

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 441/GT/2020

Coram:

Shri I.S. Jha, Member

Shri Arun Goyal, Member

Shri Pravas Kumar Singh, Member

Date of Order: 27th April, 2023

IN THE MATTER OF

Petition for approval of tariff of Talcher Super Thermal Power Station, Stage-II (2000 MW) for the period from 1.4.2019 to 31.3.2024.

AND

IN THE MATTER OF

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

.... Petitioner

Vs

1. AP Eastern Power Distribution Company Limited,
Corporate Office, P&T Colony, Seethammadhara,
Visakhapatnam – 530 013
2. AP Southern Power Distribution Company Limited,
Corporate Office, Back Side Srinivasa Kalyana Mandapam
Tiruchhanur Road, Kesavayana Gunta, Tirupathi – 517 503
3. Telangana State Northern Power Distribution Company Limited,
H.No. 2-5-31/2, Vidyut Bhavan, Nakkalagutta,
Hanamkonda, Warangal – 506 001
4. Telangana State Southern Power Distribution Company Limited,
Mint Compound, Corporate Office, Hyderabad (AP) – 500 063
5. Tamil Nadu Generation & Distribution Corporation Limited,
144, Anna Salai, Chennai – 600 002
6. Bangalore Electricity Supply Company Limited,
Krishna Rajendra Circle, Bangalore - 560 009



7. Mangalore Electricity Supply Company Limited,
MESCOM Bhavan, Corporate Office,
Bejai, Kavoor Cross Road, Mangaluru, 575004
 8. Chamundeshwari Electricity Supply Corporation Limited,
Corporate Office, No. 29, Vijayanagar, 2nd stage,
Hinkal, Mysore – 570 017
 9. Gulbarga Electricity Supply Company Limited,
Main road, Gulbarga – 585 102
 10. Hubli Electricity Supply Company Limited,
Corporate office, P. B. Road, Navanagar, Hubli – 580 025
 11. Kerala State Electricity Board Limited,
Vaidyuthi Bhavanam, Pattom, Thiruvananthapuram – 695 004
 12. Electricity Department, Puducherry
137, NSC Bose salai, Puducherry-605001
 13. Grid Corporation of Orissa Limited
Vidyut Bhavan, Janpath, Bhubaneswar-751022
- ...Respondents**

Parties Present:

Ms. Swapna Seshadri, Advocate, NTPC
 Shri Anand K. Ganesan, Advocate, NTPC
 Ms. Ritu Apurva, Advocate, NTPC
 Shri Jai Dhanani, Advocate, NTPC
 Shri R.K Mehta, Advocate, GRIDCO
 Shri S. Vallinayagam, Advocate, TANGEDCO
 Ms. B. Rajeswari, TANGEDCO
 Ms. R. Ramalakshmi, TANGEDCO
 Ms. R. Alamelu, TANGEDCO

ORDER

This petition has been filed by the Petitioner, NTPC Limited, for approval of tariff of Talcher Super Thermal Power Station, Stage-II (2000 MW) (in short 'the generating station') for the period 2019-24, in accordance with 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 2000 MW comprises of four units of 500 MW each and the date of commissioning of the units are as under:

Unit-I	1.8.2003
Unit-II	1.3.2004



Unit-III	1.11.2004
Unit-IV	1.8.2005

2. The Commission vide its order dated 29.3.2023 in Petition No. 392/GT/2020, had trued up the tariff of the generating station for the period 2014-19. Accordingly, the capital cost and annual fixed charges approved vide order dated 29.3.2022 are as under:

Capital Cost allowed

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Opening capital cost	528943.95	538825.36	541344.33	544965.95	549849.35
Add: Additional Capital Expenditure	9881.41	2518.97	3621.62	4883.40	5815.07
Closing capital cost	538825.36	541344.33	544965.95	549849.35	555664.42
Average capital cost	533884.66	540084.85	543155.14	547407.65	552756.88

Annual Fixed Charges allowed

	<i>(Rs. in lakh)</i>				
	2014-15	2015-16	2016-17	2017-18	2018-19
Depreciation	27663.60	27986.13	28146.30	8977.41	9532.90
Interest on Loan	2485.18	801.60	0.00	0.00	0.00
Return on Equity	31408.43	31927.11	32108.62	32360.00	32764.11
Interest on Working Capital	11789.30	11922.18	12004.32	11943.57	12156.35
O&M Expenses	35229.06	37468.78	39171.11	42027.39	45095.81
Compensation Allowance	200.00	300.00	400.00	400.00	400.00
Total	108775.58	110405.80	111830.34	95708.37	99949.18

Present Petition

3. The capital cost and annual fixed charges claimed by the Petitioner, in the present petition, for the period 2019-24 is as under:

Capital Cost claimed

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

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	558157.70	584162.70	600577.70	608007.70	632407.70
Add: Addition during the year/ period	26005.00	16415.00	7430.00	24400.00	2870.00
Less: De-capitalization during the year/ period	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year/ period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/ period	0.00	0.00	0.00	0.00	0.00
Closing capital cost	584162.70	600577.70	608007.70	632407.70	635277.70
Average capital cost	571160.20	592370.20	604292.70	620207.70	633842.70



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

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost	0.00	0.00	3334.00	15190.00	18534.00
Add: Addition during the year/ period	0.00	3334.00	11856.00	3344.00	7500.00
Less: De-capitalization during the year/ period	0.00	0.00	0.00	0.00	0.00
Less: Reversal during the year/ period	0.00	0.00	0.00	0.00	0.00
Add: Discharges during the year/ period	0.00	0.00	0.00	0.00	0.00
Closing capital cost	0.00	3334.00	15190.00	18534.00	26034.00
Average capital cost	0.00	1667.00	9262.00	16862.00	22284.00

Annual Fixed Charges claimed

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	11044.19	13260.48	15379.39	18282.48	21009.23
Interest on Loan	268.12	553.20	503.14	473.36	250.97
Return on Equity	32182.59	33422.75	34299.22	35398.66	36296.85
Interest on Working Capital	10627.38	10796.46	10954.25	11131.95	11300.26
O&M Expenses	52214.47	54394.93	56674.35	59042.72	61499.59
Total	106336.77	112427.82	117810.35	124329.18	130356.90

4. The Petitioner vide affidavit dated 21.12.2020 has filed the additional submissions and submitted that in original petition, the item 'Mine Void Filling Main Package' was inadvertently claimed under Return on Equity (ROE) at Weighted Average Rate of Interest (WAROI) instead of the normal rate and prayed to consider the same under Regulation 26(1)(b) and 26(1)(e) of 2019 Tariff Regulations. The Respondent, TANGEDCO vide affidavit dated 30.12.2020 has filed its reply, and the Petitioner vide affidavit dated 23.3.2021 has filed its rejoinder to the said reply. Subsequently, the Petitioner vide additional submissions dated 15.5.2021 has prayed for reimbursement of ash transportation charges, on monthly basis for the period 2019-24. The Respondent, KSEBL has filed its reply vide dated 7.6.2021. Subsequently, the Petitioner vide its affidavit dated 28.6.2021 filed revised Form-15 and also furnished the actual security expenses for the plant during 2018-19. The Respondent, GRIDCO, has filed its reply vide affidavit dated 19.7.2021. The Petitioner vide separate affidavits dated 30.7.2021, has filed its rejoinders to the replies of Respondents GRIDCO and



KSEBL. The Petition was heard through video conferencing on 4.1.2022, and the Commission after hearing the parties reserved its order, after seeking certain additional information from the Petitioner. Subsequently, the Respondent, GRIDCO, vide dated 2.2.2022 filed its note of arguments. Thereafter, the Petitioner vide affidavit dated 7.3.2022 submitted its reply to ROP of the hearing dated 4.1.2022. Subsequently, vide letter dated 10.8.2022, certain additional information was sought from the Petitioner, which was filed by the Petitioner vide affidavit dated 23.9.2022 after serving copy on the Respondents. Subsequently, Respondent, GRIDCO has filed its reply on 1.10.2022. Taking into consideration the submissions of the parties and the documents available on record, we proceed to examine the claims of the Petitioner, in this petition, on prudence check, 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 determination of tariff for existing and new projects. Clause 3 of Regulation 19 of the 2019 Tariff Regulations specifies the components to be considered for capital and clause 5 of Regulation 19 of the 2019 Tariff Regulations specifies the components to be excluded from capital cost of new and existing projects. Clauses (1), (3) and (5) of Regulation 19 of the 2019 Tariff Regulations provide as under:

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

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

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



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

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

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

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

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

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

6. The annual fixed charges claimed by the Petitioner, is based on the opening capital cost of Rs.558157.70 lakh, as against the capital cost of Rs. 555664.42 lakh on cash basis, as on 31.3.2019, allowed vide order dated 29.3.2023 in Petition No. 392/GT/2020. Accordingly, in terms of Regulation 19(3) of the 2019 Tariff Regulations the capital cost of Rs. 555664.42 lakh, on cash basis, has been considered as on 1.4.2019.



Additional Capital Expenditure

7. Regulations 25 and 26 of the 2019 Tariff Regulations provides for determination of tariff shall be based on admitted capital cost, including any additional capital expenditure already admitted up to 31.3.2019 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the period 2019-24. Clauses (1) and (2) of Regulations 25 and Regulation 26 of the 2019 Tariff Regulations, provides as under:

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

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

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

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

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

26. Additional Capitalisation beyond the original scope

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



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

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

(c) Force Majeure events;

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

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

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

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

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

8. The projected additional capital expenditure claimed by the Petitioner, for the period 2019-24, is tabulated and examined below:

<i>(Rs. in lakh)</i>							
Sl. No.	Head of Work /Equipment	Regulation	Additional capital expenditure claimed (Projected)				
			2019-20	2020-21	2021-22	2022-23	2023-24
1	2		3	4	5	6	7
A.	Works under Original scope, Change in Law etc. eligible for RoE at Normal Rate						
1	Ash dyke/ash handling related works	25(1) (c) & 25(1) (g)	5700.00	8600.00	5600.00	4400.00	2870.00
2	Laying of Cast Basalt Pipeline	26(1) (b)	845.00	-	-	-	-
3	Wagon tippler package and related work	26(1) (b)	11600.00	-	-	-	-
4	Upgradation of ESP Stage-II	26(1) (b)	7500.00	200.00	-	-	-
5	Installation of cameras and related works for plant/ Station	26(1) (b) & 26 (1) (d)	360.00	-	-	-	-
6	Dry Ash evacuation system Stg-II and related works	26(1) (b)	-	6600.00	400.00	-	-
7	3.5 Km MGR to Kaniha mine S&T	25(1) & 76	-	460.00	-	-	-
8	Water conservation related works	26(1) (b)	-	350.00	-	-	-
9	Treatment of existing STP with AFM technology	26(1) (b)	-	100.00	-	-	-
10	Installation of ClO2 dosing system	26 (1) (b) & 26 (1)(d)	-	-	1430.00	-	-
11	Design, Supply, Erection & Commissioning of ABT system	25 (2) (c)	-	105.00	-	-	-
12	Mine void filling main package	26(1)(b) & 26(1)(e)	-	-	-	20000.00	-
	Sub-Total (A)		26005.00	16415.00	7430.00	24400.00	2870.00
B.	Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at WAROI						
1	Construction of New ash dyke (Starter Dyke: Masunihata construction and its land)	26 (1) (e)	-	3334.00	-	3344.00	-



Sl. No.	Head of Work /Equipment	Regulation	Additional capital expenditure claimed (Projected)				
			2019-20	2020-21	2021-22	2022-23	2023-24
2	Construction of New ash dyke (Starter Dyke: Badahira construction and its land)	26 (1) (e)	-	-	10800.00	-	7500.00
3	Nitrogen Sparging	26(1) & 76	-	-	1056.00	-	-
	Sub-Total (B)		-	3334.00	11856.00	3344.00	7500.00
	Total Additional Capital Expenditure Claimed (A+B)		26005.00	19749.00	19286.00	27744.00	10370.00

Laying of cast basalt pipelines

9. The Petitioner has claimed projected additional capital expenditure of Rs.845.00 lakh towards the laying of Cast basalt pipelines, in 2019-20, under Regulation 26(1) (b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that these assets/items, were installed as per direction dated 27.3.2017 of the Odisha Pollution Control Board (OSPCB). It has also stated that expenditure for a similar work has been allowed under 'change in law' by Commission's order dated 16.2.2017 in Petition No. 293/GT/2014.

10. The Respondent, GRDCO has submitted that the said order of OSPCB is valid for the period from 1.4.2017 to 31.3.2018, and since the Petitioner was not able to execute the above work, within the validity period of the consent order, the projected expenditure is liable to be rejected. The Respondent, KSEBL has submitted that though the claim has been made under 'change in law', the Petitioner has not enclosed any valid document in support of the same and hence, the claim may be disallowed. The Respondent, TANGEDCO has submitted that the Commission vide its order dated 16.2.2017 in Petition No. 293/GT/2014 had allowed expenditure of Rs.3250.44 lakh for the period 2014-19, towards the subject work and the Petitioner had also claimed Rs. 2574.37 lakh in Petition No. 392/GT/2020. It has however pointed out that the Petitioner, in the present petition, has claimed additional expenditure for Rs.845.00 lakh, which is in excess by Rs.168.93 lakh and hence, the claim may be restricted.



