

**CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI**

Petition No. 361/MP/2023 along with IA No. 61/2026

Coram:

**Shri Jishnu Barua, Chairperson
Shri Ramesh Babu V., Member
Shri Harish Dudani, Member
Shri Ravinder Singh Dhillon, Member**

Date of Order: 21st July, 2026

In the matter of:

Petition under Sections 62 and 79(1)(a) of the Electricity Act, 2003, read with Regulation 29 of the Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 for the determination of tariff on the installation of various Emission Control Systems in Bokaro-A Thermal Power Station (500 MW) in compliance with the revised Emission Standards.

And

In the matter of:

Damodar Valley Corporation,
DVC Towers, VIP Road,
Kolkata – 700054

...Petitioner

Vs

1. Jharkhand Bijlee Vitaran Nigam Limited,
Engineering Building, HEC Township, Dhurwa, Ranchi-834004
2. Punjab State Power Corporation Limited,
Inter-State Building Shed No. TI-A, Patiala-147001.
3. West Bengal State Electricity Distribution Company Limited,
Vidyut Bhawan, Bidhannagar, Block DJ,
Sector-II, Salt Lake City, Kolkata – 700 091

...Respondents

Parties present:

Shri Venkatesh, Advocate, DVC
Shri Nihal Bhardwaj, Advocate, DVC
Ms. Suparna Srivastava, Advocate, PSPCL
Ms. Arshiya Sharma, Advocate, PSPCL

ORDER

The Petitioner, Damodar Valley Corporation (DVC), has filed the present Petition for the determination of the supplementary tariff on the installation of various Emission



Control Systems in Bokaro-A Thermal Power Station (500 MW) (in short, ‘the generating station), towards the installation of ECS. The Petition was initially filed based on the anticipated date of operationalisation of the ECS as 30.11.2023. Subsequently, during the pendency of the proceedings, the Petitioner submitted that the ECS was actually operationalised on 22.6.2024 and furnished revised details based on the actual date of operationalisation (Ode). Accordingly, the present Petition has been considered based on the actual date of operationalisation of the ECS, i.e., 22.6.2024.

Background

2. Vide Notification dated 7.12.2015, the Ministry of Environment, Forest and Climate Change, Government of India (in short ‘MoEF&CC’) amended the Environment (Protection) Rules, 2015 (in short the “ 2015 MOEF&CC Rules) mandating the compliance with the Revised Emission Norms, by all existing and upcoming thermal power plants, including the Bokaro-A Thermal Power Station (500 MW) (in short, ‘the generating station’), and in terms thereof, the Petitioner was required to install the requisite Emission Control Systems (‘ECS’) to meet the prescribed emission standards, as given below :

Date of Installation	PM	SO₂	NO_x	Mercury (Hg)
Before 31.12.2013	100 mg/Nm ³	600 mg/Nm ³ for <500 MW 200 mg/Nm ³ for ≥500 MW	600 mg/Nm ³	0.03 mg/Nm ³ for ≥500 MW
After 1.1.2004 and Up to 31.12.2016	50 mg/Nm ³	600 mg/Nm ³ for <500 MW 200 mg/Nm ³ for ≥500 MW	300 mg/Nm ³	0.03 mg/Nm ³
On or after 1.1.2017	30 mg/Nm ³	100 mg/Nm ³	300 mg/Nm ³	0.03 mg/Nm ³

3. Regulation 29 of the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2019 (in short, “the 2019 Tariff Regulations”) provides for the additional capitalisation related to compliance with the Revised Emission Norms, as stated below:

“29. Additional Capitalization on account of Revised Emission Standards: (1) A generating company requiring to incur additional capital expenditure in the existing generating station for compliance of the revised emissions standards shall share its proposal with the beneficiaries and file a petition for undertaking such additional capitalization.

(2) The proposal under clause (1) above shall contain details of proposed technology as specified by the Central Electricity Authority, scope of the work, phasing of expenditure,



schedule of completion, estimated completion cost including foreign exchange component, if any, detailed computation of indicative impact on tariff to the beneficiaries, and any other information considered to be relevant by the generating company.

(3) Where the generating company makes an application for approval of additional capital expenditure on account of implementation of revised emission standards, the Commission may grant approval after due consideration of the reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.

(4) After completion of the implementation of revised emission standards, the generating company shall file a petition for determination of tariff. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on reasonableness of the cost and impact on operational parameters shall form the basis of determination of tariff."

4. The Petitioner earlier filed Petition No. 459/MP/2019 seeking in-principle approval on the issues related to the installation of ECS at the generating station of the Petitioner, and the Commission, vide its common order dated 20.9.2021, disposed of the said Petition, and accorded in-principle approval of ACE as under:

"114. In view of the discussion in the foregoing paragraphs, the Commission observes that:

- (a) The process from the stage of identification of FGD package to NoA was with the approval of the Petitioner's Board of Directors and as per the procedure laid down under its DoP and the bidding has been carried out in a fair and transparent manner.*
- (b) The Petitioner has identified and proposed WFGD systems for reduction in the SO₂ emissions taking into consideration the effectiveness, availability, and cost of the WFGD systems, size of the plants, operational expenses, and availability of the reagents.*
- (c) The costs claimed by the Petitioner towards installation of WFGD system have been discovered through a competitive bidding process and the hard costs claimed by the Petitioner for WFGD system is higher than the indicative cost recommended by CEA, for which justifications have been submitted by the Petitioner and the reasons for the same have been enumerated in the order.*

115. Therefore, we accord "in-principle approval" of ACE under Regulation 11 of the 2019 Tariff Regulations towards installation of WFGD systems for control of SO₂ emissions (hard cost for WFGD system). We also accord "in-principle approval" for installation of Combustion Modification System for emission control of NO_x in all the six generating stations.

116. In terms of above deliberations, the details of the "in-principle approval" of hard cost of FGD and capital cost of CMS are as follows:

Xxx

<i>Petition Number</i>	<i>Generating station/ unit capacity (MW)</i>	<i>Hard cost of WFGD System (₹ Lakh)</i>	<i>Hard cost of CMS (₹ Lakh)</i>
<i>459/MP/2019</i>	<i>BTPS-A (1x500)</i>	<i>62.50</i>	<i>1.56</i>
<i>...</i>	<i>...</i>		

117. We have not considered the Petitioner's claim of total capital cost towards installation of FGD, which apart from hard cost includes IDC, IEDC, FERV, taxes and duties and other costs. These claims excluding hard cost would be considered on case to case basis on petitions to be filed by the Petitioner for determination of tariff after implementation of ECS as provided under Regulation 29(4) of the 2019 Tariff Regulations. Accordingly, the Petitioner is directed to file separate petitions



Present Petition

5. In the above background, the Petitioner has filed the present petition, vide affidavit dated 11.10.2023. This petition was heard on 13.3.2024, wherein the matter was admitted, and the Petitioner was directed to file additional information, implead the beneficiaries, and serve a copy on them; the parties were also directed to complete the pleadings. The Petitioner has filed additional information vide affidavit dated 27.3.2024. The matter was again heard on 5.6.2024, wherein, based on the submissions of the Petitioner, it was directed that an amended petition be filed. However, during the hearing dated 9.9.2024, the Petitioner requested time to file an amended petition, which the Commission accepted, and the parties were directed to complete the pleadings in the matter.

6. The Petitioner has amended the Petition, vide affidavit dated 7.10.2024, and has claimed the capital cost and annual fixed charges for the period from ‘Ode’ (i.e., 22.6.2024) to 31.3.2029, as under:

Capital Cost

	(Rs. in lakh)				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Opening capital cost	46196.53	49298.94	51305.63	52335.63	52335.63
Add: Addition during the year/period	3102.41	2006.69	1030.00	0.00	0.00
Closing capital cost	49298.94	51305.63	52335.63	52335.63	52335.63

Annual Fixed Charges

	(Rs. in lakh)				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Depreciation	2884.28	3943.70	4062.74	4103.11	4103.11
Interest on Loan	2165.98	2668.26	2409.80	2082.60	1721.93
Return on Equity	1791.93	2450.12	2524.08	2549.16	2549.16
Interest on Working Capital	177.31	198.76	199.96	197.95	195.38
O&M Expenses	616.51	842.17	886.38	932.91	981.89
Total (pro-rata tariff)	7636.02	10103.01	10082.96	9865.73	9551.48

7. The Petitioner has made the following prayers in the amended petition:

- i) Determine & approve the provisional supplementary tariff of BTPS-A for the tariff period from the date of operationalization of the ECS schemes till 31.3.2029;



ii) Allow the Petitioner to bill on provisional basis towards recovery of supplementary fixed charge based on submission in this petition from the date of operationalization of emission control system till the period this petition is finally disposed by this Hon'ble Commission. Any variation between the billed amount and the approved amount by Hon'ble Commission will be adjusted as per CERC Regulation 2024-29.

iii) Allow the recovery of the cost of Reagent consumption through supplementary energy charges from the date of commissioning & put to use of the ECS in terms of the provisions of the Tariff Regulations 2024;

iv) Direct the beneficiaries of the instant station not to consider the Supplementary energy charge for Merit Order Dispatch;

v) Allow the recovery of fee for filing the present petition from beneficiaries;

vi) Pass any other order as it may deem fit in the circumstances mentioned above."

Submissions of the Petitioner

8. The Petitioner has mainly submitted the following:

- a) DVC had initially considered the Combustion Modification System (CMS) as the primary measure and SNCR as the secondary measure to control the NO_x emissions. Later, with the revision of emission norms for NO_x for TPPs installed during the period from 1.1.2004 to 31.12.2016 from 300 mg/Nm³ to 450 mg/Nm³ by MoEF&CC vide Notification G.S.R. 662(E) dated 19.10.2020, DVC has considered the installation of only CMS as the primary system of De-NO_x to bring the level of NO_x emission below 450 mg/Nm³ at BTPS-A.
- b) Particulars of the LOA placed for the installation of wet limestone-based FGD & CMS are as follows:

Emission control systems	LOA placed on	LOA date	LOA Amount incl. GST (Rs. in crore)	Timeline for completion as per LOA
Wet FGD	M/s Techno Electric & Engineering Co. Ltd.	15.7.2019	368.5	14.10.2021
CMS	M/s BHEL	17.7.2019	9.2265	16.10.2020

- c) The following details of the capital cost were submitted before the Commission for taking in-principle approval for the installation of FGD at the generating station in Petition No. 459/MP/2019:

Unit No.	BTPS-A
Capacity (MW)	1 x 500 MW
CEA's indicative Hard cost (Rs in Lakh/MW)	40.50
Hard Cost claimed (Rs in Lakh/MW)	62.50
Total IDC & FC claimed (Rs in Lakh)	2638.00
Total IEDC claimed (Rs in Lakh)	1105.00
Total Taxes & Duties (Rs in Lakh)	5621.18
Total Other cost claimed (Rs in Lakh)	9364.18
Total Cost claimed (Rs in Lakh)	40593.00



- d) The MoEF&CC Notification dated 5.9.2022 has extended the timeline towards implementation of Revised Emission Norms for various categories of cities as follows:

Category of Cities	Location/area	Timelines for compliance	
		Parameters other than SO2 emissions	SO2 emissions
Category-A	With 10 km radius of the National Capital Region or cities having a million-plus population.	Up to 31.12.2022	Up to 31.12.2024
Category-B	With 10 km radius of Critically Polluted Areas or non-attainment cities.	Up to 31.12.2023	Up to 31.12.2025
Category-C	Other than those included in categories A and B	Up to 31.12.2024	Up to 31.12.2026

- e) The generating station falls under category C, as per the table given above. The details of the useful life of the generating station, scheduled date, and actual date of operation (ODE) vis-à-vis the delay towards the implementation of the FGD system are as under:

Units	BTPS-A
Date of COD	23.2.2017
Useful life of the station till	22.2.2042 (considering 25 years from Station COD)
LOA date	15.7.2019
Timeline as per LOA (As per original L1)	14.10.2021
Scheduled date of ODe (As per revised L1)	14.4.2022
Actual ODe	22.6.2024
Delay in no. of days (w.r.t. Original L1 schedule)	800

- f) The implementation of CMS has already been completed in the generating station in December 2021. The total cost for the installation of CMS is Rs 9.80 crore, which includes ex-manufacturing works/place of dispatch, equipment price, local transportation including inland transit, insurance and other costs, installation services, taxes & duties, and IEDC. The total cost of the ECS system as on the actual ODe, i.e., on 22.6.2024, is Rs. 472.92 crore on a gross basis, including liabilities, IDC & FC, IEDC, taxes & duties, etc.
- g) For computation of the working capital on account of FGD, as per Regulations 61 and 70 (F) of the the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2024 (in short, "the 2024 Tariff Regulations"), the supplementary ECR is to be computed based on the landed cost of Reagent as per Form-16 for preceding three months prior to the date of operation of the FGD system. However, the actual ODe of the generating station is 22.6.2024, and the first purchase order for the supply of limestone was placed on 16.6.2023, based on OTE with an e-reverse auction. So, for the computation of working capital on account of FGD, a supplementary ECR has been prepared based on the landed cost of limestone as per the above purchase order.



- h) The Petitioner has taken loans from a consortium of banks (Union Bank, Bank of India, Canara Bank, Punjab National Bank, and WBIFDC) for a total amount of Rs. 2064.28 crore based on 70% of the estimated project cost of Rs. 2948.98 crore in totality. However, there has been an increase in the total project cost due to price variations in supply parts, which has also led to a corresponding increase in the amounts claimed for IEDC and IDC. The remaining portion of the normative debt component has been contributed by the Petitioner.
- i) The computation of IDC has been furnished project-wise, considering the normative Debt: Equity ratio of 70:30, and IDC has been claimed against each project based on the normative debt within the provisions of the 2024 Tariff Regulations. The work has been hampered due to COVID, for which detailed reasoning for the delay, along with supporting documents, has already been submitted. Further, high humidity during the rainy season hinders the job of boro-silicate glass block liners inside the FGD chimney.
- j) During the trial run operation, auxiliary power and limestone have been consumed. The estimated expenditure amount has been claimed within the project cost. The projected additional capitalisation amount includes the balance of EPC Cost, the cost of initial spares, and the Liability to be discharged. The actual booking, as directed by the Commission, has been captured in Form B. The liabilities to be discharged and additional capital expenditure likely to be booked as a contractual obligation, along with initial spares to be procured (@4% of the plant and machinery cost), have been projected in Form-9. The summary of Form-9 is stated below:

(Rs. in lakh)			
Year	2024-25	2025-26	2026-27
Add Cap	3102.41	2006.69	1030

- k) The original cost for all the projects of ECS is Rs. 2948.98 crore. Accordingly, 70% of the total project cost, i.e., Rs. 2064.28 crore, was taken as a loan from the Consortium of Banks (i.e., Union Bank, Bank of India, Canara Bank, PNB, WBIDFC).
- l) By an order dated 26.7.2024, the FGD project cost for the Project was subsequently revised to Rs.505 crore. The increase from the initially estimated project cost is mainly due to price variations under the contractual provision and overhead booking over the extended time period.

