

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

**Petition No. 29/GT/2021
with IA No. 81/2023**

Coram:

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

Date of Order: 19th May, 2024

In the matter of

Determination of tariff of Kudgi Super Thermal Power Station, Stage-I (2400 MW) for the period 2019-24.

And

In the matter of

NTPC Limited,
Core-7, SCOPE Complex,7,
Institutional Area, Lodhi Road,
New Delhi-110003

.....Petitioner

Vs

1. AP Eastern Power Distribution Company Limited,
Corporate Office, P&T Colony, Seethammadhara,
Visakhapatnam-530013
2. AP Southern Power Distribution Company Limited,
Corporate Office, Back Side, Srinivasa Kalyana Mandapam,
Tiruchhanur Road, Kesavayana Gunta,
Tirupathi – 517 503 (AP)
3. Telangana State Northern Power Distribution Company Limited,
H.No. 2-5-31/2, Vidyut Bhavan, Nakkalagutta, Hanamkonda,
Warangal – 506 001 (AP)
4. Telangana State Southern Power Distribution Company Limited,
Mint Compound, Corporate Office,
Hyderabad-500063
5. Tamil Nadu Generation & Distribution Corporation Limited,
144, Anna Salai, Chennai- 600002
6. Bangalore Electricity Supply Company Limited,
Corporate Office, K. R. Circle,
Bangalore-560 001, Karnataka.



7. Mangalore Electricity Supply Company Limited Corporate Office, MESCOM Bhavan, First floor, Kavoor Cross Road, Bijai, Mangalore- 575004
8. Chamundeshwari Electricity Supply Company Limited, Corporate Office No. 29, Vijayanagar 2nd Stage, Hinkal, Mysore- 570017
9. Gulbarga Electricity Supply Company Limited, Station Main Road, Gulbarga- 585102
10. Hubli Electricity Supply Company Limited, Corporate Office, Navanagar, PB Road, Hubli- 580025
11. Kerala State Electricity Board Limited, Vaidyuthi Bhavanam, Pattom Thiruvananthapuram- 695004

.....Respondents

Parties present:

Shri Venkatesh, Advocate, NTPC
 Shri Nihal Bhardwaj, Advocate, NTPC
 Shri Kartikay Trivedi, Advocate, NTPC
 Shri Ashutosh K. Srivastava, Advocate, NTPC
 Shri Rudraksh Bhushan, NTPC
 Shri U.S. Mohanty, NTPC
 Shri S. Vallinayagam, Advocate, TANGEDCO
 Ms. Bhabna Das, Advocate, Karnataka Discoms

ORDER

This Petition has been filed by the Petitioner, NTPC Limited, for approval of the tariff of Kudgi Super Thermal Power Station (2400 MW) (in short, “the generating station”) for the period 2019-24, in accordance with Regulation 9(2) of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (in short “the 2019 Tariff Regulations”). The generating station, with a total capacity of 2400 MW, comprises three units of 800 MW each, and the dates of commercial operation of the units of the generating station are as under:

Unit-I	31.7.2017
Unit-II	31.12.2017
Unit-III	15.9.2018

2. The Commission, vide order dated 24.4.2024 in Petition No. 563/GT/2020, had determined the capital cost and the annual fixed charges of the generating station for



the period 2017-19 as under:

Capital cost allowed

(Rs. in lakh)

	2017-18		2018-19	
	31.7.2017 (COD of Unit-I) to 30.12.2017	31.12.2017 (COD of Unit-II) to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 (COD of Unit-III) to 31.3.2019
Opening Capital Cost	585332.52	951638.51	970376.32	1325199.32
Add: Additional capital expenditure	36657.69	18737.81	45073.60	65492.96
Closing Capital Cost	621990.22	970376.32	1015449.92	1390692.28
Average capital cost	603661.37	961007.41	992913.12	1357945.80

Annual Fixed Charges allowed

(Rs. in lakh)

	2017-18		2018-19	
	31.7.2017 (COD of Unit-I) to 30.12.2017	31.12.2017 (COD of Unit-II) to 31.3.2018	1.4.2018 to 14.9.2018	15.9.2018 (COD of Unit-III) to 31.3.2019
Depreciation	29662.50	48090.09	49677.51	68619.19
Interest on Loan	27132.97	43968.88	44568.63	57428.35
Return on Equity	33804.98	50671.43	52494.55	80490.88
Interest on Working Capital	10509.22	21182.56	21368.23	32495.67
O&M Expenses	13864.31	27704.31	29424.72	44146.44
Total	114974.00*	191617.27*	197533.63*	283180.53*

**The above figures are on an annualized basis*

Present Petition

3. As stated, the Petitioner has filed the present Petition for the determination of the tariff of the generating station for the period 2019-24 in accordance with Regulation 9(2) of the 2019 Tariff Regulations. Thereafter, based on the judgment dated 14.8.2023 of the Appellate Tribunal for Electricity (APTEL) in Appeal No.152/2016 filed by the Petitioner, the Petitioner has filed an Interlocutory Application (I.A. No. 81/2023), revising its claims for capital cost and the annual fixed charges as under:

Capital cost claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	1392372.57	1437126.57	1582467.57	1587067.57	1587067.57
Add: Addition during the year	44754.00	145341.00	4600.00	0.00	0.00
Add: Discharges during the year	0.00	0.00	0.00	0.00	0.00
Closing Capital Cost	1437126.57	1582467.57	1587067.57	1587067.57	1587067.57
Average Capital Cost	1414749.57	1509797.07	1584767.57	1587067.57	1587067.57



Annual Fixed Charges claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	71388.12	76184.21	79967.21	80083.27	80083.27
Interest on Loan	57579.93	57151.26	55349.54	49775.24	43372.69
Return on Equity	79715.48	85071.03	89295.32	89424.91	89424.91
Interest on Working Capital	26404.52	26649.35	26834.09	26844.46	26830.90
O&M Expenses	53454.00	55195.00	57028.00	58852.00	60764.00
Total	288542.06	300250.84	308474.16	304979.88	300475.77

4. Respondent No. 11 (KSEB), Respondent No. 5 (TANGEDCO), and Respondent No. 6 (BESCOM) have filed their replies vide affidavits dated 24.5.2021, 9.7.2021/22.3.2024 and 6.8.2021 respectively, and the Petitioner vide affidavits dated 21.7.2021, 6.8.2021 and 12.11.2021 respectively, has filed its rejoinders to the said replies. The matter was heard on 25.5.2021 along with Petition No.563/GT/2020 (tariff of the generating station for the period 2017-19), and the Commission. after hearing the parties, directed the Petitioner to file certain additional information. In response, the Petitioner has filed the additional information, after serving a copy on the Respondents. Thereafter, the Petition was heard (along with Petition No.563/GT/2020) on 16.2.2023, and the Commission, after hearing the parties, reserved its order. Since the order in the present Petition could not be issued prior to one Member of this Commission, who formed part of the Coram demitting office, the Petition (along with Petition No. 563/ GT/2020) was re-listed and heard on 6.2.2024. During the hearing, the learned counsel for the Petitioner submitted that the pleadings and arguments in the present Petition have been completed, and the Commission may reserve its order in the petition. He, however, pointed out that pursuant to the judgment dated 14.8.2023 of APTEL in Appeal No. 152/2016, declaring the expenditure claimed towards Railway Infrastructure Augmentation Works for some of the projects of the Petitioner as mandatory, IA No.81/2023 (in Petition No.29/GT/2021) has been filed for claiming the said expenditure for this generating station, and the same may be considered by the Commission while disposing of the petition. The learned counsel added that in case of



any clarification/ additional information is required, it would furnish the same. The Commission, after hearing the parties, reserved its order in the Petition. Petition No.563/GT/2020 has been disposed of vide order dated 24.4.2024. Based on the submissions of the parties and the documents available on record and on prudence check, we proceed with the determination of the tariff of the generating station for the period 2019-24, as stated in the subsequent paragraphs.

Capital Cost

5. 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 provides as under:

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

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

6. The annual fixed charges claimed by the Petitioner are based on the opening capital cost of Rs.1392372.57 lakh, as against the capital cost of Rs.1390692.28 lakh as on 31.3.2019, on a cash basis, allowed by order dated 24.4.2024 in Petition No. 563/ GT/2020. Accordingly, in terms of Regulation 19(3) of the 2019 Tariff Regulations, the closing capital cost of Rs.1390692.28 lakh, as on 31.3.2019, on a cash basis, has



been considered as on 1.4.2019.

Additional Capital Expenditure

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

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

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

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

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

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

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

(e) Force Majeure events;

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

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

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

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

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

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

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

26 Additional Capitalization beyond the original scope

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

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

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

(c) Force Majeure.; _

(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.”

8. The projected additional capital expenditure claimed by the Petitioner for the period 2019-24 is as under:

(Rs. in lakh)

S. No	Head of Work /Equipment	Regulation	Projected Additional capital expenditure claimed				
			2019-20	2020-21	2021-22	2022-23	2023-24
A. Works under Original scope, Change in law etc. eligible for ROE at normal rate							
1	Balance - Site Levelling Package	24(1)(b)	4400.00	3400.00	-	-	-
2	SG Civil works - Balance works		2800.00	3000.00	600.00*	-	-
3	TG Civil works - Balance works		850.00	1300.00	-	-	-
4	Ash Dyke		1000.00	1150.00	800.00*	-	-
5	Township		7750.00	3600.00	-	-	-
6	Steam Generator		500.00	400.00	-	-	-
7	ESP		850.00	-	-	-	-
8	TG Package		140.00	300.00	-	-	-
9	Railway Siding		7000.00	5200.00	-	-	-
10	Railway infrastructure augmentation work		19(3)(e)	-	94600.00	-	-
11	CHP	24(1)(b)	3400.00	3240.00	500.00*	-	-
12	Stacker Reclaimer		2100.00	2100.00	-	-	-
13	AHP		2000.00	2350.00	700.00*	-	-
14	CW & MU Civil		640.00	-	-	-	-
15	WTP		900.00	700.00	-	-	-
16	Station Piping		100.00	100.00	-	-	-
17	FDPS		400.00	200.00	-	-	-
18	AC& Ventilation		400.00	470.00	-	-	-
19	Gen Bus Duct		110.00	-	-	-	-
20	Power Transformer		144.00	-	-	-	-
21	MV Switchgear		138.00	-	-	-	-
22	Electrical Equipment incl. Cables		560.00	1541.00	-	-	-
23	Switchyard		1180.00	-	-	-	-
24	Reservoir #3		-	7000.00	1000.00*	-	-
25	Additional CPU		-	1500.00	-	-	-
26	Additional UF		-	200.00	-	-	-
27	Side Stream Filtration		-	1000.00	500.00	-	-
28	Integrated Security		-	2000.00	500.00	-	-