11. In response to the above, the Petitioner has submitted that the Commission vide its order dated 16.2.2017 in Petition No.293/GT/2014 had allowed an amount of Rs.3190.44 lakh (additional capital expenditure of Rs. 3826 lakh and De-capitalization of Rs. 635.56 lakh). The Petitioner has stated that during the period 2014-19, it had claimed Rs.2167.4 lakh (additional capital expenditure of Rs. 2574.32 lakh and De-capitalization of Rs. 406.92 lakh). Accordingly, it has submitted that the claim is not in excess of the amounts allowed by the Commission. The Petitioner has further submitted that the Consent order dated 27.3.2017, issued by OSPCB, to operate the plant had certain conditions and further, OSPCB vide its letter dated 31.3.2018, had extended the 'Consent to operate' the plant upto 31.3.2019. It has therefore submitted that since the works are proposed to be complied with directions of OSPCB, the same may be allowed.

12. The matter has been examined. It is noticed that the said work was allowed by Commission's order dated 16.2.2017 in Petition No.293/GT/2014 for Rs.3190.44 lakh during the period 2014-19 as under:

"16. We have examined the matter. It is noticed that OSPCB vide letter dated 12.7.2011 has granted consent to the Petitioner to operate the units of generating station, subject to compliance of certain terms and conditions till 31.8.2011. Subsequently, OSPCB vide letter dated 13.1.2012 had extended the validity of consent order up to 31.3.2012 within which time the generating station was required to comply with the conditions in the consent order to keep the same valid. It is further noticed that the consent order relates to product quality, specific outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions.

17. Considering the fact that the Petitioner is required to comply with the terms and conditions for Prevention and Control of Air and Water Pollution in terms of the provisions of Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act and the directions contained in the letters dated 12.7.2011 and 13.1.2012, we are inclined to allow the additional capital expenditure of Rs. 1674.00 lakh (Rs. 1960.00-Rs. 286.00 lakh) and Rs. 1516.44 lakh (Rs. 1866.00-Rs.349.56 lakh) for the years 2015-16 and 2016-17 respectively after adjustment of the gross block of MS pipes."

13. It is evident from the above, that the subject works were proposed to replace the existing MS pipes, with cast basalt pipes, to avoid leakage and to protect the surroundings, in compliance to the directions of the OSPCB. It is also noticed that the



Petitioner has projected additional capital expenditure of Rs. 845.00 lakh towards the said works during the period 2019- 24, in addition to claim of Rs. 2574.37 lakh allowed during the period 2014-19 in Petition No.392/GT/2020. In this background, the proposed additional capital expenditure of Rs.845.00 lakh is **allowed** in 2019-20 under Regulation 26(1) (b) of the 2019 Tariff Regulations. However, as the Petitioner has not furnished the original book value for de-capitalization, the same has been determined under 'Assumed Deletion'. The Petitioner is therefore, directed to submit the Auditor certified total actual expenses pertaining to subject works, indicating the additional capital cost, Interest During Construction (IDC) and original book value of old assets, for each of the units, at the time of truing up of tariff, for consideration.

Wagon Tippler package and related work

The Petitioner has claimed projected additional capital expenditure of Rs.11600.00 lakh towards Wagon Tippler package and related work, in 2019-20, under Regulation 26(1) (b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that the average coal received from linked mines, for the generating station is 15.8 MT as compared to requirement of 18 MT of coal, and thus, coal is to be arranged from external sources and for the same, the generating station is dependent on the Railways (MOR), Government of India (GOI), which has communicated to the Petitioner to plan the appropriate infrastructure/ installation of wagon tippler for unloading of BOXN wagons. The Petitioner has also submitted that in 2016-17, the generating station units were forced to operate on partial load, causing generation loss due to labour problems in linked mines and in 2019-20 also the generating station faced the problems of labour unrest/ strike in linked mines affecting the availability of coal due to which units were forced to operate on partial load / shut down and the station was not able to meet the normative availability. It has stated that the manual unloading is an herculin task and time consuming and hence, to facilitate the suitable



quantity of coal availability and sustaining the generation of the station, the unloading of BOXN through wagon tippler, is necessary.

14. The Respondents, TANGEDCO and GRIDCO have submitted that the Petitioner had sought additional capital expenditure of Rs.12500 lakh towards wagon tippler in Petition No.293/GT/2014 and Commission vide its order dated 16.2.2017 had observed that even with 100% availability of the plant, the coal requirement would be 13.28 MTPA and the Petitioner is already receiving 14.5 MTPA coal and accordingly rejected the claim of the Petitioner. In addition, the Respondent, GRIDCO has submitted that the Petitioner filed Review Petition No. 14/RP/2017, which was also rejected by the Commission. The Respondent, KSEBL has submitted that considering the Station Heat Rate (SHR) of 2390 kCal/ kWh and GCV of coal as 2706.77 kCal/kg, the annual coal requirement for 85 % and 100% PLF would be 12.33 MTPA and 14.5 MTPA, respectively, which are lower than the claim made by the Petitioner. In response to the above, the Petitioner has submitted that it has filed an Appeal No.10 of 2018, before the Appellate Tribunal for Electricity (APTEL) challenging the disallowance of wagon tippler and the same is pending. The Petitioner has stated that in case it succeeds in appeal, it should not be ousted, on technicality, for not filing a proper claim during the period 2019-24. The Petitioner has added that in order to ensure the availability of sufficient coal for sustaining the generation of station, Wagon tippler is essential to unload the BOXN Wagons.

15. The matter has been examined. It is observed that the Commission vide its order dated 16.2.2017, had rejected the claim of the Petitioner for additional capitalisation of this item in Petition 293/GT/2014. Subsequently, in Review Petition No.14/RP/2017 filed by the Petitioner, the Commission vide its order dated 31.8.2017 had rejected the prayer of the Petitioner, as under:



“11. The Petitioner has referred to the judgment of the Appellate Tribunal for Electricity in WESCO Vs OERC & ors (2009 ELR (APTEL) 648 and has contended that it is open to the Commission to examine the relevancy and sufficiency of the documents produced even at the stage of review. It is noticed that in the said case, the State Commission had rejected the review petition without considering the documents, even though the appellant therein had taken a specific stand before the State Commission that the relevant documents came to its knowledge only later and the same could not be produced before the State Commission despite due diligence. It is in this background that the Tribunal in terms of Order 47 Rule 1 of the Civil Procedure Code held that the State Commission should have considered the documents to decide the issue in review petition. No such ground has been raised by the Petitioner in the instant case. On the contrary, the stand of the Petitioner in the review petition is that the document was not produced as the Commission had not enquired or asked for the same from the Petitioner. Hence, the said judgment is not applicable to the present case, as the Petitioner was fully aware of the existence of the said document but had not submitted the same in support of its claims. Hence, the rejection of the claims of the Petitioner on the ground of non-submission of documentary evidence by the Petitioner is perfectly valid.

12. Even otherwise, a perusal of the contents of the letter dated 20.7.2004 of the Ministry of Railways, do not also support the claim of the Petitioner. Though, the Petitioner in the petition has contended that Railways are planning to phase out the use of BOBR wagons in favour of BOXN wagons, a plain reading of the said letter indicates that coal was already being transported in BOXN Wagons. This is evident from the following lines:

“...Coal over long distances by rail is always moving in BOXN rakes. NTPC should also plan for tipplers in addition to track hoppers so that coal transported by rail from distant coal fields in BOXN rakes gets released without any hindrance...”

13. In addition to this, the Petitioner has sought the capitalization of Wagon Tippler during the period 2014-19, after much efflux of time, based on the letter dated 20.7.2004. No justification has been submitted by the Petitioner for the same. The Commission had determined the tariff of the generating station for the period 2004-09 and 2009-14 and no claims appear to have been made by the Petitioner during these periods. The Petitioner has now contended that due to delay in unloading of BOXN wagons, the total receipt of coal at station shall further reduce. It is however noticed from the past operating performance that the generating station has not faced coal shortages and the average PAF during the past years (2011-12 and 2013-14) is above 85%, except in 2012-13 (82.88%) which is attributable to environmental issues rather than coal shortage. **In this background, we are of the considered view, that no case has been made out by the Petitioner, on merits. The Petitioner has also not demonstrated the existence of any error in the order dated 15.2.2017.** Accordingly, the submissions of the Petitioner are rejected and the prayer of the Petitioner for review of the said order fails.

14. Another submission of the Petitioner is that the Commission had calculated the annual requirement of coal for this generating station (2000 MW) as 13.28 MTPA (at 100% availability) in terms of the 2014 Tariff Regulations and had proceeded to hold that the supply of 14.5 MTPA from MCL shall meet the coal requirement of this generating station, thereby rejecting the capitalization of expenditure towards Wagon Tippler. According to the Petitioner, the Fuel Supply Agreement dated 26.6.2009 entered into by the Petitioner with MCL caters to the coal requirement of the entire generating station (Talcher Station Stage-I & II) with a cumulative capacity of 3000 MW and hence the requirement of 13.28 MTPA of coal (approx) for Stage-II (2000 MW) calculated by the Commission cannot be entirely met out of the 14.5 MTPA (out of 17.3 MTPA) supplied by MCL for both the stages of the generating station. We have examined the matter. The Petitioner has submitted that the findings of the Commission



that the supply of 14.5 MTPA from MCL shall meet the coal requirement of this generating station is an error apparent on the face of the order as it is based on the assumption that the entire quantum of coal sourced from MCL shall be utilized /consumed at Talcher-Stage-II (this generating station) instead of the entire generating station (combined stages of I & II). It is however noticed from the submissions of the Petitioner, that the pro-rata share of coal in 14.5 MTPA for Stage-I (1000 MW) is 4.83 MTPA and for Stage-II (2000 MW) is 9.67 MTPA. Also, the annual coal requirement for Stage-II of the generating station works out to 8.22 MTPA at 85% availability, which is well below the quantum of coal of 9.67 MTPA (out of 14.5 MTPA) received by the generating station presently. It is further observed that the Petitioner has not furnished the details of „as received“ GCV of coal for the period 2014-19 in terms of the 2014 Tariff Regulations and therefore, the Commission had computed annual coal requirement of 8.22 MTPA considering 85% availability, Station Heat Rate of 2375 kCal/kwh and “as billed” GCV of 4095.15 kcal/kg. Accordingly, the annual requirement of 8.22 MTPA for Stage-II (this generating station) as computed by the Commission is far less than the requirement of quantum of coal of 11.53 MTPA as per FSA. Even otherwise, there would not be any difference between “as billed” and “as received” GCV of coal, as the generating station is a pit head station. In our view, the Petitioner has sought to reargue the case on merits, by production of documentary evidence and the same is not permissible in review. **The Commission by a conscious decision and on prudence check, had not allowed the capitalization of the expenditure claimed towards Wagon tippers and associated works in the original petition. It is settled law that review petition cannot be an appeal in disguise. In our considered view, we find no error apparent on the face of the record necessitating review of order dated 15.2.2017. In view of the above discussions, the prayer of the Petitioner is rejected and review on this count fails.**

16. As stated by the Petitioner, Appeal No. 10/2018 filed by the Petitioner, against the Commission’s order is pending consideration before APTEL. In view of this, we find no reason to allow the projected additional capital expenditure claimed for the said asset/work. This is however, subject to the final decision of the APTEL in the said appeal.

Upgradation of ESP

17. The Petitioner has claimed total projected additional capital expenditure of Rs.7700.00 lakh (Rs.7500.00 lakh in 2019-20 and Rs.200.00 lakh in 2020-21) under Regulation 26(1) (b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that the work of upgradation of ESP was allowed by order dated 16.2.2017 in Petition No.293/GT/2014. It has however submitted that based on the availability of the units to get the work executed, a part of work was capitalised during the period 2014-19 and the balance works are expected to be capitalised during the period 2019-24. The Petitioner has further submitted that upgradation of ESP is



being implemented as per directions of OSPCB, to achieve the emission level of 50 mg/Nm³, and hence the claim may be allowed.

18. The Respondent, TANGEDCO has submitted that the Commission vide its order dated 16.2.2017 in Petition No.293/GT/2020 had allowed an amount of Rs.11250.44 lakh during the period 2014-19 for the said work and the Petitioner had also claimed Rs.5301.23 lakh in Petition No.392/GT/2020 and hence, the claim of the Petitioner for Rs.7700.00 lakh, is in excess by Rs.1751.23 lakh. The Petitioner has also submitted that the said works were to be carried out during the period 2014-19, but the Petitioner has spilled over the same to the period 2019-24, with an increase over and above the expenses approved in order dated 16.2.2017. The Respondent has further submitted that the Petitioner has filed Petition No. 520/MP/2020 for compliance of Ministry of Environment, Forest & Climate Change (MoEF&CC) norms and therefore, it shall be directed to provide the details of work under 'upgradation of ESP' and to confirm that the same is absolutely required, in addition to the works proposed under Petition No.520/MP/2020. The Respondent, GRIDCO has submitted that the Commission had allowed the claim for the period 2014-19 with a direction to the Petitioner to furnish details of the emission levels of the generating station and the expected level emission after proposed upgradation of ESP. It has further submitted that the order of OSPCB is valid for the period from 1.4.2017 to 31.3.2018 and as the Petitioner was not able to execute the above works, within the validity period of the consent order, the projected expenditure is liable to be rejected. The Respondent has also pointed out that without prejudice to the above, the Petitioner is yet to clarify as to whether the up-gradation of ESP Stage-II is still necessary, in addition to scope of works envisaged in Petition No.520/MP/2020. The Respondent, KSEBL has submitted that though the Commission has allowed the expenditure for these works in the period 2014-19, the Petitioner was directed to furnish the emission levels of generating



station and expected emission levels after upgradation of ESP, which has not been complied with by the Petitioner. It has further submitted that without any justification, the Petitioner has unduly delayed the implementation of work to the period 2019-24 and therefore, the claim may be disallowed.