9. The Petitioner has submitted a note of arguments on 26.12.2024, summarising its earlier submissions and has additionally submitted that on 22.6.2024, the ECS of the generating station achieved COD and prayed for a provisional supplementary tariff in terms of the 2024 Tariff Regulations. The summary of the cost involved in the FGD system is given as under:

(Rs. in lakh)				
	Hard cost	IDC	IEDC	Total claimed



	(a)	(b)	(c)	(a)+(b)+(c)
FGD	39115.62	5033.12	1992.98	46141.72
CMS	892.25	170.23	88.05	1150.53
Total				47292.25

Hearing dated 27.12.2024

10. During the hearing on 27.12.2024, the learned counsel for the Respondent PSPCL made preliminary submissions and sought time to file a reply, subject to the Petitioner addressing preliminary objections. The Petitioner was also directed to submit certain additional information, and the parties were permitted to complete pleadings in the matter. The Petitioner has submitted the additional information.

Additional submissions by the Petitioner

11. The Petitioner, vide affidavit dated 11.4.2025, has furnished the additional information, which is summarised below:

- a) The investment approval for the installation of the CM (De-Nox) system was taken together for various units of DVC having a capacity of 500 MW and more, with a total capacity of 4700 MW. Unit-1 of the generating station is also included in the combined sanction order, and the apportioned sanction amount for such unit is considered as Rs.13.25 crore.
- b) The detailed break up of IEDC is tabulated as under:

FORM-P			
<u>Incidental Expenditure during Construction</u>			
(Amount in Rs. Lakh)			
S.No.	Parameters	As on the actual COD	
		FGD	CMS
A	Head of Expenses:		
1	Employees' Benefits Expenses	1825.57	88.05
2	Finance Costs	167.41	
	Total	1992.98	88.05

- c) Upon implementation of the FGD and De-NOx system in the generating station, the Petitioner has not decapitalised any asset up to the actual ODe of Unit-1. The value of the weighted average GCV of coal, as per the additional form (Form-O(i)) used in the calculation of the cost of reagent, was 3744 kCal/Kg. However, the same was provisional in nature. Under Regulation 64 of the 2024 Tariff Regulations, bilateral beneficiaries taking power from the generating station are billed for energy charges. Form-15 provides details of coal for the computation of energy charges for the preceding 12 months prior to the COD of ECS. The average value of the weighted average GCV of coal will be 3926.92 kCal/Kg.
- d) DVC Board had given its approval for the Project cost on 26.2.2019. The 2019 Tariff



Regulations (being applicable to the tariff period 2019-24) do not consist of any relevant regulations, and the Petitioner had not included the cost of the initial spare in the project estimate and the contract package.

- e) The Petitioner has initiated the proposal for inclusion of the cost of initial spares (limited to 4% of the total plant and machinery cost) in the project cost, and approval for the same is in process. The reasons for the non-availability of the shutdown, which caused a delay in the declaration of ODe of CMS, have been tabulated as under:

Start date	Finish date	Overhauling schedule information	Remarks	Reasons
20.5.2020	24.6.2020	Overhauling schedule dated 19.9.2019	Deferred	Due to the COVID-19 pandemic, overhauling in the 2020-21 period up to October 2020 could not be undertaken. Due to this, some units, which were scheduled for OH in 2020, could not undergo overhauling. The overhauling was rescheduled in the month of February, 2021, but prolonged capital overhauling of DSTPS Unit-2 and MTPS U-8 forced overhauling (Generator rotor earth fault) forced the change of the overhauling schedule to the month of March, 2021. Further, in case of forced outage of DVC units, the overhauling schedule, originally planned, had to be shifted to meet the demand, so that the availability of power to consumers during peak hours can be ensured in spite of the forced outage of units. The COVID-19 pandemic second wave started in March 2021 and extended up to July 2021, which further disrupted the overhauling schedule. BTPS A OH was finally rescheduled in November 2021 and underwent OH from November 2021 to December 2021.
15.2.2021	21.3.2021	Overhauling schedule dated 17.8.2020	Deferred	
18.3.2021	22.4.2021	Overhauling schedule dated 4.2.2021	Deferred	
12.11.2021	16.12.2021	Overhauling schedule dated 4.3.2022	Installation done	

- f) Since the delay in the execution of work is mainly attributable to the COVID-19 pandemic and the consequent lockdown imposed thereafter. The Petitioner has not levied any penalty for the contractor's delay. Any such penalty, if applicable, will be levied after carrying out a detailed analysis of project execution at the time of closing of the contract. The extension of time in the original contract was conveyed to the vendor without imposing any LD. Since the execution of works is not completed as on date, the contracts entered into between the Petitioner and the vendor are not yet closed. Accordingly, any information on LD recovered, if any, can be provided only in the true-up petition after the contract closes.
- g) The Form-O(i) along with Form-16 for the determination of supplementary tariff for ECS (FGD+CMS) has already been submitted. Further, Form-15 containing details of the weighted-average GCV of Coal for the computation of the supplementary tariff is also submitted. The IDC amount written in Form-B is notional IDC, which is computed based on the cash expenditure in accordance with the Regulations. The



editable soft copy of the detailed computation of actual and normative IDC (duly certified by the auditor) has already been submitted with the amended petition.

- h) The loans from a consortium of banks (Union Bank, Bank of India, Canara Bank, Punjab National Bank, and WBIFDC) for a total amount of Rs. 2064.28 crore towards the implementation of ECS for all 500/600 MW thermal plants, i.e., Koderma TPS, Bokaro TPS, Mejia TPS, Durgapur Steel TPS & Raghunathpur TPS. Accordingly, a consolidated loan was allocated to all units based on the expenditure incurred in implementing ECS. The total sanctioned loan amount is slightly less than the normative 70% of the latest estimated cost, which is currently being funded through equity support.
- i) The actual interest (i.e., the interest paid to the consortium of Banks for loans taken) component is restricted only to the sanctioned loan amount. The normative IDC has been claimed for the balance amount, which was supposed to be funded through a loan, but had to be funded through infusion of equity for want of the requisite loan amount, as per Regulation 19 (2)(b) of the 2024 Tariff Regulations. The computation of normative interest under the 2024 Tariff Regulations is based on the normative loan (i.e., 70% of the cash-booked expenditure) being taken for the implementation of ECS. Interest amount in Form B as IDC after its due apportionment to the respective project has been placed on record.
- j) The tax liability (as of date) is Nil. The same is due to losses accumulated over the past years, evident from the latest ITR-6. However, a liberty is being sought to claim any future income tax liability without referring the present matter to the Commission.

Reply of the Respondent PSPCL

12. The Respondent, PSPCL, vide reply affidavit dated 3.2.2025, while opposing the condonation of delay claimed by the Petitioner, has mainly stated the following:

- a) The claim for fixed charges prior to the commencement of scheduling from 26.3.2018 is pending adjudication in Petition No. 346/MP/2020. The claims for IDC, IEDC and other related costs are inadmissible for the period of delay as claimed in the present Petition. These claims were neither approved nor considered during the in-principle approval (in Petition No. 459/MP/2019) and may be considered only after a prudence check.
- b) The alleged delays due to Covid-19 and other factors amounting to 807 days were already within the Petitioner's knowledge and accounted for during the hearing of Petition No. 459/MP/2019. The Petitioner cannot now seek condonation of the same delays again.
- c) The Petitioner was fully aware of the space limitations at the site, as it was a brownfield project. The 60-day delay due to site constraints is inadmissible, as it was not raised earlier during the in-principle approval proceedings in Petition No. 459/MP/2019, despite the Petitioner being aware of the same.



- d) Delay due to non-availability of sand and price rise of commodities and FGD equipment occurred after the in-principle approval and were foreseeable. The resultant cost escalation, if passed on, would unfairly burden the beneficiaries and hence, such delays are not liable to be condoned.
- e) Although a hard cost of Rs.405.92 crore was approved, the Petitioner's claim of Rs.472.92 crore, including IDC, IEDC, taxes, etc., must undergo a detailed prudence check. The Petitioner is required to justify vendor costs and deviations from approved benchmarks. The over five years it has taken the Petitioner to implement the project since the contract was awarded in 2019 cannot be justified, and the increased cost should not be passed on to consumers.

Rejoinder of the Petitioner to the reply of the Respondent PSPCL

13. The Petitioner, vide its rejoinder affidavit dated 28.4.2025, has mainly submitted the following:

- a) The delay in the commencement of power supply from the generating station was solely attributable to the Respondent PSPCL's failure to execute the LTA agreement with PGCIL, despite several reminders. The resultant fixed charges of Rs. 275.42 crore from COD (23.2.2017) to scheduling (26.3.2018) are directly attributable to the Respondent PSPCL's default.
- b) Since ECS achieved COD on 22.6.2024, the applicable regulations for tariff determination are the 2024 Tariff Regulations. This petition has been filed in strict compliance with the Commission's directions and the applicable legal framework.
- c) The delay due to the first wave of Covid-19, topographical challenges, blasting restrictions, and the lockdowns is beyond its control. These delays were not conclusively adjudicated earlier and should now be examined under Regulation 29(4) of the 2024 Tariff Regulations, which permits post-implementation cost scrutiny.
- d) The space was earmarked in compliance with earlier directions; however, actual site execution revealed unforeseen challenges. These difficulties can only be identified during on-ground work and cannot be pre-emptively disclosed at the in-principle approval stage.
- e) The delay due to state-imposed sand mining bans, NGT restrictions, Covid-19 variants, and geopolitical disruptions was a *force majeure* event. These factors significantly impacted supply chains and civil works. Such events fall within the purview of "unforeseen events" under the regulatory framework and justify the condonation of the delay.
- f) The capital cost of Rs. 472.92 crore is based on transparent, competitive bidding and was approved by its Board. The Commission has previously acknowledged that CEA's indicative benchmarks cannot substitute actual discovered costs, and



the claim deserves consideration after a prudence check. Regulation 29(4) of the 2024 Tariff Regulations does not prescribe any disallowance solely based on delay. The Commission is empowered to consider a reasonable and necessary expenditure, even if incurred as a result of project delays. All relevant documents and justifications have been submitted to facilitate a transparent assessment.

Hearing dated 4.3.2025

14. The Commission, while adjourning the hearing, directed the Petitioner to file certain additional information and also directed the parties to complete pleadings in the matter.

Additional submissions by the Petitioner

15. The Petitioner, vide affidavit dated 11.4.2025, has mainly submitted as under:

- a) There is no cost overrun in the implementation of ECS, as the actual cost incurred of Rs. 472.95 crore as on ODe is less than the approved cost of Rs. 518.84 crore by the DVC Board. The total anticipated capitalisation till 31.3.2027 is Rs.523.56 crore. The details of the cost overrun were not provided earlier, as the breakup of the revised sanctioned cost and actual expenditure, along with additional capitalisation, has been provided in Form B.
- b) The average GCV of the preceding 12 months before ODe (22.6.2024) for computing the supplementary ECR, as per Regulation 36(2) of the 2024 Tariff Regulations, has been used. This rate has subsequently been utilised for the purpose of determining the interest on working capital, including the consideration of fuel cost components.
- c) The PG test report of the generating station for FGD and CMS had already been submitted in the additional submissions dated 21.1.2025. The details of NO_x, SO_x, SPM & HG emission is summarized below:

Sl. No.	Particulars	Levels (in mg/Nm³)
1	NO _x	334.93*
2	SO _x	21.42**
3	SPM	35.5
4	HG	0.003

The *NO_x value indicated in the table above, i.e., 334.93 mg/Nm³, represents the average of the recorded values i.e., 363.41, 335.75, 348.07, and 292.50 mg/Nm³.

** The average value of SO_x emission for 19 readings recorded during the period from 18.6.2024 up to 21.6.2024.

Hearing dated 29.4.2025

16. During the hearing on 29.4.2025, the learned counsel for the Petitioner made detailed oral submissions giving the background of the case, including the reasons for the delay in the installation of the FGD system at the generating station. In response, the learned counsel for the Respondent, PSCPL, made oral submissions and pointed out that the reasons for delay



due to the COVID-19 pandemic, as narrated by the Petitioner, are inconsistent with the submissions made by it during the hearing of Petition No.459/MP/2019, wherein the work was envisaged to be completed during the first quarter of 2022-23. At the request of the parties, the order was reserved, and the parties were permitted to file their written submissions.

Analysis and Decision

17. Based on the submissions made by the parties and the documents on record, we proceed to examine the prayer(s) in the Petition, as stated in the subsequent paragraphs. The dates of commercial operation (COD) of the generating station and the date of operation (ODe) of WFGD and CMS claimed by the Petitioner are as under:

COD of the generating station	Date of Operationalisation of FGD	Date of Operationalisation of CMS
23.2.2017	22.6.2024	December, 2021

Time Overrun

18. The scheduled date of commissioning as per the original schedule of the Letter of Award (LOA) and the actual date of operationalisation of the FGD, for the generating station, are as specified below:

Scheduled ODe as per the original L1 schedule	Actual ODe	Delay (in months)
14.10.2021	22.6.2024	31

19. The scheduled date of commissioning as per the original schedule of the LOA and the actual date of operationalisation of the CMS, for the generating station, are as specified below.

Scheduled ODe as per the original L1 schedule	Actual ODe	Delay (in months)
December, 2019	December, 2021	24

Reasons for Delay

20. The Petitioner has submitted that the installation of the FGD system at the Project/ generating station faced numerous delays due to a combination of factors. It has been stated that the MoEF&CC issued a notification requiring compliance with the new environmental norms by December 2019, which was later extended to December 2024. The Petitioner has



stated that the Investment approval for the ECS package was delayed until 26.2.2019, and the contract was awarded to the following agencies.

