

**BEFORE THE TELANGANA ELECTRICITY REGULATORY
COMMISSION OF HYDERABAD
AT ITS OFFICE AT VTH FLOOR, SINGARENI BHAVAN, RED HILLS,
HYDERABAD**

FILING NO. /2020

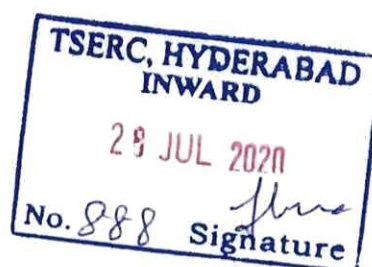
In the matter of : Determination of variable cost for existing Biomass, Bagasse and Industrial Waste based power projects in the state of Telangana and having Power Purchase Agreements with the Distribution licensees for FY 2020-21 to FY 2023-24.

Submissions by

Telangana Sugar Mills Association
(Regd. Under A.P. Societies Act. Vide No: 910 of 2016)
Regd. Office: Gayatri Sugars Ltd, B2, TSR Towers, Raj Bhavan Road,
Somajiguda, Hyderabad – 500082

Admn. Office: 5-9-22/69 Adarshnagar, Hyderabad 500 063
Ph. 040-23237261 Email: sismatelangana@gmail.com

Represented by
R.S. Bhalerao,
Secretary
Mobile: 9440059734



BEFORE THE TELANGANA STATE ELECTRICITY REGULATORY
COMMISSION HYDERABAD

CASE NO. of 2020

IN THE MATTER OF: Determination of variable cost for existing Biomass, Bagasse and Industrial Waste based power projects in the state of Telangana and having Power Purchase Agreements with the Distribution licensees for FY 2020-21 to FY 2023-24.

I, R.S. Bhalerao, S/o. Late S.S. Bhalerao, aged about 62 years, residing at H.No: 5-9-22/69, Adarshnagar, Hyderabad - 500 063, do solemnly affirm and say as follows:

1. I am the Secretary of Telangana Sugar Mills Association (Regd. Under A.P. Societies Act. Vide No: 910 of 2016) Regd. Office: Gayatri Sugars Ltd, B2, TSR Towers, Raj Bhavan Road, Somajiguda, Hyderabad-500082 and Admn. Office: 5-9-22/69 Adarshnagar, Hyderabad-500063. Ph. 040-23237261 Email: sismatelangana@gmail.com.
2. The statements made in paragraphs 2 to 8 of the submission herein now shown to me are true to the best of my knowledge and the statement made in paragraph 1 is based on information and I believe them to be true.

I, solemnly affirm at Hyderabad on this Twenty seventh day of July, 2020, that the contents of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed therefrom.

Place: Hyderabad

Date: 27-07-2020



R.S. Bhalerao
Secretary

Telangana Sugar Mills Association



**BEFORE THE TELANGANA ELECTRICITY REGULATORY
COMMISSION OF HYDERABAD
AT ITS OFFICE AT VTH FLOOR, SINGARENI BHAVAN, RED HILLS,
HYDERABAD**

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**SUGGESTIONS AND COMMENTS FILED ON BEHALF
OF TELANGANA SUGAR MILLS ASSOCIATION**

1. Norms for fixation of parameters

The Hon'ble commission has adopted the following norms for determining the variable cost for Bagasse based co-gen units

Parameter	
Station Heat Rate	3600 kcal/kWh
Auxiliary Consumption	9%
Gross Calorific value	2250 kcal/kg
Fuel Price	Rs.1877/MT for FY 2020-21 and escalated by 5% year on year

We submit actual data should be adopted for determining the tariff. In this connection we draw your kind attention to APTEL order dated 20-12-2012 para 38, which reads as under

"We feel that there is a need for carrying out a scientific study for determining the normative parameters specific to the state for future. The study should also take into consideration the technological improvements that have since taken place in the generation by non-conventional energy sources. We direct the State Commission to arrange to undertake the study on priority and frame its Tariff Regulations for purchase of power by distribution licensees from NCE sources after considering the Study Report, Central Commission's Regulations and any other relevant information"

No study, we submit, of the co-gen units operating in our State, has been undertaken by the Hon'ble Commission

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Over the years, there has been technology improvement. One such technological improvement is installation of air-cooled condensers instead of water cooled ones which reduces water consumption. Installation of air-cooled condensers however increases the Station Heat rate. Due to ageing of the plant, its efficiency also decreases resulting in higher SHR. These factors should be necessarily taken into account while determining the variable cost.