29	Land		450.00	250.00	-	-	-
30	MBOA		742.00	700.00	-	-	-
31	R&R		1100.00	440.00	-	-	-
32	Capital Spares	24(1)(c)	4600.00	8600.00	-	-	-
33	ClO ₂ system	26(1)(b) and 26(1)(d)	500.00	-	-	-	-
	Sub-total (A)		44754.00	145341.00	4600.00	-	-
B.	Works beyond Original scope excluding additional capitalization due to change in law eligible for ROE at the Weighted Average rate of Interest						
	Sub-total (B)		-	-	-	-	-
	Total Additional capital expenditure claimed (A+B)		44754.00	145341.00	4600.00	-	-

**The Petitioner has claimed the said items under both Regulation 24(1)(b) and Regulation 25(1)(d) of 2019 Tariff Regulations and has not demarcated the same.*

9. The Petitioner has claimed the total additional capital expenditure of Rs.44754.00 lakh in 2019-20, Rs.145341.00 lakh in 2020-21 and Rs.4600.00 lakh in 2021-22 under Regulations 24(1)(b), 24(1)(c) and Regulation 19(3)(e) of the 2019 Tariff Regulations. No additional capital expenditure has been claimed for the years 2022-23 and 2023-24. We now examine the projected additional capital expenditure claimed by the Petitioner as under:

Additional capital expenditure within the original scope of work (claimed within cut-off date) (excluding Railway Augmentation works, ClO₂ System, and MBOA)

10. The Petitioner has claimed the additional capital expenditure towards Balance works (viz., Site Levelling Package, SG Civil works, TG Civil works), Ash Dyke, Township, Steam Generator, ESP, TG Package, Railway Siding, CHP, Stacker Reclaimer, AHP, CW & MU civil, WTP, Station piping, FDPS, AC & ventilation, Gen Bus Duct, Power transformer, MV switchgear, Electrical equipment incl. Cables, Switchyard, Reservoir-3, Additional CPU, Additional UF, Side Stream Filtration, Integrated Security, land, R&R and MBOA), under Regulation 24(1)(b) of the 2019 Tariff Regulations and expenditure towards Capital spares for Rs.4600.00 lakh in 2019-20 and Rs. 8600.00 lakh in 2020-21 under Regulation 24(1)(c) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that these additional capital expenditures pertain to the original scope of work.



11. Respondent KSEBL and Respondent TANGEDCO have submitted that a proper justification has not been furnished by the Petitioner for the expenditure claimed, along with the details of the works involved in the original scope. As regards the capital spares claimed, TANGEDCO has submitted that the Petitioner has not furnished any details for arriving at a claim for Rs. 4600 lakh in 2019-20 and Rs. 8600 lakh in 2020-21. In response, the Petitioner has submitted that in terms of Regulation 23 of the 2019 Tariff Regulations, the initial spares are to be capitalized at 4% of the Plant and Machinery cost in the case of the coal-based/lignite-fired thermal generating stations. It has further submitted that in terms of proviso (ii) to Regulation 23 of the 2019 Tariff Regulations, the generating company shall submit the break-up of the head-wise IDC and IEDC. The Petitioner has further submitted that the amount claimed in 2019-20 is on a projection basis, and therefore, the actual amount that will be capitalized towards initial spares will be 4% of the Plant and Machinery cost, and details of the same will be furnished at the time of truing-up of tariff for the period 2019-24. The Respondent has pointed out that for the year 2021-22, out of Rs.4600 lakh claimed under Regulation 24(1)(b) and Regulation 25(1)(d) of the 2019 Tariff Regulations, and submitted that there is no demarcation in the expenses claimed and therefore, may be disallowed. In response, the Petitioner has clarified that Regulation 24(1)(b) and Regulation 25(1)(d) of the 2019 Tariff Regulations do not provide for the claims to be demarcated, but the Petitioner in Form 9, had bifurcated the claim as SG Civil Works – Balance works, Ash Dyke, CHP, AHP, Side Steam Filtration, and Integrated Security. The Petitioner has further submitted that such expenditure is within the original scope and incurred up to the cut-off date of the generating station, and the amounts towards discharge of liabilities for the works executed prior to the cut-off date will be furnished at the time of the truing-up of tariff for the period 2019-24.



12. The Respondent BESCO has submitted that on perusal of Form 9A, L, and M, there is a difference of an amount of Rs.10302.82 lakh between the additional capitalization shown in Form 9A and the total of the undischarged liabilities and the capital works in progress as per Forms L and M, respectively and hence the same may be disallowed. In response, the Petitioner has clarified that the additional expenditure has been claimed on a projection basis, and therefore, the break-up of the same shall be submitted at the time of the truing-up of tariff.

13. The submissions have been considered. The COD of the generating station is 15.9.2018, and hence, in terms of the 2014 Tariff Regulations, the cut-off date of the generating station is 31.3.2021. The additional capital expenditures claimed by the Petitioner for the period 2019-20 and 2020-21 form part of the original scope of work and also fall within the cut-off date of the generating station. Accordingly, the claims of the Petitioner for additional capitalization for the years 2019-20 and 2020-21 (as in para 10 above), except for the expenditure claimed towards the ClO₂ system, Railway augmentation works, and MBOA items, are allowed on a projection basis, under Regulation 24(1)(b) and Regulation 24(1)(c) of the 2019 Tariff Regulations. The additional capital expenditure towards the ClO₂ system, Railway augmentation works, and MBOA items are dealt with separately below.

14. As stated, for the period 2021-22, the Petitioner has claimed the projected additional capital expenditure of Rs.4600 lakh towards SG Civil works- Balance works, Ash Dyke, CHP, AHP and Reservoir-3, under Regulation 24(1)(b) and Regulation 25(1)(d) of the 2019 Tariff Regulations, and the same is beyond the cut-off date of the generating station (i.e.31.3.2021). Considering the fact that these claims are within the original scope of work, we allow the claims of the Petitioner under this head on a projection basis. However, the Petitioner, at the time of truing-up of tariff, shall furnish the relevant details and bifurcations for each work, with duly audited Form-B, certifying



that all the works envisaged and executed during 2021-22 pertain to the original scope of work along with a confirmation that the said works are completed within the cost of the original investment approval.

Railway Infrastructure Augmentation works

15. As stated, the Petitioner vide IA No.81/2023 has claimed the additional capital expenditure of Rs.94600.00 lakh in 2020-21 towards Railway Infrastructure Augmentation Works under Regulation 19(3)(e) of the 2019 Tariff Regulations, relying upon the judgment dated 14.8.2023 of the APTEL in Appeal No.152/2016. The Petitioner has also revised the tariff filing forms in justification of the said claim. The background facts leading to the judgment of the APTEL are elaborated in the subsequent paragraphs.

16. Petition No. 59/MP/2015 was filed by the Petitioner before this Commission seeking the in-principle approval for considering the expenditure incurred through the Indian Railways for timely completion of rail connectivity and / or capacity augmentation of rail infrastructure required for transportation of coal (as per Railway Board Policy dated 10.12.2012) in the capital cost of power projects for the purpose of tariff. The Commission vide order dated 15.2.2016 rejected the prayer of the Petitioner, with the following observations:

6.....It is not mandatory for the petitioner to participate in the scheme under the Customer Funding Model as per the Policy of Ministry of Railways. As per the Policy, the fund provided by NTPC shall be refunded by Railways through rebate in the freight which may be up to 7% of the amount invested every year. Further, NTPC will receive interest on the funds provided by it to Railways at a rate equal to prevailing rate of dividend payable by Railways to the general exchequer.

7. In our view, the request of the petitioner to capitalize of such expenditure on funding provided to Railways in the capital cost of the power projects cannot be allowed. However, NTPC may retain the rebate in freight charges in consideration of the investment made by NTPC. It is, however, clarified that beneficiaries will be charged for the normal freight charges in tariff without considering the rebate in freight charges to NTPC."

17. Aggrieved thereby, the Petitioner filed Petition No. 21/RP/2016 seeking review of the said order. The Petitioner also filed an appeal (Appeal No. 152/2016) before the



APTEL, challenging the said order dated 15.2.2016. Thereafter, the Commission, vide its order dated 29.8.2017, rejected the contentions of the Petitioner in the review petition. Against this order, the Petitioner had filed IA No.1162/2018 in the pending appeal. Subsequently, in Petition No. 199/GT/2017 (determination of tariff of this generating station for the period from COD of Unit-I to 31.3.2019) filed by the Petitioner, it had also claimed the cost of Rs.94600.00 lakh towards the Railway Infrastructure Augmentation Works, as per the Policy of the Ministry of Railways, GOI dated 10.12.2012. However, the Commission vide its order dated 8.1.2020 rejected the said claim of the Petitioner, in line with its decision contained in the order dated 15.2.2016 in Petition No.59/MP/2015 (as in para 16 above). The relevant portion of the order dated 8.1.2020 is extracted below:

“89. We have considered the matter. In order to ensure timely availability of rail infrastructure for supply of coal to project of the Petitioner, the Board of Petitioner Company had decided to undertake the implementation of the Rail infrastructure projects associated with the upcoming Kudgi Power Project in terms of the Policy of the Ministry of Railway dated 10.12.2012. It is pertinent to mention that the Petitioner had earlier filed Petition No. 59/MP/2015 seeking in-principle approval for considering the expenditure incurred through the Indian Railways for timely completion of rail connectivity and/ or capacity augmentation of rail infrastructure required for transportation of coal (as per Railway Board Policy dated 10.12.2012) in the capital cost of power projects for the purpose of tariff. It had also submitted, amongst others, that as per the Railway Board Policy dated 10.12.2012, an amount of `902.57 crore (`400 crore for Doubling of Hotigi-BijapurGadag line, `250 crore for Flyover at Bakthiyarpur including 3rd line and surface triangle, `140 crore for Electrification of Manpur-Tilaiya-Bakthiyarpur line and `112.57 crore for Gauge Conversion of balgona-Kotwa section) has been deposited with Railways under Customer Funding Model to facilitate seamless transportation of coal rakes for its upcoming Super Thermal Power Projects at Kudgi, Barh Stagell and Kotwa. However, the Commission vide its order dated 15.2.2016 rejected the prayer of the Petitioner and held as under:

xxxx.”

90. It is further noticed that the Petitioner had also not obtained the consent of any of the beneficiaries prior to such huge expenditure being incurred by it. In this background and in the light of the aforesaid decision, we are not inclined to allow the said expenditure claimed by the Petitioner towards Railway augmentation deposit work. It is however made clear that the Petitioner shall retain the rebate in freight charges in consideration of the investment made by the Petitioner. It is, also clarified that beneficiaries will be charged for the normal freight charges in tariff without considering the rebate in freight charges to the Petitioner.”