ECS	LOA placed on	LOA date	LOA Amount incl. GST (Rs. in crore)	Timeline for completion as per LOA
Wet FGD	M/s Techno Electric & Engineering Co. Ltd.	15.7.2019	368.5	14.10.2021
CMS	M/s BHEL	17.7.2019	9.2265	16.10.2020

21. The Petitioner, vide affidavit dated 27.3.2024, has submitted that though the revised anticipated timelines for the completion of FGD was 15.4.2024, the same has been delayed and had been completed on 22.6.2024. The reasons for the delay in implementation of FGD as submitted by the Petitioner, are as under:

- Redesigning and relocation of foundation of absorbers, chimney, buildings etc. as these were fouling with the existing underground RCC Hume pipes;*
- First and Second waves of Covid-19 and lock downs thereof;*
- Hard rock encountered during the Chimney foundation;*
- Ban on use of Oxygen in Industries;*
- Non-availability of Sand;*
- Rise in Commodity Prices and huge demand of FGD equipment.*

22. The Petitioner, in its amended Petition vide affidavit dated 7.10.2024, has submitted the summary for the delayed execution of ECS as under:

For FGD

Sl. No.	Description	Affected Period	Duration of delay
1	Revision of layout and plot plan due to fouling with the existing underground RCC Hume pipes	15.7.2019 to 13.1.2020	182 days
2	1st Wave of COVID-19	20.3.2020 to 30.9.2020	195 days
3	Delay for normalisation after the 1st wave of Covid'19.	01.10.2020 to 31.12.2020	92 days
4	Redesign of Chimney	20.11.2020 to 30.6.2021	223 days (Non-concurrent with sl. No-3 & 5 = 90 days-from 01.01.2021 to 31.03.2021)
5	2nd Wave of COVID-19 – Lockdown, restriction on usage of industrial Oxygen	01.4.2021 to 30.9.2021	183 days
6	Non-availability of Sand in the year 2021	10.6.2021 to 15.10.2021	128 days (non-concurrent with sl. No.5 = 15 days)
7	Ban on Industrial Oxygen	01.4.2021 to 15.6.2021	76 days (Concurrent delay with sl. No.4)
8	Delay in the supply of equipment due to volatility in price and high demand for FGD equipment.	01.2.2022 to 30.4.2022	89 days



9	Non-availability of Sand in the year 2022	01.9.2022 to 15.10.2022	45 days
10	Delay in site execution for a shortfall in workforce due to the implementation of the Contractor's Labour Information Management System (CLIMS)	Aug, 2023 to Sept, 2023	20 days
11	Non-availability of Sand in the year 2023	15.9.2023 to 15.10.2023	30 days
12	Delay in construction activities due to layout & safety criteria	-	60 days (Non-concurrent)
Total Delay			# 1001 days

The Petitioner has submitted that although the anticipated delay is 1001 days, the actual delay in execution of the project is 982 days.

For CMS

Sl. No.	Unit	Scheduled Completion as per contract	Actual Completion	Delay	Reason for delay
1	BTPS-A	December, 2019	December, 2021	24 months	Non-availability of the shutdown of the Unit

23. In compliance with the ROP of the hearing dated 27.12.2024, the Petitioner, vide affidavit dated 21.1.2025, has submitted the details of time overrun (Form-G) along with the reasons as follows:

S. No.	Description of Activity/Works/ Service	Start Date	Completion Date	Actual Start Date	Actual Completion Date	Time Over-run	Reasons for delay
1	Letter of Award	15.7.2019		15.7.2019		-	
2	Completion of Engineering	15.7.2019	14.3.2020	15.7.2019	5.11.2021	601	(1)1st Wave of Covid 19 (2) Delay for normalisation after the 1st wave of Covid 19 (3)2nd Wave of Covid 19 - Lockdown, restrictions on the usage of industrial Oxygen
3	Civil and structural works of the unit and common facilities	14.9.2019	30.6.2023	13.1.2020	12.9.2023	-47	
4	Supply of Material for Unit-1 and Common Facilities	13.12.2019	31.3.2021	13.12.2019	13.1.2023	653	(1)1st Wave of Covid 19 (2) Delay for normalisation after the 1st wave of COVID-19 (3)2nd Wave of COVID-19 - Lockdown, restrictions on the usage of industrial Oxygen (4) Non-availability of Sand in the year 2021 (5) Delay in supply of equipment due to volatility in price and high demand for FGD equipment (6) Non-availability of Sand in the year 2022



5	Installation of Equipment and Common facilities	3.8.2020	14.5.2021	3.8.2020	22.5.2024	1104	(1)1st Wave of Covid 19 (2) Delay for normalization after 1st wave of Covid 19 (3)2nd Wave of Covid 19 - Lockdown, restriction on usage of industrial Oxygen (4)Non availability of Sand in the year 2021 (5)Delay in supply of equipment due to volatility in price and high demand of FGD equipment (6)Non availability of Sand in the year 2023 (7)Delay in site execution for shortfall in workforce due to implementation of CLIMS (8) Non availability of Sand in the year 2023
6	Commissioning of FGD	7.6.2021	14.7.2021	23.5.2024	22.6.2024	-7	
7	Completion of Unit-1 and common facilities	15.7.2021	14.10.2021	23.4.2024	22.6.2024	-31	

Delay Analysis for WFGD

Delay on account of revision of layout and plot plan due to fouling with existing underground RCC Hume pipes (182 days) and redesign of chimney (223 days)

24. The Petitioner has claimed condonation of the delay on account of the revision of the layout and plot plan due to fouling with existing underground RCC Hume pipes (182 days) and redesign of the chimney (223 days).

25. The Respondent, PSPCL, in its Reply, has submitted that the Petitioner was fully aware of the space limitations at the site, as it was a brownfield project, and that a delay of 60 days due to site constraints is inadmissible as it was not raised earlier during the in-principle approval proceedings in Petition No. 459/MP/2019, despite the Petitioner being aware of the same.

26. *Per contra*, the Petitioner has submitted that the space was earmarked in compliance with earlier directions. However, actual site execution revealed unforeseen challenges, and these difficulties can only be identified during on-ground work and cannot be pre-emptively disclosed at the in-principle approval stage.

27. We have perused the documents regarding the delay, placed on the record. The Petitioner has relied upon two letters issued by the contractor, M/s Techno Electric &



Engineering Co. Limited. In the first letter, dated 23.12.2019, the contractor stated that during the site survey, it was observed that the road adjacent to the coal dumping area had been shifted by about 10–12 meters towards the south. It was also discovered that the proposed area was fouling with the existing underground RCC Hume pipes, which could necessitate changes to the overall plant layout, including the location of the absorber, stack and other associated structures. Accordingly, the contractor stated that the geological soil investigation activities were temporarily kept on hold.

28. The Petitioner has also submitted another letter dated 13.12.2021 from the contractor referring to the earlier communication and stating that the commencement of activities was delayed by about six months as the site was hindered by materials, equipment, structures, and construction machinery belonging to the Petitioner, which delayed site clearing and prevented execution of the works after issuance of the LOA. It has further been submitted that the outbreak of COVID-19 thereafter also affected the progress of the work.

29. The matter has been examined. It is observed that since the delay attributed to the above activities primarily arose due to the delay in site clearing by the Petitioner itself, the same cannot be condoned. However, the revision of the layout was necessitated based on the actual site survey carried out by the contractor, including the discovery of interference with existing underground RCC Hume pipes. Accordingly, the actual time taken by DVC for the revision and approval of the layout, i.e., 20 days, is condoned.

30. For the delay in the redesign of the chimney, it is observed that the contractor had proposed redesigning the chimney, considering the site conditions. However, such a redesign was primarily intended to facilitate construction and potentially reduce the overall construction timeline. Nevertheless, based on the documents and submissions made by the Petitioner, it is not yet substantiated that the revision to the chimney design resulted in any overall reduction in the project timeline or had a direct bearing on the claimed delay. In view of the above, the delay of 223 days claimed on account of the redesigning of the chimney is not



considered for condonation. However, the Petitioner is at liberty to place the necessary details and supporting documents in this regard at the time of truing up, in accordance with the law.

Delay due to the 1st & 2nd wave of Covid-19, Delay for normalisation after the 1st wave of Covid-19 lockdown, and other associated factors like Restriction on usage of industrial Oxygen, Delay in site execution due to shortfall in workforce due to implementation of CLIMS.

31. We have examined the submissions. It is observed that COVID-19 was declared a worldwide pandemic, which has caused constraints on the procurement of goods and materials, as well as on the availability and free movement of personnel throughout the country. We note that the Ministry of Finance ('MoF'), Gol, vide its circular dated 13.5.2020, provided the following:

"Attention is invited to Department of Expenditure's O.M. No. 18/4/2020-PPD dated 19th February, 2020 on the invocation of Force Majeure Clause (FMC). Vide the O.M., it was clarified that disruption of supply chains due to the spread of Coronavirus will be covered under FMC which could be invoked, wherever considered appropriate, following the due procedure as stated in para 9.7.7 of the Manual on Procurement of Goods.

2. Subsequent to issuance of the above referred O.M., further disruptions have affected the transportation, manufacturing and distribution of goods and services in the country. Limitations placed on the movement of men and materials as per the guidelines issued by the Ministry of Home Affairs (MHA) under the Disaster Management Act, 2005 (DM Act 2005) and the respective State and UT governments from time to time have severely impacted the fulfilment of contractual obligations for supply of goods, works and consultancy services (including other services), and affected the volume of vehicular traffic.

3. Attention in this regard is invited to para 9.7.7 of the "Manual for Procurement of Goods 2017", Para 6.4.2 of the "Manual for Procurement of Works 2019" and para 8.14.1 of the "Manual for Procurement of Consultancy and other Services 2017" issued by the Department of Expenditure. The above referred three Manuals recognize extraordinary events or circumstances beyond human control leading to delays in or non-fulfilment of contractual obligations. In a situation of such events happening, and after following due procedure, parties to the contract are allowed flexibility to invoke FMC following prescribed due procedure.

4. It is recognised that in view of the restrictions placed on the movement of goods, services and manpower on account of the lockdown situation prevailing overseas and in the country in terms of the guidelines issued by the MHA under the DM Act 2005 and the respective State and UT Governments, it may not be possible for the parties to the contract to fulfil contractual obligations. In respect of Public-private Partnership (PPP) concession contracts, a period of the contract may have become unremunerative. Therefore, after fulfilling due procedure and wherever applicable, parties to the contract may invoke FMC for all construction/works contracts, goods and services contracts and PPP contracts with Government Agencies and in such event, date for completion of contractual obligations which had to be completed on or after 20th February 2020 shall stand extended for a period not less than three months and not more than six months without imposition of any cost or penalty on the contractor/concessionaire. Concession period in PPP contracts ending on or after 20th February 2020 shall be extended by not less than three and not more than six months. The period of extension (between three and six months) may be decided based on the specific circumstances of the case and the period for which performance was affected by the force majeure events.



5. It is clarified that invocation of FMC would be held valid only in a situation where the parties to the contract were not in default of the contractual obligations as on 19th February, 2020. It is further clarified that invocation of FMC does not absolve all non-performances of a party to the contract, but only in respect of such non-performance as is attributable to a lockdown situation or restrictions imposed under any Act or executive order of the Government/s on account of COVID-19 global pandemic. It may be noted that, subject to above stated, all contractual obligations shall revive on completion of the period.”

32. It is observed that the worldwide pandemic has affected the free movement of materials and manpower, which is vital for the timely construction of the project. Therefore, in line with the above MoF circular, the delay in completion of the work due to COVID-19 is considered a ‘force majeure’ event, as it has severely affected the flow of materials, supplies, and manpower during the project execution by the Petitioner. The said notification also provides that the contractual obligations would stand extended for a period of not less than 3 (three) months and not more than 6 (six) months. On perusal of the documents submitted by the Petitioner, it is observed that the delay on this count has been claimed for a total period of 287 days due to the COVID-19 1st wave, which is much higher than the maximum condonable delay, as mentioned in the said MoF circular, as it specifies that the contractual obligations shall stand extended by not less than 3 and not more than 6 months. In consideration of the documents furnished regarding the 1st wave of COVID-19, the delay of 180 days is condoned.

33. Apart from the lockdown imposed by the Central Government, the Petitioner also claimed a delay of 11 months (183 days) due to the COVID-19 second wave, for which no supporting documents have been submitted. In support of its claim for condonation of the delay of 183 days on account of the second wave of COVID-19, lockdown measures and restrictions on the usage of industrial oxygen, the Petitioner has placed on record certain notifications/orders issued by the Governments of Jharkhand, Maharashtra, Tamil Nadu, West Bengal, NCT of Delhi and Karnataka. The Petitioner has submitted that the said restrictions had an adverse impact on the progress of the project, particularly the availability of manpower, logistics and materials. However, upon examination of the documents placed on record, it is observed that none of the said Government orders mandated a complete



stoppage of construction or project execution activities during the relevant period. Accordingly, the claim of the Petitioner for condonation of the entire delay of 183 days on this ground cannot be accepted in full.

34. At the same time, it is pertinent to note that the Ministry of Power (MoP), GoI, vide letter dated 12.6.2021, had recognised the disruptions caused by the second wave of the COVID-19 pandemic, including constraints in supply chains, restrictions on industrial oxygen usage and limitations on movement and availability of manpower. In the said communication, the MoP had allowed an extension of three months in respect of the Scheduled Commercial Operation Date (SCOD) for the Inter-State Transmission System (ISTS) projects. We observe that the circumstances leading to the said extension, such as disruptions in supply chains, logistics constraints and shortage of manpower, are broadly similar to those faced in the present case. In view of the above, the principle underlying the said MoP letter is considered applicable in the present matter. Accordingly, while the claim of the Petitioner for condonation of the delay of 183 days cannot be accepted in its entirety, we consider it appropriate to extend the benefit of the above decision in the present case. Therefore, a delay of 91 days on account of the second wave of COVID-19, lockdown measures and restrictions on industrial oxygen usage is condoned in this Order.

Delay (89 days) in the supply of equipment due to volatility in price and high demand for WFGD equipment

35. The Petitioner has claimed this delay due to volatility in price and high demand for WFGD equipment, and has placed on record a copy of the Office Memorandum (OM) dated 3.5.2022, issued by MoP in this regard. We have examined the submissions. It is observed that COVID-19 was declared a worldwide pandemic, which has caused constraints on the procurement of goods and materials, as well as in the availability and free movement of personnel and manpower throughout the country. We note that the said OM has provided the following:



“Sub- Extension sought in timelines for Installation of Flue Gas De-sulphurisation (WFGD) in Thermal Power Plants-regarding.

The undersigned is directed to refer to Ministry of Power letter No. 10/1/2019-St. Th. (part-II) dated 2.1.2021 (copy enclosed) forwarding therewith a copy of CEA's report/paper recommending for Plant Location Specific Emission standards and reviewing the new emission norms in terms of graded priority of pollutants and prioritizing area for installation of additional pollution control equipment by thermal power plants in the country.

