



ORDER

OF THE

WEST BENGAL ELECTRICITY REGULATORY COMMISSION

IN CASE NO. OA-494/24-25

IN REGARD TO THE APPLICATION SUBMITTED BY THE DURGAPUR PROJECTS LIMITED (DPL) FOR APPROVAL OF INSTALLATION OF SODIUM BICARBONATE BASED DRY SORBENT INJECTION (DSI) FLUE GAS DESULPHURIZATION (FGD) SYSTEM IN RESPECT OF 1X300 MW UNIT 7 AND 1X250 MW UNIT 8 OF THE DPL

PRESENT:

DR. MALLELA VENKATESWARA RAO, CHAIRPERSON

DATE: 05.03.2024



FACTS IN BRIEF

- 1.0 This is in regard to the Petition submitted by the Durgapur Projects Limited (hereinafter referred as "DPL" or the "Petitioner"), dated 6 August, 2024 seeking approval of capital expenditure for installation of Sodium Bicarbonate based Dry Sorbent Injection (DSI) Flue Gas Desulphurization (FGD) System in respect of 1x300 MW Unit 7 and 1x250 MW Unit 8 of DPL (FGD application). This petition is filed in terms of regulation 2.8.4.1 and 5.2.2 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011, as amended (in short "Tariff Regulations"). The petition has been admitted by the Commission on 03/09/2024 in Case No. OA-494/24-25.
- 2.0 DPL or Petitioner was a sanctioned holder under Section 28 of the Electricity Act, 1910 and had become a deemed licensee in terms of the first proviso to section 14 of the Electricity Act, 2003 (hereinafter referred to as the "Act") with effect from 10.06.2003. Subsequently, DPL became a "Generating Company" as defined under Section 2(28) of the Electricity Act, 2003 with effect from 01.01.2019 in terms of Government of West Bengal Notification No. 328/PO/O/C-IV/1E-60/13 (Part-VA) dated 26.12.2018 and order of the Commission in case No. A-6/14 dated 31.12.2018.
- 3.0 The petition is for compliance with the Environment (Protection) Amendment Rules, 2015 dated 7 December 2015 (hereinafter referred to as "Amendment Rules, 2015") notified by the Ministry of Environment, Forest and Climate Change ("MoEFCC"), specifying new standards of compliance for the thermal power plants with respect to the emission of pollutants into the atmosphere.
- 4.0 In the said application read with subsequent replies dated 28.11.2024, 03.12.2024, and 11.12.2024, DPL has inter-alia stated the following:
 - 4.1 The MoEFCC had notified its Environment (Protection) Amendment Rules, 2021 vide Notification gazette dated 31 March 2021 and accordingly DPL was categorized under "Category B" Thermal Power Plant (Within 10 KM radius of Critically Polluted Areas or Non-Attainment cities).
 - 4.2 Further, MoEFCC vide gazette notification dated 5th September dated 2022, has notified "The Environment (Protection) Second Amendment Rules, 2022".



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- 4.3 Based on the Environment (Protection) Second Amendment Rules, 2022, the MoEFCC has set the targeted timeline for reduction in Sulphur Dioxide (SO₂) emissions by installing the Flue Gas Desulphurization (FGD) System in operating power plants. Non-compliance leads to the imposition of Environmental Compensation/Penalty. The targeted date for complying the same is 31st December 2025 for "Category - B Thermal Power Plant".
- 4.4 Therefore, in compliance with the guidelines issued by the MoEFCC, DPL is required to install the Flue Gas Desulphurization (FGD) System in both of its operational units of 1x300 MW Unit - 7 and 1x250 MW Unit - 8 within 31st December 2025.
- 4.5 The Board of Directors (BOD) of DPL in its 611th meeting held on 20.09.2017 approved in-principle clearance for installation of FGD for Unit No. 7 and Unit No. 8. Subsequent resolution of BOD of DPL regarding the installation of DSI FGD were passed in 633rd and 635th BOD Meetings, dated 18.11.2022 and 12.05.2023 respectively. DPL has received in principle approval of the Govt. of West Bengal (on 06.01.2024) with an estimated cost of Rs. 156.51 Crore (including GST) along with approval for Equity Participation (by Govt. of West Bengal) up to 30%.
- 4.6 It is submitted that DPL has discovered L1 price of Rs. 106.20 Crore (excluding GST) from M/s Mecgale Pneumatics Pvt. Ltd. through the open tender for the aforementioned work. The discovered cost comprising hard costs, insurances and O&M of six months in the bid are as follows:

Table 4.6: Break up of claim of DPL

(Rs lakh)

Sl. No.	Particulars	Amount
1.00	Foreign Supply including Freight & Insurance	
1.01	Main Equipment	3500.00
1.02	Mandatory Spares	150.00
2.00	Domestic Supply including Freight & Insurance	
2.01	Main Equipment	4801.00
2.02	Mandatory Spares	150.00
3.00	Installation Services	
3.01	Design, Engineering & Services	360.00
3.02	Project Management Services	39.00