18. The APTEL, vide its judgment dated 14.8.2023, disposed of the said appeal as under:



“As noted herein above, in so far as the Kudgi project of the Appellant is concerned, the coal required, to achieve generation of power to the normative availability of 2400 MW, is a minimum of 13 rakes per day. Prior to their participation in the scheme, the Appellant was receiving only about 4 rakes a day as against the required 13 rakes. Likewise, for the Barh Project, the total requirement of coal, for generating power to the normative availability of 3300 MW capacity, was 18 rakes, and prior to the Appellant’s participation in the scheme, they were receiving only 4 rakes per day. While the scheme may, no doubt, have been so worded as to be understood to be voluntary, it is clear from the facts noted herein above that, but for their participation in the said scheme, the Appellant was in no position to meet its daily requirement of coal, for the situation prevailing prior thereto was that the Appellant was receiving less than 1/3 of its minimum coal requirement for the Kudgi project, and less than ¼ of its minimum coal requirement for the Barh Project.

We are satisfied, therefore, that the Appellant had no other alternative but to participate in the scheme to ensure adequate supply of coal for its generating stations. The distinction which the CERC sought to make, between the Appellant and the Petitioner in Petition No. 308 of 2009 on this score, does not merit acceptance.

While we may not be understood as having affirmed, or accorded our approval to, or even to have expressed any opinion on the merits of, the order passed by the CERC in Petition No. 308 of 2009 dated 29.07.2010, it is clear that the CERC was not justified in distinguishing the Appellant’s case, vis a vis the Petitioner in Petition No. 308 of 2009, holding that, while the Petitioner in Petition No. 308 of 2009 had no choice but to accede to the proposal put forth by the Government of Chhattisgarh and their obligations for participation was compulsory, the Appellant was under no such obligation. The 2019 Regulations, on which the Appellant had placed reliance upon, came into force more than three years after the order under appeal was passed. As the said Regulations were not even considered by the CERC in the Order under Appeal, it would be wholly inappropriate for us to express any opinion on its applicability, or otherwise, to the facts of the present case.

Suffice it to make it clear that, since the matter is now being remanded to the CERC, the Order now passed by us shall not disable the Appellant from putting forth their submissions on the applicability of the 2019 Regulations also, and the CERC shall, without being influenced by its earlier orders (the Original Order as well as the Order in Review) or the pleadings placed on their behalf before this Tribunal, examine the matter afresh in accordance with law. The Appeal stands disposed of accordingly. All the IAs therein shall, consequently, stand dismissed.”

19. Respondent TANGEDCO has submitted that the Petitioner has completely violated the procedure to be followed for appeals/ orders remanded by APTEL. It has stated that IA No. 81/2023 cannot be entertained as the Commission on 16.2.2024 had reserved its order in Petition 29/GT/2021. The Respondent has also submitted that the claim for Railway infrastructure works has not been mentioned in the original Petition, and there is also no mention of the pendency of Appeal No.152/2016 before APTEL. It has stated that the remanded matter is a Miscellaneous Petition (59/MP/2015), whereas the IA has been filled in the present Petition, and therefore,



the claim of Petitioner may be disallowed.

20. We have examined the above submissions. It is pertinent to mention that Petition No.59/MP/2015 was filed by the Petitioner seeking the in-principle approval for considering the expenditure incurred through the Indian Railways for timely completion of rail connectivity and/ or capacity augmentation of rail infrastructure required for transportation of coal (as per Railway Board Policy dated 10.12.2012) in the capital cost of its power projects for the purpose of tariff and was not related to a particular project. Against the rejection of the prayer in Petition No. 59/MP/2015, the Petitioner had filed Petition No.21/RP/2016, seeking review of the said order on this issue, which was also rejected vide order dated 29.8.2017. Against this, the Petitioner had filed IA No. 1162/2018 in the pending appeal (152/2016), and the same was disposed of by APTEL, vide its judgment dated 14.8.2023, as stated in para 18 above. Further, we notice that certain observations/discussions with regard to the Kudgi project (this generating station) are mentioned in the said judgment. It is evident from the observations of the APTEL that the Petitioner has been granted liberty to put forth its submissions on the applicability of the 2019 Tariff Regulations also, on this issue. Accordingly, submissions were made by the parties on this issue in the present Petition. However, keeping in view that the claim of the Petitioner towards Railway Infrastructure Augmentation is pending consideration in respect of the other projects also (viz., Barh, Khargone etc.), we, in order to take a comprehensive view on this issue, in terms of the observations of the APTEL in its judgment dated 14.8.2023 and the provisions of the 2014 and the 2019 Tariff Regulations, grant liberty to the Petitioner, to file a separate Petition, along with all relevant particulars, after serving a copy on the Respondents. The Petition filed in terms of the said direction shall be listed along with Petition No.59/MP/2015, for which separate notices will be issued to the parties. The IA is disposed of in terms of the above.



21. In light of the above discussions and observations, we are not inclined to consider Petitioner's claim regarding the Railway augmentation work, in this order.

ClO₂ System

22. The Petitioner has claimed additional capital expenditure for Rs. 500.00 lakh in 2019-20 under Regulation 26 (1)(b) and Regulation 26(1)(d) of the 2019 Tariff Regulations. The Petitioner has stated that, at present, Chlorine gas is being dozed directly at various stages of water treatment to maintain water quality and to inhibit organic growth in the water retaining structures/ equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping, etc. Chlorine dosing is done from chlorine stored in cylinders/ tonners. It has also stated that Chlorine gas is very hazardous and may prove fatal in case of leakage; handling and storage of same involves risk to the life of the public at large. The Petitioner, in compliance with the directive of the Government of Karnataka and in the interest of public safety, replaced the chlorine dozing system with a Chlorine Dioxide (ClO₂) system, which is much safer and less hazardous than chlorine. The Petitioner has submitted that in the proposed scheme, ClO₂ shall be produced on the site by the use of commercial grade HCl and sodium chlorite, and as ClO₂ is generated at the site, it avoids handling and storage risk. The Petitioner has stated that for this generating station, the Department of Factories, Boiler, Industrial Safety and Health, Govt of Karnataka, had directed the Petitioner to replace the highly hazardous gas chlorination system with the ClO₂ system. Accordingly, the Petitioner has submitted that the additional capital expenditure claimed may be allowed under Regulation 26(1)(b) of the 2019 Tariff Regulations.

23. Respondent TANGEDCO has submitted that the generating station was recently



commissioned, and hence, the Petitioner should have included the ClO₂ system in the original scope of work. The Respondent has further submitted that the Petitioner, being the pioneer in thermal generating station, has not taken any effort to include it in the original scope of work. It has been stated that after having installed the chlorine dosing system, the Petitioner is now opting to install the ClO₂ system under 'change in law' thereby resulting in double expenditure to the beneficiaries. The Respondent has added that since the claim of the Petitioner is not supported by any documentary evidence, the same may be disallowed. In response, the Petitioner has clarified that the Government of Karnataka, Department of Factories, Boilers, Industrial Security and Health vide its letter dated 13.4.2016, had approved the factory drawings in respect of this station, subject to modification from the use of hazardous chlorine chemical to minimum hazardous chlorine chemical and also to strictly comply with all conditions as laid down in the letter dated 23.9.2013. The Petitioner has also submitted a copy of the approval letter dated 13.4.2016 issued by the Government of Karnataka. In addition, the Petitioner has stated that while the generating station was envisaged during the period 2009-14, the conditions laid down by the Government of Karnataka were subsequent to the implementation of this Project, and therefore, the Petitioner could not include the adoption of ClO₂ under the original scope of work. Accordingly, the Petitioner has submitted that it has claimed the expenditure under Regulations 26(1) (b) and Regulation 26 (1) (d) of the 2019 Tariff Regulations. It has also submitted that a detailed justification for the said system has been furnished in Form 9A annexed with the Petition.

24. In compliance with the directions vide ROP of the hearing dated 16.2.2023, the Petitioner submitted the additional information on 22.3.2023. The Petitioner, while reiterating its submissions made in the original Petition, has further submitted that the Ministry of Labour and Employment, GOI, has released the "National Policy on Safety,



Health and Environment at Workplace” in February 2009 and that for the Petitioner, being India’s largest power generator and operating various power Stations across the country with thousands of workmen engaged round the clock, it is a constant endeavor to improve the safety practices and mitigate the hazards in line with the statutory provisions on safety, health, and environment at workplace. It has also submitted that as per clauses in the National Policy on safety, the installation of the ClO₂ Plant is in accordance with the various provisions of the policy, in order to ensure a safe workplace. The Petitioner has added that Chlorine is deemed to be an explosive when contained in any metal container in a compressed or liquefied state, within the meaning of the Indian Explosives Act, 1884, and any leakage or failure in handling of this chlorine gas may result in a major accident, which may involve the loss of property and human life. The Petitioner has stated that the National Disaster Management Authority (“NDMA”) GOI had released the “National Disaster Management Guidelines: Chemical Disasters” in April 2007, and Chapter 5 {Guidelines for Industrial (Chemical) Installations and Storages} of the guidelines provides that the industrial systems shall be continuously re-engineered (improved and upgraded)/ strengthened for the prevention and management of chemical accidents. Accordingly, the Petitioner has submitted that the installation of the ClO₂ Plant taken up by the Petitioner in place of the earlier chlorine dosing system is a change of process taken up for the prevention and management of chemical accidents, in accordance with the various provisions and objectives of the said guidelines. The Petitioner has further submitted that Chlorine gas is heavier than air and, therefore, sticks close to the ground and spreads horizontally to the ground, thereby affecting the persons in the vicinity for a longer duration. Further, exposure to low levels of chlorine can result in nose, throat, and eye irritation, whereas, at higher levels, breathing chlorine gas may result in changes in the breathing rate, coughing, and damage to the lungs, toxic pneumonitis and/or acute



pulmonary edema, which can cause permanent damage to the affected persons including death. The Petitioner has submitted that in Power Plants, specifically, any such incident may be more severe due to the nature of the plant, and it will not only affect the numerous workers/staffs of the Plant, but also nearby communities. It has stated that the various equipment's the Power Plant needs continuous monitoring, and in the absence of any such monitoring, in case of a chemical accident, there will be a possibility of serious damage to the equipment also, which itself is a very high hazard. The Petitioner has submitted that Regulation 26(1)(d) of the 2019 Tariff Regulations provides for consideration of additional capitalization in respect of works towards the security & safety of the power stations. It has further submitted that safety is inclusive of the safety of the people working within the plant and the neighboring communities, and as a responsible corporate entity, the safety of workmen and employees is of paramount importance for the Petitioner, and it also has to ensure that neighboring communities are safe and not affected adversely due to the Plant operations. The Petitioner has added that the Commission, vide its order dated 8.1.2022 in Petition No 408/GT/2020, had allowed the additional capital expenditure towards safety provisions for workmen/ plant under provisions of the 2014 and the 2019 Tariff Regulations under 'change in law' or for compliance to any existing law/ need for higher security and safety of the Plant. Accordingly, the Petitioner has prayed that the Commission may allow the additional capital expenditure claimed for the ClO₂ system under Regulation 26 (1) (b) and Regulation 26(1)(d) of the 2019 Tariff Regulations.

