



**ORDER  
OF THE  
WEST BENGAL ELECTRICITY REGULATORY  
COMMISSION**

**IN CASE NO. OA – 547 / 25 – 26**

DETERMINATION OF PRICE OF INFIRM POWER FOR UNIT NO 5 OF 660 MW CAPACITY AT SAGARDIGHI TPP OF THE WEST BENGAL POWER DEVELOPMENT CORPORATION LIMITED DURING TRIAL RUN OPERATION UNDER REGULATION 5.3.3 OF THE TARIFF REGULATIONS, 2011, AS AMENDED.

**DATE: 11.03.2026**



Determination of price for infirm power during trial operation of 660 MW unit 5 at Sagardighi TPP of the West Bengal Power Development Corporation Limited.

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**Facts in brief:**

- 1.0 The West Bengal Power Development Corporation Limited (WBPDCCL) submitted a petition on 10.02.2026 in terms of regulation 5.3.3 of the West Bengal Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2011, as amended from time to time (hereinafter referred as 'Tariff Regulations'), for determination of provisional fuel cost during trial operation of unit 5 (660 MW) at Sagardighi Thermal Power Plant of WBPDCCL. WBPDCCL also submitted the design parameters as per contract for unit 5 in terms of regulation 2.8.1.4.9 of the Tariff Regulations. The petition dated 10.02.2026 has been admitted by the Commission in Case No. OA – 547 / 25 – 26.
- 2.0 In the petition, WBPDCCL has inter-alia stated the following:
  - a) WBPDCCL has been entrusted by the Government of West Bengal to set up one additional supercritical unit of 660 MW at Sagardighi TPP. The Commission accorded final investment approval of Rs. 4567.32 crore for the project vide order dated 18.07.2025 in Case No. OA-501/24-25.
  - b) The final admissible project cost for tariff determination purpose to be determined only after commercial operation of the unit, based on actual audited expenses, prudence check and adherence to the provisions of regulation 2.8.5 of the Tariff Regulations.
  - c) WBPDCCL achieved Oil Synchronization in June 2025 and Coal Synchronization in September 2025. "Go Ahead" clearance for synchronization was subsequently granted by the Commission on 07.11.2025.
  - d) Trial operations for the 660 MW unit no 5 began in December 2025 and the plant started generating infirm power.



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- 3.0 In view of above, WBPDCCL prays to determine the fuel cost for infirm power in terms of regulation 5.3.3 of the Tariff Regulations. WBPDCCL proposed to consider allowing provisional fuel cost for unit no 5 of 660 MW capacity at the existing fuel cost rate of Stage-I and Stage-2 approved by the Commission in tariff order for the FY 2025-26. WBPDCCL also submitted the design performance parameters in terms of regulation 2.8.1.4.9 of the Tariff Regulations, as guaranteed by the awarded vendors. WBPDCCL also submitted additional information regarding design vide its submission dated 20.02.2026 under Ref. No. WBPDCCLWBERC-36/26/965.

**Observations of the Commission:**

- 4.0 Electricity generated prior to commercial operation of a unit of any generating station is defined as 'infirm power'. In terms of regulation 5.3 of the Tariff Regulations, the fuel cost during trial operation is a part of capital cost, however any revenue earned from sale of 'infirm power' net of 'fuel cost' shall be treated as reduction in capital cost. The Commission has to determine the price of such infirm power based on the application from the owner of the generating station. The extract of relevant regulation is as below:

***“5.3 Revenue / charges during trial stage (prior to COD):***

- 5.3.1 *The actual cost incurred including fuel cost during trial up to COD shall be treated as Capital Cost.*
- 5.3.2 *The actual revenue earned from sale of power (infirm power) shall be treated as reduction in capital cost*
- 5.3.3 *For sale of infirm power Commission shall determine tariff or price of such infirm power on application from owner of the generating station”*

- 5.0 The unit no 5 (660 MW) of Sagardighi TPP of WBPDCCL has started trial operation since 04<sup>th</sup> December, 2025 and till the date of commercial operation declared in terms of clause (xxxiv) of regulation 1.2.1 of the Tariff Regulations, the generation



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from Sagardighi unit 5 will be treated as 'infirm power' and shall be accounted accordingly.