- 2. CEA has also submitted a review of MoEF&CC Notification dated 31.3.2021 vide letter dated 24 June 2021 (copy enclosed). CEA has suggested the following:*
 - i. There should be longer duration plan (up to 2035) for adopting the new emission norms (2015), especially for power plants falling under category C of the MoEF&CC Notification.*
 - ii. A Task Force may be constituted comprising representative of MoP, MoEF&CC, NITI Aayog, CEA, CPCB, Generating Utilities/Manufacturers/Vendors for smooth implementation of new environment norms considering Phased Manufacturing Program (PMP) of WFGD equipment under Aatma Nirbhar Bharat.*
 - iii. To study the SO₂- reduction against CO₂ increase in flue gas emission by WFGD system. Accordingly exemption may be given to few units where SO₂ level in ambient air is very less compared to permissible limit.*
- 3. It has also been informed by CEA that as per vendors, construction time of wet lime based WFGD is about 36-40 months. However, in respect of Orders placed by central power utility as early as in 2018 for 26 WFGD units for a total capacity of 15 GW; it had taken a time period, on an average of more than 40 months, and some units have taken 47 months for completion.*
- 4. Due to huge demand for WFGD equipments, there is an issue of manufacturing capacity of WFGD by vendors/manufacturers in the country. As there is a huge gap in demand and supply, prices quoted by the bidders for WFGD equipments are escalating exorbitantly and sometimes rigged. CEA has informed that the project cost for wet lime based WFGD technology was Rs. 0.39 crore per MW initially. At present it had reached nearly Rs. 1.14 crore per MW, which is 2.9 times of initial cost, in a short span of time. As the same is allowed to pass through under the 'Change in Law' by the regulator, there will be an increase in tariff which is to be borne by the consumers.*
- 5. Due to the COVID-19 pandemic, the entire process of planning, tendering and implementing the WFGD has been badly affected. The utilities are facing fund constraints and the lenders response has not been encouraging mainly due to poor financial conditions of the Discoms leading to poor payment position to GENCOs. The recent geo-political conditions have affected the import of certain components of WFGD which are not manufactured in India viz., absorber linings, borosilicates which were being imported from countries sharing land borders with India. This has led to disruption in supply.*
- 6. It is advised that additional time of two years be provided to the Thermal Power Plants over and above the timeline given in the MoEF&CC Notification dated 31.3.2021, for installation of WFGD.”*

36. The Petitioner has claimed a delay on account of volatility in prices and high demand for WFGD equipment. In support of its claim, the Petitioner has relied upon the said OM regarding the extension of timelines for the installation of Wet Flue Gas Desulphurisation (WFGD) systems in thermal power plants. We have examined the submissions and the said OM. It is observed that the COVID-19 pandemic had a widespread impact on the planning, tendering, and implementation of WFGD projects across the country. The said OM notes that



the pandemic caused constraints on the procurement of goods and materials, disruptions to supply chains, and limitations on the availability and movement of manpower.

37. Further, the Central Electricity Authority (CEA), in its review, had highlighted several sector-wide challenges affecting the implementation of WFGD systems, including prolonged construction timelines, limited domestic manufacturing capacity of WFGD equipment, and a substantial gap between demand and supply. It has also been noted that the cost of wet lime-based WFGD technology has escalated significantly due to increased demand, rising from approximately ₹0.39 crore per MW initially to nearly ₹1.14 crore per MW within a short span of time. In addition, the utilities have been facing financial constraints, partly due to the weak financial position of distribution companies and delays in payments to generating companies. The said OM also notes that recent geopolitical conditions have affected the import of certain critical components of WFGD systems, such as absorber linings and borosilicates, which were previously sourced from countries sharing land borders with India, thereby causing further supply chain disruption. Considering these sector-wide challenges, the MoP advised that an additional two years be granted to thermal power plants, in addition to the timelines prescribed under the Notification dated 31.3.2021 issued by MoEF&CC, for the installation of WFGD systems.

38. We note that the above OM recognises the systemic issues affecting the implementation of WFGD systems across thermal power plants, including disruption in supply chains, escalation in equipment costs, and constraints in manufacturing capacity due to the unprecedented demand for WFGD equipment. These factors have also contributed to delays in the procurement and supply of equipment for WFGD projects.

39. In the present case, the Petitioner has claimed a delay of 89 days on account of the delay in the supply of equipment arising from volatility in prices and high demand for WFGD equipment. The Petitioner has submitted supporting documents in this regard. Considering the sector-wide challenges acknowledged by the MoP OM dated 3.5.2022, and the



documents placed on record by the Petitioner indicating a delay in the supply of equipment, we are of the view that the 89-day delay attributable to supply constraints in WFGD equipment deserves consideration. Accordingly, the 89-day delay in the supply of equipment due to volatility in price and high demand for WFGD equipment is condoned.

Delay (128 days+45 days+30 days=203 days) due to the non-availability of Sand in the year 2021, 2022 & 2023

40. The Petitioner has claimed the condonation of the delay of 128 days and 45 days respectively in the years 2021 & 2022 due to the non-availability of sand.

41. As per the order of the National Green Tribunal (NGT), followed by the Government of Jharkhand's circular during 2021, there was a ban on sand mining and the lifting of sand from rivers is prohibited every year during the monsoon season, i.e., from June 10th to October 15th. We note that such restrictions on sand mining during the monsoon season are periodic, well-known regulatory measures implemented every year and therefore constitute a foreseeable event. phenomenon. Accordingly, the condonation of delay on this ground is not allowed at this stage. However, the Petitioner is at liberty to place the necessary details and supporting documents in this regard at the time of truing up, in accordance with the law.

42. Further, it is observed from the table for reasons of delays under paragraph 23 above that for Serial Nos. 3, 6, and 7, the actual completion dates are beyond the scheduled completion dates, indicating delays in the execution of the respective works. However, the Petitioner has reported negative delays for these works. The Petitioner is, therefore, directed to provide proper justification for this anomaly at the time of truing up.

43. Accordingly, out of the total delay of 982 days, only the total delay of 380 days is condoned. It is pertinent to note that while the Petitioner has submitted that the anticipated delay is 1001 days, the actual delay is 982 days only. Accordingly, the Petitioner is directed to furnish a break-up of the total time overrun incurred during the commissioning of ECS,



along with supporting documents and justification for the same, at the time of truing-up, which shall be considered in accordance with law.

Delay analysis for CMS

44. The CMS was awarded to M/s BHEL on 17.7.2019, and as per the LOA, the timelines for completion of installation of CMS are 16.10.2020; however, the same was completed in December, 2021. The Petitioner has submitted that IDC will be claimed during the true-up petition. The Petitioner claimed that the delay in the completion of CMS works is due to the unit being unavailable for shutdown. The Petitioner, vide affidavit dated 21.1.2025, in compliance with the ROP for the hearing dated 27.12.2024, submitted that it has not levied any penalty on account of the delay caused by the Contractor. Any such penalty, LD, if applicable, will be levied after a detailed analysis of project execution at the time of contract closure in the true-up petition. In the aforesaid submission, the Petitioner has also mentioned the reasons for the non-availability of the shutdown, which caused a delay in the declaration of ODe of CMS as set forth below:

Station name	Start date	Finish date	Overhauling schedule information	Remarks	Reasons
BTPS-A	20.5.2020	24.6.2020	Overhauling schedule dated 19.9.2019	Deferred	Due to the COVID-19 pandemic, overhauling in the 2020-21 up to Oct'20 could not be taken up. Due to this, some units, which were scheduled for OH in 2020, could not undergo Overhauling.
	15.2.2021	21.3.2021	Overhauling schedule dated 17.8.2020	Deferred	BTPS A overhauling rescheduled in the month of Feb'21, but prolonged Capital overhauling of DSTPS Unit-2 and MTPS Unit-8 forced overhauling (Generator rotor earth fault) forced to change the overhauling schedule to the month of March'21.
	18.3.2021	22.4.2021	Overhauling schedule dated 4.2.2021	Deferred	
	12.11.2021	16.12.2021	Overhauling schedule dated 4.3.2022	Installation done	Further, in case of forced outage of DVC units, the overhauling schedule, originally planned, had to be shifted to meet the demand, so that the availability of power to consumers during peak hours can be ensured in spite of the forced outage of units. The COVID-19 pandemic second wave started in March 2021 and extended up to July 2021, which further disrupted the overhauling



					schedule of DVC Units. BTPS A OH was finally rescheduled in Nov'2021 and underwent OH from Nov'21 to Dec'21.
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45. Perusal of the submission of the Petitioner reveals that deferment of the shutdown to undertake the overhauling schedule of BTPS-A was on account of the COVID-19 pandemic and the forced outage of other units of DVC. Therefore, the Petitioner could not carry out the overhauling. Accordingly, the time overrun on account of the deferment of the shutdown of BTPS-A is condoned.

46. In view of the above, the Petitioner is granted liberty to submit the details and relevant documents with regard to the reasons for the time overrun of FGD and CMS, the auditor-certified breakup of IEDC and IDC attributable to the FGD and CMS separately, at the time of truing up.

Summary of Time Overrun

47. The two major reasons that are attributable to the delay, as claimed by the Petitioner and the delay condoned in this order, are as under:

For WFGD

Reason for Delay	Nos. of days Condonation allowed
Delay on account of revision of layout and plot plan due to fouling with existing underground RCC Hume pipes (182 days) and redesign of chimney (223 days)	20 days
Delay due to 1 st wave of Covid-19, Delay for normalization after 1 st wave of Covid-19	180 days
Delay due to the 2 nd wave of COVID-19 lockdown, Restriction on the usage of industrial Oxygen, and delay due to the COVID-19 Third wave	91 days
Delay in the supply of equipment due to volatility in price and high demand of WFGD equipment	89 days

For CMS



Reason for Delay	Nos. of months allowed, subject to submission of necessary documentary evidence during the true-up exercise as mentioned in Paragraph No.44 of this Order
Delay due to the non-availability of the shutdown	For Unit-1,24 months (from November,2020 to November,2022)
Delay due to the non-availability of the shutdown	For Unit-2,38 months (from February,2021 to April,2024)

Cost Overrun

48. The details of the capital cost submitted for the generating station, in Petition No. 459/MP/2019, for in-principle approval of the installation of FGD are as follows:

CEA's indicative Hard cost (Rs. in lakh/MW)	40.50
Hard cost claimed (Rs. in lakh/MW)	62.50
Total IDC & FC claimed (Rs. in lakh)	2638.00
Total IEDC claimed (Rs. in lakh)	1105.00
Total Taxes & Duties (Rs. in lakh)	5621.18
Total other cost claimed (Rs. in lakh)	9364.18
Total cost claimed (Rs. in lakh)	40593.00

49. The summary of the cost involved in the ECS system, as submitted by the Petitioner vide its notes of arguments dated 26.12.2024, is as follows:

<i>(Rs. in lakh)</i>				
Particulars	Hard cost	IDC	IEDC	Total claimed
	(a)	(b)	(c)	(a)+(b)+(c)
FGD	39115.62	5033.12	1992.98	46141.72
CMS	892.25	170.23	88.05	1150.53
Total				47292.25

50. The Petitioner, vide affidavit dated 11.4.2025, has submitted that the total revised sanctioned cost as approved by the DVC Board is Rs.518.84 crore, and the total actual expenditure as on ODe is Rs.472.95 crore. Further, the total anticipated capitalisation till 31.3.2027 is Rs.523.56 crore. Hence, there is no cost overrun in the implementation of ECS for the generating station, as on ODe. The same is tabulated below:

<i>(Rs. in lakh)</i>				
	Particulars	As per Investment approval / Revised sanction	Actual cost as on Ode	Cost overrun
FGD	Plant & equipment including civil works	44159.00	39115.62	No cost overrun
	IEDC	1294.00	\$ 1992.98	IEDC is allowed up to the amount specified in IA/RCE,



				for the reasons stated in paragraph no. 58,59,60 and 61 of this order.
	Total (excluding IDC & FC)	45453.00	41108.60	
	IDC & FC (including notional IDC)	#	5033.12	
	Total (including IDC & FC)	45453.00	46141.72	
CMS	Plant & equipment, including civil works	1279.71	892.25	No cost overrun
	IEDC	38.39	88.05	IEDC is allowed up to the amount specified in IA/RCE, for the reasons stated in paragraph no. 58,59,60 and 61 of this order.
	Total (excluding IDC & FC)	1318.10	980.30	
	IDC & FC (including notional IDC)	#	170.23	
	Total (including IDC & FC)	1318.10	1150.53	
FGD + CMS	Plant & equipment, including civil works	45438.71	40007.87	No cost overrun
	IEDC	1332.39	2081.03	IEDC is allowed up to the amount specified in IA/RCE, for the reasons stated in paragraph no. 58,59,60 and 61 of this order.
	Total (excluding IDC & FC)	46771.10	42088.90	
	IDC & FC (including notional IDC)	@ 5112.87	5203.35	Considering the actual IDC of Rs.4009.50 lakh, there is no cost overrun
	Total (including IDC & FC)	51883.97	*47292.25	

breakup not available; @ includes actual IDC of Rs.4009.50 lakh and notional IDC of Rs.1193.85 lakh; \$ includes finance cost of Rs.167.41 lakh, and * Rs.46196.53 lakh on a cash basis (net of un-discharged liabilities of Rs.1095.72 lakh)

51. In accordance with the submissions of the Petitioner delay in achieving the actual ODE of FGD is due to redesigning and relocation of foundation of absorbers, chimney, buildings etc, First and Second waves of COVID-19 and lock downs thereof; Hard rock encountered during the Chimney foundation; Ban on use of Oxygen in Industries; Non-availability of Sand; Rise in Commodity Prices and huge demand of FGD equipment and that for CMS is due to unavailability of unit for shutdown. Though the Petitioner, vide affidavit dated 21.1.2025, has submitted the details of cost overrun (Form-F) and time overrun (Form-G), the Petitioner has, however, stated that the final delay analysis will be submitted after the closure of the contract, at the time of truing up.



52. We observe that in order to assess whether the delay in commissioning of the WFGD and CMS was attributable to reasons beyond the control of the Petitioner, complete and detailed information regarding the time overrun is required to be furnished. Based on the available information, we have analysed the time overrun. However, as discussed in the preceding paragraphs, certain discrepancies and deficiencies have been observed in the data submitted by the Petitioner. The Petitioner has accordingly been directed to submit the same, i.e., the complete particulars of time overrun and cost overrun, including a final delay analysis for achieving the ODe of ECS, duly supported by relevant documents at the time of truing up. Such details shall be filed in the prescribed formats, namely Form F (for cost overrun) and Form G (for time overrun), as specified under the 2024 Tariff Regulations. The Petitioner is also directed to furnish the details of Liquidated Damages (LD) levied/recovered from the contractors, if any, on account of delay in completion of the ECS works.