25. We have examined the matter. We notice that the letter dated 23.9.2013 addressed to the GM, NTPC, by the Directorate of Factories, Industrial Safety & Health, Government of Karnataka, relates to the site clearance for this generating station. It is also noticed that in respect of this generating station, the Government of Karnataka, had directed the Petitioner to replace the highly hazardous gas chlorination



system with the ClO₂ system and accorded in-principal site clearance. Further, the Department of Factories, Boilers, Industrial Security and Health, the Government of Karnataka, vide its letter dated 13.4.2016, had approved the factory drawings in respect of this generating station, subject to the modification for the use of hazardous chlorine chemical to minimum hazardous chlorine chemical and to strictly comply with all the conditions as laid down in the letter dated 23.9.2013. The chlorine gas in this generating station was being dozed directly at the various stages of water treatment to maintain water quality and to inhibit organic growth, which was very hazardous. The directives by the Government of Karnataka to replace the chlorine dozing system with the Chlorine Dioxide (ClO₂) system are much safer and less hazardous than the chlorine dozing system. Keeping in view the public interest and the safety & security of the plant and its employees, we allow the additional capital expenditure claim for Rs.500.00 lakh in 2019-20 for the replacement of the chlorine dozing system with the ClO₂ system under Regulation 26(1)(d) of the 2019 Tariff Regulations. Since the said expenditure is beyond the original scope of work, the Petitioner is directed to furnish the total capitalized expenditure as well as the decapitalized amount pertaining to the chlorine dozing system that was already existing at the time of truing-up of tariff.

MBOA

26. The Petitioner has claimed MBOA amounting to Rs.742.00 lakh in 2019-20 and Rs.700.00 lakh in 2020-21, stating that the same form part of the original scope of work, carried out up to the cut-off date. The Respondents have submitted that as the Petitioner has not furnished the details of the MBOA, the claim may be disallowed. It is observed that the Petitioner has not furnished the details and bifurcations of the MBOA items. Accordingly, the claim of the Petitioner is not allowed. However, the Petitioner is granted liberty to claim the expenses on this count by providing the complete details with proper bifurcation of the MBOA items, along with the auditor's



certificate at the time of truing-up of tariff.

Discharges and Undischarged liabilities

27. The Petitioner has not claimed any additional undischarged liabilities and discharged the undischarged liabilities during the period 2019-24. Though the Petitioner has not shown any discharge of liabilities during the period 2019-24, we notice that in the order dated 24.4.2024 in Petition No. 563/GT/2020, the undischarged liabilities, as on 31.3.2019, have been worked out as Rs.73542.62 lakh. In view of this, the Petitioner is directed to submit the detailed reconciliation of the discharges, additions, and the reversal of liabilities, if any, at the time of the truing-up of tariff for the period 2019-24.

28. Based on the above discussion, the additional capital expenditure allowed for the period 2019-24 is summarized below:

(Rs. in lakh)

S. No	Head of Work /Equipment	Regulation	Additional capital expenditure allowed				
			2019-20	2020-21	2021-22	2022-23	2023-24
A. Works under the original scope, change in law etc. eligible for ROE at normal rate							
1	Balance - Site Levelling Package	24(1)(b)	4400.00	3400.00	0.00	-	-
2	SG Civil works - Balance works		2800.00	3000.00	600.00	-	-
3	TG Civil works - Balance works		850.00	1300.00	0.00	-	-
4	Ash Dyke		1000.00	1150.00	800.00	-	-
5	Township		7750.00	3600.00	0.00	-	-
6	Steam Generator		500.00	400.00	0.00	-	-
7	ESP		850.00	0.00	0.00	-	-
8	TG Package		140.00	300.00	0.00	-	-
9	Railway Siding		7000.00	5200.00	0.00	-	-
10	Railway infrastructure augmentation work		19(3)(e)		0.00		-
11	CHP	24(1)(b)	3400.00	3240.00	500.00	-	-
12	Stacker Reclaimer		2100.00	2100.00	0.00	-	-
13	AHP		2000.00	2350.00	700.00	-	-
14	CW & MU Civil		640.00	0.00	0.00	-	-
15	WTP		900.00	700.00	0.00	-	-
16	Station Piping		100.00	100.00	0.00	-	-
17	FDPS		400.00	200.00	0.00	-	-
18	AC& Ventilation		400.00	470.00	0.00	-	-
19	Gen Bus Duct		110.00	0.00	0.00	-	-



20	Power Transformer		144.00	0.00	0.00	-	-
21	MV Switchgear		138.00	0.00	0.00	-	-
22	Electrical Equipment incl. Cables		560.00	1541.00	0.00	-	-
23	Switchyard		1180.00	0.00	0.00	-	-
24	Reservoir #3		0.00	7000.00	1000.00	-	-
25	Additional CPU		0.00	1500.00	0.00	-	-
26	Additional UF		0.00	200.00	0.00	-	-
27	Side Stream Filtration		0.00	1000.00	500.00	-	-
28	Integrated Security		0.00	2000.00	500.00	-	-
29	Land		450.00	250.00	0.00	-	-
30	MBOA		0.00	0.00	0.00	-	-
31	R&R		1100.00	440.00	0.00	-	-
32	Initial Capital Spares	24(1)(c)	4600.00	8600.00	0.00	-	-
33	ClO ₂ system	26(1) (d)	500.00	0.00	0.00	-	-
	Sub-total (A)		44012.00	50041.00	4600.00	-	-
B.	Works beyond the original scope excluding additional capitalization due to change in law eligible for ROE at the weighted average rate of Interest						
	Sub-total (B)		-	-	-	-	-
	Total Additional capital expenditure allowed (A+B)		44012.00	50041.00	4600.00	-	-

Capital Cost allowed for the period 2019-24

29. Based on the above, 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	1390692.28	1434704.28	1484745.28	1489345.28	1489345.28
Add: Addition during the year	44012.00	50041.00	4600.00	0.00	0.00
Closing capital cost	1434704.28	1484745.28	1489345.28	1489345.28	1489345.28
Average capital cost	1412698.28	1459724.78	1487045.28	1489345.28	1489345.28

Debt Equity Ratio

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

“18. Debt-Equity Ratio: (1) For a new project, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

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

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

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

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



such premium amount and internal resources are actually 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 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.

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

31. The gross normative loan and equity of the generating station as on 31.3.2019, approved by order dated 24.4.2024 in Petition No. 563/GT/2020, is Rs.973484.60 lakh (i.e., 70% of the admitted capital cost as on 31.3.2019) and Rs.417207.68 lakh (i.e., 30% of the admitted capital cost as on 31.3.2019). Accordingly, in terms of Regulation 18(3) of the 2019 Tariff Regulations, the gross normative loan and equity amounting to Rs.973484.60 lakh and Rs.417207.68 lakh, respectively, is considered as on 1.4.2019. Further, the projected additional capital expenditure approved as above has been allocated to debt and equity in the ratio of 70:30. Accordingly, the details of the debt-equity ratio in respect of the generating station, as on 1.4.2019 and 31.3.2024, is as under:

<i>(Rs. in lakh)</i>						
	Capital cost as on 1.4.2019	(%)	Additional capital expenditure	(%)	Capital cost as on 31.3.2024	(%)
Debt	973484.60	70%	69057.10	70%	1042541.70	70%
Equity	417207.68	30%	29595.90	30%	446803.58	30%



Total	1390692.28	100%	98653.00	100%	1489345.28	100%
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Return on Equity

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

“30. Return on Equity:

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

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

Provided that return on equity in respect of additional capitalization after cut-off date beyond the original scope excluding additional capitalization due to Change in Law shall be computed at the weighted average rate of interest on actual loan portfolio of the generating station or the transmission system;

Provided further that:

(i) In case of a new project the rate of return on equity shall be reduced by 1.00% for such period as may be decided by the Commission if the generating station or transmission system is found to be declared under commercial operation without commissioning of any of the Restricted Governor Mode Operation (RGMO) or Free Governor Mode Operation (FGMO) data telemetry communication system up to load dispatch center 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

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

“31. Tax on Return on Equity:

(1) The base rate of return on equity as allowed by the Commission under Regulation 30 of these regulations shall be grossed up with the effective tax rate of the respective financial year. For this purpose, the effective tax rate shall be considered on the basis of actual tax paid in respect of the financial year in line with the provisions of the relevant Finance Acts by the concerned generating company or the transmission licensee as the case may be. The actual tax paid on income from other businesses including deferred tax liability (i.e., income from business other than business of generation or transmission as the case may be) shall be excluded for the calculation of effective tax rate.

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

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



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

Illustration-

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

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

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

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

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

(c) Effective Tax Rate for the year 2019-20 = $Rs. 240 \text{ Crore} / Rs. 1000 \text{ Crore} = 24\%$.

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

The generating company or the transmission licensee as the case may shall true up the grossed-up rate of return on equity at the end of every financial year based on actual tax paid together with any additional tax demand including interest thereon duly adjusted for any refund of tax including interest received from the income tax authorities pertaining to the tariff period 2019-24 on actual gross income of any financial year. However, penalty if any arising on account of delay in deposit or short deposit of tax amount shall not be claimed by the generating company or the transmission licensee as the case may be. Any under-recovery or over-recovery of grossed up rate on return on equity after trueing up shall be recovered or refunded to beneficiaries or the long-term transmission customers as the case may be on year to year basis.

34. The Petitioner has claimed the Return on Equity (ROE), considering the base rate of 15.50% and the effective tax rate of 17.472% for the period 2019-24, and the same has been considered for the purpose of tariff. Accordingly, ROE has been worked out as under:

		(Rs. in lakh)				
		2019-20	2020-21	2021-22	2022-23	2023-24
A	Normative Equity – Opening	417207.68	430411.28	445423.58	446803.58	446803.58
B	Addition of Equity due to additional capital expenditure	13203.60	15012.30	1380.00	0.00	0.00
C	Normative Equity – Closing	(A-B)	430411.28	445423.58	446803.58	446803.58
D	Average Normative Equity	(A+C)/2	423809.48	437917.43	446113.58	446803.58
E	Return on Equity (Base Rate)		15.500%	15.500%	15.500%	15.500%
F	Effective Tax Rate		17.472%	17.472%	17.472%	17.472%
G	Rate of Return on Equity (Pre-tax)	(E)/(1-F)	18.782%	18.782%	18.782%	18.782%
H	Return on Equity (Pre-tax) (annualized)	(D x G)	79599.90	82249.65	83789.05	83918.65



Interest on loan

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

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

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

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

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

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

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

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

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

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

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

- (i) Gross normative loan, cumulative repayment and the net opening normative loan amounting to Rs.973484.60 lakh, Rs.84376.18 lakh and Rs.889108.42 lakh, respectively, as on 31.3.2019, as considered in order dated 24.4.2024 in Petition No. 563/GT/2020, has been retained as on 1.4.2019;
- (ii) Weighted average rate of interest (WAROI) as claimed by the Petitioner, has been retained for the purpose of tariff;
- (iii) The repayments for the respective years of the period 2019-24, has been considered equal to the depreciation allowed for that year.