19. In response to the above, the Petitioner has submitted that as the said works were carried out as per availability of the units. It has stated that the entire additional capital allowed could not be capitalized during the period 2014-19, and part of the has spilled over to the period 2019-24. The Petitioner has also submitted that out of Rs.11250.00 lakh allowed during the period 2014-19, Rs.5301.23 lakh was incurred and the balance amount, which could not be incurred along with work originally envisaged for the period 2019-24, are being projected, to be incurred, during the period 2019-24, respectively. It has stated that the emission levels have been furnished in truing-up Petition No. 392/GT/2020 (for the period 2014-19) and that the expenditure for the said work has not been claimed in Petition No.520/MP/2020 and hence there is no double claim.

20. The Petitioner was directed vide letter dated 10.8.2022, to submit detailed justification including current level of particulate Matter (PM) emission, PG test report of existing ESP with design and worst coal and envisaged / design PM emission after upgradation of ESP. It was also directed to clarify as to whether the installation of FGD would contribute in reducing PM emission and if yes, whether such expected reduction has been factored in ESP upgradation to meet the stipulated PM emission level. In response to the above, the Petitioner has reiterated its submissions made in its rejoinders to the replies of the Respondents and has also clarified that ESP upgradation for two units was completed during the period 2014-19 and for other units, the same was completed by 2020-21. It has also pointed out that while FGD is being



installed for SOx control, the upgradation of ESP is for reducing PM emissions. The Petitioner has also stated that after upgradation of ESP for this generating station, the following PM emission Levels were achieved:

Emission Level Post ESP R&M for TSTPS-II		
Unit No.	Sample Date	PM in mg/Nm³
1	24.09.2021	40.2
2	25.12.2021	34.3
3	20.03.2021	38.8
4	11.01.2022	36.4

21. The Respondent, GRIDCO has submitted that the Petitioner has not furnished any information regarding the (i) current level PM, PG test report of existing ESP with design and worst coal, (ii) envisaged / designed PM emission after upgradation of ESP. It has stated that even though the Petitioner has submitted that upgradation was completed for two units in the period 2014-19 and remaining two units by 2020-21, the actual cost has not been stipulated. The Respondent has further submitted that the OSPCB's consent order dated 27.3.2017, directs the Petitioner to maintain PM level within 50 mg / Nm³ w.e.f. 7.12.2017 and monitor the same regularly and submit these to Board. It has stated that as per MoEF&CC order dated 7.12.2015, the PM level of the said thermal power plant should be at the level below 50 Mg/Nm³, which has already been achieved in terms of the above submission and therefore, there is no justification for any further cost being allowed for up-gradation of ESP, during the period 2019-24. The Respondent has added that the Petitioner has not furnished the actual emission levels during the last 5 years. It has stated that considering the order dated 16.2.2017 in Petition No. 293/GT/2014, the consent order which is upto 31.3.2018 and since the Petitioner was unable to execute the above work within the stipulated period, the Petitioner is not entitled to any amount in excess of Rs.5301.23 lakh claimed for the period 2014-19.



22. The matter has been examined. It is noticed, that the Commission vide its order dated 16.2.2017 in Petition No. 293/GT/2014 had allowed the total additional capitalisation of Rs.11250.00 lakh towards the subject works as under:

“20. We have examined the matter. It is observed that the area around the generating station has been identified as critically polluted and therefore necessary steps are required to be taken by all stakeholders in order to implement the CEPI action plan. Accordingly, in compliance with the CEPI action plan notified by OSPCB during the year 2012, long term works of up-gradation of ESP has been proposed to be undertaken by the Petitioner during the period 2016-19. Though the Petitioner was directed vide ROP of the hearing dated 24.5.2016 to submit details of the emission levels of the generating station and the expected level of emission after Up-gradation of ESP, it has not furnished the same. However, considering the fact that the expenditure is incurred in compliance with the statutory guidelines of OSPCB, we are inclined to allow the projected additional capital expenditure of Rs. 3750.00 lakh each for the years 2016-17, 2017-18 and 2018-19 for Up-gradation of ESP of Stage-II under Regulation 14(3)(ii) of the 2014 Tariff Regulations. The Petitioner is however directed to furnish the actual emission level of ESP during the last five years, categorically for each pass and each unit of the generating station at the time of truing up in the terms of Regulation 8 of the 2014 Tariff Regulations.”

23. It is observed that the Petitioner has claimed projected additional capital expenditure of Rs.7700.00 lakh for the said asset / item, in addition to claim of Rs.5301.23 lakh allowed during the period 2014-19 in Petition No.392/GT/2020. However, the Petitioner has not furnished the details of emissions prior to upgradation of ESP, pass-wise emissions, PG test report etc. It is also noted that the upgradation of ESP for two units were completed in the period 2014-19 and other two units in 2020-21. In this background, the proposed additional capital expenditure of Rs.7500.00 lakh in 2019-20 and Rs.200.00 lakh in 2020-21 are **allowed** under Regulation 26(1)(b) of 2019 Tariff Regulations. However, as the Petitioner has not furnished original book value for de-capitalization, the same has been determined under ‘Assumed Deletion’. The Petitioner is therefore directed to submit the actual unit-wise and pass-wise emissions for last five years as submitted to MoEF&CC, the PG test report of ESP prior to upgradation with design and worst coal, auditor certified total actual expenses pertaining to subject works indicating the additional capital cost, IDC, interest and



original book value of old assets for each of the units at the time of truing up of tariff for further consideration of the Commission.

Installation of cameras and related works for Plant / Station

24. The Petitioner has claimed projected additional capital expenditure of Rs.360.00 lakh for the said item, in 2019-20 under Regulation 26(1)(b) and 26(1)(d) of the 2019 Tariff Regulations. In justification for the same, the Petitioner submitted this work is essentially required for compliance of Ministry of Power (MOP), GOI direction dated 23.10.2019.

25. The Respondent, TANGEDCO has submitted that the Commission vide its order dated 16.2.2017 in Petition No. 293/GT/2020 had allowed an expenditure Rs.300.00 lakh during the period 2014-19 for the said asset/item, but the Petitioner has claimed projected expenditure of Rs.360.00 lakh, which is in excess by Rs.60.00 lakh. Accordingly, the Respondent has prayed that the claim may be restricted to the already approved expenses. The Respondent, KSEBL has submitted that the Petitioner had claimed expenditure for Rs.300.00 lakh in 2015-16 for the said works as a one-time expenses and hence, the present claim may be disallowed. In response, the Petitioner has submitted that these works were to be carried out during the period 2014-19 as per Ministry of Home Affairs, GOI direction dated 3.12.2011 and the Commission had allowed the same by order dated 16.2.2017. It has however stated that the said work could not be completed due to non-availability of suitable vendors. The Petitioner has added that MOP, GOI vide communication dated 23.10.2019 had directed to strengthen cyber/ computer and physical security of vital installations, and hence, the projected expenditure is claimed in 2019-20.



26. The matter has been examined. It is noticed that Commission vide its order dated 16.2.2017 in Petition No.293/GT/2014 had allowed the additional capitalisation of Rs.300.00 lakh for the said asset/work as under:

“We have examined the matter. It is noticed that Regulation 14(3)(iii) of the 2014 Tariff Regulations provides for considering the expenditure for security or safety of the plant based on the advice or direction of statutory authorities responsible for national security/ internal security. Keeping in view the present security scenario of the country and in order to modernize the security system and installation of modern electronic gadget, Ministry of Home Affairs, GOI vide letter dated 3.12.2011 has directed for installation of IP security cameras at various locations of the generating station and the installation of cameras are for internal security and safety of the plant from outside agencies / elements. In this background, the additional capital expenditure of Rs.300.00 lakh in 2015-16 is allowed under Regulation 14(3)(iii) of the 2014 Tariff Regulations.”

27. However, it is noticed that the Petitioner has not capitalized the same in the period 2014-19, due to unavailability of suitable vendors and has therefore, spilled over the said work and completed the same in 2019-20 for Rs.360 lakh, which is slightly higher than the expenditure allowed during the period 2014-19. Considering the above, the projected capital expenditure of Rs.360.00 lakh is **allowed** in 2019-20 under Regulation 26(1)(d) of 2019 Tariff Regulations. The Petitioner is directed to submit the Auditor certified segregated break up of expenses pertaining to main plant, BoP, town ship, beyond plant premises etc, and the actual expenses indicating the additional capital cost, IDC, interest and original book value of old assets at the time of truing up of tariff, for consideration.

3.5 Km MGR to Kaniha mine S&T

28. The Petitioner has claimed projected additional capital expenditure of Rs.460.00 lakh for the above said work, in 2020-21 under Regulation 25(1) and Regulation 76 of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that the said work was allowed by order dated 16.2.2017 in Petition No.293/GT/2014, however, opportunity was not available to execute the work, due to disputes in the nearby villages, which was beyond the control of Petitioner.



29. The Respondent, KSEBL has submitted that the Petitioner has already claimed this expenditure in 2016-17 in Petition No.293/GT/2014 and the same was allowed vide order dated 16.2.2017. It has however pointed out that the Petitioner has not furnished any reasons for the delay in execution of the works and therefore, the claim may not be allowed. The Respondent, TANGEDCO has submitted that though the Commission vide its order dated 16.2.2017 in Petition No.293/GT/2020 had allowed an amount of Rs.434.00 lakh during the period 2014-19 for the said asset/work, the Petitioner has projected a claim for Rs.460.00 lakh, which is in excess by Rs.26.00 lakh. Accordingly, the Respondent has prayed that the claim may be restricted to the expenses already allowed. The Respondent, GRIDCO has submitted that though the Petitioner has stated that the said works were delayed due to dispute in nearby village and has claimed the same under Regulation 25 (1) read with Regulation 76 of the 2019 Tariff Regulations, no documentary proof has been furnished in support of the same.

30. In response, the Petitioner has submitted that the works could not be executed during the period 2014-19 and the same had spilled over to the period 2019-24. It has added that though there is slight variation in the cost, there is no excess claim and therefore, no documentary evidence is required to be furnished.

31. The Petitioner was directed vide letter dated 10.8.2022 to submit the envisaged timeline for completion of the MGR line in all respects, total expected expenditure and the balance expenditure foreseen for completion of the same. In response, the Petitioner has submitted that the Commission vide its order dated 16.2.2017 had allowed an amount of Rs.434.00 lakh, while the actual expenditure claimed in true up petition was Rs.112.60 lakh only. It has stated that in the meanwhile, the work was started in 2014-15, and the progress was slow due to the delay in the development of



Kaniha mines and later the land disputes at Ampal village, which was cleared in October, 2018, all led to the work being spilled over to the period 2019-24. It has also submitted that the projected additional capitalization of Rs.460.00 lakh in 2020-21 is for the balance works, which is envisaged to be completed during 2022-23, on account of COVID-19 pandemic.

32. The Respondent, GRIDCO while reiterating its submission for submission of documentary evidence by the Petitioner for the delay, has also submitted that Kaniha mine is owned by the Petitioner. It has stated that in case, the Petitioner submits the relevant documents, the claim may be restricted to Rs.434.00 lakh as allowed by the Commission, after adjusting an amount of Rs.112.60 lakh claimed in Petition No.392/GT/2020.

33. The matter has been examined. It is noted that the said work form part of the original scope of work and is associated with Kaniha mines. Accordingly, the Commission vide its order dated 16.2.2017 in Petition No. 293/GT/2014 had approved the additional capitalization of this work for Rs.434.00 lakh during the period 2014-19. However, the Petitioner has claimed projected additional capital expenditure for Rs.434.00 lakh during the period 2019-24 for the said work, in addition to claim of Rs. 112.61 lakh allowed by order dated 29.3.2023 in Petition No. 392/GT/2020, for the period 2014-19. It is also noticed that though the Petitioner has claimed that the delay in execution of works are due to land related issues and thus envisaged to be completed in 2022-23, it has not furnished any supporting documents to substantiate the period of delay. Considering this, the projected additional expenditure for the said work is restricted to Rs.321.39 lakh and is **allowed** in 2022-23 under Regulation 25(2)(d) of 2019 Tariff Regulations. However, the Petitioner is granted liberty to approach the Commission along with the supporting documents for the delay claimed,



along with details such as the date of put to use of asset, the Auditor certified total expenditure, IDC, interest, additional capitalization etc, at the time of truing up of tariff.

Water conservation related works

34. The Petitioner has claimed projected additional capital expenditure of Rs.350.00 lakh for the said work, in 2020-21, under Regulation 26(1) (b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner submitted that as per OPCB directions vide its letter dated 27.3.2017, the generating station has to meet specific water consumption of 3.3 m³/MWh, specified in MoEFCC Notification dated 7.12.2015. It has submitted that in order to comply with these statutory directions, the works related to water conservation are required to be installed at the generating station for improvement of Cycle of Concentration (CoC).