Capital Cost as of the ODe of the ECS system

53. The Petitioner has claimed the following capital cost as on the ODe of the ECS system, i.e. 22.6.2024:

<i>(Rs. in lakh)</i>	
Particulars	As on 22.6.2024
Auditor certified the capital cost on an accrual basis	46098.40
Less: Un-discharged liabilities in above	1095.72
Net capital cost on a cash basis	45002.68
Add: Notional IDC	1193.85
Capital cost claimed as on ODe of ECS system	46196.53

54. The breakup of the capital cost claimed, on an accrual basis as per Form 'B', as on the ODe of the ECS system is as under:

(Rs. in lakh)				
S. No.	Breakdown for WFGD	As per Investment Approval	Revised Sanctioned Amount	Capitalisation as on ODe of WFGD in Unit-A, i.e., 22.6.2024
A	Plant & Machinery	25750.00	29637.00	26821.08
1	Absorber			3461.73
2	Chimney			1939.77
3	Fan and ducting			2664.34
4	Limestone and Gypsum handling system			7076.65



5	Others			11678.59
B	Civil Works -FGD	11100.00	13492.00	4547.75
1	Chimney system - FGD			2333.66
2	Common Systems- FGD			1688.16
3	FGD Control Room Building			525.94
C	Buildings			4453.79
1	Ball Mill Building			288.83
2	Gypsum Dewatering Building & Gypsum Storage Shed			950.42
3	SO2 Analyzer Rooms+ Tanks+ Slurry Pumps Works			610.76
4	Crusher house+ Lime Belt Conveyor (LBC)1,2,3- Galleries and Trestle			1968.20
5	ACW PH Building- Air Compressor Building + Switchgear Building			71.96
6	Other Enabling Works incl. Roads/Drains			563.63
D	Construction & Pre- Commissioning Expenses			3,293.00
1	Erection Testing and Commissioning			2958.64
2	Start-up fuel			334.358
E	Total Plant & Equipment including Civil Works (A+B+C+D)	36850.00	43129.00	39,115.62
F	Initial Spares		1030.00	
G	Total Capital cost excluding IEDC, IDC & FC (E+F)	36850.00	44159.00	39115.62
H	IEDC	1105.00	1294.00	1992.98
I	Capital cost of WFGD excluding IDC & FC (G+H)	37955.00	45453.00	41108.60
S. No.	Breakdown for CMS	As per Investment Approval	Revised Sanctioned Amount	Capitalisation as on ODe of CMS in December, 2021
J	Plant & Machinery incl. Installation Service			892.25
1	Plant & Machinery	1279.71	# 1318.10	478.50
2	Initial Spares			161.45
3	Installation Service			252.3
K	Total Capital cost excluding IEDC, IDC & FC (J)	1279.71		892.25
L	IEDC	38.39		88.05
M	Capital cost of CMS excluding IDC & FC (K+L)	1318.10		980.30
N.	IDC & FC (towards WFGD + CMS)			5203.35
1	Actual IDC	2698.87	5112.87	4009.50
2	Notional IDC			1193.85
O	Total Capital Cost of ECS i.e. WFGD and CMS (I+M+N)	41971.97	51883.97	* 47292.25

* Rs.46196.53 lakh after netting off un-discharged liabilities of Rs.1095.72 lakh (Rs.1075.50 lakh towards WFGD and Rs.20.22 lakh towards CMS system); # figure as derived being not reported by the Petitioner

55. It is noted that since the hard cost claimed on the Ode of the ECS (both WFGD and CMS) is within the RCE cost, the same is allowed in this order. However, the Petitioner is directed to submit a detailed break-up of the sub-head 'Others' under the 'Plant & Machinery' cost at the time of truing up, which shall be considered in accordance with the law.

IEDC

56. The capital cost claimed based on the actual ODe of the ECS system includes IEDC of Rs.2081.03 lakh. In compliance with the directions of the Commission, the Petitioner, vide affidavit dated 21.1.2025, has submitted the details of IEDC as under:



(Rs. in lakh)			
S. No.	Parameters	As on the actual COD	
		WFGD	CMS
A	Head of Expenses:		
1	Employees' Benefits Expenses	1825.57	88.05
2	Finance Costs	167.41	
	Total	1992.98	88.05

57. On scrutiny of details of Form-B at the table under paragraph 39, it is observed that the IEDC considered for WFGD, as per the investment approval (IA) / Revised Cost Estimate (RCE) approved by DVC, amounts to Rs.1105.00 lakh and Rs.1294.00 lakh, respectively. For CMS, IEDC, as per IA, is Rs. 38.39 lakh. However, no breakup of the same has been furnished under RCE.

58. Considering the fact that out of the total time overrun of 982 days in the commissioning of the ECS system towards WFGD, only the delay of 380 days has been condoned, and considering the fact that the entire delay towards commissioning of the CMS system has been allowed, the IEDC allowed in this order has been restricted to Rs.1294.00 lakh for WFGD and Rs.38.39 lakh for CMS (i.e. Rs.1332.39 lakh in total), subject to truing up.

59. The IEDC claimed towards WFGD also includes finance cost amounting to Rs.167.41 lakh. The Petitioner is directed to furnish the details of such finance cost and the reason for considering the same as IEDC at the time of truing up. The Petitioner is also directed to submit the following information at the time of truing up:

- (a) The amount of depreciation capitalised by way of IEDC, if any, corresponding to assets forming part of the claimed capital cost of the ECS system or earning tariff (whether at the instant generating station or any other generating station), as on the ODe of the ECS system.
- (b) auditor-certified detailed breakup of the aforesaid IEDC expenses.
- (c) Clarify why employee benefit expenses claimed under IEDC as employee-related expenses are already accounted for as part of the generating station, for which normative O&M is already admissible for the period.



(d) Justification for claiming employee-related expenses as IEDC under the ECS capital costs.

IDC

60. The Petitioner has claimed IDC of Rs.5203.35 lakh as on the ODe of ECS, which includes actual IDC of Rs.4009.50 lakh, and notional IDC of Rs.1193.85 lakh. The Petitioner, vide its note for arguments dated 26.12.2024, has submitted that out of the IDC of Rs.5203.35 lakh, Rs.5033.12 lakh pertains to WFGD and Rs.170.23 lakh pertains to CMS. However, the Petitioner has not submitted any bifurcation of the normative IDC corresponding to WFGD and CMS. Further, the workings/details submitted by the Petitioner are not adequate to undertake a prudence check of the Petitioner's claim for IDC (including notional IDC). The Petitioner has also included a notional IDC component in the cumulative cash expenditure while working out the claimed IDC. Accordingly, for the present, the Petitioner's claim towards normative IDC is not allowed.

61. Considering the original LOA (15.7.2019) and the timelines as per the original LOA (14.10.2021), the total completion period and the time overrun for WFGD work out to 1804 days and 982 days, respectively. As stated above, the time overrun allowed towards WFGD is only 380 days. Thus, of the total completion period of 1804 days, the IDC is allowed for only 1202 days (1804 days – 982 days + 380 days). Accordingly, for the present, out of the actual IDC of Rs.4009.50 lakh claimed by the Petitioner, IDC amounting to Rs.2671.52 lakh only (i.e., Rs. 4009.50 lakh x 1202 days / 1804 days) is allowed, subject to truing up. The Petitioner is, however, directed to furnish the appropriate workings of IDC and notional IDC calculations, based on actual loans and the applicable rate of interest towards WFGD and CMS, at the time of truing up.

Initial Spares



62. As regards the initial spares for ECS, Regulation 23 of the 2024 Tariff Regulations provides as under:

“23. Initial Spares: Initial spares shall be capitalised as a percentage of the Plant and Machinery cost, subject to following ceiling norms:

(a) Coal-based/lignite-fired thermal generating stations - 4.0%

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i. Plant and Machinery cost shall be considered as the original project cost excluding IDC, IEDC, Land Cost and Cost of Civil Works. The generating company and the transmission licensee for the purpose of estimating Plant and Machinery Cost, shall submit the break-up of head wise IDC and IEDC in its tariff application;

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iii. where the emission control system is installed, the norms of initial spares specified in this Regulation for coal or lignite based thermal generating station as the case may be, shall apply.”

63. The Petitioner, vide ROP of the hearing dated 27.12.2024, was directed to submit the item-wise details of the projected additional capital expenditure in respect of the initial spares as claimed in Form B. In compliance thereof, the Petitioner has submitted that it has initiated the proposal for inclusion of the cost of initial spares (limited to 4% of the total plant and machinery cost) in the Project cost, and approval for the same is in process. However, the Petitioner has not made any further submissions in this regard. The Petitioner, in Form-B of the tariff forms, has claimed an amount of Rs.26821.08 lakh towards the Plant & Machinery cost, capitalised as on ODe of WFGD. above-said Accordingly, in terms of the above regulation, the limit for initial spares works out to Rs.1117.55 lakh (on an accrual basis). It is pertinent to mention that the Petitioner has not furnished details of the initial spares capitalised till the Ode, but has claimed a projected capitalisation of Rs. 1030.00 lakh of initial spares, in 2026-27, which is less than the above limit. Though the Petitioner has claimed the projected additional capital expenditure under Regulation 24(1)(b) and 24(1)(c), the provisions of Regulation 29 of the 2024 Tariff Regulations are only applicable for the said purpose and have been considered accordingly. Since the claim of the Petitioner is for the assets that are under the original scope, the claim of the Petitioner is allowed under Regulation 29(4) of the 2024 Tariff Regulations. The Petitioner is, however, directed to submit the details of the Plant



and Machinery cost, in terms of Regulation 23 of the 2024 Tariff Regulations, along with details of the initial spares capitalised as on the ODe of the FGD system and beyond up to the cut-off date, including details of the liabilities corresponding to it, at the time of truing up the tariff.

64. With regard to the initial spares for CMS, the Petitioner, in Form B of the tariff forms, has furnished an amount of Rs.478.50 lakh towards Plant and Machinery cost, capitalised as on the ODe of CMS, in December 2021 / ODe of WFGD on 22.6.2024. In terms of the above regulations, the limit for initial spares works out to Rs.19.94 lakh (on an accrual basis). It is pertinent to mention that the Petitioner has capitalised initial spares amounting to Rs.161.45 lakh, till the ODe of CMS / Ode of WFGD and has not claimed further capitalisation of initial spares after the ODe of CMS. Since the amount claimed under ODe exceeds the ceiling limit in terms of the above-said regulation, we restrict the allowable initial spares to Rs. 19.94 lakh, subject to truing up. The Petitioner is directed to submit the details of the Plant & Machinery cost, in terms of Regulation 23 of the 2024 Tariff Regulations, along with details of the initial spares capitalised as on the ODe of the FGD system and beyond, including details of the liabilities corresponding to it, at the time of truing-up of tariff.

65. Accordingly, the capital cost allowed as on the Ode of the ECS system, i.e. 22.6.2024, is as under:

<i>(Rs. in lakh)</i>				
S. No.	Break Down for WFGD	Claimed	Allowed	Disallowed
A	Plant & Machinery	26821.08	26821.08	
1	Absorber	3461.73	3461.73	0.00
2	Chimney	1939.77	1939.77	0.00
3	Fan and ducting	2664.34	2664.34	0.00
4	Lime stone and Gypsum handling system	7076.65	7076.65	0.00
5	Others	11678.59	11678.59	0.00
B	Civil Works -FGD	4547.75	4547.75	0.00
1	Chimney system - FGD	2333.66	2333.66	0.00



2	Common Systems- FGD	1688.16	1688.16	0.00
3	FGD Control Room Building	525.94	525.94	0.00
C	Buildings	4453.79	4453.79	0.00
1	Ball Mill Building	288.83	288.83	0.00
2	Gypsum Dewatering Building & Gypsum Storage Shed	950.42	950.42	0.00
3	SO2 Analyzer Rooms+ Tanks+ Slurry Pumps Works	610.76	610.76	0.00
4	Crusher house+ Lime Belt Conveyor (LBC)1,2,3- Galleries and Trestle	1968.20	1968.20	0.00
5	ACW PH Building- Air Compressor Building+Switchgear Building	71.96	71.96	0.00
6	Other Enabling Works incl. Roads/Drains	563.63	563.63	0.00
D	Construction & Pre- Commissioning Expenses	3293.00	3293.00	0.00
1	Erection Testing and commissioning	2958.64	2958.64	0.00
2	Start-up fuel	334.36	334.36	0.00
E	Total Plant & Equipment including Civil Works (A+B+C+D)	39115.62	39115.62	0.00
F	Initial Spares	0.00	0.00	0.00
G	Total Capital cost excluding IEDC, IDC & FC (E+F)	39115.62	39115.62	0.00
H	IEDC	1992.98	1294.00	698.98
I (i)	Capital cost of WFGD excluding IDC & FC (G+H)	41108.60	40409.62	698.98
(ii)	Less: Un-discharged liabilities	1075.50	1075.50	0.00
(iii)	Net capital cost of WFGD excluding IDC & FC (on cash basis)	40033.10	39334.12	698.98
S. No.	Break Down for CMS	Claimed	Allowed	Disallowed
J	Plant & Machinery incl. Installation Service	892.25	750.74	141.51
1	Plant & Machinery	478.50	478.50	0.00
2	Initial Spares	161.45	19.94	141.51
3	Installation Service	252.30	252.30	0.00
K	Total Capital cost excluding IEDC, IDC & FC (J)	892.25	750.74	141.51
L	IEDC	88.05	38.39	49.66
M (i)	Capital cost of CMS excluding IDC & FC (K+L)	980.30	789.13	191.17
(ii)	Less: Un-discharged liabilities	20.22	20.22	0.00
(iii)	Net capital cost of CMS excluding IDC & FC (on cash basis)	960.08	768.91	191.17
N.	IDC & FC (towards WFGD + CMS)	5203.35	2671.52	2531.83
1	Actual IDC	4009.50	2671.52	1337.98
2	Notional IDC	1193.85	0.00	1193.85
O	Total capital cost of ECS i.e. WFGD and CMS, on cash basis (I+M+N)	46196.53	42774.55	3421.98



66. In addition to the additional information sought as above, the Petitioner is also directed to furnish the following at the time of truing-up:

- (a) Auditor-certified statement showing the reconciliation of capital cost claimed as on ODe of ECS as well as the additional capital expenditure claimed thereafter, giving detailed head-wise claim;
- (b) Detailed clarification regarding the expenditure towards 'others' head under Plant & Machinery, as on the ODe for the WFGD;
- (c) Detailed workings in respect of IEDC, IDC, FC, and FERV calculations, as on the respective ODe of the ECS system;
- (d) Detailed head-wise breakup of capital cost approved as per I.A./RCE and claimed capital cost;
- (e) Complete details of Initial Spares procured as on ODe and thereafter for both WFGD and CMs.
- (f) The complete details of the scheme of the ECS system, along with the major components capitalised as per Form-9A of the 2024 Tariff Regulations, and the details of the old items de-capitalised as per Form-9B(i) of the 2024 Tariff Regulations.