37. The necessary calculation of interest on loan is as under:

		<i>(Rs. in lakh)</i>					
		2019-20	2020-21	2021-22	2022-23	2023-24	
A	Gross opening loan	973484.60	1004293.00	1039321.70	1042541.70	1042541.70	
B	Cumulative repayment of loan upto previous year	84376.18	155660.75	229318.27	304354.38	379506.55	



C	Net Loan Opening	(A-B)	889108.42	848632.25	810003.43	738187.32	663035.15
D	Addition due to additional capital expenditure		30808.40	35028.70	3220.00	0.00	0.00
E	Repayment of loan during the year		71284.57	73657.52	75036.11	75152.17	75152.17
F	Net Loan Closing	(C+D-E)	848632.25	810003.43	738187.32	663035.15	587882.98
G	Average Loan	(C+F)/2	868870.33	829317.84	774095.37	700611.23	625459.07
H	WAROI		6.6179%	6.6239%	6.6112%	6.5598%	6.3904%
I	Interest on Loan (annualised)	(G x H)	57500.97	54933.18	51176.99	45958.70	39969.34

Depreciation

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

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

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

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

(3) The salvage value of the asset shall be considered as 10% and depreciation shall be allowed up to maximum of 90% of the capital cost of the asset:

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

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

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

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

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

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



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

(6) In case of the existing projects, the balance depreciable value as on 1.4.2019 shall be worked out by deducting the cumulative depreciation as admitted by the Commission upto 31.3.2019 from the gross depreciable value of the assets.

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

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

39. The cumulative depreciation amounting to Rs.84376.18 lakh as on 31.3.2019, as considered in an order dated 24.4.2024 in Petition No. 563/GT/2020, has been retained as on 1.4.2019. Further, the value of freehold land included in the average capital cost has been adjusted to arrive at the depreciable value. Since, as on 1.4.2019, the used life of the generating station is less than 12 years from the effective station COD (i.e., 4.2.2018), depreciation has been calculated by applying the weighted average rate of depreciation (WAROD) for the period 2019-24. WAROD, as claimed by the Petitioner, has been considered. Necessary calculations in support of depreciation are as under:

		<i>(Rs. in lakh)</i>					
			2019-20	2020-21	2021-22	2022-23	2023-24
A	Average capital cost		1412698.28	1459724.78	1487045.28	1489345.28	1489345.28
B	Value of freehold land included in 'A'		32712.72	32712.72	32712.72	32712.72	32712.72
C	Depreciable value	(A-B) x 90%	1241987.00	1284310.85	1308899.30	1310969.30	1310969.30
D	Remaining depreciable value at the beginning of the year	(C) - 'H' of preceding year	1157610.83	1128650.11	1079581.03	1006614.93	931462.76
E	Balance useful life from station COD at the beginning of the year		24.46	23.46	22.46	21.46	20.46
F	WAROD		5.046%	5.046%	5.046%	5.046%	5.046%
G	Depreciation during the year	(A x F)	71284.57	73657.52	75036.11	75152.17	75152.17



H	Cumulative depreciation at the end of the year	(G) + 'H' of preceding year	155660.75	229318.27	304354.38	379506.55	454658.71
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Operation & Maintenance Expenses

40. Regulation 35(1)(a) of the 2019 Tariff Regulations provides for the following O&M expense norms for coal-based generating stations of 800 MW:

(Rs. in lakh/MW)

2019-20	2020-21	2021-22	2022-23	2023-24
18.23	18.87	19.54	20.22	20.93

41. The O&M expenses claimed by the Petitioner vide Form 3A are as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Normative Operation & Maintenance Expenses under Regulation 35(1)(1) of the 2019 Tariff Regulations	43752.00	45288.00	46896.00	48528.00	50232.00
O&M expenses under Regulation 35(1)(6) of the 2019 Tariff Regulations:					
-Water Charges	7650.00	7650.00	7650.00	7650.00	7650.00
-Capital Spares consumed	0.00	0.00	0.00	0.00	0.00
-Security Expenses	2052.00	2257.00	2482.00	2674.00	2882.00
Total O&M Expenses	53454.00	55195.00	57028.00	58852.00	60764.00

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

Water Charges

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

*“35(6) The Water Charges, Security Expenses and Capital Spares for thermal generating stations shall be allowed separately after prudence check: Provided that water charges shall be allowed based on water consumption depending upon type of plant and type of cooling water system, subject to prudence check. The details regarding the same shall be furnished along with the Petition;
xxxxxxx.”*

44. The Petitioner has claimed total water charges for Rs. 7650.00 lakh for the period 2019-24 vide Form 3A of the original petition. However, the Petitioner, in its additional submission vide affidavit dated 30.6.2021, has submitted that it has claimed Water charges on an estimation basis, as per the station requirement, over the expenses



incurred by it in 2018-19, subject to the retrospective adjustment at the time of truing-up of tariff and has accordingly revised the water charges, on an actual basis, for the years 2019-20 and 2020-21 as Rs. 4121.70 lakh and Rs. 1733.75 lakh respectively.

45. The Respondent BESCO has objected to the claim of Petitioner and submitted that the water charges may be allowed on the basis of actual expenses incurred by the Petitioner. The Respondent has submitted that the water charges were revised by the Government of Karnataka vide gazette notification dated 12.10.2018 (with effect from 18.10.2018) to Rs. 3 lakh/McFt, but no documents in supporting of this have been filed by the Petitioner. Accordingly, the Respondent has submitted that the Petitioner has not provided proof for any actual increase in the water rates by the Government of Karnataka or the date from which the increase had come into effect. The Respondent has further submitted that the audited accounts of the Petitioner for the years 2019-20 and 2020-21 would show the actual water charges incurred by the Petitioner during this period. Accordingly, the Respondent has submitted that the Petitioner may be directed to furnish the audited accounts for the years 2019-20 and 2020-21, and the allowable water charges may be decided by the Commission based on the same. It has further been submitted that the present Project has not been dispatched due to a higher variable cost, only 30% of the power has been scheduled instead of 85%, and hence the water consumption may be low. As such, the Respondent has stated that only the actual water charges incurred by the Petitioner during the years 2019-20 and 2020-21 may be allowed, and the claims of the Petitioner for the period from 2021-24 may not be considered at this stage. The Respondent MESCOM has submitted that the water charges paid for the Township are to be excluded from the O&M cost for 2018-19. It has also submitted the MOP, GOI letter dated 25.4.2023, in support of its contention not to allow any kind of tax/ duty/ cess levied under the guise of development fee charges/funds on the generation of



electricity from any sources-including thermal / hydro/ renewables. In response, the Petitioner has clarified that it has duly provided a copy of the notification dated 18.9.2018 in Petition No. 563/GT/2020. It has also submitted that the draft Rules notified by the Government of Karnataka on 18.9.2018 specify for the water rates to be levied at Rs. 3.00 lakh per McFt. A copy of the notification dated 18.9.2018 indicating the revision of the water charge rate has been attached. The Petitioner has further submitted that any thermal generating plant, like any other fuel, requires water as a raw material, and if a generating station is being built, the generator must ensure that it has enough water and coal to generate MCR capacity of the station, so that it can provide energy to the beneficiaries according to their entitlements. It has also been submitted that the arrangement of raw materials is done on a long-term basis, based on the anticipated consumption as per the generating station's contracted capacity, and for water, it is done considering the peak requirements of the units during the different seasons and the maximum demand anticipated, so that the respective beneficiaries are served in a timely manner. It has been pointed out that to maintain continuous availability, the generating stations, such as this generating station, must ensure water and coal corresponding to the MCR capacity. The Petitioner has added that the agreement for water charges has been entered into as per the rules/provisions of the respective State Water Board/Irrigation department, wherein the generating stations are situated, and the water charges paid depends upon the actual water consumption as well as the contracted water quantity, in line with that said water agreement. Since water is included in Entry 17 of List-II, i.e., State List, the State Government is the sole authority to decide the terms of the contract and charges for water, and the Petitioner does not have any power to change the water agreement. The Petitioner has clarified that the consumption of water in this generating station falls in line with the water consumption specified as per Central Electricity Authority



(CEA) guidelines. The Petitioner has undertaken to submit the actual audited accounts for the period 2019-24 at the time of the truing-up of the tariff.

46. The matter has been considered. As per Regulation 35(6) of the 2019 Tariff Regulations, the Petitioner is entitled to the actual water charges. The Petitioner has claimed water charges for Rs.7650.00 lakh during the period 2019-24. However, vide affidavit dated 30.6.2021, the Petitioner has submitted that the actual water expenses incurred are Rs.4121.70 lakh and Rs.1733.75 lakh during the years 2019-20 and 2020-21, respectively, wherein further expenses of Rs.1640.76 lakh have been included in the water charges for 2019-20, which has been demanded retrospectively by the Government of Karnataka in 2018-19, on account of the enhanced water charges. With regard to the water charges, the Commission vide its order dated 24.4.2024 in Petition No. 563/GT/2020 has observed as under:

“72. From the above deliberations, it is observed that due to the revision of water charges with effect from 18.10.2018, the bill for the year 2018-19 has been raised by KBJNL in 2019-20 and the same was paid by the Petitioner in 2019-20. Further, the Government of Karnataka vide its letter dated 29.11.2019, has revised the rate of water charges from Rs. 3.00 lakh per Mcft to Rs. 2.00 lakh per Mcft, effective from 28.5.2018. The Petitioner has submitted that the adjustment on the account of downward revision of water charges will be passed on to the beneficiaries, after the receipt of final reconciled bills towards new water charges. The differential amount towards water charges have been paid in 2019-20 and the same is reflected in the balance sheet for 2019-20. Accordingly, we are of the view that the working capital cost for the period 2018-19 for the differential amount, due to the revision of water charges, cannot be allowed to the Petitioner in 2018-19. However, the amount provided in the balance sheet for 2019-20 relates to the period 2019-24 and shall be dealt with in terms of the provisions of the 2019 Tariff Regulations. Further, the Petitioner vide affidavit dated 8.3.2024 has submitted that out of the Rs.16.78 lakh paid in 2017-18, only Rs.16.25 lakh has been claimed as water charges. Similarly, for 2018-19, out of Rs.26.89 lakh paid, only Rs.26.23 lakh has been claimed. This is on account of the fact that the Petitioner has deducted the water charges towards the pre-commissioning activities.”