35. The Respondent, GRIDCO has submitted that the OSPCB order dated 27.3.2017 is valid for the period from 1.4.2017 to 31.3.2018 and since the Petitioner was not able to execute the above work, within the validity period of the consent order, the claim is liable to be rejected. The Respondent, TANGEDCO has submitted that the expenditure claimed should be met out of from the O&M expenses. The Respondent, KSEBL has submitted that the Petitioner has not furnished any details including the scope of such works. It has also submitted that the Petitioner shall meet these expenses from the O& M expenses allowed. In response, the Petitioner has submitted that subsequent consent orders were issued to the generating station and there was no requirement to complete the water conservation works by 31.3.2018. The Petitioner has further submitted that it is implementing the measures, in a phased manner and the claim is not an O&M expense, but capital expenditure required to be carried on as per the directives of OPCB and CPCB directives. It has added that these



are covered under change in law and may be allowed under Regulation 26(1)(b) of the 2019 Tariff Regulations.

36. The matter has been examined. It is observed that the Petitioner has claimed the additional capital expenditure on account of per MoEF&CC Notification dated 7.12.2015. However, the Petitioner has not furnished any details of the said works. It is noticed, that in compliance to the notification of MoEF&CC, the Petitioner has filed Petition No.520/MP/2020 seeking in principle approval for the implementation of FGD and DeNOx system, wherein, it was submitted that the said notification provides for reduction in Particulate Matter, Water Consumption and Mercury emission and liberty may be granted to approach the Commission, as and when, the works are taken up in future. In this background, the projected additional capital expenditure claimed by the Petitioner is **not allowed**. However, the Petitioner is granted liberty to approach the Commission along with detailed scope of works, segregation of the expenses thereof, actual water consumption plant excluding domestic consumption for last 10 years, actual generation etc, at the time of truing up of tariff, for consideration.

Treatment of existing Sewage Treatment Plant (STP) with Activated Filter Media (AFM) technology

37. The Petitioner has claimed projected additional capital expenditure of Rs.100.00 lakh in 2020-21, under Regulation 26(1)(b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that Central Pollution Control Board (CPCB) vide its letter dated 21.4.2015 to OSPCCB had directed to upgrade existing STP so that treated effluent from STP are within limits i.e. BOD – 10 mg/l and COD – 50 mg/l. Accordingly, to comply with CPCB's directions, Activated Filter Media (AFM) is being retrofitted in existing STP.

38. The Respondent, TANGEDCO has submitted that this expenditure should be met out from the O&M expenses. In response, the Petitioner has submitted that



additional capital expenditure is required as per the directives of OPCB and CPCB and is covered under change in law which is allowable under per Regulation 26(1)(b) of the 2019 Tariff Regulations.

39. The matter has been examined. It is noticed that in compliance with the CPCB's direction to limit effluents BoD and CoD, the Petitioner has projected additional capital expenditure for retrofitting of AFM in existing STP. Accordingly, the claim of the Petitioner is **allowed** in 2020-21 under Regulation 26(1)(f) of 2019 Tariff Regulations. The Petitioner is however, directed to submit the values of BoD and CoD, without AFM for last 5 years and envisaged/ actual values after retrofitting of subject AFM along with detailed justification and supporting documents indicating that the claim do not form part of O&M.

Installation of ClO₂ dosing system

40. The Petitioner has claimed projected additional capital expenditure of Rs.1430.00 lakh for the sad asset/item, in 2021-22 under Regulation 26(1) (b) read with Regulation 26(1) (d) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that presently, chlorine gas stored in cylinders / tonners and is being dozed directly at various stages of water treatment to maintain quality and to inhibit organic growth in the water retaining structures / equipment such as clarifiers, storage tanks, cooling towers, condenser tubes & piping etc. It has stated that Chlorine gas is very hazardous and may prove fatal in case of leakage and handling and storage of chlorine involves risk to the life of public at large. The Petitioner has also submitted that in the interest of public safety, the chlorine dosing system is now being replaced by Chlorine Dioxide (ClO₂) system, which is much safer and less hazardous. As ClO₂ is produced on site by use of commercial grade HCl and Sodium Chlorite, handling and storage and risks thereof will not arise. It has further



ssubmitted that for Kudgi NTPC project, Department of Factories, Boiler, Industrial Safety and Health, Government of Karnataka has asked NTPC to consider, replacement of highly hazardous gas Chlorination system with ClO₂ system. Further, OSPCB while issuing consent to establish in case of Darlipalli Station, has asked NTPC to explore the possibility of installing ClO₂ system instead of Chlorine gas system. Further, the Petitioner submitted that for safety of public, NTPC is replacing the Chlorination system with ClO₂ system.

41. The Respondents, TANGEDCO, KSEB and GRIDCO have submitted that the Petitioner has not enclosed any documentary evidence in support of their claim under change in law, for the generating station and also Regulation 26(1)(d) of the 2019 Tariff Regulations provides for expenditure towards safety and security measures such as security camera, CCTV system etc., but not for safety of men and material Accordingly, they have submitted that the claim may be rejected. The Respondent, GRIDCO has also submitted that unless the Petitioner obtains permission for installation of ClO₂ System for this generating station from Indian Government Instrumentality or Statutory authorities responsible for national or Internal security, the claim is not admissible either under Regulation 26 (1) (b) or 26 (1) (d) of the 2019 Tariff Regulations. In response, the Petitioner reiterated the its submissions made in original petition and also submitted that the directions issued for Kudgi and Darlipali are applicable to present generating station. It has also submitted that it is a constant endeavour to improve the safety practices and mitigate the hazards in-line with the statutory provisions on Safety, Health and Environment. The Petitioner has stated that the same is also in-line with the duties necessitated for an employer under clause 6(1)(a) and 6(1)(d) of “The Occupational Safety, Health and Working Conditions Code, 2020” notified by the Ministry of Law & Justice, GOI on 29.9.2020. Subsequently, the Petitioner vide additional submissions dated 7.3.2022 has mentioned that the ClO₂



system is in line with the “National Disaster Management Guidelines – Chemical Disasters” released by NDMA in April, 2007.

42. We have considered the submissions. It is noticed that though the Petitioner has claimed additional capitalization under Regulation 26(1) (b) of the 2019 Tariff Regulations, it has not enclosed documentary evidence indicating any specific direction or advice from any Governmental or statutory authorities, for the need for the expenditure towards safety and security of the generating station. It is also noticed that the documents relied upon by the Petitioner is related/associated to other generating station i.e. Kudgi and Darlipali but not this generating station. Accordingly, the projected additional capital expenditure claimed under this head is **not allowed**.

Design, Supply, Erection & Commissioning of ABT system

43. The Petitioner has claimed projected additional capital expenditure of Rs.105.00 lakh for the said works, in 2020-21, under Regulation 25(2)(c) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that the existing ABT system is more than 10 years old and has completed its life. It has further submitted that the system is hanging very frequently and the supports for server / hardware are not available due to obsolescence. The Petitioner has stated that during its life span, many updates have been carried out to incorporate the change in requirements.

44. The Respondents, GRIDCO and TANGEDCO have submitted that the replacement of works cannot be any justification to capitalize the asset and the claim should meet out from the O&M expenses. In response, the Petitioner has submitted that the upgradation of the existing system is on account of obsolescence and is for reliable as well as sustainable operation of the unit. Subsequently, the Petitioner vide its additional submissions dated 7.3.2022 has submitted that the existing



software part, Servers and LAN network of ABT system which is PCI make are more than 10 years old. Whereas, with the implementation of Reserve Regulation and Ancillary Services (RRAS) and Security Constrained Economic Dispatch (SCED), the revision in schedules has increased, sometimes may be more than 100 times in a day due to which ABT system is also hanging and not able to cope up with current requirement. It has further submitted that as ABT division of PCI Ltd. is closed since long, obsolescence certificate could not be obtained, however, similar nature of works was allowed in Petition No. 408/GT/2020.

45. The matter has been examined. It is noticed that though the Petitioner has claimed projected additional capital expenditure on account of obsolescence, it has not furnished any documentary evidence in support of the same. Moreover, the Petitioner has not substantiated with supporting documents, on its claim that sometimes revisions are more than 100 times in a day and leads to hanging of system, particularly, as the day is earmarked into 96 blocks, each block with 15 minutes. However, considering the nature of works, the projected additional capital expenditure claimed is **allowed** in 2020-21 under Regulation 25(2)(c) of 2019 Tariff Regulations. This is however subject to submission of OEM certificate of obsolescence at the time of truing up of tariff. The Petitioner is also directed to substantiate its claim along with supporting documents that the existing system does not cope with the present requirements.

Ash Dyke / Ash related works, Mine Void Filling, New Ash Dykes and Dry Ash Evacuation System (DAES) Stg-II & related works

46. The Petitioner has claimed projected additional capital expenditure of Rs.27170 lakh towards Ash dyke related works, Rs.24968 lakh towards construction of new ash dyke, Rs.20000 lakh towards Mine void filling and Rs.7000.00 lakh towards Dry Ash Evacuation System (DAES) Stg-II & related works during the period 2019-24. As these



claims are associated with ash generation at plant and are interconnected, these claims and common analysis thereof is deliberated in subsequent paragraphs:

Ash dyke / ash handling related works

47. The Petitioner has claimed total projected additional capital expenditure of Rs. 27170.00 lakh (Rs. 5700.00 lakh in 2019-20, Rs. 8600.00 lakh in 2020-21, Rs. 5600.00 lakh in 2021-22, Rs. 4400.00 lakh in 2022-23 and Rs. 2870.00 lakh) towards Ash dyke / ash handling related works under Regulation 25(1) (c) and Regulation 25(1) (g) of the 2019 Tariff Regulations. In justification of the same, the Petitioner has submitted that this expenditure is projected for planned ash disposal works associated with ash dyke / ash handling system, which are of continuous nature during the operational life of the generating station and required for sustained operation of plant. The Petitioner further submitted that as per the approved scheme, these works are part of original scope of works.

48. The Respondent, TANGEDCO has submitted that the Stage-I of the generating station is about to complete its life of 25 years and Stage-II is about to complete 17 years. It has pointed out that however, at the fag end of plant, the Petitioner has claimed projected expenditure of Rs.27170.00 lakh towards ash dyke and ash handling related works and in addition, Rs.24968.00 lakh towards new ash dykes. It has therefore submitted that the Petitioner may be directed to furnish the existing capacity of ash dyke, the capacity utilized, the expenses associated with Stage-I, assurance that there is no double claim, and the same will cater the needs of both Stage I&II. The Respondent, KSEBL has submitted that only works related to ash pond or ash handling system in the original scope of works are to be allowed. It has however pointed out that the Petitioner has not furnished details of capital expenditure approved by its Board of Directors and details thereof. The Respondent, GRIDCO has submitted



that in accordance with the MoEF&CC notifications dated 3.11.2009 and 25.1.2016, the Petitioner was mandated to achieve 100% ash utilization by 31.12.2017 and therefore, there would not be any requirement of raising height of ash dyke. It has also stated that in case, the Petitioner fail to achieve 100% ash utilization by 31.12.2017, the same would be violation of the Environment (Protection) Rules, 1986 framed under Environment (Protection) Act, 1986 and the beneficiaries cannot be burdened for such non-compliance.

49. In response, the Petitioner has submitted that even though fly ash utilization is a parallel process, raising of ash dyke is a continuous process and needs to be done in a phased manner throughout the life of the plant. The Petitioner has however submitted that it is trying its best to achieve 100% ash utilization, but as the generating station is remotely located, only a small portion is utilised in sectors such as brick industries and further, ash dyke raising constitutes major part of ash utilisation. It has submitted that in order to enhance the ash utilisation, the Petitioner, has acted in a prudent manner and has taken all possible steps for selling fly ash from the project including an MoU with NHAI for transportation of ash, but the sale of fly ash has not been possible due to demand supply mismatch. The Petitioner has further stated that as the quantity of ash utilized is in variance with ash produced, the entire ash generated cannot be utilized immediately and the same needs to be stored in the ash dyke. It has stated that the raising of ash dykes is planned in an advance manner, anticipating the ash required to be stored and accordingly, these works are as per the approved scheme under the original scope of work and no separate approval has been taken from Board of Directors. The breakup of the ash related works proposed to be capitalised during the period 2019-24 in the generating station as submitted by the Petitioner are as under:



Sl. No.	Nature of Work
1	Raising-6 Lagoon-2
2	Raising-7 Lagoon-1
3	Raising-7 Lagoon-2
4	Peripheral filling (Ph-VI/VII)
5	Perimeter Dyke
6	Raising-8 Lagoon-1
7	Raising-8 Lagoon-2
8	Raising-9 Lagoon-1
9	Raising-9 Lagoon-2
10	Peripheral filling (Lev-2) (Ph-I/II)

Mine void filling main package

50. The Petitioner has claimed projected additional capital expenditure of Rs.20,000.00 lakh in 2022-23, under Regulation 25(1) read with Regulation 76 of the 2019 Tariff Regulations. Subsequently, the Petitioner, vide its additional submissions dated 21.12.2020, has submitted that in the original petition, the item 'Mine Void Filling Main Package' was inadvertently claimed under ROE at WAROI instead of the normal rate and has prayed to consider the same under Regulation 26(1)(b) and Regulation h26(1)(e) of 2019 Tariff Regulations. In justification for the same, the Petitioner as submitted that OSPCB in their consent order No. 480 dated 13.1.2012 in Clause No.15 of special conditions for water pollution control has directed the Petitioner to expedite all works towards ash disposal, in mine voids of Jagannath quarry. It has stated that subsequently, in line with the deliberations of a high-level meeting between the Government of Odisha, Ministry of Environment- Odisha and OSPCB for ash dyke problem on 8.7.2011, a comprehensive scheme for transportation of fly ash to fill mine voids of Jagannath quarry was prepared. It has stated that OSPCB again vide order dated 24.3.2015 has directed to expedite all works for ash disposal in mine void filling of Jagannath quarry. However, the Petitioner has submitted that the delay in implementation of the scheme was due to delay in statutory clearances from MoEF&CC i.e. clearance was granted on 16.3.2017 and final approval was granted in July, 2019 for diversion of forest land for mine void filling project.