6.0 From the submission of WBPDC, the technical operational parameters are as below:

**Table -1: Technical operation parameters as per Petition**

Sl No	Parameters	Declared value
1	Installed capacity	660 MW
2	Unit Type	Supercritical
3	Main steam pressure at 100% TMCR	276.7 kg/cm <sup>2</sup> (abs)
4	Main steam temperature at 100% TMCR	596 deg C
5	Turbine cycle heat rate at 100% TMCR	1752.20 kCal/kg
6	Boiler efficiency at 100% TMCR	85.65%
7	Auxiliary consumption with FGD	46100 Kw
8	Auxiliary consumption without FGD	6%
9	Minimum load at which oil support is required	40% load (oil support is not required above this load, provided at least two adjacent mills are operating with minimum 50% mill loading)
10	Consumption of fuel oil at 40% turbine rated load	No oil firing is required at 40% TMCR load provided at least two adjacent mills are operating with minimum 50% mill loading

7.0 In terms of the Tariff Regulations, operating norms for new Thermal Generating Stations not covered under Schedule -9A of the Tariff Regulations are to be determined by the Commission following the principles laid down in Schedule -9D of the Tariff Regulations.

7.1 Station Heat Rate:

In terms of clause 1(a) of paragraph A of Schedule 9D, the Gross Station Heat rate (GSHR) shall be derived by multiplying a factor of 1.065 with the Design Heat rate, limited to the maximum design unit heat rate specified for each class of generators. Where unit heat rate has not been guaranteed but turbine cycle heat



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rate and boiler efficiency are guaranteed separately, the unit heat rate shall be arrived by using guaranteed turbine cycle heat rate and boiler efficiency.

Gross Station Heat Rate (GSHR) = 1.065 X Design Unit Heat Rate, and

$$\text{Design Unit Heat Rate} = \frac{\text{Gurranted Turbine Cycle Heat rate}}{\text{Boiler Efficiency}}$$

Accordingly, the GSHR for 660 MW unit 5 of Sagardighi TPP is determined below:

**Table-2: Computation of Gross Station Heat Rate**

Parameter	Derivatives	Value
Guaranteed Turbine cycle heat rate at 100% TMCR	A	1752.20 kCal/kWh
Boiler Efficiency	B	85.65%
Design Station heat rate	C = A / B	2045.77 kCal/kg
Maximum Design Station Heat Rate	D	2176.00 kCal/kg
Admissible Design Station heat rate	E = Min (C, D)	2045.77 kCal/kg
Multiplying factor	F	1.065
Gross Station Heat Rate	G = E x F	2179 kCal/kg

The boiler efficiency has been considered based on the minimum value mentioned by the vendor, which will be reviewed based on the PG test results to arrive at the SHR for tariff determination purpose.

In terms of the Tariff Regulations, stabilization period for coal fired thermal generating station is 180 days from the date of commercial operation of the unit. During stabilization period of new units, additional gross station heat rate on the basis of actual generation will be applicable, subject to a ceiling of 50 kCal/ kWh.

## 7.2 Secondary oil consumption rate:

From the design parameters submitted by WBPDCCL it is noted that no oil firing is required at 40% TMCR load provided at least two adjacent mills are operating with



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minimum 50% mill loading. The Commission notes that secondary oil consumption rate admitted by CERC for similar generating stations is 0.50 ml/kWh.

Accordingly, the Commission decides to admit normative secondary oil consumption rate of 0.50 ml/kWh for 660 MW unit 5 of Sagardighi TPP, which is within the rate mentioned under Schedule 9D of the Tariff Regulations.

From the designed parameter, the Commission further notes that minimum load at which oil support is required is 40% load, provided at least two adjacent mills are operating with minimum 50% mill loading.

It may further be noted that during stabilization period of new units, additional oil consumption on the basis of actual generation but subject to a ceiling rate of 3.5 ml/kWh is applicable.