Additional Capital Expenditure (ACE)

67. The Petitioner has claimed the additional capitalisation along with the discharge of liabilities for the ECS system, in terms of sub-clauses (a) to (c) of Regulation 24(1) of the 2024 Tariff Regulations, which provides as follows:

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

- (a) Payment made towards admitted liabilities for works executed up to the cut-off date;*
- (b) Works deferred for execution;*

(c) Procurement of initial capital spares within the original scope of work, in accordance with the provisions of Regulation 23 of these regulations;

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Provided that such expenditure shall be allowed only if the expenditure is incurred through Indian Governmental Instrumentality; and

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Provided that in case of any replacement of the assets, the additional capitalization shall be worked out after adjusting the gross fixed assets and cumulative depreciation of the assets replaced on account of de-capitalization.



68. Regulation 29 of the 2019 Tariff Regulations provides for the additional capitalization related to compliance with the ECS as under:

“29. Additional Capitalization on account of Revised Emission Standards:

(1) A generating company requiring to incur additional capital expenditure in the existing generating station for compliance of the revised emissions standards shall share its proposal with the beneficiaries and file a petition for undertaking such additional capitalization.

(2) The proposal under clause (1) above shall contain details of proposed technology as specified by the Central Electricity Authority, scope of the work, phasing of expenditure, schedule of completion, estimated completion cost including foreign exchange component, if any, detailed computation of indicative impact on tariff to the beneficiaries, and any other information considered to be relevant by the generating company.

(3) Where the generating company makes an application for approval of additional capital expenditure on account of implementation of revised emission standards, the Commission may grant approval after due consideration of the reasonableness of the cost estimates, financing plan, schedule of completion, interest during construction, use of efficient technology, cost-benefit analysis, and such other factors as may be considered relevant by the Commission.

(4) After completion of the implementation of revised emission standards, the generating company shall file a petition for determination of tariff. Any expenditure incurred or projected to be incurred and admitted by the Commission after prudence check based on reasonableness of the cost and impact on operational parameters shall form the basis of determination of tariff.

(5) Un-discharged liability, if any, on account of emission control system shall be allowed as additional capital expenditure during the year it is discharged, subject to prudence check.”

69. The projected additional capital expenditure claimed by the Petitioner, for the period 2024-27, is as under:

(Rs. in lakh)						
Sl. No.	Head of Work /Equipment	Additional Capital Expenditure (ACE) claimed				Regulation under which the claimed
		Accrual basis	Un-discharged liability included in ACE	Cash basis	IDC included in ACE	
For FY 2024-25						
1	Add cap for FGD	2006.69	0.00	2006.69	0.00	24(1)(b)
2	Add cap for CMS	20.22	0.00	20.22	0.00	24(1)(a)
	Total	2026.91	0.00	2026.91	0.00	
3	Discharge of liabilities towards FGD	1075.50	0.00	1075.50	0.00	24(1)(a)
	Total ACE claimed for 2024-25	3102.41	0.00	3102.41	0.00	
For 2025-26						
1	Add cap for FGD	2006.69	0.00	2006.69	0.00	24(1)(b)
2	Add cap for CMS	0.00	0.00	0.00	0.00	
	Total	2006.69	0.00	2006.69	0.00	
3	Discharge of liabilities towards FGD	0.00	0.00	0.00	0.00	
	Total ACE claimed for 2025-26	2006.69	0.00	2006.69	0.00	
For 2026-27						
1	Add cap for FGD	1030.00	0.00	1030.00	0.00	24(1)(c)
2	Add cap for CMS	0.00	0.00	0.00	0.00	
	Total	1030.00	0.00	1030.00	0.00	
3	Discharge of liabilities towards FGD	0.00	0.00	0.00	0.00	
	Total ACE claimed for 2026-27	1030.00	0.00	1030.00	0.00	



70. The Petitioner has not claimed any ACE for the period 2027-29. We now deal with the above ACE claimed for the period 2024-27 as under:

Wet Limestone FGD System

71. The Petitioner has claimed a total amount of Rs.5043.38 lakh (Rs.2006.69 lakh in 2024-25, Rs.2006.69 lakh in 2025-26, and Rs.1030.00 lakh in 2026-27 as ACE, under Regulations 24(1)(b) and 24(1)(c) of the 2024 Tariff Regulations. In justification for the same, the Petitioner has submitted that the claimed works/ assets are against the balance residual work for FGD during the periods 2024-25 and 2025-26. The matter has been examined. It is observed that the Petitioner has not furnished a detailed break-up of the additional capital expenditure claimed. It is further noticed that the Petitioner has claimed additional capital expenditure for the years 2024-25 and 2025-26 under Regulation 24(1)(b) of the 2024 Tariff Regulations, whereas the applicable provision in the present case, pertaining to ECS, is Regulation 29 of the 2024 Tariff Regulations. It is also noted that the total claim of the Petitioner, including the additional capital expenditure proposed up to 31.03.2027, exceeds the revised project cost of Rs. 51,883.97 lakh. However, the additional capital expenditure is allowed under Regulation 29(4) of the 2024 Tariff Regulations and the Petitioner is directed to submit a detailed break-up of the additional capital expenditure claimed at the time of truing-up of the tariff.

72. Further, it is also observed that the Petitioner has also claimed projected ACE of Rs.1030.00 lakh in 2026-27, towards initial spares, which, as discussed earlier in paragraph 65, is within the limit as per the regulation and accordingly allowed. The Petitioner is, however, directed to submit the item-wise detailed breakup of the ACE claimed, duly reconciled with Form-B, including initial spares, at the time of truing up.

De-capitalisation



73. The Petitioner has not claimed any de-capitalisation for the period 2024-29. Hence, the Petitioner is directed to submit details of any items de-capitalised during the period 2024-29 at the time of truing up.

Discharge for Liabilities

74. The Petitioner has claimed Rs.1075.50 lakh as discharge of liabilities towards WFGD and Rs.20.22 lakh towards CMS during 2024-25. Since the discharge of liabilities, as claimed by the Petitioner, is towards the capital cost allowed as on the 'Ode' of the ECS system, the same is allowed, subject to truing up. The balance of undischarged liabilities, corresponding to the capital cost allowed as on 31.3.2029, works out to nil.

75. Based on the above, the net ACE allowed for the period 2024-29 is as under:

	<i>(Rs. in lakh)</i>				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
ACE	2006.69	2006.69	1030.00	0.00	0.00
Add: Discharge of liabilities	1095.72	0.00	0.00	0.00	0.00
Net ACE allowed	3102.41	2006.69	1030.00	0.00	0.00

Capital cost allowed for the period 2024-29

76. In view of the above, the capital cost allowed for the purpose of the tariff is summarised below:

	<i>(Rs. in lakh)</i>				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Opening capital cost	42774.55	45876.96	47883.65	48913.65	48913.65
Add: Addition during the year/period	3102.41	2006.69	1030.00	0.00	0.00
Closing capital cost	45876.96	47883.65	48913.65	48913.65	48913.65
Average capital cost	44325.75	46880.30	48398.65	48913.65	48913.65

Debt-Equity Ratio



77. Sub-clause (ii) of clause (2) of Regulation 96 of the 2024 Tariff Regulations provides as under:

*“(ii) **Debt-Equity Ratio:** The debt-equity ratio of all projects of DVC commissioned prior to 01.01.1992 shall be 50:50, and that of the projects commissioned thereafter shall be 70:30.”*

78. The Petitioner has considered the debt-equity ratio of 70:30 for the period 2024-29, and the same has been considered.

Return on Equity

79. Regulations 30 and 31 of the 2024 Tariff Regulations provide as under:

*“30. **Return on Equity:** (1) Return on equity shall be computed in rupee terms, on the equity base determined in accordance with Regulation 18 of these regulations.*

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

(3) Return on equity for new project achieving COD on or after 01.04.2024 shall be computed at the base rate of 15.00% for the transmission system, including the communication system, at the base rate of 15.50% for Thermal generating station and run-of-river hydro generating station and at the base rate of 17.00% for storage type hydro generating stations, pumped storage hydro generating stations and run-of-river generating station with pondage;

Provided that return on equity in respect of additional capitalization beyond the original scope, including additional capitalization on account of the emission control system, Change in Law, and Force Majeure shall be computed at the base rate of one-year marginal cost of lending rate (MCLR) of the State Bank of India plus 350 basis points as on 1st April of the year, subject to a ceiling of 14%;

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 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 an 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, the rate of return on equity shall be reduced by 1.00% for the period for which the deficiency continues;

iii. in the case of a thermal generating station:

a) rate of return on equity shall be reduced by 0.25% in case of failure to achieve the ramp rate as specified under Regulation 45(9) of IEGC Regulations, 2023.

b) an additional rate of return on equity of 0.125% shall be allowed for every incremental ramp rate of 0.50% per minute achieved over and above the ramp rate specified by Central Electricity Authority, subject to the ceiling of additional rate of return on equity of 1.00%:

*31. **Tax on Return on Equity.** (1) The 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. The effective tax rate 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 concerned*



generating company or the transmission licensee by excluding the income of non-generation or non-transmission business, as the case may be, and the corresponding tax thereon.

Provided that in case a generating company or transmission licensee is paying Minimum Alternate Tax (MAT) under Section 115JB of the Income Tax Act, 1961, the effective tax rate shall be the MAT rate, including surcharge and cess;

Provided further that in case a generating company or transmission licensee has opted for Section 115BAA, the effective tax rate shall be tax rate including surcharge and cess as specified under Section 115BAA of the Income Tax Act, 1961.

(2) The 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)

(3) The generating company or the transmission licensee, as the case may be, shall true up the effective tax rate for 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 2024-29 on actual gross income of any financial year. Further, any penalty arising on account of delay in deposit or short deposit of tax amount shall not be considered while computing the actual tax paid for the generating company or the transmission licensee, as the case may be.

Provided that in case a generating company or transmission licensee is paying Minimum Alternate Tax (MAT) under Section 115JB, 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 with the applicable MAT rate including surcharge and cess.

Provided that in case a generating company or transmission licensee is paying tax under Section 115BAA, 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 with the tax rate including surcharge and cess as specified under Section 115BAA.

Provided that any under-recovery or over recovery of grossed up rate on return on equity after truing up, shall be recovered or refunded to beneficiaries or the long term customers, as the case may be, on a year to year basis."

80. The Petitioner has claimed tariff, considering the rate of Return on Equity (ROE) of 16.24% with a base rate of 12.15% (1-year SBI MCLR of 8.65% as on 1.4.2024 plus 350 bps) and an effective tax rate of 25.17%. In line with the 1st proviso to Regulation 30(3) of the 2024 Tariff Regulations, the base rate of ROE is considered as 12.15% (i.e., 1-year SBI MCLR of 8.65% as on 1.4.2024 + 350 bps) for the year 2024-25 and 12.50% (i.e., 1-year SBI MCLR of 9.00% as on 1.4.2025 + 350 bps) for the year 2025-26 and onwards.

81. In response to the query regarding the basis for considering the effective tax rate of 25.17%, the Petitioner, vide affidavit dated 21.1.2025, has submitted that the tax liability (as of date) is 'nil' and the same is due to losses accumulated in past years. Accordingly, the effective tax rate has been considered as 'nil'. Accordingly, the ROE has been worked out and allowed as under:

(Rs. in lakh)



	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Notional Equity- Opening	12832.36	13763.09	14365.09	14674.09	14674.09
Addition of Equity due to additional capital expenditure	930.72	602.01	309.00	0.00	0.00
Normative Equity – Closing	13763.09	14365.09	14674.09	14674.09	14674.09
Average Normative Equity	13297.73	14064.09	14519.59	14674.09	14674.09
Return on Equity (Base Rate)	12.150%	12.500%	12.500%	12.500%	12.500%
Effective Tax Rate	0.000%	0.000%	0.000%	0.000%	0.000%
Rate of Return on Equity (Pre-tax)	12.150%	12.500%	12.500%	12.500%	12.500%
Return on Equity (Pre-tax) - (annualised)	1615.67	1758.01	1814.95	1834.26	1834.26
Return on Equity (Pre-tax) - (pro-rata)	1,252.70	1,758.01	1,814.95	1,834.26	1,834.26

Interest on Loan

82. Regulation 32 of the 2024 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 gross normative loans for the calculation of interest on loans.*

(2) The normative loan outstanding as on 1.4.2024 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31.3.2024 from the gross normative loan.

(3) The repayment for each of the years of the tariff period 2024-29 shall be deemed to be equal to the depreciation allowed for the corresponding year or 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 up to the date of de-capitalisation of such asset.

(4) Notwithstanding any moratorium period availed of by the generating company or the transmission licensee, as the case may be, the repayment of the 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 or allocated loan portfolio;

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

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

Provided that the rate of interest on the loan for the installation of the emission control system commissioned subsequent to date of commercial operation of the generating station or unit thereof, shall be the weighted average rate of interest of the actual loan portfolio of the emission control system, and in the absence of the actual loan portfolio, the weighted average rate of interest of the generating company as a whole shall be considered, subject to a ceiling of 14%; Provided further that if the generating company or the transmission licensee, as the case may be, does not have any actual loan, then the rate of interest for a loan shall be considered as 1-year MCLR of the State Bank of India as applicable as on April 01, of the relevant financial year.

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

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



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

- a) Gross normative loan equivalent to 70% of the capital cost allowed as on ODe of ECS has been considered.
- b) Addition to the normative loan on account of ACE approved above has been considered.
- c) Depreciation allowed has been considered as repayment of the normative loan during the respective years of the tariff period 2024-29.
- d) The weighted average rate of interest (WAROI) as claimed by the Petitioner has been considered for the purpose of tariff.