47. The Commission, vide order dated 24.4.2024 in Petition No.563/GT/2020, had allowed the water charges to the tune of Rs. 26.23 lakh in 2018-19, excluding the power charges and the water charges for net pre-commissioning activities. This was allowed considering the actual contracted quantum of 840.40 Mcft @ Rs.3200/Mcft, as submitted by the Petitioner. Though the Petitioner, in the present petition, has



revised the water charges, it has not finished the revised forms. Moreover, the Petitioner has submitted that the Government of Karnataka, vide its letter dated 29.11.2019, has revised the rate of water charges from Rs.3.00 lakh Per Mcft to Rs.2.00 lakh Per Mcft, with retrospective effect from 28.5.2018. The Petitioner has submitted that the adjustment on account of the downward revision of water charges will be passed on to the beneficiaries after receipt of the final reconciled bills based on the new water charges. The revised claim of the Petitioner is for Rs. 4121.70 lakh (including the expenses of Rs. 1640.76 lakh for revision of water charges for the period 2018-19) and Rs.1733.75 lakh during 2019-20 and 2020-21, respectively. Further, for the period 2021-24, there is no clarity in the claim of the Petitioner. With regard to the expenditure of Rs.1640.76 lakh towards the revision of water charges, the Petitioner has submitted that the same will undergo further revision due to the downward revision of the water charges, and the Petitioner shall furnish reconciliation of the same, as and when the bills are raised by the Government of Karnataka. Considering the submissions of the Petitioner, the rate of water charges effective for the period 2019-24 is Rs. 2.00 lakh/ Mcft, and also considering the actual water consumption of 840.40 Mcft for the period 2018-19, we provisionally allow the water charges for the period 2019-24 as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
1680.80	1680.80	1680.80	1680.80	1680.80

48. Further, with regard to the claim of the Petitioner for the arrear amount of Rs 1640.76 lakh for the year 2018-19, it is observed that the Petitioner has paid the said amount during 2019-20 for the upward revision of water charges w.e.f. 18.10.2018. However, from the order dated 24.4.2024 in Petition No.563/GT/2020, it is observed that the Petitioner for the period 2018-19 has paid an amount of Rs 1640.76 lakh to KBJNL @ Rs 3.00 lakh/mcft during the year 2019-20. Accordingly, the Petitioner is



allowed to recover the arrear amount of Rs 1640.76 lakh (paid during 2019-20 against the water charges paid for the year 2018-19) proportionately from the beneficiaries. The beneficiaries are directed to pay the same within 30 days of the claims being raised by the Petitioner. However, this is subject to the reconciliation at the time of truing up based on the downward revision of water charges w.e.f. 28.5.2018 as submitted by the Petitioner.

49. The water charges allowed, as above, are subject to the truing up and reconciliation based on revised water charges. Accordingly, the Petitioner is directed to furnish the following details at the time of the truing-up of the tariff:

- (a) *The details of the water charges paid along with documentary evidence mentioning the date on which the charges were paid to the Water Resource Department.*
- (b) *The quantum of the water consumed for the thermal generating station for the period 2019-24, and the corresponding rate of water charges paid to Krishna Bhagya Jal Nigam Limited along with relevant documents, clearly bifurcating the water charges paid and quantum used for the generating station and Domestic/ township purpose.*
- (c) *Reconciliation of the water charges allowed and claimed as per the revised rates along with the documentary evidence/notifications.*
- (d) *Excel sheet showing the detailed workings.*
- (e) *Any additional document in support, if any.*

Security Expenses

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

*“35(6) The Water Charges, Security Expenses and Capital Spares for thermal generatingstations shall be allowed separately after prudence check:
xxxx;
Provided further that the generating station shall submit the assessment of the securityrequirement and estimated expenses;
xxxx”*

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

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
2052.00	2257.00	2482.00	2674.00	2882.00

52. The Petitioner has submitted that the security expenses have been claimed on a projected basis, and are subject to adjustment, based on actuals, at the time of the



truing-up of the tariff. The Respondents have submitted that a prudence check may be done for the security expenses based on the actual security expenses incurred. In response, the Petitioner has submitted that the actual security expenses for 2018-19 are Rs.1458.65 lakh. The Respondents have also submitted that the security expenses claimed for 2019-20, have been escalated by around 10% for the period up till 2023-24, without any justification.

53. We have examined the matter. The Petitioner has claimed projected security expenses for the period 2019-24 but has not furnished the assessment of the security requirement in terms of the above regulations. The Petitioner has also not submitted any justification for the security expenses claimed for the base year, i.e., 2019-20. However, the Petitioner vide additional information has stated that the actual security expenses incurred are Rs.1458.65 lakh in 2018-19, Rs.1708.51 lakh in 2019-20, and Rs.1954.97 lakh in 2020-21. On scrutiny of the details, it is noticed that there is an escalation of the expenses by 17.13% from 2018-19 to 2019-20 and by 14.43 % from 2019-20 to 2020-21. This escalation with respect to the security expenses is very high. However, since the COD of the generating station is 15.9.2018 and is a new station, there could be variation in the expenses. In view of this, the actual security expenses incurred for the period 2019-20 and 2020-21 are allowed. Further, the security expenses allowed for the year 2020-21 have been considered, and allowed for the period 2021-24 is allowed. Accordingly, the security expenses allowed for the period 2019-24 are summarized below:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
1708.51	1954.97	1954.97	1954.97	1954.97

54. The Security expenses allowed as above, are subject to the submission of an assessment of the security requirement and actual expenses in terms of the regulations at the time of the truing-up of the tariff.



Capital Spares

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

56. Accordingly, the total O&M expenses allowed to the generating station for the period 2019-24 are as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses Claimed under Regulation 35(1)(1) of the 2019 Tariff Regulations (a)	43752.00	45288.00	46896.00	48528.00	50232.00
Normative O&M expenses allowed under Regulation 35(1)(1) of the 2019 Tariff Regulations (b)	43752.00	45288.00	46896.00	48528.00	50232.00
Water Charges Claimed under Regulation 35(6) of the 2019 Tariff Regulations (c)	7650.00	7650.00	7650.00	7650.00	7650.00
Water Charges allowed under Regulation 35(6) of the 2019 Tariff Regulations (d)	1680.80	1680.80	1680.80	1680.80	1680.80
Security Expenses Claimed under Regulation 35(6) of the 2019 Tariff Regulations (e)	2052.00	2257.00	2482.00	2674.00	2882.00
Security Expenses allowed under Regulation 35(6) of the 2019 Tariff Regulations (f)	1708.51	1954.97	1954.97	1954.97	1954.97
Total O&M expenses claimed (a +c +e)	53454.00	55195.00	57028.00	58852.00	60764.00
Total O&M expenses allowed (b +d +f)	47141.31	48923.77	50531.77	52163.77	53867.77

Fly Ash Transportation expenses

57. As regards the recovery of fly ash transportation expenses and in-principle approval for billing, the Petitioner has submitted that the expenditure towards Ash transportation charges is recurring in nature. The Petitioner has submitted that in case the same is permitted to be recovered at the end of the period 2019-24, there will be additional liability on the beneficiaries on account of the interest payments for the period till the time the truing-up petitions for the period 2019-24 are decided. The



Petitioner has also submitted that in order to avoid the interest payment liability of the beneficiaries, it should be allowed to recover/ pass on the Ash transportation charges after adjusting the revenue earned from the sale of ash at the end of each quarter of financial year subject to true-up at the end of the period. The Petitioner, vide additional affidavit dated 15.5.2021, has reiterated the submissions made in the Petition and has prayed for billing and recovery of the Ash transportation expenses provisionally, on a monthly basis, based on self-certification and the recovery to be subject to true-up at the end of the year based on the auditor certificate. The Petitioner has further submitted that the issue of monthly recovery and the procedure for recovery of costs is no more res-integra as the Commission in its order dated 22.3.2021 in Petition No. 405/MP/2019 (GKEL & anr. v. DHBVNL & ors), had put in place a robust mechanism of monthly recovery with annual reconciliation. It has stated that the Commission in the said order, inter-alia, devised a mechanism for the generator to recover the future expenditure incurred on account of the transportation of fly ash. Accordingly, the Petitioner has sought for a similar procedure to be made applicable in the present case.

58. The Respondent KSEB has relied on the Commission's order dated 5.11.2018 in Petition No. 172/MP/2016 and prayed that the claim may be disallowed. The Respondent TANGEDCO has objected to the claim and submitted that seeking blanket approval for billing the transportation expenses without any prudence check, without submitting the details of the bidding process, details of actual expenditure incurred on Ash transportation after 25.1.2016, details of revenue generated, etc. are liable to be rejected. The Respondent BESCO has submitted that the Petitioner in Form 3A has not submitted any details regarding the fly ash transportation expenses in compliance with the order dated 5.11.2018 in Petition No. 172/MP/2016. It has further submitted that the claims against fly ash transportation charges may be allowed on a yearly



basis, upon considering the audited accounts, and not on a quarterly basis, as sought by the Petitioner, and that any delayed payment charges may be linked to the MCLR as on 31st March of each year. In response, the Petitioner has clarified that the Commission, vide its order in Petition No. 405/MP/2019, had permitted a monthly recovery of the expenses, and the same may be continued in this case.

59. The matter has been considered. It is pertinent to mention that in Petition No. 205/MP/2021, filed by the Petitioner for recovery of the additional expenditure incurred due to fly ash transportation charges for the period 2019-24, consequent to the MOEF&CC Notification dated 3.11.2009 and Notification dated 25.1.2016, on a recurring basis, and Notification dated 31.12.2021; the Commission had disposed of the Petition, observing the following:

“25. Thus, the MOEF & CC notifications dated 25.1.2016 and 31.12.2021, has created an absolute obligation on the Petitioner, for timely disposal of fly ash. In other words, while the notification dated 25.1.2016 (which was declared as a change in law event during the period 2014-19), was necessarily required to be complied by the Petitioner during the period from 1.4.2019 till 30.12.2021, the issuance of notification dated 31.12.2021, was also required to be complied by the Petitioner from 31.12.2021 till 31.3.2024, as the same is a change in law event in terms of the above provision. Though the Respondents MSEDCL and BRPL have submitted that the notification dated 31.12.2021 is required to be reviewed in terms of the order dated 10.5.2022 of the Hon’ble Supreme Court, we notice that the said notification is still valid and subsisting. In this background, we hold that the Petitioner is entitled to seek additional cost towards fly ash transportation charges during the period 2019-24, in terms of compliance to MOEF&CC Notification dated 25.1.2016 and as a change in law in terms of the MOEF&CC Notification dated 31.12.2021.

Xxx

29. It is pertinent to mention that the Commission while fixing the O&M expense norms for the 2019-24 tariff period, had not considered/included the expenses incurred on account of transportation of fly ash. Accordingly, we, in exercise of the regulatory power under section 79(1)(a) of the Act, hold that the additional expenditure incurred by the Petitioner towards fly ash transportation cost for the period 2019-24, is admissible as additional O&M expenses, as the same is in terms of the MOEF&CC notifications dated 25.1.2016 and 31.12.2021, as stated in para 25 above.