51. The Respondent, TANGEDCO has submitted that the Petitioner has not furnished details such as the basis for estimated mine filling expenses, the expenses associated with Stage-II, the quantum of ash to be transported for mine filling, Board approval, the Start and completion dates and the competitive bidding details etc, The Respondent GRIDCO has submitted that as per MoM, EAC has recommended for grant of temporary permission to dispose the ash for 5 years and since the recommendation of EAC is not final and binding, the Petitioner is required to furnish the final order / notification of MoEF&CC, in this regard. While pointing out that the Petitioner has claimed projected expenditure towards raising of existing Ash Dykes, construction of New Ash Dykes and Mine Void Filling Works simultaneously, the Respondent has submitted that in case the Petitioner goes for Mine Void Filling Works with Fly Ash and ensuring 100% Ash Disposal as per mandate of MoEF&CC, there would not be any necessity of raising the height of the existing Ash Dykes and construction of New Ash Dykes, which would only burden the consumers with higher tariff. The Respondent, KSEBL has submitted that the projected expenditure claimed is beyond the original scope of works and Petitioner has also not furnished any details of the said works. It has stated that since the claim is associated with transportation of fly ash, the same may be met from the O&M expenses allowed.

52. In response to the above, the Petitioner has submitted that the estimated claim is for transportation of around 176 lakh cum ash of Stage- II, in two years and is based on the market rate. The Petitioner has submitted that it has taken the approval of competent authority and work shall be awarded through transparent competitive bidding. It has further submitted that as the mine void filling shall cater the requirement of ash disposal of two units, ash dyke raising related works are essential. The Petitioner has pointed out that the same is not covered under O&M and being a specific scheme, the same cannot be compared to the cost incurred for transportation



of fly ash as per MoEF&CC Notification dated 7.12.2015. The Petitioner has added that the proposed expenditure is beyond the original scope and arises out of the specific directions of OSPCB dated 24.03.2015, and hence is covered under change in law.

Construction of New ash dyke – Construction of Starter Dykes Masunihata and Badahira and their land

53. The Petitioner has claimed projected additional capital expenditure of Rs.3334.00 lakh in 2020-21 and Rs.3344.00 in 2022-23 for construction of starter dyke Masunihata and its land and Rs.10800.00 lakh in 2021-22 and Rs.7500.00 lakh in 2023-24 for construction of starter dyke Badahira & its land under Regulation 26(1) (e) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that the original ash dyke of the generating station was designed at an average PLF of 75%, with specific coal consumption of 0.67 kg/kwh. However, it has submitted that over the period, the norms have been raised to 85 % and as quality of coal received has also deteriorated, the specific coal consumption of the station is around 0.83 kg/kWh and thus, much higher ash is generated i.e., 48 lakh cum / annum as compared to that was envisaged at the time of planning of the station i.e., 32 lakh cum / annum. The Petitioner has therefore submitted that the actual life of the ash dyke has been considerably reduced and the existing ash ponds which were in original scope shall not suffice. It has also submitted that the new ash dyke at Masunihata and Badahira are planned to discharge ash slurry and the State administration has given administrative approval for acquisition of 607 acres of land for Badahira and Masunihata ash dykes. The Petitioner has added that Masunihata ash dyke is expected to cater the requirement for both the Stages of the generating station.

54. The Respondent, TANGEDCO has submitted that Stage-I is about to complete its life of 25 years and Stage-II is about to complete 17 years. While pointing out that



at the fag end of plant, without any proper justification, the Petitioner has claimed projected expenditure of Rs.24968.00 lakh towards new ash dykes, the Respondent has submitted that the Petitioner may be directed to furnish the existing capacity of ash dyke, capacity utilized, expenses associated with Stage I, assurance that there is no double claim and the same will cater the needs of Stages- I & II. The Respondent, GRIDCO has submitted that in accordance with the MoEF&CC notifications dated 3.11.2009 and 25.1.2016, the Petitioner was mandated to achieve 100% Ash Utilization by 31.12.2017 and had it been complied, there would not be any requirement of for construction of new ash dyke. It has stated that the inaction/ inefficiency of the Petitioner, in not achieving 100% ash utilization, cannot be passed on to beneficiaries. The Respondent, KSEBL has submitted that the claim is beyond the original scope of works and the Petitioner has also not furnished any details such as present ash dyke utilization, quantum of ash generated annually, ash sold out, capacity of existing dyke etc., and in the absence of details and proper justification, the claim may be disallowed.

55. In response, the Petitioner has reiterated its submissions made in original petition and also submitted that there is no double claim, and that the total cost is prorated to Stages- I&II. It has further submitted that the expenditure claimed will not be incurred / capitalized during the period 2019-24 and shall claim the same as and when it is incurred.

Dry Ash Evacuation System (DAES) Stg-II and related works

56. The Petitioner has claimed total projected additional capital expenditure of Rs.7000.00 lakh (Rs.6600.00 lakh in 2020-21 and Rs.400.00 lakh in 2021-22) under Regulation 26(1)(b) of the 2019 Tariff Regulations. In justification for the same, the Petitioner has submitted that the said work was allowed by order dated 16.2.2017 in



Petition No. 293/GT/2014. It has however submitted that since opportunity was not available to execute the work due to continuous operation of the generating station, the same is expected to be capitalised during the period 2019-24. The Petitioner has further submitted that the said work is required to comply with the MoEF&CC notification dated 25.1.2016 on ash utilization for achieving 100% ash utilization.

57. The Respondent, KSEBL has submitted that even though the claim is made under Regulation 26(1)(b) of the 2019 Tariff Regulations, the Petitioner has not split up the details of the huge capital investment for the claim of ash related works, the details of the ash evacuation system and its reasonableness. It has submitted that the Petitioner had already claimed an amount of Rs.10000 lakh in 2018-19 for the same work. The Respondent, GRIDCO has submitted that as per MoEF&CC notifications dated 3.11.2019 and 25.1.2016, the Petitioner was to achieve 100% Ash Utilization by 31.12.2017 and the amount collected from sale of Fly Ash and Fly Ash based products, should be kept in a separate account head and shall be utilized only for development of infrastructure or facilities, promotion and facilitation activities for use of Fly Ash until 100% fly ash utilization is achieved. It has further submitted that DAES has to be developed by utilizing the above fund but not by burdening the beneficiaries and consumers thereof, which is in contrast to MoEF&CC notification.

58. In response, the Petitioner has reiterated its submissions made in original petition and has also submitted that it is trying its level best to achieve 100 % ash utilization, including MoU with NHAI, but due to the station's remote location, only small portion is utilized in sectors such as brick industries. It has further submitted that the steps taken to achieve fly ash utilization does not mean that on daily basis, all the ash being generated can be directly transported and / or immediately utilized and ash storage infrastructure is not to be developed. The Petitioner has therefore submitted



that even if steps are taken for fly ash utilization, evacuation system is required from the place of ash generation and its storage. It has also submitted that ash transportation charges claimed for the period 2014-19 is net of revenue earned from sale of ash and thus, there is no excess amount with the Petitioner.

59. The Petitioner was directed vide letter dated 10.8.2022, to submit the detailed justification along with the re-assessment made for requirement of such system in the current scenario, after lapse of the proposed timeframe and in view of the fact that the plant has been operating without such system since COD; In response, the Petitioner reiterated the submissions made in its rejoinders to the replies of Respondents and has also submitted that as per MOEF&CC notification dated 3.11.2009, the generating station was to achieve 100% ash utilisation in stipulated time frame. It has further stated that as the existing DAES capacity was not sufficient to meet the requirement / increased ash utilization, the additional expenditure was projected during the period 2014-19 and the Commission vide its order dated 16.2.2017 had allowed the same. It has however submitted that the work was delayed for various reasons beyond the control of Petitioner including delayed permission for tree cutting from Forest Department. The Petitioner has stated that presently, the work is in progress and anticipated to be completed in 2022-23. It has also pointed out that the MoEF&CC Notification dated 31.12.2021, mandates the Petitioner for utilization of 100% fly ash in a 3-year cycle and the same requires strengthening of infrastructure for evacuating the dry ash.

Analysis and Decision

60. Considering the projected additional capital expenditure claimed by the Petitioner for Rs.27170.00 lakh for Ash dyke raisings, Rs.24968 lakh for New ash dyke and Rs.20000.00 lakh for Mine void filling, the Petitioner was directed vide letter dated 10.8.2022 to submit detailed justification for requirement of such works and estimates



made thereof, particularly, in the scenario of decreasing PLF and MoEF&CC stipulation of 100% ash utilization. In response, the Petitioner has reiterated its submissions made in its rejoinder. In addition, the Petitioner also submitted as under:

- (a) The ash dyke of the generating station was designed with specific coal consumption of 0.67 kg / kwh, however, over the period, as the quality of received coal was deteriorated, the specific coal consumption was increased to around 0.83 kg/kwh, which resulting in much higher generation of ash compared to that was envisaged during the planning of the Station. In addition, as the station is being operating at higher PLF, the quantum of actual annual ash produced is approximately 45 lakh cum, which is much more than that envisaged i.e. 32 lakh cum at the time of designing.
- (b) The demand for Fly Ash by third parties is always futuristic and contingent on the requirement of such third Parties, which may be affected due to lockdown, strikes, IR issues etc. As there is no space in ash dyke, safe and reliable disposal of ash is obvious for operation of the plant. It is also submitted that about 20% of total ash generated, is a bottom ash, which need to be dumped into ash dyke for settling of water, prior to it is transported for utilisation. Therefore, there is need for ash dyke with increased capacity to store the ash.

61. Similarly, vide its letter dated 10.8.2022 detailed justification and reassessment for requirement of DAES was sought, as the plant was operating without such system till date. In response, the Petitioner has submitted that the existing DAES system is not sufficient to meet the requirement of 100% ash utilization, stipulated under the MoEF&CC notification.

62. Considering the above, in regards to projected claims made with respect to Ash it is noticed that the Petitioner has projected peripheral fillings and 7th, 8th & 9th raisings for lagoon, 1 and 6th, 7th, 8th and 9th raisings for lagoon 2. In addition, the Petitioner has projected mine void filling, which is envisaged to cater the ash generated from two units of the generating station. Further, the Petitioner has projected two nos. of new ash dykes each at Badahira and Masunihata. However, subsequently, vide submissions dated 28.7.2021 the Petitioner has indicated that these expenditures will not be capitalized during the period 2019-24.



63. In this context, on a specific query of the Commission on the existing ash dyke and ash pond capacities and utilized capacity thereof, the Petitioner has submitted that as per the standard practice adopted by the Petitioner in Ash Dyke management, the exact level to which ash dyke is filled is not measurable as ash out of the ash slurry gets settled near the point of discharge and level of ash is not uniform across the lagoons / dykes. It has further submitted that no such level marking is maintained or installed in ash dyke as a standard industry practice, and accordingly, opening level / closing level is not available / maintained. It has however submitted that the quantity of ash filled in the Lagoon # 1 & 2 as on 31.3.2014 was approximately 297 LM3 (in Lagoon # 1 and Lagoon # 2) based on the generation level and quality of coal received during the past periods. In regard, to mine void fillings, the Petitioner has claimed to transport around 176 lakh cum and has projected the expenditure for Rs.20000.00 lakh, based on the market rate. However, it has not furnished any detailed breakup as to how much ash (percentage of total) was envisaged to be utilized for each of ash dyke raising, new ash dyke, transportation of ash etc, Thus, the Petitioner has justified the claims by citing 100% ash utilization but has not furnished any appropriate justifications, particularly, as to how much ash utilization is envisaged for each such claim.

64. As regards the claim of the Petitioner that Ash dyke was designed with specific coal consumption of 0.67 kg / kwh, but over the period the specific coal consumption was increased to around 0.83 kg/kwh, it is noticed from available records, that the average Specific coal consumption is around 0.7 kg / kWh only. Accordingly, the ash generation envisaged by the Petitioner is on higher side. Further, as per the ash utilization reports published by CEA, the ash utilization by the plant is increasing gradually and the same is 47.51 %, 50.2 % and 67.2 % in 2017 – 18, 2018 – 19 and



2019 – 20, respectively. In this context, it is also noticed that the Petitioner has filed Petition No. 205/MP/2021 and has claimed ash transportation charges for the period 2019-24, which had been disposed of vide order dated 28.10.2022, wherein, the Petitioner was allowed to recover ash transportation expenses through monthly supplementary bills. It is noticed, that the Petitioner has claimed Rs.30715.00 lakh for 4th, 5th, 6th & 7th raising of Lagoon1 and Lagoon 2 along with peripheral filling in Petition No.293/GT/2014 during the period 2014-19. However, the Commission vide its order dated 16.2.2017 had noted that Petitioner, in addition to DATS for Rs.10000 lakh, had capitalized an expenditure of Rs.15118 lakh towards Ash dyke works for the period from 1.8.2005 to 31.3.2014 and in this background the claim of the Petitioner was restricted the projected expenditure to Rs.15578.68 lakh in 2014-19. Further, in Petition No.392/GT/2014, it was noticed that the Petitioner has carried out 5 raisings only (three raisings for Lagoon 1 and two raisings for Lagoon 2) and claimed Rs.14756.47 lakh and the same was allowed by the Commission.

