, may be considered as per Form-15 submitted by the Petitioner vide additional affidavit dated 30.8.2021.

182. The submissions have been considered. It is noticed that the Petitioner, in the main Petition, had not furnished the details of the fuel for the computation of the Energy Charges, including the opening stock of coal/oil and coal/oil received during the months of October 2018, November 2018, and December 2018, as per format in Form-15 specified under the 2019 Tariff Regulations. Accordingly, the Commission vide ROP of the hearing dated 27.7.2020 had directed the Petitioner to submit the duly filled Form-15



for coal and secondary oil, as per the said format. Subsequently, the Petitioner, vide affidavit dated 18.9.2020, has submitted the revised Form-15 for coal only, duly certified by the auditor, wherein the Petitioner has submitted the details of coal pertaining to 1st, 2nd, and 3rd months, preceding from COD or from 1.4.2019, as the case may be.

183. It is observed that the Petitioner vide affidavit dated 30.8.2021, in compliance with the ROP of the hearing dated 29.6.2021, has submitted the revised Form-15 for coal and oil in Excel format in a soft copy (CD), wherein the details of coal and oil for the months from January 2019 to March 2019 has been submitted. Subsequently, the Commission vide ROP of the hearing dated 10.8.2022, had directed the Petitioner to furnish the additional information for each source procurement, i.e., firm linkage, shakti linkage, linkage tapering, open market, e-auction, imported, alternative coal, etc., as per the Form 15 of the 2014 and 2019 Tariff Regulations, along with the supporting documents. In response, the Petitioner, vide affidavit dated 9.3.2023, has filed the copies of supporting documents pertaining to fuel, as per Form-15, in a soft copy (CD). On perusal of the same, it is noticed that the Petitioner has furnished the weighted average GCV of coal as fired for 3264 Kcal/Kg, 3263 Kcal/Kg, and 3434 Kcal/Kg for coal other than linkage coal for the months of October 2018, November 2018 and December 2018 respectively. However, the Petitioner has claimed the weighted average of 'as received GCV' of coal, including on "as is where is basis" as 3132 Kcal/Kg, 3178 Kcal/Kg, and 3280 Kcal/Kg for the months of October 2018, November 2018 and December 2018 respectively. Moreover, the details pertaining to the secondary fuel oil have not been furnished.

184. Accordingly, based on the available information, the details of primary fuel coal as submitted by the Petitioner vide affidavit dated 9.3.2023 for the months of October 2018, November 2018, and December 2018, excluding the opening stock, transit and handling



loss, restricted in terms of Regulation 39 of 2019 Tariff Regulations, have been considered. Also, the details of the secondary fuel oil for the months of January 2019, February 2019, and March 2019, as submitted by the Petitioner vide affidavit dated 30.8.2021, have been considered for the calculation of working capital, as shown below.

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Coal towards stock - 20 days (non-pit head generating station)	7865.55	7865.55	7865.55	7865.55	7865.55
Cost of Coal towards advance payment- 30 days	11798.32	11798.32	11798.32	11798.32	11798.32
Cost of secondary fuel oil - 2 months	329.16	328.26	328.26	328.26	329.16

185. The Petitioner shall, at the time of truing-up of tariff, furnish the details of the primary and secondary fuel, strictly in terms of Regulation 34(2) of the 2019 Tariff Regulations.

186. Similarly, the ECR, as worked out based on the operational norms specified under the 2019 Tariff Regulations and on the weighted average 'as received GCV' of coal, including "as is where is basis" for the preceding three months, i.e., October 2018 to December 2018, has been considered for allowing the two months of energy charge in working capital as under:

	Unit	2019-24
Capacity	MW	262.5
Gross Station Heat Rate	Kcal/kWh	2342.03
Auxiliary Energy Consumption	%	6.25
Weighted average price of coal	Rs. /MT	2500.895
Weighted average GCV of Coal with adjustment of 85 kcal/kg	kcal/kg	3183.047
Weighted average price of oil	Rs. /KL	50383.246
Weighted average GCV of oil	kcal/L	10400
Rate of energy charge ex-bus Rs/kWh	Rs/kWh	1.985

Note: Petitioner shall provide audited documents to establish cost and GCV of Coal and Oil received during the months of Oct-18, Nov-18 and Dec-18 at the time of true up exercise.