Xxx

*43. In the light of the above discussion and keeping in view that the Petitioner is entitled for recovery of fly ash transportation charges, under change in law, as additional O&M expenses, **we permit the provisional billing at 90% of the fly ash transportation charges incurred by the Petitioner, in respect of its generating stations, for the balance period (i.e. 2022-24), on a monthly basis, based on self -certification, and the beneficiaries shall pay the same accordingly. This is, however, subject to prudence***



check of the claims, at the time of truing-up of tariff for the period 2019-24, in respect of the generating stations of the Petitioner, in terms of Regulation 13 of the 2019 Tariff Regulations.

44. We direct that the fly ash transportation cost incurred by the Petitioner, shall be recovered, in proportion to the coal consumed corresponding to the scheduled generation at normative parameters in accordance with the 2019 Tariff Regulations or at actuals, whichever is lower, for the supply of electricity to the respective Discoms. If the actual generation is less than the scheduled generation, the coal consumed for actual generation shall be considered for the purpose of computation of transportation of fly ash. The Petitioners are directed to furnish along with its monthly regular and/or supplementary bill(s), computations duly certified by the auditor, to the Respondent Discoms. The Petitioners and the Respondent Discoms are also directed to carry out reconciliation in respect of the claims, annually and the same is subject to truing-up, in terms of Regulation 13 of the 2019 Tariff Regulations.”

60. In light of the above decision, the fly ash transportation charges claimed by the Petitioner in the present Petition shall also be governed by the direction/decision contained in the Commission’s order dated 28.10.2022 in Petition No. 205/MP/2021. Accordingly, the Petitioner is permitted to provisionally bill at 90% of the fly ash transportation charges actually incurred by the Petitioner for the period 2019-24. The Petitioner is also directed to submit all the details regarding the award of transportation contracts, the distance to which fly ash has been transported along with the duly reconciled audited statement of the expenditure incurred on fly ash transportation at the time of truing up of tariff for the period 2019-24.

Operational Norms

61. The Petitioner has considered following norms of operation as under:

Normative Annual Plant Availability Factor (%)	85
Heat Rate (kcal/kWh)	2252.14
Auxiliary Power Consumption (%)	6.25
Specific Oil Consumption (ml/kWh)	0.50

62. The operational norms claimed by the Petitioner are discussed as under:

Normative Annual Plant Availability Factor (NAPAF)

63. 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%;

xxx.”



64. The NAPAF of 85% as claimed by Petitioner is in terms of Regulation 49(A)(a) of the 2019 Tariff Regulations and hence, allowed.

Gross Station Heat Rate (GSHR)

65. 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:

<i>Pressure Rating (Kg/cm²)</i>	150	170	170
<i>SHT/RHT (°C)</i>	535/535	537/537	537/565
<i>Type of BFP</i>	<i>Electrical Driven</i>	<i>Turbine Driven</i>	<i>Turbine Driven</i>
<i>Max Turbine Heat Rate (kCal/kWh)</i>	1955	1950	1935
<i>Min. Boiler Efficiency</i>			
<i>Sub-Bituminous Indian Coal</i>	0.86	0.86	0.86
<i>Bituminous Imported Coal</i>	0.89	0.89	0.89
<i>Max. Design Heat Rate (kCal/kWh)</i>			
<i>Sub-Bituminous Indian Coal</i>	2273	2267	2250
<i>Bituminous Imported Coal</i>	2197	2191	2174

<i>Pressure Rating (Kg/cm²)</i>	247	247	270	270
<i>SHT/RHT (°C)</i>	537/565	565/593	593/593	600/600
<i>Type of BFP</i>	<i>Turbine Driven</i>	Turbine Driven	<i>Turbine Driven</i>	<i>Turbine Driven</i>
<i>Max Turbine Heat Rate (kCal/kWh)</i>	1900	1850	1810	1800
<i>Min. Boiler Efficiency</i>				
<i>Sub-Bituminous Indian Coal</i>	0.86	0.86	0.865	0.865
<i>Bituminous Imported Coal</i>	0.89	0.89	0.895	0.895
<i>Max. Design Heat Rate (kCal/kWh)</i>				
<i>Sub-Bituminous Indian Coal</i>	2222	2151	2105	2081
<i>Bituminous Imported Coal</i>	2135	2078	2034	2022

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.”

66. The Petitioner has also submitted that the generating station was envisaged during the period 2009-14, and the equipment, including SG and TG specifications for tendering/award, was stipulated, considering the boiler efficiency and Turbine heat rate specified by the Commission under the Tariff Regulations in vogue during the relevant period. The Petitioner has stated that in terms of this, the Petitioner had ordered the equipment's through international competitive bidding, and it was not possible for the Petitioner to specify the efficiency parameters at the time of finalizing the contracts for this generating station, as per the efficiency parameters specified in the 2019 Tariff Regulations, which are more stringent. The Petitioner has submitted that if a more stringent unit heat rate was stipulated, it would have increased the capital cost commensurate to the efficiency parameters sought. The Petitioner has further furnished the design turbine cycle heat rate and boiler efficiency of the generating station as 1819.30 kcal/kWh and 84.82%, respectively, and thus, the Unit design heat rate worked out from the data furnished by the Petitioner works out as 2144.90 kcal/kWh ($1819.30/0.8482$). Considering the margin of 5% in terms of the 2019 Tariff Regulations, the Gross Station Heat Rate (GSHR) works out as 2252.14 kcal/kWh (1.05×2144.90). Accordingly, the Petitioner has prayed for consideration of the heat



rate norm of 2252.14 kcal/kWh.

67. The Respondent TANGEDCO has submitted that as per provisos (3) and (4) of Regulation 49(C)(b) of 2019 Tariff Regulations, the design heat rate shall be arrived at using the guaranteed turbine heat rate and boiler efficiency. It has further been submitted that the boiler efficiency for sub-bituminous Indian coal of 86% is only applicable, and accordingly, the Station Heat Rate should be considered as 2221.24 kcal/ kWhr. In response, the Petitioner has submitted that the present station was envisaged during the period 2009-14, and therefore, it was not possible for the Petitioner to specify the efficiency parameters at the time of finalizing the contract. It has also placed reliance on the order dated 20.2.2014 in Petition No.160/GT/2012, wherein the Commission had considered the design parameters for computing the GSHR of the generating station with appropriate operating margin.

68. The Respondent KSEB has submitted that the useful life of a thermal plant is 25 years, and an investor, while investing in the project, has to consider the fact that operational efficiency has to be maintained for the plant for the entire useful life and therefore, the relaxation of norms could be considered only under extraordinary conditions and prayed that the Commission may disallow the claim of the Petitioner. The Respondent BESCO has submitted that as per Regulation 49(C)(b)(i) of the 2019 Tariff Regulations, the GSHR is equal to $1.05 \times \text{Design Heat Rate}$. The unit design heat rate for the Project is 2115.47 kcal/kWh [$1819.30 / 0.86$], as held by the Commission in its order dated 8.1.2020, and thus, considering the multiplying factor of 1.05, the GSHR works out to 2221.24 kcal/kWh [1.05×2115.47]. In view of the above, the Respondent has submitted that the Petitioner's claim for consideration of GSHR of 2252.14 kcal/kWh deserves to be rejected. In response, the Petitioner has clarified that SHR varies from unit to unit depending upon their age, size, technology, number of starts/stops, and quality of coal. It has also been submitted that the older the units



become, their efficiency goes down, and it becomes prone to run at a higher heat rate, which is primarily on account of the deterioration in efficiency of a unit due to ageing and a greater number of start and stops.

69. The matter has been considered. As per Regulation 49(C)(b)(i) of the 2019 Tariff Regulations, for a new thermal generating station achieving COD on or after 1.4.2009, the GSHR=1.05 x Design Heat Rate, i.e., 2252.14 (i.e., 1.05 x 2144.90), provided that the design heat rate shall not exceed the maximum design unit heat rates depending upon the pressure and temperature ratings of the units as specified under the regulations (where ceiling design heat rate for plants having a temperature of 565/593°C and pressure rating of 247 Kg/cm² using sub-bituminous coal is given as 2151 kcal/kWh). The design heat rate of the generating station, i.e., 2144.90 kcal/kWh, is lower than the ceiling design heat rate of 2151 kcal/kWh. Further, Regulation 49(C)(b)(i) also provides that where the boiler efficiency is below 86% for sub-bituminous Indian coal and 89% for bituminous imported coal, the same shall be considered as 86% and 89%, respectively for sub-bituminous Indian coal and bituminous imported coal for the computation of station heat rate. The boiler efficiency of the generating station is 84.82%. However, the same shall be considered as 86% as per the above regulation. Accordingly, the unit design heat rate works out as 2115.47 kcal/kWh (1819.30/0.86). Thus, considering the multiplying factor of 1.05, the applicable Station Heat Rate is 2221.24 kcal/kWh (1.05 x 2115.47). Accordingly, the claim of the Petitioner to consider the heat rate of 2252.14 kcal/kWh is rejected, and the GSHR of 2221.24 kcal/kWh has been considered for the purpose of determination of tariff for the period 2019-24.

Secondary Fuel Oil Consumption

70. 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”



71. In terms of Regulation 49(D)(a) of the 2019 Tariff Regulations, the Petitioner has considered the secondary fuel oil consumption of 0.50 ml/kWh during the period 2019-24, and the same is allowed.

Auxiliary Power Consumption (APC)

72. 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 a coolingtower
(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 wheretube 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.”

73. The generating station with a capacity of 2400 MW has an induced draft cooling tower. Therefore, the Auxiliary Power Consumption of 6.25%, as claimed by the Petitioner in terms of Regulation 49(E)(a)(ii) of the 2019 Tariff Regulations, is allowed. It is noticed that the Petitioner has also prayed for additional APC on account of the installation of the FGD system as and when FGD is installed for ECS. The same shall be guided by our observations in para 92 of our order dated 8.1.2020 in Petition No. 199/GT/2020 (as quoted below) and shall be based on the actual auxiliary consumption of the equipment.