65. As regards DAES, it is noticed that the Petitioner had DAES system, but has projected additional capitalization towards these works as augmentation by relying on the MoEF&CC notifications, which specify 100% ash utilization. In this regard, the Petitioner has not provided any detailed information to establish that this system is required in addition to various ash related expenses claimed. In this context, it is observed that the Commission vide its order dated 16.2.2017, had allowed DATS for the period 2014-19 and observed as follows:

*“24. We have examined the matter. It is observed that the notification dated 3.11.2009 of MoEF, GOI provides that all coal/lignite based thermal stations would be free to sell the fly ash to user agencies subject to certain conditions and **the amount collected from sale of fly ash or fly ash based products should be kept in a separate account head and shall be utilized only for development of infrastructure or facilities, promotion and facilitation activities for use of fly ash until 100% fly ash utilization level is achieved.** Since the expenditure is required for compliance with the guidelines with MoEF&CC guidelines dated 3.11.2009 and is for achieving 100% ash utilization targets as per the said notification, we are inclined to allow the prayer of the Petitioner. Moreover, **the DATS shall also help in reducing the burden of ash***



disposal in the ash dyke area which will reduce the regular or time to time capitalization of expenditure for raising of ash dyke and environmental ground water pollution. In this background and since the expenditure is for compliance with the existing norms under the MoEF notification, the additional capital expenditure for DATS is allowed under Regulation 14(3)(ii) of the 2014 Tariff Regulations. However, the Petitioner is directed to furnish the details of revenue earned from sale of fly ash (excluding transportation charges if any paid by the Petitioner) and a copy of account duly certified by the auditor, which is mandatorily have to be maintained by the Petitioner as per the said notification and the same shall be considered at the time of truing up of tariff in terms of Regulation 8 of the 2014 Tariff Regulations.

66. In view of the above, the claim of the Petitioner towards ash related works appears to be inconsistent and is on higher side. Considering the above and the requirement of the plant, we **restrict** the projected additional capital expenditure towards Ash dyke related works to the actual expenses incurred in the period 2014-19 with an annual escalation of 3.51%, as considered under the 2019 Tariff Regulations. Accordingly, an expenditure of Rs.16385.10 lakh (Rs.3054.91 lakh in 2019-20, Rs. 3162.13 in 2020-21, Rs.3273.12 in 2021-22, Rs.3388.01 in 2022-23 and Rs.3506.93 in 2023-24) **is allowed** under Regulation 25(1)(g) of 2019 Tariff Regulations. However, the Petitioner is granted liberty to claim the actual expenses towards ash dyke related works along with Auditor certificate and relevant documents including the lagoon wise capacities, total capacity of each ash dyke and ash pond, quantity of ash in ash dykes, raisings and their height already completed, balance available capacity of ash dyke ash generated, ash utilized under various modes, ash utilized locally, ash transported etc at the time of truing-up of tariff.

67. Similarly, we are not inclined to allow any projected additional capital expenditure claimed towards mine void filling at this stage. However, the Petitioner is at liberty to approach the Commission with suitable justification and details along with the relevant documents, as and when the same is carried out and the same will be dealt in accordance with the relevant Regulations / guidelines of Commission, MoP, MoEF&CC, CPCB etc,



68. Since the claim towards new ash dykes at Badahira and Masunihata have been deferred by the Petitioner, the same are **not** allowed /considered in this order. The additional capitalisation of the same, if claimed in future, will be dealt with in terms of the applicable regulations. As regards DAES system, the Petitioner has not provided any suitable details to substantiate its claim in addition to existing DAES system and various ash related expenses claimed. Accordingly, we are not inclined to allow the projected expenditure claimed for the same, at this stage. However, the Petitioner is at liberty to approach the Commission with suitable justification and details along with the relevant documents, as and when the same is carried out.

Nitrogen Sparging

69. The Petitioner has claimed projected additional capital expenditure of Rs.1056.00 lakh for the said work/asset, in 2021-22, under Regulation 26(1) read with Regulation 76 of the 2019 Tariff Regulations. In justification for the same, the Petitioner submitted that boilers, condenser and other steam / water handling equipment are very sensitive to corrosion and fouling. It has submitted that dissolved oxygen is the main fouling impurity causes corrosion and enters into the water – steam cycle through make – up water or during the start-up. The Petitioner has also submitted that at present the DM water is stored in the vented storage tanks exposed to air wherein CO₂ and O₂ gets absorbed and the water with high concentration of O₂ & CO₂ causes stress corrosion, fatigue corrosion, pitting, pH swings etc., leading to failures and deposition of precipitates. It has further submitted that due to temperature and pressure variations during start-ups and load variations, these deposits get dis-lodged and need lot of time to mechanically scavenging out of the system by way of continuous blowdown which is a waste of energy or through polishing units. The Petitioner has stated that by nitrogen sparging / blanketing the storage tanks and other



related systems ingress of O₂ and CO₂ could be avoided resulting in increased life of components, reduce failures, reduce start-up time and increase the system stability and reliability.

70. The Respondent, TANGEDCO has submitted that the proposed expenses are beyond original scope of work and the Petitioner has not provided suitable justification for the same and therefore shall be met from the O&M expenses. The Respondent, KSEBL has submitted that claim does not qualify under any of the clauses of Regulation 26(1) of 2019 Tariff Regulations. The Respondent, GRIDCO has reiterated the submissions made by Respondents, and has also submitted that the Petitioner has not furnished any supporting documents on the advantages of such technology based on the past experience and performance. In response, the Petitioner has reiterated its submissions made in original petition and also submitted that the opening portion of Regulation 26 (1) of 2019 Tariff Regulations is the governing provision and the subsections underneath are only examples of the categories of additional capitalization under which additional capitalization may be permitted by the Commission.

71. Subsequently, in response to specific query of Commission regarding the requirement for such works along with the basis of expenditure, assessment made and recommendation of competent authority thereof, the Petitioner has submitted that the scheme of Nitrogen sparging is not being implemented during the period 2019-24 and shall approach the Commission, as and when, the scheme is capitalized beyond the period 2019-24.

72. Considering the fact that the expenditure for the said works have been deferred, as stated, the claim of the Petitioner has not been considered/allowed in this order.



However, the claim of the Petitioner, for the said asset, if any, in future, shall be dealt with in accordance with law.

Assumed Deletions

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

74. It is observed that the Petitioner, while claiming certain additional capital expenditure in the period 2014-19, has not provided the de-capitalization value of old asset for some of the items which are being replaced i.e. 'Laying of Cast Basalt Pipeline', 'Design, Supply, Erection and Commissioning of ABT System' and 'Upgradation of ESP Stage-II'. Accordingly, based on above methodology, the de-capitalization value of old asset has been worked out as shown below.

(Rs in lakh)

		Additional Capitalization	Assumed Deletion
2019 – 20	Laying of Cast Basalt Pipeline	845.00	448.12
2019 – 20	Upgradation of ESP Stage-II	7500.00	3977.41
2020 – 21	Upgradation of ESP Stage-II	200.00	101.01
2020-21	Design, Supply, Erection and Commissioning of ABT system	105.00	53.03



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

(Rs. in lakh)

Sl. No.	Head of Work /Equipment	Regulation	ACE Allowed (Projected)				
			2019-20	2020-21	2021-22	2022-23	2023-24
1	2		3	4	5	6	7
A. Works under Original scope, Change in Law etc eligible for RoE at Normal Rate							
1	Ash dyke/ash handling related works	25(1) (g)	3054.91	3162.13	3273.12	3388.01	3506.93
2	Laying of Cast Basalt Pipeline	26(1) (b)	845.00	-	-	-	-
3	Wagon tippler package and related work	-	0.00	-	-	-	-
4	Upgradation of ESP Stage-II	26(1) (b)	7500.00	200.00	-	-	-
5	Installation of cameras and related works for plant/ Station	26 (1)(d)	360.00	-	-	-	-
6	Dry Ash evacuation system Stg-II and related works	-	-	0.00	0.00	-	-
7	3.5 Km MGR to Kaniha mine S&T	25(2)(d)	-	-	-	321.39	-
8	Water conservation related works	-	-	0.00	-	-	-
9	Treatment of existing STP with AFM technology	26(1)(f)	-	100.00	-	-	-
10	Installation of ClO2 dosing system	-	-	-	0.00	-	-
11	Design, Supply, Erection & Commissioning of ABT system	25 (2) (c)	-	105.00	-	-	-
12	Mine void filling main package	-	-	-	-	0.00	-
Sub-Total (A)			11759.91	3567.13	3273.12	3709.40	3506.93
B. Works beyond Original scope excluding add-cap due to Change in Law eligible for RoE at WAROI							
1	Construction of New ash dyke (Starter Dyke: Masunihata construction and its land)	-	-	-	-	-	-
2	Construction of New ash dyke (Starter Dyke: Badahira construction and its land)	-	-	-	-	-	-
3	Nitrogen Sparging	-	0.00	0.00	0.00	0.00	0.00
Sub-Total (B)			-	-	-	-	-
Total Additional Capitalization Allowed (C=A+B)			11759.91	3567.13	3273.12	3709.40	3506.93
Decapitalization Allowed (D)			4425.53	154.05	-	-	-
Net Additional Capitalization Allowed (E=C-D)			7334.38	3413.08	3273.12	3709.40	3506.93



76. It is made clear that in case the Petitioner claims IUT, MBOA, exclusions etc., at the time of truing of tariff, the same will be considered in terms of relevant Regulations, subject to submission of relevant supporting documents for such claims including the details regarding de-capitalization of IUTs and consideration of the same in relevant tariff petitions.

Capital cost allowed for the period 2019-24

77. Based on above, the capital cost allowed for the purpose of tariff is as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Opening capital cost (A)	555664.42	562998.80	566411.88	569685.00	573394.40
Add: Additional capital expenditure (B)	7334.38	3413.08	3273.12	3709.40	3506.93
Closing capital cost (C) = (A)+(B)	562998.80	566411.88	569685.00	573394.40	576901.33
Average capital cost (D) = ((A)+(C))/2	559331.61	564705.34	568048.44	571539.70	575147.87

Debt Equity Ratio

78. 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 utilised for meeting the capital expenditure of the generating station or the transmission system.

(2)The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or approval of the competent authority in other cases regarding infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be.

(3) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, debt:



equity ratio allowed by the Commission for determination of tariff for the period ending 31.3.2019 shall be considered:

Provided that in case of generating station or a transmission system including communication system which has completed its useful life as on or after 1.4.2019, if the equity actually deployed as on 1.4.2019 is more than 30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;

Provided further that in case of projects owned by Damodar Valley Corporation, the debt: equity ratio shall be governed as per sub-clause (ii) of clause (2) of Regulation 72 of these regulations.

(4) In case of the generating station and the transmission system including communication system declared under commercial operation prior to 1.4.2019, but where debt: equity ratio has not been determined by the Commission for determination of tariff for the period ending 31.3.2019, the Commission shall approve the debt: equity ratio in accordance with clause (1) of this Regulation.

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2019 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernization expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.

79. Accordingly, the gross normative loan and equity amounting to Rs.388965.09 lakh and Rs.166699.32 lakh, respectively as on 1.4.2019 as considered in order dated 29.3.2023 in Petition No.392/GT/2020 has been considered as gross normative loan and equity as on 1.4.2019. Further, the additional capital expenditure approved above has been allocated to debt and equity in debt-equity ratio of 70:30. Accordingly, the details of debt-equity ratio in respect of the generating station as on 1.4.2019 and as on 31.3.2024 is as under:

	<i>(Rs. in lakh)</i>					
	Capital cost as on 1.4.2019 (Rs. in lakh)	(%)	Net Additional capital expenditure (Rs. in lakh)	(%)	Total cost as on 31.3.2019 (Rs. in lakh)	(%)
Debt	388965.09	70%	14865.84	70%	403830.93	70%
Equity	166699.32	30%	6371.07	30%	173070.39	30%
Total	555664.42	100%	21236.91	100%	576901.33	100%

Return on Equity

80. Regulation 30 and Regulation 31 of the 2019 Tariff Regulations provides as under:

“30. Return on Equity:

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

(2) Return on equity shall be computed at the base rate of 15.50% for thermal generating stations transmission system including communication system and run of



river hydro generating station and at the base rate of 16.50% for the storage type hydro generating stations including pumped storage hydro generating stations and run of river generating station with pondage:

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

Provided further that:

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

(ii) in case of existing generating station as and when any of the requirements under (i) above of this Regulation are found lacking based on the report submitted by the concerned RLDC rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

(iii) in case of a thermal generating station with effect from 1.4.2020:

(a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate of 1% per minute;

(b) an additional rate of return on equity of 0.25% shall be allowed for every incremental ramp rate of 1% per minute achieved over and above the ramp rate of 1% per minute subject to ceiling of additional rate of return on equity of 1.00%:

Provided that the detailed guidelines in this regard shall be issued by National Load Dispatch Centre by 30.6.2019.