Working Capital for Maintenance Spares



187. 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). Accordingly, maintenance spares are allowed as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
6235.478	6444.494	6662.096	6886.19	7118.886

Working Capital for Receivables

188. Regulation 34(1)(a)(v) of the 2019 Tariff Regulations provides for Receivables for 45 days. Accordingly, after considering the mode of operation of the generating station on secondary fuel, the receivable component of working capital is allowed as under:

<i>(Rs. in lakh)</i>					
	2019-20	2020-21	2021-22	2022-23	2023-24
Fixed charge for 45 days corresponding to NAPAF	15509.31	15274.72	15038.51	14767.01	14540.79
Energy charge for 45 days corresponding to NAPAF	17937.58	17937.58	17937.58	17937.58	17937.58
Total	33446.88	33212.29	32976.09	32704.59	32478.37

Working Capital for O&M Expenses (1 month)

189. Regulation 34(1)(a)(vi) of the 2019 Tariff Regulations provides for O&M expenses, including water charges and security expenses for one month. Accordingly, the O&M expenses (1 month) component of working capital is allowed as follows:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
2598.116	2685.206	2775.873	2869.246	2966.203

190. As per Regulation 34(2) of the 2019 Tariff Regulations, the cost of coal shall be based on landed fuel cost (considering the normative transit and handling losses) in terms of Regulation 39 of the 2019 Tariff Regulations and gross calorific value of fuel, as per actual weighted average for the third quarter of preceding financial year. Hence, the Petitioner is directed to furnish the details of the quantity of coal, as per Regulation 34(2) of the 2019 Tariff Regulations, at the time of truing-up of the tariff. The Petitioner is also



directed to submit the details strictly in line with in Forms/ Annexures attached to the 2019 Tariff Regulations.

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

Rate of Interest on Working Capital

192. 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 1.4.2019 + 350 bps) for the year 2019-20, 11.25% (i.e., 1-year SBI MCLR of 7.75% as on 1.4.2020 + 350 bps) for the year 2020-21, 10.50% (i.e., 1-year SBI MCLR of 7.00% as on 1.4.2021 + 350 bps) for the year 2021-22, 10.50% (i.e., 1-year SBI MCLR of 7.00% as on 1.4.2022 + 350 bps) for the period 2022-23 and 12.00% (i.e., 1-year SBI MCLR of 8.50% as on 1.4.2023 + 350 bps) for the period 2023-24. Accordingly, Interest on working capital has been computed as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for Cost of Coal towards Stock (20 days corresponding to generation at NAPAF)	7865.55	7865.55	7865.55	7865.55	7865.55
Working Capital for Cost of Coal towards Generation (30 days corresponding to generation at NAPAF)	11798.32	11798.32	11798.32	11798.32	11798.32
Working Capital for Cost of Secondary fuel oil (2 months corresponding to generation at NAPAF)	329.16	328.26	328.26	328.26	329.16



Working Capital for Maintenance Spares 20% of Annual O&M expenses)	6235.48	6444.49	6662.10	6886.19	7118.89
Working Capital for Receivables – 45 days	33446.88	33212.29	32976.09	32704.59	32478.37
Working Capital for O&M expenses – 1 month	2598.12	2685.21	2775.87	2869.25	2966.20
Total Working Capital	62273.51	62334.12	62406.19	62452.15	62556.49
Rate of Interest	12.05%	11.25%	10.50%	10.50%	12.00%
Interest on Working Capital	7503.96	7012.59	6552.65	6557.48	7506.78

Annual Fixed Charges for the period 2019-24

193. Accordingly, the annual fixed charges approved for the period 2019-24 for the generating station are summarized as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-2021	2021-22	2022-23	2023-24
Depreciation	28367.66	28585.54	28925.48	29043.74	29043.74
Interest on Loan	28578.20	25350.73	22200.83	18696.22	15071.67
Return on Equity	30515.15	30723.60	30989.59	31048.50	31048.51
Interest on Working Capital	7503.96	7012.59	6552.65	6557.48	7506.78
O&M Expenses	31177.39	32222.47	33310.48	34430.95	35594.43
Total	126142.36	123894.93	121979.03	119776.88	118265.13

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

194. The annual fixed charges approved as above are subject to truing-up in terms of Regulation 13 of the 2019 Tariff Regulations and are also applicable corresponding to the capacity of 262.5 MW (25% of 1050 MW), which has been contracted for supply to the Respondent beneficiaries.

Application Fee and Publication expenses

195. The Petitioner has sought reimbursement of the fee paid by it for filing the Petition for the period 2019-24 and for publication expenses. The Petitioner shall be entitled to reimbursement of the filing fees and publication expenses in connection with the present



Petition directly from the beneficiaries on a pro-rata basis in accordance with Regulation 70(1) of the 2019 Tariff Regulations.

196. Similarly, RLDC Fees and 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 to recover statutory taxes, levies, duties, cess, etc., levied by the statutory authorities in accordance with the 2019 Tariff Regulations.

197. Petition No. 407/GT/2020 is disposed of in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(Jishnu Barua)
Chairperson