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Sl. No.	Particulars	Amount
3.03	Erection & Services for Main Equipment	720.00
3.04	Supply, fabrication & erection of site fabricated works	30.00
3.05	Civil, Structural (other than steel structures) & Architectural works	810.00
3.06	O&M for 6 months	60.00
	Total excluding GST	10620.00
	Total including GST	12531.60

- 4.7 It is submitted that, Tendering Evaluation Committee (TEC) of DPL has also accorded its approval for placing the order to M/s Mecgale Pneumatics Pvt. Ltd. for installation of Sodium Bicarbonate based Dry Sorbent Injection (DSI) Flue Gas Desulphurization (FGD) System in Unit 7 & 8 of DPL vide Agenda No. DPL/TEC-I/B/CC/2024/01, dated 26.06.2024.
- 4.8 DPL is required to incur expenses on account of purchasing Sodium Bicarbonate on regular basis for operation of the Flue Gas Desulphurization (FGD) System which shall lead to increase in generation cost of DPL. The reagent cost has been estimated on the basis of Tata Chemical Price List Notification dated 16th April 2023.
- 4.9 Based on the above and taking into consideration the transportation cost, DPL has estimated the approximate financial impact on Tariff at 80% PLF for both the units at 56.57 paise per kWh (55.92 paise per kWh for Reagent cost + 0.65 paise per kWh for manpower cost). The variable Cost as mentioned above, shall be dependent upon Sulphur Content of Coal, actual cost of Sodium Bicarbonate as applicable at the time & date of purchase and the cost of Transportation along with relative O&M expenditure shall also be varied, stated by DPL. The Petitioner has prayed to allow such expenses based on the actuals.
- 4.10 The investment for the installation of Sodium Bicarbonate based Dry Sorbent Injection (DSI) Flue Gas Desulphurization (FGD) System falls under Regulations 5.2.2 (vii) of the Tariff Regulations.
- 4.11 The salient technical features of the proposal are as follows:
- a) Due to space constraint at DPL, Sodium Bicarbonate based Dry Sorbent Injection Type Flue Gas Desulphurization Units will be installed for SO₂ control of Unit-7 & Unit - 8 of DPL.



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- b) Design Value of SO₂ in Flue Gas Without DSI FGD has been considered as 1400 mg/Nm³ (Dry with 6% Oxygen Correction). DSI FGD shall reduce SO₂ to < 500 mg/Nm³ (Dry with 6% Oxygen Correction). Bidder shall guarantee that the Minimum SO₂ removal Efficiency, under all operating conditions of the plant in the load range 50% TMCR to 100% TMCR, should not be less than 64.28. DSI FGD has been designed keeping sulphur content in Indian coal which hovers around 0.3% to 0.5%.

4.12 DPL invited the tender under Domestic Competitive Bidding (DCB) for six times, last on 09.03.2024 for the installation of the FGD System on Engineering, Procurement and Construction (EPC) basis. The activities in respect of tendering and bid evaluation as submitted by the Petitioner are given below:

- (a) Sixth Round e-tender was floated on 09.03.2024 with revision of QR after approval of the competent authority. After giving 02(two) nos. of extensions, 02(two) nos. of Bids were submitted. Bids from M/s ISGEC Heavy Engineering Ltd and M/s Mecgale Pneumatics Pvt. Ltd were found qualified after Technical, Financial and Statutory QR Evaluation.
- (b) The quoted price of M/s Mecgale Pneumatics Pvt. Ltd is Rs. 12531.60 lakh including GST which is approximately 17.99% lower than estimate of Rs. 152.80 Crore.
- (c) The Tendering Evaluation Committee recommended for placement of Work Order on M/s Mecgale Pneumatics Pvt. Ltd for an amount of Rs 106.20 lakhs plus GST as applicable.

4.13 DPL has now prayed before the Commission to:

- (a) Admit this Petition in accordance with Regulation 2.8.4.1 and 5.2.2 of the Tariff Regulations;
- (b) Allow the Capital Expenditure and corresponding operational expenditure as proposed;
- (c) Pass such Order as the Commission may deem fit and appropriate keeping in view the facts and circumstances of the case.