Hence, we request that the Hon'ble Commission to revisit the parameters and arrive at the norms based on actual ground realities.

2. Auxiliary Consumption

The Hon'ble Commission has proposed auxiliary consumption at 9%.

We furnish below statement of auxiliary consumption recorded by our member factories and request the Hon'ble Commission to take the actual data on record and determine the auxiliary consumption.

Financial year	2015-16	2016-17	2017-18	2018-19	2019-20	Average
Ganpati Sugar Ind. Ltd.	8.44	10.06	12.46	10.69	13.56	10.81
Gayatri Sugars Ltd. -KMR unit	13.41	16.09	9.38	11.41	13.96	12.51
Gayatri Sugars Ltd. -NZR unit	13.06	14.21	13.14	12.86	13.31	13.11
Kakatiya Cement, Sugar and Ind. Ltd.	8.09	9.31	11.66	10.31	13.33	9.66
Average	9.81	10.89	11.96	11.41	13.52	11.26

As can be seen from the above, the average consumption works out to 11.26%

We do agree that both Cogeneration power plants and sugar units are in close proximity. However, power consumption of equipments in Cogeneration power plant (Boiler, Turbine, Cooling Towers and other auxiliaries) is over 10%. Sugar plant (Sugar cane milling and boilinghouse equipment) consume around 22 units for every Ton of sugarcane crushed. Hence the auxiliary power consumption of Cogeneration power plant cannot be reduced on the grounds that some of its equipments are common with sugar plant. Further, both co-gen units and bio-mass units have same equipment except for the following.

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List of uncommon equipments	Bagasse based Cogeneration plants	Biomass power plant
Wood chipping and cutting machine	Not available	Used for cutting /chipping Biomass
Bagasse conveyors from Boiler to yard	Total 3 No.s . Compared to Biomass plants 2 additional conveyors for conveying excess bagasse from Boiler to storage yard and conveying bagasse from yard to Boiler.	1 No.

Hence it cannot be said that bagasse requires less processing than Biomass. Hence Auxiliary power consumption in Bagasse based Co-generation should be fixed at least on par with the Biomass plants.

Hence, we submit the auxiliary consumption should be fixed at 10% on par with Biomass units if not at 11% being the average consumption recorded.

3. Station Heat Rate

- The bagasse consumption during season for power generation including process steam is found to be between 2.7 to 3.0 Kg per unit of electricity generated depending on the operating parameters of the plant. This translates into Gross SHR of 6075 to 6750 Kcal per Kg of bagasse.
- To have an actual idea of heat requirement of power generation, it would be prudent to consider off-season operation when the plant is exclusively used for power generation. The SHR during off-season is observed to be about 4300-4400KCal/KWH as per the actual operational data.
- We also submit that as the plant ages with time, its efficiency will decline. It cannot remain same. Hence, SHR should be fixed higher than 3600KCal/KWH.

Hence, we request for SHR of atleast 4200kCal/kWh.

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4. Specific Fuel consumption

Based on SHR of 4200kCal/kWh and Gross Calorific value of 2250 Kcal/Kg, fuel consumption works out to 1.87 kgs per unit.

We also submit below the actual bagasse consumed per unit of power generated by our member units

Financial year	2015-16	2016-17	2017-18	2018-19	2019-20	Average
Ganapati Sugar Ind. Ltd.	2.27	2.64	2.64	2.05	3.01	2.44
Gayatri Sugars Ltd. -KMR unit	4.21	4.21	4.41	4.42	4.64	4.38
Gayatri Sugars Ltd. -NZR unit	2.86	3.27	3.00	2.86	3.02	2.94
Kakatiya Cement, Sugar and Ind. Ltd.	1.48	1.83	1.73	1.85	2.32	1.72
Average	2.29	2.48	2.84	2.68	3.23	2.64

Hence, we submit that based on average consumption actually recorded, specific fuel consumption should be taken at least 2.64 kgs per unit.

5. Bagasse Cost

The process and cost of generation of bagasse is more or less the same throughout the country. However, bagasse cost adopted varies from State to State. Even the Hon'ble Central Electricity Regulatory Commission has adopted different bagasse price for each state with Rs.2671/- per MT being adopted for Haryana and lowest at Telangana at Rs.1877/- for FY 2020-21. We request the Hon'ble Commission to take up the issue of disparity in bagasse price and arrive at a uniform rate for bagasse throughout the country

Bagasse is also a biomass and hence it may be more appropriate to link the same to biomass price. Based on biomass price of Rs. 3,326/- as mentioned in the public notice, the equivalent heat value approach, the bagasse price for 2020-21 works out to Rs. 2,414/- as under

	Biomass	Bagasse
GCV	3100	2250
Fuel cost for 2019-20	3,326	2250 X 3326/3100

Hence, we request the Hon'ble Commission to adopt bagasse cost at Rs. 2,414/- per MT and increased by 5% year on year.