84. Necessary calculations for interest on loan are as under:

	(Rs. in lakh)				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Gross opening loan	29942.18	32113.87	33518.55	34239.55	34239.55
Cumulative repayment of loan up to previous year/period	0.00	2694.42	6369.84	10164.29	13999.12
Net Loan Opening	29942.18	29419.45	27148.72	24075.26	20240.43
Addition on account of ACE	2171.69	1404.68	721.00	0.00	0.00
Repayment of the loan during the year/period	2694.42	3675.42	3794.45	3834.83	3834.83
Net Loan Closing	29419.45	27148.72	24075.26	20240.43	16405.60
Average Loan	29680.82	28284.08	25611.99	22157.85	18323.02
WAROI	8.790%	8.790%	8.790%	8.790%	8.790%
Interest on Loan (annualised)	2608.96	2486.19	2251.31	1947.69	1610.60
Interest on Loan (pro-rata)	2022.84	2486.19	2251.31	1947.69	1610.60

Depreciation

85. Sub-clause (iii) of clause (2) of Regulation 96 of the 2024 Tariff Regulations provides as under:

“(iii) Depreciation: The depreciation rate stipulated by the Comptroller and Auditor General of India in terms of section 40 of the Damodar Valley Corporation Act, 1948 shall be applied for the computation of depreciation of projects of DVC.”

86. The Petitioner has claimed tariff considering the weighted average rate of depreciation (WAROD) of 7.84% for the period 2024-29, stating the same to be the rate approved by the Comptroller and Auditor General of India (CAG) as applicable to DVC, and the same has been considered. However, the Petitioner is directed to furnish the supporting documents for



the WAROD of 7.84% at the time of truing up. Accordingly, Depreciation has been calculated and allowed as under:

	(Rs. in lakh)				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Average capital cost	44325.75	46880.30	48398.65	48913.65	48913.65
Depreciable value	39893.18	42192.27	43558.78	44022.28	44022.28
Remaining depreciable value at the beginning of the year / period	39893.18	39497.85	37188.94	33857.99	30023.16
WAROD	7.84%	7.84%	7.84%	7.84%	7.84%
Depreciation during the period (pro-rata)	2694.42	3675.42	3794.45	3834.83	3834.83
Depreciation during the year (annualised)	3475.14	3675.42	3794.45	3834.83	3834.83
Cumulative depreciation at the end of the year / period	2694.42	6369.84	10164.29	13999.12	17833.95

Operations and Maintenance Expenses

87. Regulation 36(1)(9) of the 2024 Tariff Regulations provides as under:

“(9) The operation and maintenance expenses on account of emission control systems in coal or lignite based thermal generating stations shall be 2% of the admitted capital expenditure (excluding IDC and IEDC) as on its date of operation, which shall be escalated annually @ 5.25% during the tariff period ending on 31st March 2029:

Provided that income generated from the sale of gypsum or other by-products shall be reduced from the operation and maintenance expenses.”

88. Based on the above, the Petitioner has claimed the following O&M expenses:

	(Rs. in lakh)				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Normative O&M expenses for ECS under Regulation 36(1)(9) - <i>annualised</i>	800.16	842.17	886.38	932.91	981.89
Total O&M Expenses (pro-rata)	616.51	842.17	886.38	932.91	981.89

89. It is observed that the Petitioner has claimed the O&M expenses based on the capital cost excluding IDC and IEDC, in line with Regulation 36(1)(9) of the 2024 Tariff Regulations. However, the Petitioner has included undischarged liabilities while calculating the O&M expenses. It is also noted that the Petitioner has claimed O&M expenses for both the CMS system and the WFGD systems, but no justification or details of the works covered under the CMS system that necessitated the additional O&M expenses have been furnished. It appears that only some modifications were made to the existing burner. Since no proper justification



has been furnished for the O&M expenses claimed for the CMS system, we allow the O&M expenses only for the FGD system, in this order. The Petitioner is, however, directed to furnish the complete component-wise details of the CMS system at the time of truing up the tariff. It is also noticed that the Petitioner has estimated 366 days for 2024-25 and 282 days from the actual ODe, i.e., 22.6.2024 up to 31.3.2025, in Form-3A, while calculating the O&M expenses. The same is corrected to 365 days and 283 days, respectively, in this order. The Petitioner is, however, directed to furnish the complete component-wise details of the CMS system at the time of truing up.

90. As per the proviso to Regulation 36(1)(9) of the 2024 Tariff Regulations, income generated from the sale of gypsum and other by-products shall be reduced from the O&M expenses. The Petitioner has not submitted any details in respect of the consumption of limestone, gypsum production, and revenue earned from the sale of gypsum by the generating station. Hence, the Petitioner is directed to submit the details of consumption of limestone, gypsum production, and revenue earned from the sale of gypsum at the time of truing up.

91. Based on the above, the capital cost of Rs.38040.12 lakh (i.e., hard cost allowed towards WFGD on an accrual basis of Rs.39115.62 lakh, less un-discharged liabilities of Rs.1075.50 lakh) is considered for the calculation of O&M expenses for WFGD, in line with Regulation 36(1)(9) of the 2024 Tariff Regulations. The annual O&M expenses calculated for the first year of operation have then been further escalated at an annual rate of 5.25% for the period 2025-29. Accordingly, the O&M expenses allowed for the period 2024-29 are as under:

	<i>(Rs. in lakh)</i>				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
O&M expenses allowed (<i>annualised</i>)	760.80	800.74	842.78	887.03	933.60
O&M expenses allowed (<i>pro-rata</i>)	589.88	800.74	842.78	887.03	933.60

Operational Norms



92. The operational norms with respect to ECS (FGD), i.e., normative annual plant availability factor, gross station heat rate, specific limestone consumption, and auxiliary power consumption, are discussed below.

Normative Annual Plant Availability Factor (NAPAF)

93. The Petitioner has claimed NAPAF of 85%, and the same is allowed in line with Regulation 70(A)(a) of the 2024 Tariff Regulations.

Gross Station Heat Rate (kCal/kWh)

94. The Petitioner has claimed GSHR of 2362.795 kCal/kWh, and the same has been considered.

Specific Limestone Consumption

95. As regards Specific limestone consumption, Regulation 70(F)(1)(a) of the 2024 Tariff Regulations, provides as under:

“(F) Norms for consumption of reagent:

(1) The normative consumption of specific reagents for various technologies for the reduction of emission of sulphur dioxide shall be as under:

(a) For Wet Limestone based Flue Gas De-sulphurisation (FGD) system: The specific limestone consumption (g/kWh) shall be worked out by following the formula:

[K x Normative heat rate (kcal/kWh) x Sulphur content of coal (%) / CVPF in kCal/Kg] x [85/LP] g/kWh

Where,

GCV = (a) Weighted Average Gross calorific value of coal in kCal per kg for coal based thermal generating stations computed in accordance with Regulation 60 of these regulations;”

96. The Petitioner has claimed the following Specific Reagent Consumption (SRC) based on the average values of CVPF, Sulphur Content (S), and Limestone Purity (LP). The following normative consumption of specific reagents has been claimed using the above methodology:

	Unit	2024-25 (22.6.2024 to 31.3.2025)
Specific Reagent Consumption (SRC)	g/kWh	9.730

97. Considering the Regulation regarding a specific norm for SRC, we, in this order, consider the assumptions submitted by the Petitioner and allow the above-claimed SRC by



the Petitioner. However, the Petitioner is directed to furnish the month-wise details of CVPF, Sulphur Content (S), and Limestone Purity (LP) at the time of truing up.

Auxiliary Power Consumption (APC)

98. In terms of Regulation 70(E)(f) of the 2024 Tariff Regulations, an APC of 1% for a Wet Limestone-based FGD system is allowed.

Interest on Working Capital (IoWC)

99. Regulation 34(1)(b) of the 2024 Tariff Regulations provides as under:

*“(b) For emission control system of coal or lignite based thermal generating stations:
 (i) Cost of limestone or reagent towards stock for 20 days corresponding to the normative annual plant availability factor;
 (ii) Advance payment for 30 days towards the cost of reagent for generation corresponding to the normative annual plant availability factor;
 (iii) Receivables equivalent to 45 days of supplementary capacity charge and supplementary energy charge for the sale of electricity calculated on the normative annual plant availability factor;
 (iv) Operation and maintenance expenses in respect of the emission control system for one month;
 (v) Maintenance spares @20% of operation and maintenance expenses in respect of emission control system.”*

100. The Petitioner has claimed the following interest on working capital:

(Rs. in lakh)						
Particulars	Norms	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
No of days in the period		282	365	365	366	365
No of days in the year		366	365	365	366	365
Cost of Limestone/Reagent for Stock	20 days	74.43	74.43	74.43	74.43	74.43
Cost of Limestone /Reagent for Advance Payment	30 days	111.65	111.65	111.65	111.65	111.65
Receivables	45 days	1521.08	1245.58	1243.10	1213.00	1177.58
O&M Expenses	1 month	66.68	70.18	73.86	77.74	81.82
Maintenance Spares	O&M Expenses @20%	160.03	168.43	177.28	186.58	196.38
Total Working Capital (Annualised)		1933.87	1670.27	1680.33	1663.41	1641.86
Total Working Capital (for the period)		1490.03	1670.27	1680.33	1663.41	1641.86
Rate of Interest	%	11.90	11.90	11.90	11.90	11.90
Interest on Working Capital (for the period)		177.31	198.76	199.96	197.95	195.38

Landed Cost of Reagent

101. As regards the landed cost of limestone, Regulation 61(1) of the 2024 Tariff Regulations, provides as under:



“61. Landed Cost of Reagent: (1) Where specific reagents such as Limestone, Sodium Bi-Carbonate, Urea or Anhydrous Ammonia are used during the operation of an emission control system for meeting revised emission standards, the landed cost of such reagents shall be determined based on the normative consumption and the purchase price of the reagent through competitive bidding, applicable statutory charges and transportation cost.”

102. The Petitioner in Form-16, has claimed the following landed cost of reagent:

	Unit	2024-25 (22.6.2024 to 31.3.2025)
Landed Price of Reagent (LPR)	Rs/MT	4000

103. It is noticed in Form-16, that the cost of the limestone claimed by the Petitioner is not audited, and in terms of Regulation 61(1) of the 2024 Tariff Regulations, the Petitioner has not submitted the calculation of the landed cost of the reagents, based on normative consumption and the purchase price of the reagent through competitive bidding, and the applicable statutory charges. However, the claim of the Petitioner is allowed, subject to the Petitioner certifying that the purchase price of the reagent is through competitive bidding and submitting the details of the calculation of the landed cost of reagents, based on normative consumption and the purchase price of the reagent through competitive bidding, and the applicable statutory charges, at the time of truing up. It is also noted that the Petitioner has considered 366 days in 2024-25 and 282 days from the actual ODe, i.e., 22.6.2024 up to 31.3.2025, in Form-Oi (calculation of the cost of Reagent consumed per day and SECR) and Form-O (calculation of IoWC). The same is corrected as 365 days and 283 days, respectively, in this order. Accordingly, the cost of the reagent, considered for the calculation of working capital, is as under:

	(Rs. in lakh)				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Cost of limestone/reagent towards stock (for 20 days) corresponding to NAPAF	74.43	74.43	74.43	74.43	74.43
Advances towards limestone/reagent cost (for 30 days) for the generation corresponding to NAPAF	111.65	111.65	111.65	111.65	111.65

Supplementary Energy Charge Rate (SECR)

104. Regulation 64(2) of the 2024 Tariff Regulations, provides as under:



“(1a) The supplementary energy charge on account of emission control system shall cover the differential energy charges due to auxiliary energy consumption and cost of reagent consumption, and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on ex-power plant basis, at the supplementary energy charge rate of the month. Total supplementary energy charge payable to the generating company for a month shall be:

Supplementary Energy Charges = (Supplementary energy charge rate in Rs./kWh) x {Scheduled energy (ex-bus) for the month in kWh}”

105. Also, Regulation 64(3)(b) of the Tariff Regulations, 2024 provides as under:

“(b) Supplementary ECR for coal and lignite based thermal generating stations:
 $\text{Supplementary ECR} = (\square \text{ECR}) + [(SRC \times LPR / 10) / (100 - (AUXn + AUXen))]$ ”.....
 Where,

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

.....
($\square \text{ECR}$) = Difference between ECR with revised auxiliary energy consumption with emission control system equivalent to (AUXn + AUXen) and ECR with normative auxiliary energy consumption as specified in these regulations;

SRC = Specific reagent consumption on account of revised emission standards (in g/kWh);

LPR = Weighted average landed price of reagent for the emission control system (in Rs./kg).”

106. The Petitioner has claimed the following SECR:

Sl. No.	Particulars	Unit	2024-25 (22.6.2024 to 31.3.2025)
	No of days in the period	Days	282
	No of days in the year	Days	366
1	Installed Capacity	MW	500
2	Ex-bus generation capacity (ESO) per day at NAPAF	MU	9.56
3	Auxiliary Power Consumption (AUXn)	%	5.25
4	Additional Auxiliary Power Consumption for ECS (AUXen)	%	1.00
5	Gross Station Heat Rate (Normative)	Kcal/ Kwh	2362.795
6	Weighted average GCV of coal	Kcal/Kg	3744
7	CVPF (Wtd. Av. GCV less 85 Kcal/Kg)	Kcal/Kg	3659
8	Sulphur Content of the coal (S)	%	0.440
9	Design SO2 Removal Efficiency	%	94.25
10	Specific Reagent Consumption (SRC)	g/kwh	9.730
11	Landed Price of Reagent (LPR)	Rs/MT	4000
12	Cost of Reagent consumed in a day	Rs lakh	3.722
13	Supplementary Energy Charge (Rs/kwh)	Rs/kwh	0.0703

107. The above claim of the Petitioner has been verified, and the number of days mentioned above has been corrected. The Petitioner has claimed the SECR under Regulations 64(2) and 64(3) of the 2024 Tariff Regulations. Hence, the same is considered. However, the Petitioner is directed to submit documents in support of the claim of Design SO₂ Removal Efficiency, month-wise details of CVPF, third-party sampling report with a clear indication of



‘GCV as received’ and ‘GCV as Billed’ in line with Regulation 64 of the 2024 Tariff Regulations, LPR, and Limestone purity, at the time of truing up. The Petitioner is also directed to provide the year-wise actual values of the aforesaid parameters, along with the relevant documents, at the time of truing up.