“92. The matter has been considered. MOEFCC, GOI vide its Notification dated 7.12.2015 has notified the Environment (Protection) Amendment Rules, 2015 amending the Environment (Protection) Act, 1986. Through the amendment, the existing/applicable environmental norms for all existing, as well as future Thermal Power Projects. The



Petitioner has submitted that the MOEFCC Notification is a „Change in law’ event and the Petitioner is required to comply with the revised norms prescribed by the MOEFCC Notification and install Emission Control System (ECS) and carry out major capital works/modifications for it to be able to operate the projects and supply power to the beneficiaries. It is observed that the Petitioner had filed Petition No.98/MP/2017 (NTPC V UPPCL & ors) seeking approval of expenditure on installation of various ECS, for compliance of MOEF&CC Notification dated 7.12.2015 mandating compliance with revised Environmental norms for Thermal Power Stations and the Commission by its order dated 20.7.2018 observed the following:

“44. In our view, the MOEFCC Notification dated 7.12.2015 requiring the thermal generating stations to implement the revised environmental norms amounts to ‘Change in Law’ in accordance with the 2014 Tariff Regulations as well as the Policy directions issued by the MoP under section 107 of the Act.

xxx

49. Based on the guidelines and operational parameters decided by CEA, the Commission shall undertake prudence check and grant the tariff for the capital and operational expenditure on ECS in respect of the generating stations regulated by the Commission. The Commission may, if required, specify detailed guidelines in this regard.

50. The treatment of shut down period required for installation and commissioning of ECS at the projects of the Petitioner shall be decided by the Commission consequent upon preparation of such schedule by CEA. The detailed guidelines referred to in para 49 above will address this aspect also. The Petitioner may thereafter approach the Commission with an appropriate Petition in this regard.”

93. The prayer of the Petitioner is disposed of in terms of the above. Accordingly, the cost of expenditure on installation of ECS shall be considered separately after submission of details of the actual expenditure incurred and the consequential effect on operational norms and the O&M expenses of the generating station.”

74. Based on the above, the operational norms allowed for the period 2017-19 are as under:

Normative Annual Plant Availability Factor (%)	85
Heat Rate (kcal/kWh)	2221.24
Auxiliary Power Consumption (%)	6.25
Specific Oil Consumption (ml/kWh)	0.50

Interest on Working Capital

75. Sub-clause (a) of Regulation 34 (1) 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*
- (iv) 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;*
- (v) Maintenance spares @ 20% of operation and maintenance expenses including water charges and security expenses;*
- (vi) Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on the normative annual plant availability factor; and*
- (vii) Operation and maintenance expenses including water charges and security expenses for one month.*

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

- (i) Fuel cost for 30 days corresponding to the normative annual plant availability factor duly taking into account mode of operation of the generating station on gas fuel and liquid fuel;*
- (ii) Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor and in case of use of more than one liquid fuel cost of main liquid fuel duly taking into account mode of operation of the generating stations of gas fuel and liquid fuel;*
- (iii) Maintenance spares @ 30% of operation and maintenance expenses including water charges and security expenses;*
- (iv) Receivables equivalent to 45 days of capacity charge and energy charge for sale of electricity calculated on normative plant availability factor duly taking Order in Petition No. 410/GT/2020 Page 32 of 37 into account mode of operation of the generating station on gas fuel and liquid fuel; and*
- (v) Operation and maintenance expenses including water charges and security expenses for one month.*

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

- (i) Receivables equivalent to 45 days of annual fixed cost;*
- (ii) Maintenance spares @ 15% of operation and maintenance expenses including security expenses; and*
- (iii) Operation and maintenance expenses including security expenses for one month.*

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

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

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



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

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

Fuel Cost and Energy Charges in Working Capital

76. 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:

(d) For coal based and lignite fired stations:

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

(e) 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.”

77. The Petitioner has claimed the cost of fuel component in working capital and Energy Charge Rate (ECR) based on the following:

- (a) Operational norms as per the 2019 Tariff Regulations;
- (b) Price and ‘as received GCV of coal (after reducing the same by 85 kCal/kWh in terms of above-quoted Regulation) procured for the three months of October 2018, November 2018 and December 2018;
- (c) Price and GCV of secondary fuel oil for the three months of October 2018, November 2018 and December 2018.

78. Accordingly, the Petitioner has claimed the ECR of Rs. 3.861 per kWh, i.e., oil component Rs. 0.030 per kWh and Rs. 3.831 per kWh for coal component and the following fuel cost components in working capital corresponding to generation for NAPAF for the period 2019-24:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Coal (50 days)	87918.67	87918.67	87918.67	87918.67	87918.67
Cost of secondary fuel oil (2 months)	838.69	836.40	836.40	836.40	838.69

79. On perusal of Form-15 and Form-15A furnished by the Petitioner, it is observed that the Petitioner has indicated the stock of coal and oil inclusive of the opening stock of coal and oil, but the opening stock values have not been provided for the months of October 2018, November 2018 and December 2018. However, in terms of Regulation 34(2) of the 2019 Tariff Regulations, the computation of the cost of fuel as part of the IWC is to be based on the landed price and GCV of fuel as per actuals, which means that fuel received during these three months, is only to be considered and no opening stock shall be included therein. Further, the Petitioner, in its additional submission dated 30.6.2021, has submitted Form-15 as per the format specified under the 2019 Tariff Regulations. However, the Petitioner has not submitted Form-15A in terms of the new format. Accordingly, the opening stock of coal and its corresponding values have to be excluded while computing the weighted average price and GCV of coal.



80. It is observed that the Petitioner has submitted a revised Form -15 pertaining to the coal details, and it is observed that the Petitioner has changed its data in regard to the total transportation expenses and the quantity of stock in Form 15, and accordingly has not revised in Form-13F. For the computation of the oil component, the Commission has considered Form 15A submitted by the Petitioner. Since the opening stock for oil has not been provided, the weighted average price and GCV of coal and oil claimed are allowed for the period 2019-24, subject to truing-up based on the audited data, both for the opening stock and the stock received in the month, with price and GCV and accordingly the weighted price and GCV is as under:

	Claimed	Allowed
Weighted average price of coal (Rs. /MT)	5830.61*	5830.61
Weighted average GCV of Coal with adjustment of 85 kcal/kg (kcal/kg)	3647.85*	3647.85
Weighted average price of oil (Rs. /KL)	56164.41	56164.41
Weighted average GCV of oil (kcal/KL)	9241.43	9241.43

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.

**The Petitioner has submitted revised Form 15 in additional submission dated 30.6.2021 and further not submitted revised Form 13F, Accordingly, there is a difference in the Claims in weighted average GCV and Price.*

81. Accordingly, the fuel component in working capital, Energy Charges, and ECR allowed for the period 2019-24 are as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Coal for stock (20 days generation corresponding to NAPAF)	34692.80	34692.80	34692.80	34692.80	34692.80
Cost of Coal towards generation (30 days generation corresponding to NAPAF)	52039.21	52039.21	52039.21	52039.21	52039.21
Cost of Secondary fuel 2 Months generation corresponding to NAPAF	838.69	836.40	836.40	836.40	838.69
Energy charges for 45 days	78674.90	78674.90	78674.90	78674.90	78674.90
ECR (Rs. /kWh)	3.809	3.809	3.809	3.809	3.809

82. Accordingly, the energy charges for 45 days on the basis of "as received" GCV of coal for the purpose of interest on working capital has been worked out as Rs.



78674.90 lakh for each financial year during the tariff period of 2019-24.

83. Further, in terms of the 2019 Tariff Regulations, the Petitioner is directed to submit the year-wise Form-15, excluding the opening stock, along with CIMFR / third-party reports and the actual blending ratio. In addition, the Petitioner shall furnish the details regarding grade slippages, moisture content, adjustment made, reasons for the higher difference in GCV billed and GCV received of domestic coal, loss of GCV in imported coal, justification for claiming diesel charges for coal supplied through MGR system at the time of truing up of tariff.

Maintenance Spares

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

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
9428.26	9784.75	10106.35	10432.75	10773.55

Receivables

85. 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
Variable Charges	78674.90	78674.90	78674.90	78674.90	78674.90
Fixed Charges	34590.61	35009.32	34909.93	34498.73	34278.98
Total	113265.51	113684.22	113584.83	113173.63	112953.88

Working Capital for O&M Expenses (1 month)

86. The O&M expenses for 1 month, as claimed by the Petitioner in Form-O, are as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
4454.50	4599.58	4752.33	4904.33	5063.67

87. Regulation 34(1)(a)(vi) of the 2019 Tariff Regulations provide for O&M expenses



equivalent to 1 month of the O&M expenses (including water charges and security expenses). Accordingly, the O&M expenses equivalent to 1 month of the O&M expenses (including water charges and security expenses) allowed for the period 2019-24 are as under:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
3928.44	4076.98	4210.98	4346.98	4488.98

88. 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 tariff. The Petitioner is also directed to submit the details strictly in line with in Forms/ Annexures attached to the 2019 Tariff Regulations.

89. 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

90. In line with 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 / 1.4.2022 + 350 bps) for the period 2021-23 and 12.00% (i.e., 1 year SBI MCLR of 8.50% as on 1.4.2023 + 350 bps) for the year 2023-24. Accordingly, the interest on working capital has been computed as under:



(Rs. in lakh)

		2019-20	2020-21	2021-22	2022-23	2023-24	
A	Working capital for Cost of Coal towards Stock (20 days generation corresponding to NAPAF)	34692.80	34692.80	34692.80	34692.80	34692.80	
B	Working capital for Cost of Coal towards Generation (30 days generation corresponding to NAPAF)	52039.21	52039.21	52039.21	52039.21	52039.21	
C	Working capital for Cost of Secondary fuel oil (2 months generation corresponding to NAPAF)	838.69	836.40	836.40	836.40	838.69	
D	Working capital for Maintenance Spares (20% of O&M expenses)	9428.26	9784.75	10106.35	10432.75	10773.55	
E	Working capital for Receivables (45 days of sale of electricity at NAPAF)	113265.51	113684.22	113584.83	113173.63	112953.88	
F	Working capital for O&M expenses (1 month of O&M expenses)	3928.44	4076.98	4210.98	4346.98	4488.98	
G	Total Working Capital	A+B+C+ D+E+F	214192.92	215114.36	215470.57	215521.78	215787.11
H	Rate of Interest		12.050%	11.250%	10.500%	10.500%	12.000%
I	Interest on Working Capital	G x H	25810.25	24200.37	22624.41	22629.79	25894.45

Annual Fixed Charges for the period 2019-24

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

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	71284.57	73657.52	75036.11	75152.17	75152.17
Interest on Loan	57500.97	54933.18	51176.99	45958.70	39969.34
Return on Equity	79599.90	82249.65	83789.05	83918.65	83918.65
Interest on Working Capital	25810.25	24200.37	22624.41	22629.79	25894.45
O&M Expenses	47141.31	48923.77	50531.77	52163.77	53867.77
Total Annual Fixed Charges	281336.99	283964.49	283158.34	279823.07	278802.38

Note: (1) All figures are on an 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.

92. The annual fixed charges approved above are subject to triuing-up in terms of Regulation 13 of the 2019 Tariff Regulations.

Application Fees and Publication expenses

93. The Petitioner has sought the reimbursement of the filing fees paid by it for the



filing of this Petition for the period 2019-24 and for the 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.

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

95. Petition No. 29/GT/2021 is disposed of in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(Jishnu Barua)
Chairperson

