



TELANGANA ELECTRICITY REGULATORY COMMISSION
5th Floor, Singareni Bhavan, Red Hills, Lakdi-ka-pul, Hyderabad 500 004

O.P.No.11 of 2024
(Suo Moto)

Dated 31.08.2024

Present

Sri. T. Sriranga Rao, Chairman
Sri. M. D. Manohar Raju, Member (Technical)
Sri. Bandaru Krishnaiah, Member (Finance)

In the matter of *Suo-Moto* determination of Variable Cost for the period from FY 2024-25 to FY 2028-29 for existing Biomass, Bagasse and Industrial waste-based power projects in the State of Telangana and having Power Purchase Agreements with the Distribution Licensees

ORDER

1. STATUTORY PROVISIONS

- 1.1 Section 62 of the Electricity Act, 2003 empowers the Commission to determine the tariff for supply of electricity by a generating company to a Distribution Licensee. Section 86(1)(e) of the Electricity Act, 2003 mandates the Commission to promote cogeneration and generation of electricity from renewable sources of energy by providing suitable measures for connectivity with the grid and sale of electricity to any person.
- 1.2 In exercise of powers vested in it under Sections 62(1) read with 86(1)(a), (b) & (e) of the Electricity Act, 2003, the Commission, through this Order, determines the variable cost for the period from FY 2024-25 to FY 2028-29 for existing Biomass, Bagasse and Industrial waste-based power projects in the State of Telangana and having Power Purchase Agreements (PPAs) with the Distribution Licensees.

2. PREVIOUS APPROVED NORMS AND DETERMINATION OF VARIABLE COST

- 2.1 The Commission vide its Suo-Moto Order dated 28.08.2020 in O.P.No.21 of 2020 approved norms for determination of variable cost for FY 2020-21 to FY 2023-24 for the existing Biomass, Bagasse and Industrial waste-based power projects in the State of Telangana, which are having PPAs with the Distribution Licensees, as detailed below:

Table 1: Approved norms and determination of Variable Cost for FY 2020-21 to FY 2023-24

Sl. No.	Parameter	Unit	Biomass based power projects	Bagasse based cogeneration power projects	Industrial waste based power projects
1	Station Heat Rate	kcal/kWh	4200	3600	4200
2	Auxiliary Consumption	%	10%	9%	10%
3	Gross Calorific Value	kcal/kg	3100	2250	3100
4	<u>Fuel Price</u>				
	FY 2020-21	Rs./MT	3326	1877	3326
	FY 2021-22	Rs./MT	3492	1971	3492
	FY 2022-23	Rs./MT	3667	2070	3667
	FY 2023-24	Rs./MT	3850	2174	3850
5	<u>Variable Cost</u>				
	FY 2020-21	Rs./kWh	5.0069	3.3002	5.0069
	FY 2021-22	Rs./kWh	5.2568	3.4655	5.2568
	FY 2022-23	Rs./kWh	5.5202	3.6396	5.5202
	FY 2023-24	Rs./kWh	5.7957	3.8224	5.7957

3. EXTENSION OF PERIOD OF APPLICABILITY

- 3.1 The Commission vide its order dated 15.03.2024 has extended the period of applicability of the variable cost existing as on 31.03.2024 for existing Biomass based, Bagasse based and Industrial Waste based power projects in the State of Telangana and having PPAs with the distribution licensees, to be applicable from 01.04.2024 onwards till the Commission notifies operating norms and determines the variable cost.

4. SUO-MOTO PROCEEDINGS AND PUBLIC NOTICE

- 4.1 The Commission has initiated *Suo Moto* proceedings for notifying the operating norms and determination of variable cost for the period from FY 2024-25 to FY 2028-29 for existing Biomass, Bagasse and Industrial waste-based power projects in the State of Telangana and having PPAs with the Distribution Licensees.
- 4.2 The Commission proposed the same norms with regard to SHR, Auxiliary Consumption and GCV that are existing for the period from FY 2020-21 to