Receivables

108. The Petitioner has claimed the following receivables equivalent to 45 days of supplementary capacity charge and supplementary energy charge for the sale of electricity calculated on the NAPAF, and the same is allowed as under:

	(Rs. in lakh)				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Receivables equivalent to 45 days of supplementary capacity charge	1069.08	1102.55	1100.62	1072.83	1039.65
Receivables equivalent to 45 days of supplementary energy charge	301.22	301.22	301.22	301.22	301.22
Total	1370.30	1403.77	1401.84	1374.05	1340.87

O&M Expenses (1 month)

109. In terms of Regulation 34(1)(b)(iv) of the 2024 Tariff Regulations, one month's O&M expenses allowed is as under:

	(Rs. in lakh)			
2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
63.40	66.73	70.23	73.92	77.80

Maintenance spares @ 20% of O&M Expenses for computation of working capital

110. In terms of Regulation 34(1)(b)(v) of the 2024 Tariff Regulations, maintenance spares @ 20% of the O&M expenses allowed is as under:

	(Rs. in lakh)			
2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
152.16	160.15	168.56	177.41	186.72

111. In line with Regulation 34(3) of the 2024 Tariff Regulations, the rate of interest on working capital is considered as 11.90% (i.e., 1-year SBI MCLR of 8.65% as on 1.4.2024 + 325 bps) for the year 2024-25 and 12.25% (i.e., 1-year SBI MCLR of 9.00% as on 1.4.2022



+ 325 bps) for the year 2025-26 and onwards. Accordingly, interest on working capital is computed and allowed as under:

	(Rs. in lakh)				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Working capital for Cost of Limestone/ Reagent Stock (20 days generation corresponding to NAPAF)	74.43	74.43	74.43	74.43	74.43
Working capital for advances towards Cost of Limestone/ Reagent (30 days generation corresponding to NAPAF)	111.65	111.65	111.65	111.65	111.65
Working capital for Maintenance Spares (20% of O&M expenses)	152.16	160.15	168.56	177.41	186.72
Working capital for Receivables (45 days of sale of electricity at NAPAF)	1370.30	1403.77	1401.84	1374.05	1340.87
Working capital for O&M expenses (1 month of O&M expenses)	63.40	66.73	70.23	73.92	77.80
Total working capital	1771.94	1816.73	1826.71	1811.46	1791.47
Rate of Interest	11.90%	12.25%	12.25%	12.25%	12.25%
Interest on working capital (annualised)	210.86	222.55	223.77	221.90	219.46
Interest on working capital (pro-rata)	163.49	222.55	223.77	221.90	219.46

Supplementary tariff for the period 2024-29

112. Accordingly, the supplementary tariff, approved for the installation of ECS in the generating station for the period 2024-29, is summarised below:

	(Rs. in lakh)				
	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Depreciation	3475.14	3675.42	3794.45	3834.83	3834.83
Interest on Loan	2608.96	2486.19	2251.31	1947.69	1610.60
Return on Equity	1615.67	1758.01	1814.95	1834.26	1834.26
Interest on Working Capital	210.86	222.55	223.77	221.90	219.46
O&M Expenses	760.80	800.74	842.78	887.03	933.60
Total (annualised)	8671.44	8942.91	8927.27	8725.71	8432.75
Total (pro-rata)	6723.33	8942.91	8927.27	8725.71	8432.75

113. The pro-rata tariff is to be calculated using the bases as under:

	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
No. of days in the year	365	365	365	366	365
No. of days for which tariff is to be calculated	283	365	365	366	365

114. In light of the above discussion, the supplementary tariff, claimed by the Petitioner in Petition No. 361/MP/2023 and that approved in this Order for the installation of ECS in the generating station for the period 2024-29, is summarised below:

(Rs. In Lakh)



Particulars	2024-25 (22.6.2024 to 31.3.2025)	2025-26	2026-27	2027-28	2028-29
Supplementary Tariff claimed	7,636.02	10,103.01	10,082.96	9,865.73	9,551.48
Supplementary Tariff allowed	6723.33	8,942.91	8,927.27	8,725.71	8,432.75

Interlocutory Application (I.A.) No. 61 of 2026

115. The Respondent, PSPCL, has filed this I.A. (No. 61/2026) in the matter, vide an affidavit dated 26.2.2026. The Respondent in the said I.A has sought the following reliefs:

- (a) *declare and hold that in view of the Notification dated 11.7.2025 issued by the Government of India, Ministry of Environment, Forest and Climate Change, the FGD-related capitalization claimed in respect of BTPS-A, being a Category-C thermal power plant, is not liable to be automatically passed through to the Respondent w.e.f. 11.07.2025 onwards;*
- (b) *restrain the Petitioner from raising and recovering any provisional supplementary fixed charges or supplementary energy charges towards FGD-related expenditure at BTPS-A during the pendency of the present Petition;*
- (c) *direct the Petitioner to refund the amounts recovered by it from the Respondent towards provisional supplementary bills for FGD-related costs in respect of BTPS-A from the date of coming into force of the Notification dated 11.7.2025 issued by the Government of India, Ministry of Environment, Forest and Climate Change, along with applicable interest; and*
- (d) *pass such further and other Order(s) as this Hon'ble Commission may deem fit and proper in the facts and circumstances of the present case.*

116. The Respondent has submitted that during the pendency of the present Petition, the MoEF&CC issued the Environment (Protection) Amendment Rules, 2025 on 11.7.2025, introducing a new categorisation of coal-based thermal power plants into three groups for compliance with SO₂ emission norms and FGD installation as tabulated hereinbelow:

TABLE -I

Sl. No.	Category	Location/area
(1)	(2)	(3)
1.	Category A	Within 10 km radius of National Capital Region or cities having million plus population.
2.	Category B	Within 10 km radius of Critically Polluted Areas or Non-attainment cities
3.	Category C	Other than those included in category A and B

.....
(c) *The Applicability of emission standards for Sulphur dioxide in thermal power plants shall be as follows:*



i. the thermal power plants declared to retire before 31st December, 2030 shall not be required to meet the specified standards for Sulphur dioxide emissions in case such plants submit an undertaking to Central Pollution Control Board and Central Electricity Authority for exemption on ground of retirement of such plant:

Provided that such plants shall be levied environment compensation from the 31st December 2030, at the rate of rupees 0.40 per unit electricity generated in case their operation is continued beyond the date as specified in the undertaking without meeting the specified standards;

ii. the existing Category A thermal power plants shall comply with the Sulphur dioxide emission standards by 31st December, 2027 and the Category A thermal power plants under commissioning shall also comply with the standards before 31st December, 2027. Other category A plants to be commissioned after 31st December, 2027 will operate only after ensuring compliance of these standards;

iii. for all Category B Plants or Units, whether existing or upcoming, the applicability of Sulphur dioxide emission standards, shall be decided on a case to case basis by the Central Government based upon the recommendations of the Expert Appraisal Committee in charge of Thermal Power Projects constituted under Environment Impact Assessment notification 2006 based on the appropriate scientific studies as per the following procedure:

(a a) in case environmental clearance has already been granted, such plants or units may opt for review of the applicability of Sulphur dioxide standards provided that concerned project proponent applies for such review on the PARIVESH portal within six months of the date of issue of this notification, in case Sulphur dioxide standards are decided as applicable, the same shall be effective from 31st December, 2028 and in all other cases, the thermal power plant shall comply with the stack height criteria notified vide notification number GSR 742 (E) dated the 30th August, 1990 by 31st December, 2028;

(b b) in cases of upcoming plants where EC has not been granted, the applicability of Sulphur dioxide standards and the date of its coming into force or otherwise will be as specified in environmental clearance granted to each such projects following the procedure as laid down in Environment Impact Assessment notification 2006 as amended from time to time and in cases, where the Sulphur dioxide standards are not made applicable, the thermal power plants shall comply with the stack height criteria notified vide notification number GSR 742 (E) dated the 30th August, 1990;

(c c) these standards for Sulphur dioxide emissions shall be applicable with effect from the 31st December, 2028 in respect of all those plants or units which have not opted for review within the given timeframe as specified in para (i) above;

iv. the Sulphur dioxide emission standards shall not be applicable to all Category C thermal power plants subject to ensuring compliance of stack height criteria notified vide notification number GSR 742 (E), dated the 30th August, 1990 and the time line for ensuring compliance by the existing Category C Thermal Power Plants of stack height criteria by the 31st December, 2029.

As a consequence of the above Notification, the Category-C thermal generating plants were no longer required to install FGD systems as earlier mandated under the 2015 Notification, read with the 2022 Notification. The statutory compulsion, which originally formed the basis for claiming FGD-related capitalisation, no longer existed insofar as Category-C plants were concerned.



117. The Respondent has further submitted that in light of the aforesaid regulatory shift, the Central Electricity Authority (CEA) convened a meeting on 18.7.2025 to examine the implications of the revised SO₂ emission norms, particularly in respect of Category-C thermal generating plants. In the said Meeting, the decisions made were as under:

“After detailed deliberations, it was decided that:

(1) The generating companies/organizations would review the progress of FGD installation for various categories of thermal power plants and furnish the latest physical and financial progress of FGD at various plants/units in the matter to CEA.

(2) The generating companies would assess financial benefits accruing from the amended applicability of SO₂ standards for the coal-based thermal power plants considering options available for FGD i.e. installing FGD or not installing FGD. The generating companies can take decision on immediately abandoning the works/contracts where there is no physical progress yet on the ground or where no major work started say 10-20 percentage progress attained. In the rest of the cases, where projects are nearing completion or attained progress of 60-70 percentage, they can assess what is more economical scenario - i.e. with FGD or without FGD. The generating companies were also advised to discuss various aspects with the beneficiary Discoms their willingness to have FGD installed and pay for the cost attributable to FGD (CAPEX + OP-EX) or stop the project and pay the fixed cost (CAPEX) incurred so far, etc.

All the organizations were requested to furnish the above assessment of financial benefits worked out by aforesaid assessment with following cases:

(i) where FGD work has not yet started,

(ii) where work of FGD started and some progress say 10-20 percentage achieved

(iii) where FGD in advance stage of completion and,

(iv) where removing FGD is feasible and where removing FGD is not possible due to technical/engineering/space constraints.

(3) Suggestion may also be furnished by the Generating companies/ organization to overcome the issues/challenges expected to emerge consequent upon the amended standards of SO₂ emissions.

(4) CEA will prepare various possibilities and financial benefits of the notification dated 11.07.2025.

Based on the progress report shared by utilities, CEA would analyse the above information on financial implications and submit to the MoP for further directions in matter.”

118. The Respondent has also submitted that a subsequent Meeting dated 12.12.2025 was held by MOP to discuss the guidelines for review of FGD systems for Category-C thermal generating projects in view of the revised applicability of SO₂ emission norms. The action points which emerged from the said discussion were intimated vide the OM dated 19.12.2025 as under:

“4. After detailed deliberations, the following action points emerged:

(i) Regarding Category C TPPS, wherever contracts for FGD systems are not yet awarded, respective GENCOs should not proceed further with the installation.



(ii) In all other cases, the future course may be mutually decided by respective stakeholders.”

119. In view of the above OM, there remained no binding obligation upon the distribution licensees (such as the present Respondent) to bear FGD-related costs for Category-C thermal generating plants irrespective of whether the FGD systems had been installed therein. The continuation, economic justification, and cost recovery were matters to be decided based on mutual consultation and feasibility assessment.

120. In view of the above, the Respondent has prayed that the aforesaid statutory notifications and policy communications have materially impacted the admissibility, necessity and recoverability of FGD-related capitalisation and supplementary charges in respect of BTPS-A and therefore require due consideration before any determination of tariff or approval of cost recovery is undertaken in terms of the present Petition. The Commission may take judicial cognisance of the said subsequent developments and adjudicate the captioned Petition in conformity with the prevailing regulatory and policy framework, so as to render a complete, just and effective decision in the matter.

Analysis and Decision

121. We have examined the matter, and judicial cognisance of the above is taken, and it is observed that the Environment (Protection) Amendment Rules, 2025, notified on 11.7.2025, according to which the sulphur dioxide (SO₂) emission standards are not applicable to Category C thermal power plants, subject to compliance with the stack height criteria specified in Notification No. GSR 742(E) dated 30.8.1990. Further, the timeline for ensuring compliance with the said stack height criteria by the existing Category C thermal power plants has been stipulated as 31.12.2029.

122. However, it is pertinent to note that, in the present case, the contracts for installation of the FGD systems, forming part of the ECS, were awarded on 15.7.2019, and the ECS achieved ODe on 22.6.2024, i.e., prior to the issuance of the Environment (Protection)



Amendment Rules, 2025 and also before the filing of the present Interlocutory Application (I.A.) by the Respondent. Accordingly, the investment towards the installation of the ECS had already crystallised, having been undertaken in compliance with the environmental norms and regulatory directions prevailing at the relevant time. Such expenditure cannot be rendered infructuous or disallowed merely on account of a subsequent regulatory relaxation.

123. It is further observed that the MOP OM dated 19.12.2025 provides that, with regard to Category C thermal power plants, the future course of action may be mutually decided by the respective stakeholders. This OM does not negate or invalidate investments already made and operationalised prior to the said amendment.

124. We further note that the present I.A. was filed after the matter had been reserved for order. In view of this, no separate hearing on the said I.A. is considered necessary. Nevertheless, we have taken cognisance of the I.A. and have duly considered the submissions made therein, including the Minutes of Meetings (MoM) placed on record. The directions issued in this order are, accordingly, based on the consideration of the said I.A., and the MoM shall form part of the record.

125. In view of the above, and considering that the installation of the ECS was undertaken in compliance with the extant environmental regulations and that the associated expenditure had crystallised prior to the amendment dated 11.7.2025, we are of the considered view that the supplementary tariff on account of the installation of the ECS/FGD system shall be payable by the Respondents to the Petitioner. Such payment shall continue until a mutually agreed decision is reached by the respective stakeholders in terms of the OM dated 19.12.2025, or until any further directions are issued by the appropriate authority.

126. Accordingly, I.A. No. 61/2026 stands disposed of along with the present petition. The parties are, however, granted liberty to approach the Commission in the event of any dispute arising in this regard.



127. The Petitioner has sought reimbursement of the filing fee paid for this Petition for the period 2024-29. The Petitioner shall be entitled to the reimbursement of the filing fees in connection with the present Petition, directly from the beneficiaries, on a pro-rata basis, in accordance with Regulation 94(1) of the 2024 Tariff Regulations.

128. Petition No. 361/MP/2023 along with I.A. No. 61/2026 is disposed of in terms of the above.

Sd/-
(Ravinder Singh Dhillon)
Member

Sd/-
(Harish Dudani)
Member

Sd/-
(Ramesh Babu V.)
Member

Sd/-
(Jishnu Barua)
Chairperson