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

“31. Tax on Return on Equity:

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

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

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

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

Illustration-



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

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

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

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

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

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

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

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

82. The Petitioner has claimed Return on Equity (ROE) considering base rate of 15.50% and effective tax rate of 17.472% for the opening equity as on 1.4.2019 and projected additional capital expenditure claimed under original scope of work, change in law etc. for the period 2019-24. The same has been considered for the purpose of tariff. For the additional capital expenditure claimed beyond original scope of work (excluding additional capital expenditure due to change in law) the Petitioner has claimed ROE after grossing up WAROI of 7.4902% in 2019-20, 7.4343% in 2020-21, 7.4171% in 2021-22, 7.3812% in 2022-23 and 7.1888% in 2023-24 with effective tax rate of 17.472%. As discussed above, the additional capital expenditure beyond original scope of work has not been allowed in the present petition and therefore, not qualified for ROE. Accordingly, ROE has been worked out as under:

Return on Equity at Normal Rate

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Notional Equity- Opening	166699.32	168899.63	169923.56	170905.50	172018.32
Add: Addition of Equity due to additional capital expenditure	2200.31	1023.93	981.94	1112.82	1052.08
Normative Equity – Closing	168899.63	169923.56	170905.50	172018.32	173070.39
Average Normative Equity	167799.48	169411.60	170414.53	171461.91	172544.36



	2019-20	2020-21	2021-22	2022-23	2023-24
Return on Equity (Base Rate)	15.500%	15.500%	15.500%	15.500%	15.500%
Effective Tax Rate for respective years	17.4720%	17.472%	17.472%	17.472%	17.472%
Rate of Return on Equity (Pre-tax)	18.782%	18.782%	18.782%	18.782%	18.782%
Return on Equity (Pre-tax) - (annualised)	31516.10	31818.89	32007.26	32203.98	32407.28

Interest on loan

83. 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.”

84. The Petitioner has claimed tariff considering WAROI of 7.4902% in 2019-20, 7.4343% in 2020-21, 7.4171% in 2021-22, 7.3812% in 2022-23 and 7.1888% in 2023-24, and the same has been considered. Accordingly, Interest on Loan for the period 2019-24 works out to be ‘nil’.

Depreciation

85. 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.”

86. The cumulative depreciation amounting to Rs.397589.57 lakh as on 31.3.2019 as considered in order dated 29.3.2023 in Petition No.392/GT/2020, has been considered as on 1.4.2019. The value of freehold land has been considered as Rs.1305.76 lakh. Accordingly, the balance depreciable value, before providing depreciation for 2019-20, works out to Rs.104633.70 lakh.. Accordingly, depreciation has been spread over the remaining useful life of the asset for the period 2019-24. Accordingly, depreciation allowed for the generating station is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Average capital cost (A)	559331.61	564705.34	568048.44	571539.70	575147.87
Value of freehold land included above (B)	1305.76	1305.76	1305.76	1305.76	1305.76
Aggregated depreciable Value [C = (A-B) x 90%]	502223.27	507059.63	510068.42	513210.55	516457.90
Remaining Aggregate Depreciable value at the beginning of the year (D = C – ‘J’ of previous year)	104633.70	103286.20	95317.63	86964.17	78285.00
Balance useful life at the beginning of the year (E)	10.29	9.29	8.29	7.29	6.29
Weighted average rate of depreciation (F)	-	-	-	-	-
Depreciation during the year (G = D/E)	10166.84	11116.00	11495.59	11926.51	12442.65
Cumulative depreciation at the end of the year, before adjustment of de-capitalisation adjustment (H = G + ‘J’ of previous year)	407756.41	414889.43	426246.38	438172.90	450615.55
Cumulative depreciation adjustment on account of de-capitalisation (I)	3982.98	138.64	0.00	0.00	0.00
Cumulative Depreciation adjustment on a/c of un-discharged liabilities deducted as on 01.04.2009 (J)	0.00	0.00	0.00	0.00	0.00
Cumulative depreciation, at the end of the year (K = H – I+J)	403773.43	414750.79	426246.38	438172.90	403773.43

Operation & Maintenance Expenses

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



<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
45020.00	46600.00	48240.00	49940.00	51680.00

88. The Respondent, GRIDCO has submitted that the generating station had common facilities such as MGR, Water supply, water treatment, ash handling system etc with Stage-I and the Commission vide its order dated 21.1.2017 in Petition No.283/GT/2014 had allowed the O&M expenses considering the 0.9 factor and hence, the same may be considered. In response, the Petitioner has submitted that the claim is in terms of relevant regulations of the 2019 Tariff Regulations. It has submitted that the boiler manufacturer and turbine generator manufacturer of Stage I&II of the generating station are different.

89. The matter has been considered. It is noted that APTEL vide its judgement dated 11.1.2022 in Appeal No. 101 of 2017 has set-aside the Commission's decision of applying 0.9 factor for the units commissioned prior to 1.4.2014. The relevant extract of the said judgment is as under:

"8.1(a) The Normative O&M charges for 2014-19 control period are determined on the basis of O&M charges incurred during the 2009-2014 control period.

Xxx

(b) Further, the O&M charges for the past years are collected as consolidated charges for the complete project /generating station irrespective of new /additional units during that period or existing units.

8.2. From the above, it is crystal clear that the Normative O&M charges are determined based on the actual consolidated O&M charges for the past five years for a specific project having similar unit sizes.

8.3 Also, the Normative O&M charges are determined for the complete Generating Station including all the units which achieve COD prior to 1.4.2014. The multiplication factor is to be applied for new units which achieve COD after 1.4.2014 and during the control period 2014-19."

Xxxx

8.7 We agree with the submissions made by the Appellant that considering the above COD, only the revised O&M norms for units existing as on 01.04.2014, as laid down in Regulation 29 (1) (a) of the 2014 Tariff Regulations are to be applied in case of the Appellant. As such any other interpretation of the aforesaid regulations is contrary to the plain text and meaning.



xxx

8.13 We decline to accept the said contention as the provisions of the Tariff Regulations, 2014 have already been deliberated in the foregoing paras and there is no doubt that the Normative O&M charges are determined by consolidating the actual O&M charges for the past five years (the last control period) thus considering the actual sharing benefits by the additional units for that period and rationalising the expenditure

xxx

8.15 We do not find any relevance to the above submission as the benefit of sharing of resources by the additional units have already been factored in the actual O&M charges considered for the past years

xxx

8.17 There is no denial that the benefit of sharing of resources by the additional units should be passed on to the consumers, however, once already factored into the actual O&M charges which is the basis for determination of Normative O&M charges for the next control period, such a benefit becomes the integral part of O&M charges.

xxx

8.25 However, in the Impugned Order, CERC has essentially amended Proviso to Regulation 29 (1) (a) of the Tariff Regulations, 2014 without providing an opportunity to the Appellant to make submissions on this issue of Proviso to Regulation 29 (1)(a) of the Tariff Regulations, 2014. It is apposite to mention that in the entire proceedings no party had even whispered that the Proviso to Regulation 29 (1)(a) ought to be made applicable to units achieving COD Prior to 01.04.2014. Hence, there was no occasion for the Appellant to even respond to such a course being adopted by Central Commission. Even Central Commission at no stage indicated that it is seeking to apply to Proviso to Regulation 29 (1)(a) to Units achieving COD before 01.04.2014. Such a course adopted by Central Commission violates the principle of Natural Justice and for this ground alone the Impugned Order is liable to be set aside.

xxx

8.30 We agree that in the present case the said power cannot be invoked to substantially amend proviso to Regulation 29 (1) read with Proviso to Regulation 1(2) of the Tariff Regulations, 2014. The Power to Remove Difficulty must be exercised in exceptional circumstance where the Regulation could not be implemented. ORDER In light of the above, we are of the considered view that the issues raised in the Batch of Appeals have merit and hence Appeals are allowed. The impugned order dated 21.01.2017 in Petition No. 283/GT/2014 and order dated 06.02.2017 in Petition No. 372/GT/2014 ("Petition 372"), are hereby set aside to the extent of our findings. The matter is remitted back to the Central Commission for passing a reasoned order pursuant to our observations are scrupulously complied with expeditiously and in a timebound manner."

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

"35(1)(1) Thermal Generating Station: Normative Operation and Maintenance expenses of thermal generating stations shall be as follows: (1) Coal based and lignite fired (including those based on Circulating Fluidised Bed Combustion (CFBC) technology) generating stations, other than the generating stations or units referred to in clauses (2), (4) and (5) of this Regulation:



(in Rs. lakh/MW)

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

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

xxxxxx ”

91. In view of the above, the contention of the Respondent, GRIDCO is not accepted. In this regard, it is noted that the Regulation 35(1)(1) of the 2019 Tariff Regulations provides for the following O&M expense norms for 500 MW thermal power plants:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
22.51	23.20	24.12	24.97	25.84

92. It is also noticed that the generating station has four units each is of 500 MW and the COD of these units are all prior to 1.4.2019. Further, it also noticed that the normative O&M expenses claimed by the Petitioner is in terms of the Regulation 35(1)(1) of the 2019 Tariff Regulations and hence allowed for the purpose of tariff as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
45020.00	46600.00	48240.00	49940.00	51680.00

Water Charges

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

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



*Provided that water charges shall be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. The details regarding the same shall be furnished along with the petition:
Provided further that the generating station shall submit the assessment of security requirement and estimated expenses.
xx.”*

94. In terms of the above regulation, water charges are to be allowed based on water consumption depending upon type of plant, type of cooling water system etc., subject to prudence check. In this regard, the Petitioner has submitted that water resource department vide dated 27.9.2016 has escalated the water charges at 10% per annum w.e.f 1.4.2017. Further, it has submitted following actual information for 2018 -19 and mentioned that these water charges were escalated at 10 % per annum in the period 2019-24.

Description	Remarks
Type of plant	Coal based Thermal Power Plant
Type of cooling water system	Induced Draft Cooling Tower (IDCT)
Consumption of water	2.90 TMC
Rate of water charges	Rs.6.72/m ³
Total water charges paid (2018-19)	Rs. 4200.67 lakh

95. Accordingly, the water charges claimed are as follows:

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
4563.33	4900.67	5250.67	5600.67	5967.33

96. The Respondent, KSEBL has submitted that the 2019 Tariff Regulations provide for allowing actual water charges, after prudence check. It has however submitted that the Petitioner has not furnished actual water charges for the past period to substantiate its claim.

97. We have examined the matter. It is observed that the Commission vide its order dated 29.3.2023 has allowed Rs.3721.93 lakh in 2018-19 for the generating station. It is also noticed that the 2019 Tariff Regulations specifies 3.5 m³ / MWh and the water charges for 2018-19 are at Rs.6.72 / m³ and the water resources department specifies



for 10% annual escalation. Considering the above and applicable NAPAF for the period 2019-24, the water charges allowed on projection basis, are as under:

	Units	2019-20	2020-21	2021-22	2022-23	2023-24
Projected Gross Generation @ 85% load factor	MWHR	14932800	14892000	14892000	14892000	14932800
Normative Specific Water Consumption as per MoEF&CC norm	Cubic Meter/MWh	3.5	3.5	3.5	3.5	3.5
Normative Water Consumption as per MoEF&CC norm	Cubic Meter	52264800	52122000	52122000	52122000	52264800
Rate of Water Charges based on 2018-19 approved rates	Rs. / Cubic Meter	7.39	8.13	8.94	9.84	10.82
Total Normative Water Charges	(in Rs. lakh)	3863.41	4238.14	4661.96	5128.15	5656.42

Capital Spares

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

Security Expenses

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

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

Xxxx

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

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



100. The Petitioner, has claimed security expenses as under:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
2631.14	2894.26	3183.68	3502.05	3852.26

101. The Petitioner submitted that above expenses have been claimed based on the estimated expenses for the period 2019-24 and shall be subject to retrospective adjustment based on actuals at the time of truing up.

102. The Respondents, KSEBL and GRIDCO have submitted that the 2019 Tariff Regulations provide for allowing actual security charges, after prudence check, but the Petitioner has not furnished any details regarding the security assessment and charges in terms of above-mentioned Regulations. In response, the Petitioner submitted that the actual security expenses incurred for Stage I&II in 2018-19 as Rs.3543.55 lakh and the apportioned (based on installed capacity) charges for the generating station are Rs.2362.36 lakh. It has submitted that appropriate escalation has been considered for the period 2019-24 .

103. We have examined the matter. The Petitioner has furnished the apportioned actual security expenses associated with the generating station as Rs.2362.36 lakh and escalated same with around 10.5 % annually for the period 2019-24. However, the Petitioner has not furnished the assessment of security requirement as required under the provisions of the 2019 Tariff Regulations. In view of this, the actual security charges for the 2018-19 and annual escalation thereof 3.51% provided in 2019 Tariff Regulations, has been considered for the period 2019-24. Accordingly, the security charges allowed on projection basis is as follows:

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
2445.28	2531.11	2619.95	2711.91	2807.10



104. In terms of Regulation 35(1)(6) of 2019 Tariff Regulations, the Petitioner is directed to furnish the requisite details for carrying out the prudence check of security expenses at the time of truing up.