FY 2023-24. The Commission has aligned to the escalation factor of 3.45% on Fuel Price as per CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2024. The Commission has proposed the variable cost by considering said norms and Fuel Price for FY 2023-24 as base and escalation of 3.45% for existing Biomass, Bagasse and Industrial waste-based power projects in the State of Telangana which are having PPAs with the Distribution Licensees, as detailed below:

Table 2: Proposed norms and Variable Cost for FY 2024-25 to FY 2028-29

Sl. No.	Parameter	Unit	Proposed		
			Biomass based power project	Bagasse based cogeneration power project	Industrial waste-based power project
1	Station Heat Rate	kcal/kWh	4200	3600	4200
2	Auxiliary Consumption	%	10	9	10
3	Gross Calorific Value	kcal/kg	3100	2250	3100
4	Fuel Price				
	FY 2024-25	Rs./MT	3983	2249	3983
	FY 2025-26	Rs./MT	4120	2327	4120
	FY 2026-27	Rs./MT	4262	2407	4262
	FY 2027-28	Rs./MT	4409	2490	4409
	FY 2028-29	Rs./MT	4561	2576	4561
5	Variable Cost				
	FY 2024-25	Rs./kWh	5.9959	3.9543	5.9959
	FY 2025-26	Rs./kWh	6.2022	4.0914	6.2022
	FY 2026-27	Rs./kWh	6.4159	4.2321	6.4159
	FY 2027-28	Rs./kWh	6.6372	4.3780	6.6372
	FY 2028-29	Rs./kWh	6.8660	4.5292	6.8660

5. PUBLIC NOTICE

- 5.1 In this regard, a Public Notice has been issued on 03.08.2024 inviting written suggestions and comments from all the stakeholders and public at large on or before 24.08.2024 by 5 pm, on the proposed norms for determination of variable cost for FY 2024-25 to FY 2028-29 for the existing Biomass, Bagasse and Industrial waste-based power projects in the State of Telangana, which are having PPAs with the Distribution Licensees

6. RESPONSE TO THE PUBLIC NOTICE

- 6.1 The Commission has received written suggestions and comments from two (2) stakeholders after the due date. The details of stakeholders who have submitted the written suggestions and comments is enclosed at Annexure-1.

7. SUGGESTIONS AND COMMENTS OF STAKEHOLDERS ON THE PROPOSALS AND THE COMMISSION VIEWS THEREON

7.1 The Commission has concluded all the suggestions and comments of the stakeholders who made in writing.

Issue No.1: Station Heat Rate for Bagasse based co-generation power projects

Stakeholders' submission

7.2 The stakeholder has submitted that the Station Heat Rate (SHR) should be at least 4200 kcal/kWh as bagasse consumption during season for power generation including process steam is in the range of 2.7-3.0 kg per unit of electricity generated and during off-season is around 4300-4400 kcal/kWh.

Commission's view

7.3 The SHR of 3600 kcal/kWh that are existing for the period from FY 2020-21 to FY 2023-24 for Bagasse based co-generation power projects was proposed for the determination of variable cost. The stakeholder neither submitted the basis for the SHR claimed nor proper justification for the same. The Commission does not find any merit in the stakeholder's submissions and retained the norm for SHR as proposed.

Issue No.2: Fuel price for Bagasse based co-generation power projects

Stakeholders' submission

7.4 The stakeholder has submitted the following:

- i) The process and cost of generation of Bagasse are fairly consistent across the country. However, the price of bagasse varies from State to State. The Central Electricity Regulatory Commission (CERC) has set different bagasse prices for each State with Rs.3199/- per MT for Haryana and Telangana's at the lowest, Rs.2248/- per MT.
- ii) Given that bagasse is a type of biomass, it may be appropriate to link bagasse price to the biomass price. Based on the biomass price of Rs.3983/- as proposed and using the equivalent heat value approach, the bagasse price for FY 2024-25 works out to Rs.2891/- as given below:

Table 3: Stakeholders' proposed Fuel Price for Bagasse-based power Project

Parameter	Biomass	Bagasse
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GCV	3100	2250
Fuel Price for 2024-25	3983	$2250 \times 3983 / 3100 = 2891$

- iii) Hence requested to adopt bagasse price at Rs.2891 per MT with an annual escalation factor of 5%.
- iv) Older units, due to wear and tear on machinery, experience higher SHR and increased auxiliary consumption leading to higher bagasse consumption.