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6. Inclusion of Line Maintenance charges and costs incurred towards installation of Communication systems

➤ Line Maintenance Charges

DISCOMs have been raising bill towards maintenance of line from the generating point to the substation. The same were not considered while determining the O & M costs. We therefore request Hon'ble Commission to consider this cost by allowing it as "pass through"

➤ Installation of Reliable and efficient speech and data communication systems

We respectfully submit that our member factories had to install the above systems cost of which was never considered while determining the capital cost per MW. Most of the co-gen units under PPA are nearing completion of their tenure and thus have no prospects of recovering this additional cost.

We request the Hon'ble Commission to allow suitable compensation to our members enabling them to recover this additional capital cost.

7. Plant Load factor

The erstwhile APERC had determined PLF at 55% at which level, fixed costs are expected to be recovered. It is based on the assumption that the co-gen unit run for 230 days at 90% utilisation factor. However, in most of the years the PLF was not achieved as can be seen from the enclosed Annexure. There is also no provision to carry forward the unrecovered fixed cost. As a result, the fixed costs for the respective financial year could never be recovered by the co-gen units.

We request the Hon'ble Commission to provide for suitable compensation to our members enabling them to recover the unrecovered fixed costs.

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8. Delay in payment of bills raised

There has been substantial delay by DISCOMS in releasing bills raised by our members towards power supplied to the grid. Power purchase agreements provide for opening of Letter of credit by DISCOMS in favour of co-gen units which was kept in abeyance on the assurance of the then APTRANSCO to meet its obligation on time.

As there is considerable delay in releasing the bills, we request the hon'ble commission to direct DISCOMS to open Letter of credit in favour of co-gen units as provided for in the power purchase agreements and also release the payments due.

Prayer

The Hon'ble Commission is therefore prayed to determine the variable cost for bagasse based co-gen plants by taking into consideration of the above submissions in the interest of justice.

Place: Hyderabad

Date: 27-07-2020

for **Telangana Sugar Mills Association.**



R.S. Bhalerao
Secretary



Annexure
Annexure detailing PLF achieved by co-gen units supplying power to the grid

Name of the unit	Ganpati Sugars		Gayatri Sugars Ltd. KMR unit		Gayatri Sugars Ltd. NZR Unit		Kakatiya Sugars	
	Units generated	PLF achieved	Units generated	PLF achieved	Units generated	PLF achieved	Units generated	PLF achieved
Date of Commencement	01-01-2003		01-05-2001		16-05-2007		12-04-2002	
Installed capacity in MW	15		9		16.25		16.7	
Gross Generation in units	131400000		78840000		142350000		146292000	
Generation at 55% PLF	72270000		43362000		78292500		80460600	
2004-05	26401000	20.09	14546928	18.45				
2005-06	33082000	25.18	16251072	20.61			70432300	48.15
2006-07	58254000	44.33	24636656	31.25			88604000	60.57
2007-08	67017000	51.00	24962574	31.66	30069000	21.12	62565000	42.77
2008-09	47942000	36.49	15707908	19.92	18399000	12.93	74574000	50.98
2009-10	24198000	18.42	7348764	9.32	5946000	4.18	52167000	35.66
2010-11	30956000	23.56	17162016	21.77	22688000	15.94	67784000	46.33
2011-12	56129000	42.72	19976608	25.34	23752000	16.69	70815000	48.41
2012-13	53018000	40.35	20123192	25.52	23431000	16.46	78007000	53.32
2013-14	37314000	28.40	18777028	23.82	27809000	19.54	85462160	58.42
2014-15	54655450	41.59	22948808	29.11	30303000	21.29	91976742	62.87
2015-16	33067140	25.17	20768244	26.34	26274000	18.46	67020044	45.81
2016-17	14023810	10.67	10694244	13.56	4615000	3.24	37492394	25.63
2017-18	29216180	22.23	17618456	22.35	32118000	22.56	24404891	16.68
2018-19	32800800	24.96	20601300	26.13	35759000	25.12	26095337	17.84
2019-20	16396760	12.48	14732100	18.69	20053000	14.09	14282011	9.76