105. Accordingly, the total O&M expenses including water charges and security expenses, as claimed by the Petitioner and allowed to the generating station is as under:

(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Normative O&M expenses claimed under Regulation 35(1)(1) of the 2019 Tariff Regulations (a)	45020.00	46600.00	48240.00	49940.00	51680.00
Normative O&M expenses allowed under Regulation 35(1)(1) of the 2019 Tariff Regulations (b)	45020.00	46600.00	48240.00	49940.00	51680.00
Water Charges claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (c)	4563.33	4900.67	5250.67	5600.67	5967.33
Water Charges allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (d)	3863.41	4238.14	4661.96	5128.15	5656.42
Security Expenses claimed under Regulation 35(1)(6) of the 2019 Tariff Regulations (e)	2631.14	2894.26	3183.68	3502.05	3852.26
Security Expenses allowed under Regulation 35(1)(6) of the 2019 Tariff Regulations (f)	2445.28	2531.11	2619.95	2711.91	2807.10
Total O&M expenses claimed under Regulation 35 of the 2019 Tariff Regulations (a + c + e)	52214.47	54394.93	56674.35	59042.72	61499.59
Total O&M expenses allowed under Regulation 35 of the 2019 Tariff Regulations (b + d + f)	51328.69	53369.25	55521.91	57780.06	60143.52

Additional expenditure towards Fly ash transportation

106. The Petitioner has claimed recovery of additional expenditure of Rs.50.43 lakh in 2019-20 and Rs.127.38 lakh in 2020-21 vide affidavit dated 15.5.2021, subject to truing up, from the beneficiaries on account of ash transportation charges after adjusting the revenue earned from sale of ash. In this regard, it is noted that the Petitioner has filed Petition 205/MP/2021 for recovery of additional expenditure incurred due to Ash transportation charges consequent to MoEF&CC, GOI Notification dated 3.11.2009 & 25.1.2016. In this regard, the Commission vide its order dated 28.10.2022, had allowed the Ash transportation expenses incurred by the Petitioner



for the period 2019-22 and recover the subject expenses through supplementary bills in 2022-24. The relevant portion of the order is as below:

“Petitioner has furnished the details of the distance to which fly ash has been transported from the generating station, schedule rates applicable for transportation of fly ash, as notified by the State Governments along with details, including Auditor certified accounts. These documents have been examined and accordingly, the total fly ash transportation expenditure allowed to the Petitioner generating station wise for the period 2019-22 is as per the table in para 38 above totalling to Rs.309704.03 lakh and the same shall be recovered from the beneficiaries of the respective generating stations in 6 (six) equal monthly instalments. However, the Petitioner is directed to submit details regarding award of transportation contracts, distance to which fly ash has been transported along with duly reconciled statements of expenditure incurred on ash transportation at the time of filing petitions for truing up of tariff for the 2019-24 tariff period of the generating stations.”

107. In view of the above, the claim of the Petitioner shall be governed by the findings of the Commission in the said order and the latest MOP guidelines.

Operational Norms

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

Normative Annual Plant Availability Factor (NAPAF) (%)	85
Heat Rate (kCal/kwh)	2390
Auxiliary Power Consumption (%)	6.25
Specific Oil Consumption (ml/kwh)	0.50

Normative Annual Plant Availability Factor (NAPAF)

109. 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.”*

110. NAPAF claimed by Petitioner are in terms of Regulation 49(A)(a) of the 2019 Tariff Regulations i.e., 85% during the period 2019-24 and hence, the same is allowed.

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

111. Regulation 49(C)(a)(i) of 2019 Tariff Regulations provides as under:

“(i) For existing Coal-based Thermal Generating Stations, other than those covered under clauses (ii) and (iii) below:

200/210/250 MW Sets	500 MW Sets (Sub-critical)
2430kCal/kWh	2390kCal/kWh



112. The SHR claimed by Petitioner is in terms of Regulation 49(C)(a)(i) of the 2019 Tariff Regulations i.e., 2390 kCal/kWh during the period 2019-24 and hence, the same is allowed.

(b) Specific Oil Consumption

113. 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”

114. The secondary oil claimed by the Petitioner is in terms of Regulation 49(D)(a) of the 2019 Tariff Regulations i.e., 0.50 ml/kWh during the period 2019-24 and hence, the same is allowed.

(c) Auxiliary Power Consumption

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

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

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

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

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

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



116. The Petitioner has claimed auxiliary energy consumption in terms of Regulation 49(E)(a) of the 2019 Tariff Regulations i.e., 6.25% during the period 2019-24 and hence, the same is allowed.

Interest on Working Capital

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

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

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

(i) Cost of coal or lignite and limestone towards stock if applicable for 10 days for pit-head generating stations and 20 days for non-pit-head generating stations for generation corresponding to the normative annual plant availability factor or the maximum coal/lignite stock storage capacity whichever is lower;

(ii) Advance payment for 30 days towards cost of coal or lignite and limestone for generation corresponding to the normative annual plant availability factor;

(iii) Cost of secondary fuel oil for two months for generation corresponding to the normative annual plant availability factor and in case of use of more than one secondary fuel oil cost of fuel oil stock for the main secondary fuel oil;

(iv) Maintenance spares @ 20% of operation and maintenance expenses including water charges and security expenses;

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

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

(b) xxxxx

(c) xxxxx

(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.



(3) 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.”

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

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

119. The Petitioner has claimed interest on working capital as follows:

	(Rs. in lakh)				
	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of Coal - 40 days for generation	27960.75	27960.75	27960.75	27960.75	27960.75
Cost of secondary fuel oil - 2 months	523.19	521.76	521.76	521.76	523.19
Maintenance Spares - 20% of O&M	10442.89	10878.99	11334.87	11808.54	12299.92
Receivables	44915.99	45702.77	46366.37	47170.06	47869.29
O&M expenses - 1 month	4351.21	4532.91	4722.86	4920.23	5124.97
Total Working Capital	88194.03	89597.17	90906.61	92381.34	93778.11
Rate of Interest	12.5	12.5	12.5	12.5	12.5
Total Interest on Working capital	10627.38	10796.46	10954.25	11131.95	11300.26

Fuel Cost and Energy Charges in Working Capital

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

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

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

(a) For coal based and lignite fired stations:

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

(b) For gas and liquid fuel based stations:

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

Where,

AUX = Normative auxiliary energy consumption in percentage.

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



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

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

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

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

SHR = Gross station heat rate, in kCal per kWh;

LC = Normative limestone consumption in kg per kWh;

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

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

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

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

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

122. The Petitioner has claimed the cost of fuel component in working capital and Energy Charge Rate (ECR) based Operational norms as per the 2019 Tariff Regulations, Price and GCV of coal and oil as considered by the Petitioner for Oct, 2018 to Dec, 2018 along with margin of 85 kCal/kg in GCV. Accordingly, the Petitioner has claimed ECR of Rs.1.850 per kWh and following fuel cost component in working capital for the period 2019-24:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of coal for 40 days	27960.75	27960.75	27960.75	27960.75	27960.75
Cost of secondary fuel oil for 2 months	523.19	521.76	521.76	521.76	523.19

123. It is observed that the Petitioner has used both the secondary oils i.e. LDO and HFO. Whereas, it has considered opening stock and value thereof in applicable form w.r.t. oil. As per the details submitted by the Petitioner, it is observed that HFO is the prominent secondary oil used by the Petitioner. Accordingly, in terms of Regulation 34(1)(a)(iii) of the 2019 Tariff Regulations, in case of use of more than one secondary fuel oil, cost of fuel oil stock for the main secondary oil is to be considered for allowing two months of secondary oil cost in the working capital. Accordingly, the cost of HFO



and GCV thereof have been considered in the working capital. In regards to coal, it is noted that the Petitioner has claimed 'Cost of Diesel in Transporting Coal through MGR system, if applicable' and 'Others (Stone picking charges, Loco Driver's salary, Sampling charges etc,)' for the coal supplied through Railways as well as imported coal. However, the 2019 Tariff Regulations do not allow 'Others charges (Stone picking charges, Loco Driver's salary, Sampling charges etc,)' . In addition, the diesel charges are applicable only for the coal supplied through MGR. It is also noted that Petitioner has claimed higher loss in GCV of imported coal i.e., difference in GCV (billed) and GCV (received), however, the GCV measurement and billing of imported coal are being done at the Petitioner premises and no justification has been provided by the Petitioner for such difference, the loss of GCV in imported coal is not considered. Further, even though quantity of imported coal is low i.e., ratio of coal procured through domestic sources and imported is around 97.2: 2.8, the Petitioner has claimed blending ratio in the range of 67.04 % to 17.26 %, which is inconsistent. Accordingly, the actual coal procured from domestic sources and imported during Oct, 2018 to Dec, 2018 i.e., blending ratio of 97.2: 2.8 has been considered to determine weighted average GCV and weighted average cost of coal for the period 2019-24. Considering the above, the weighted average price and GCV of coal and oil claimed and allowed are as follows:

	Claimed	Allowed
Weighted average price of coal (Rs. /MT)	1944.33	1897.39
Weighted average GCV of coal (kCal/kg) *	2706.77	2701.2
Weighted average price of oil (Rs. /KL)	42,043.54	42,043.54
Weighted average GCV of oil (kCal/Ltr.)	9998.00	9998.00

* Weighted average GCV of coal as received net of 85 kCal/kg.

124. Accordingly, the fuel component in working capital, energy charges and ECR allowed on projection basis, is as under:



(Rs. in lakh)

	2019-20	2020-21	2021-22	2022-23	2023-24
Cost of coal for 40 days	27340.45	27340.45	27340.45	27340.45	27340.45
Cost of secondary fuel oil for 2 months	523.19	521.76	521.76	521.76	523.19
Energy charges for 45 days	31137.41	31137.41	31137.41	31137.41	31137.41
ECR (Rs. / kWh)	1.809	1.809	1.809	1.809	1.809

125. The Petitioner, on a month-to-month basis, shall compute and claim the energy charges from the beneficiaries based on formulae given under Regulation 43 of the 2019 Tariff Regulations. 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, actual blending ratio. In addition, the Petitioner shall furnish the details regarding grade slippages, moisture content, adjustment made, reasons for 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 Railways, Other charges etc at the time of truing up of tariff.

Working Capital for Maintenance Spares

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

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
10442.89	10878.99	11334.87	11808.54	12299.92

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

(Rs. in lakh)

2019-20	2020-21	2021-22	2022-23	2023-24
10265.74	10673.85	11104.38	11556.01	12028.70



Working Capital for Receivables

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

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Variable Charges - for 45 days at 85 % PLF	31137.41	31137.41	31137.41	31137.41	31137.41
Fixed Charges - for 45 days at NAPF	12713.82	13082.61	13348.74	13717.58	14072.39
Total	43851.23	44220.03	44486.15	44854.99	45209.80

Working Capital for O&M Expenses (1 month)

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

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
4351.21	4532.91	4722.86	4920.23	5124.97

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

<i>(Rs. in lakh)</i>				
2019-20	2020-21	2021-22	2022-23	2023-24
4277.39	4447.44	4626.83	4815.01	5011.96

131. In line with the Regulation 34(3) of the 2019 Tariff Regulations, the rate of interest on working capital is considered as 12.05% (i.e., 1-year SBI MCLR of 8.55% as on 1.4.2019 + 350 bps) for 2019-20, 11.25% (i.e., 1 year SBI MCLR of 7.75% as on 01.04.2020 + 350 bps) for the year 2020-21 and 10.50% (i.e. 1 year SBI MCLR of



7.00% as on 1.4.2021 + 350 bps) for the period 2021-24. Accordingly, Interest on working capital has been computed as under:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Working Capital for Cost of Coal towards Stock - (10 days generation corresponding to NAPAF) (A)	6835.11	6835.11	6835.11	6835.11	6835.11
Working Capital for Cost of Coal towards Generation – (30 days generation corresponding to NAPAF) (B)	20505.34	20505.34	20505.34	20505.34	20505.34
Working Capital for Cost of Secondary fuel oil - (2 months generation corresponding to NAPAF) (C)	523.19	521.76	521.76	521.76	523.19
Working Capital for Maintenance Spares @ 20% of O&M expenses (D)	10265.74	10673.85	11104.38	11556.01	12028.70
Working Capital for Receivables – (45 days of sale of electricity at NAPAF (E))	43851.23	44220.03	44486.15	44854.99	45209.80
Working Capital for O&M expenses - 1 month (F)	4277.39	4447.44	4626.83	4815.01	5011.96
Total Working Capital	86258.00	87203.53	88079.57	89088.22	90114.11
Rate of Interest	12.0500%	11.2500%	10.5000%	10.5000%	10.5000%
Interest on Working Capital	10394.09	9810.40	9248.36	9354.26	9461.98

Annual Fixed Charges

132. Accordingly, the annual fixed charges allowed for the generating station for the period 2019-24 is summarised below:

	<i>(Rs. in lakh)</i>				
	2019-20	2020-21	2021-22	2022-23	2023-24
Depreciation	10166.84	11116.00	11495.59	11926.51	12442.65
Interest on Loan	0.00	0.00	0.00	0.00	0.00
Return on Equity	31516.10	31818.89	32007.26	32203.98	32407.28
Interest on Working Capital	10394.09	9810.40	9248.36	9354.26	9461.98
O&M Expenses	51328.69	53369.25	55521.91	57780.06	60143.52
Total	103405.72	106114.54	108273.11	111264.82	114455.44

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

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

Application Fee and Publication expenses

134. The Petitioner has sought reimbursement of fee paid by it for filing the petition for the 2019-24 tariff period and for publication expenses. The Petitioner shall be entitled for reimbursement of the filing fees and publication expenses in connection



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

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

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

137. Petition No. 441/GT/2020 is disposed of in terms of the above.

Sd/-
(Pravas Kumar Singh)
Member

Sd/-
(Arun Goyal)
Member

Sd/-
(I.S Jha)
Member