### 7.3 Auxiliary energy consumption rate:

Under the design parameters, it is submitted that total auxiliary power consumption of the unit under rated steam condition and zero percent make up value at 100% TMCR (including transformer loss) is 46100 kW with FGD system equipments, which comes to 6.98%. It is also mentioned that the auxiliary consumption excluding FGD system shall be within 6%.

In terms of Schedule 9D of the Tariff Regulations, the admissible norms for auxiliary consumption for coal based thermal power station of 500 MW and above capacity with natural draft cooling tower is 6.0%.

Thus, the Commission decides to admit auxiliary consumption for 660 MW unit 5 of Sagardighi TPP as 6.00%, without FGD system.

8.0 WBPDCCL in its petition has proposed to determine the price of 'infirm power' from unit 5 based on the existing energy charge rates of Sagardighi stage-I (2 x 300 MW) and stage-II (2 x 500 MW). As the unit-5 of Sagardighi is a supercritical unit of



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660 MW, the operating parameters are different from the units of stage-I and stage-II. However, the Commission agrees to consider the price and heat value of coal and secondary oil admitted in the Tariff order of 2025-26 for stage-I and stage-II, to determine the price of 'infirm power' for unit 5.

9.0 The price of infirm power is thus determined as 178 paisa/kwh, as detailed below:

**Table -3: Computation of price for infirm power**

Sl.	STATION	DERIVATION	Unit	Amount
1	Gross Generation	1	MU	4,625.28
2	Auxiliary consumption	2	MU	277.52
3	Sent-out Energy	3=1-2	MU	4,347.76
4	Station Heat Rate	4	kCal/kWh	2179.00
5	Total Heat Required	5=1x4	GCal	10078485.12
6	Specific Oil Consumption	6	ml/KWh	0.50
7	Oil Consumption	7=6x1	KL	2312.64
8	Heat Value of Oil	8	kCal/Litre	9,342.66
9	Heat from Oil	9=7x8	GCal	21606.21
10	Heat from Coal	10=5-9	GCal	10056878.91
11	Heat Value of Coal (less: 120 kCal/kg)	11	kCal/Kg	4612.50
12	Coal consumption	12=10/11	Tonne	2180353.15
13	Coal requirement considering Transit Loss	13	Tonne	2197795.98
14	Average Price of Oil	14	Rs./KL	93,712.34
15	Average Price of Coal	15	Rs./Tonne	3422.18
16	Cost of Oil	16=7x14	Rs. Lakhs	2167.23
17	Cost of Coal	17=13x15	Rs. Lakhs	75212.53
18	Total Fuel Cost	18=16+17	Rs. Lakhs	77379.76
19	Price of infirm power	19 = 18/3	p/kWh	<b>178</b>

10.0 The revenue recovered from sale of infirm energy shall be accounted separately and shall be adjusted with the capital cost in terms of regulation 5.3 of the Tariff Regulations.

11.0 After successful trial run, WBPDC shall declare the date of Commercial operation (COD) of the unit following the provisions of clause (xxxiv) of regulation 1.2.1 of



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the Tariff Regulations. WBPDCCL shall also conduct the performance guarantee test within four months from the date of synchronization and submit the details in terms of the regulation 2.8.1.4.10 of the Tariff Regulations.

**Order:**

- 12.0 In view of the above, the Commission determines the price of infirm power from 660 MW unit no 5 of WBPDCCL as 178 paisa/kwh. The same may be recovered by WBPDCCL based on the certificate issued by SLDC and to be adjusted with the capital cost. WBPDCCL shall maintain proper accounting of the revenue recovered by sell of such infirm power and adjust the same with the final project cost in terms of regulation 5.3.2 of the Tariff Regulations.
- 13.0 The petition is thus disposed of.
- 14.0 A copy of the order shall be posted in the website of the Commission.
- 15.0 WBPDCCL 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

**Dated: 11.03.2026**

Sd/-  
DEPUTY DIRECTOR, WBERC