OBSERVATION OF THE COMMISSION

- 5.1 FGD system is required to be installed by DPL within 31st December 2028 in compliance with the Environment (Protection) Rules, 1986, as amended, notified by the Ministry of Environment, Forest and Climate Change (MoEFCC), specifying new standards of compliance for the thermal power plants with respect to emission of pollutants into the atmosphere.
- 5.2 The Petitioner has identified and proposed DSI based FGD systems for reduction in the SO₂ emissions taking into consideration the effectiveness, availability & cost, size of the plants, operational expenses and availability of the reagents. The Board of Directors of the Petitioner has approved the Dry Sorbent Injection (DSI) based FGD systems for SO₂ reduction.
- 5.3 The Commission has noted that CEA in its Advice on FGD Technology Selection for different Unit Size dated 07.02.2020, held that the FGD technologies based on DSI are particularly preferable for small unit size i.e. 60 MW-250MW range since the reagent cost in this technology is relatively higher than Wet-lime stone and ammonia based FGD.
- 5.4 The Commission also notes that, the per MW Capital cost for the proposed FGD system comes to Rs 19.27 Lakh, excluding the taxes, and Rs. 22.74 lakh /MW after considering 18% GST. The Commission further notes that, in Order dated 26.12.2023 in Case No.: OA-448/22-23 accorded in-principle approval for DSI FGD for 4 x 210 MW Kolaghat Thermal Power Station (KTPS) of WBPDC, which also comes as Rs. 22.62 lakh/MW including GST. Hence, the cost appears to be reasonable.
- 5.5 DPL on 13.02.2025 after being directed by the Commission provided copy of Order No. 120-POW-13012/1/2023 dated 27.01.2025 of Department of Power, Govt. of West Bengal. The Commission notes that the aforesaid Order accords administrative approval of Rs. 125,31,60,000/- (One hundred-twenty-five crores thirty-one lakh & sixty thousand) including GST for installation of DSI FGD for Unit No. 7 and 8 of DPL with 30% equity participation of State Government. The said Order also accords concurrence to accept the L1 rate i.e. Rs. 125,31,60,000/- including GST, selected through e-Tender.



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- 5.6 The Petitioner has prayed for investment approval under section 2.8.4.1 of the Tariff Regulations. In terms of regulation 2.8.4.1, prior approval of capital expenditure is required in small schemes, where such capital expenditure in a year exceeds Rs. 300 Crore of 5% of the gross fixed asset. In the instant case, the proposed CAPEX is within the limit specified in regulation 2.8.4.1. However, the proposed installation of FGD system is being carried out as per the requirement under Amendment of Rules notified by MoEFCC and thus the additional capitalization is found allowable under regulation 5.2.2(vii) of the Tariff Regulations.
- 5.7 DPL has also projected cost of Reagent at 55.92 paise per kWh at 80% PLF for both the units. As per Regulation 5.8.5 of the Tariff Regulations the landed cost of reagents, used during operation of emission control system for meeting revised emission standards, shall be determined based on normative consumption, purchase price of the reagent through competitive bidding, applicable statutory charges and transportation cost. Actual consumption of specific reagent shall be considered till norms are specified by the Commission.
- 5.8 The Petitioner has further prayed for O&M Expenses. The Commission does not deem it appropriate to examine the prayer on O&M Expenses (other than cost of reagents) at this stage and the Commission will consider them in APR petitions to be filed by the Petitioner after installation of FGD.

ORDER

- 6.1 While taking into consideration various aspects of the submission made in the instant petition, the Commission decides to accord in-principle approval for additional capitalization under regulation 5.2.2 (vii) of the Tariff Regulations for installation of Emission Control System of Dry Sorbent Injection (DSI) in respect of 300 MW Unit No. 7 and 250 MW Unit No. 8, of DPL, amounting to Rs. 125,31,60,000/- including GST, which is to be completed by 31st December 2028, in compliance of the Environment (Protection) Third Amendment Rules, 2024, subject to the following directions:
- The approved cost of Rs. 125,31,60,000/- covers O&M for 6 months.
 - In case of revision of project cost from the approved cost of Rs. 125,31,60,000/- including GST, DPL shall obtain the approval of the appropriate authority and submit the same to the Commission.



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- c) DPL shall separately show the interest component and bank charges thereof up to the date of both scheduled and actual COD of the project duly certified by the Auditor, including justifications for the delay, if any.
- d) DPL shall also submit the details of actual expenditure vis-à-vis approved expenditure as indicated in the Scope of Work duly certified by the Auditor. The necessary details along with detailed justifications for deviations from the investment plan, if any, shall also be submitted as per Regulation 2.8.5.1 of Tariff Regulations.

- 6.2 The cost of reagents will be considered as per Regulation 5.8.5 of the Tariff Regulations.
- 6.3 The petition is disposed of in terms of the above.
- 6.4 A copy of the order shall be posted in the website of the Commission.
- 6.5 DPL shall download the copy of the order from the website of the Commission and act on it. Certified copy of the order, if applied for, be given to the parties on completion of formalities laid down in the West Bengal Electricity Regulatory Commission (Conduct of Business) Regulations, 2013, as amended and on submission of necessary fees.

Sd/-
DR. MALLELA VENKATESWARA RAO
CHAIRPERSON

Date: 05.03.2025

Sd/-
DEPUTY DIRECTOR, WBERC