Commission's view

7.5 The stakeholder's proposed methodology and request for a Fuel Price for bagasse lacks proper justification and is without merit. The Commission retained the proposed fuel price for bagasse and escalation factor for bagasse based power projects to determine the variable cost for the period FY 2024-25 to FY 2028-29.

Issue No.3: Variable Cost

Stakeholders' submission

Biomass

7.6 Stakeholder submitted that

- i) Due to industrialization, use of Biomass and Industrial waste has increased drastically, especially after the COVID-19 pandemic. Further, because of heavy competition, has led to purchase fuel at higher cost.
- ii) Scarcity of fuel in the State, has led for collecting biomass and industrial waste from an area surrounding 75 to 100 km radius. Moreover, in past 3-4 years diesel and petrol prices have increased, which resulted in steep increase in transportation cost.
- iii) Additionally, Operational & Maintenance expenses have risen, and the Plant Load Factor (PLF) has dropped to around 70%. As electricity consumption charges have increased annually for developers/ industry, the variable cost have to be increased.
- iv) In light of these factors, requested that the variable cost be considered at a minimum of Rs.7/- from FY 2024-25 onwards with an annual escalation of 4% for the control period FY 2024-25 to FY 2028-29.

Bagasse

- 7.7 Stakeholder submitted that the bagasse-based power projects that have reached the end of their term of 20 years of Power Purchase Agreement (PPA) have signed new PPAs for an additional period of 5 years. However, the tariff rates (both fixed and variable) under the new PPAs are significantly lower than the now proposed variable cost.

Commission's view

Biomass

- 7.8 The stakeholder's request to fix the variable cost at least Rs.7/- from FY 2024-25 onwards with an annual escalation of 4% per annum for the control period FY 2024-25 to FY 2028-29 lacks supporting data and justification. Hence, the Commission retained the proposed fuel price and escalation factor for biomass-based power projects.

Bagasse

- 7.9 The Commission finds that the stakeholders' comment has no relevance to the present proposals.

8. APPROVED NORMS AND VARIABLE COST DETERMINED BY THE COMMISSION

- 8.1 Based on the above, the Commission has approved the following norms for determination of variable cost for the period from FY 2024-25 to FY 2028-29 for the existing Biomass, Bagasse and Industrial waste-based power projects in the State of Telangana and having PPAs with the Distribution Licensees:

Table 4: Approved norms and Variable Cost for FY 2024-25 to FY 2028-

29

Sl. No.	Parameter	Unit	Biomass based power project	Bagasse based cogeneration power project	Industrial waste-based power project
1	Station Heat Rate	kcal/kWh	4200	3600	4200
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	FY 2028-29	Rs./kWh	6.8660	4.5292	6.8660

9. APPLICABILITY

9.1 The approved norms and variable cost shall come into force with effect from 1st September, 2024 onwards.

9.2 The Commission directs the Distribution Licensees namely Southern Power Distribution Company of Telangana Limited (TGSPDCL) and Northern Power Distribution Company of Telangana Limited (TGNDPDCL) to pay the above variable cost for the period FY 2024-25 (from 01.09.2024) to FY 2028-29 for the power purchased from existing Biomass, Bagasse and Industrial waste-based power projects in the State of Telangana and having PPAs with the Distribution Licensees.

This Order is corrected and signed on this 31st day of August, 2024.

Sd/-
(BANDARU KRISHNAIAH)
MEMBER

Sd/-
(M. D. MANOHAR RAJU)
MEMBER

Sd/-
(T. SRIRANGA RAO)
CHAIRMAN

//CERTIFIED COPY//

ANNEXURE-1

list of stakeholders who submitted written suggestions and comments

S. No.	Name of the Stakeholder
1.	M/s MSR Mega Bio Power Limited, H.No.1-2-48/1/9, Plot No.9, Flat No.202, Nagarjuna Homes, Nandiswara Nilayam, Kukatpally.
2.	Telangana Sugar Mills Association, 5-9-22/69, Aadarsh Nagar, Hyderabad 500 063

