



**TELANGANA STATE ELECTRICITY REGULATORY COMMISSION**  
5<sup>th</sup> Floor, Singareni Bhavan, Lakdi-ka-pul, Hyderabad 500 004

**O.P.No.26 of 2022**

**&**

**I.A.No.14 of 2022**

**Dated 22.06.2022**

**Present**

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

Between:

M/s Madhucon Sugar and Power Industries Limited,  
Rajeswarapuram, Ammagudem Post,  
Nelakondapalli Mandal, Khammam District.

... Petitioner/Applicant.

**AND**

Northern Power Distribution Company of Telangana Limited,  
Corporate Office, # 2-5-31/2, Vidyut Bhavan,  
Nakkalgutta, Hanamkonda, Warangal - 506 001.

... Respondent.

**In the matter of petition filed on 27.12.2021 by M/s Madhucon Sugar and Power Industries Limited (Petitioner) under Sections 62, 86 (1) (b), and 86 (1) (e) of the Electricity Act, 2003 read with Regulation No. 2 of 2015 seeking determination of levelized fixed cost component of tariff and for payment of variable cost as determined by this Commission vide order dated 28.08.2020 in O. P. No. 21 of 2020 from 19.12.2021 onwards for the petitioner's 24.2 MW [out of which 19 MW is for sale to Respondent] Bagasse based co-generation project located at Rajeswarapuram, Ammagudem Post, Nelakondapalli Mandal, Khammam District, Telangana State.**

The Commission, in exercise of its powers under the Electricity Act, 2003, after considering the averments mentioned in the petition, contentions in the counter filed by the respondent, suggestions / objections of the stakeholders on the filings of the

petitioner, reply of the petitioner on the counter of the respondent as well as on suggestions / objections of the stakeholder and issues that are raised during the Public Hearing held on 13.04.2022 and all other relevant material available on record, passed the following:

**ORDER**  
**CHAPTER 1**  
**INTRODUCTION**

**1.1 Background**

1.1.1 As per the contentions of the petitioner made in the petition, the petitioner is a company incorporated under the provisions of Companies Act, 1956 and *inter alia* is engaged in the business of manufacturing and sale of sugar and allied products. It had acquired a sick 1250 Tons of Cane per Day (TCD) sugar manufacturing unit at Rajeswarapuram, Ammagudem Post, Nelakondapalli Mandal, Khammam District, Telangana in the year 2002 and had subsequently expanded the factory capacity to 3500 TCD. It has also established a 24.2 MW Bagasse based co-generation power plant in the same premises in FY 2008-09 with a substantial investment amounting to Rs.115 crore (as on COD Rs.100.8124 crore). That upon a request made by petitioner, APTRANSCO accorded approval for synchronization of the plant and accordingly the power plant was synchronized with the grid on 20.10.2008, The commercial operation date (COD) was declared on 20.10.2008 and since the commissioning of the co-generation plant, the power generated is partly used for its captive purpose and surplus power is being sold to DISCOMs of composite State of Andhra Pradesh till its bifurcation and later to the DISCOMs in the Telangana State under short term PPA(s) year-on-year.

**1.2 Statutory Provisions**

**1.2.1 The relevant provisions under Sections of the Electricity Act, 2003**

**3. National Electricity Policy and Plan**

(1) The Central Government shall, from time to time prepare the National Electricity Policy and tariff policy, in consultation with the State Governments and the Authority for development of the power system based on optimal utilization of resources such as coal, natural gas,

nuclear substances or materials, hydro and renewable sources of energy.

... ..

61. Tariff regulations

The Appropriate Commission shall, subject to the provisions of this Act, specify the terms and conditions for the determination of tariff, and in doing so, shall be guided by the following, namely: -

... ..

(h) the promotion of co-generation and generation of electricity from renewable sources of energy;

... ..

62. Determination of tariff

(1) The Appropriate Commission shall determine the tariff in accordance with the provisions of this Act for –

(a) supply of electricity by a generating company to a distribution licensee:

... ..

86. Functions of State Commission

(1) The State Commission shall discharge the following functions, namely: -

(a) determine the tariff for generation, supply, transmission and wheeling of electricity, wholesale, bulk or retail, as the case may be, within the State:

... ..

(b) regulate electricity purchase and procurement process of distribution licensees including the price at which electricity shall be procured from the generating companies or licensees or from other sources through agreements for purchase of power for distribution and supply within the State;

... ..

(e) Promote co-generation 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, and also specify, for purchase of electricity from such sources a

percentage of the total consumption of electricity in the area of a distribution license;

#### 1.2.2 National Electricity Policy (NEP), dated 12.02.2005

##### **“Non-conventional Energy Sources**

5.2.20 Feasible potential of non-conventional energy resources, mainly small hydro, wind and bio-mass would also need to be exploited fully to create additional power generation capacity. With a view to increase the overall share of non-conventional energy sources in the electricity mix, efforts will be made to encourage private sector participation through suitable promotional measures.

... ..

5.12.3 Industries in which both process heat and electricity are needed are well suited for co-generation of electricity. A significant potential for co-generation exists in country, particularly in the sugar industry. SERCs may promote arrangements between co-generator and the concerned Distribution Licensee for purchase of surplus power from such plants. Co-generation system also needs to be encouraged in the overall interest of energy efficiency and also grid stability.

#### 1.2.3 Tariff Policy (NTP), dated 28.01.2016

6.4(1) Pursuant to provisions of section 86 (1) (e) of the Act, the Appropriate Commission shall fix a minimum percentage of the total consumption of electricity in the area of a distribution licensee for purchase of energy from renewable energy sources, taking into account of availability of such resources and its impact on retail tariffs. Cost of purchase of renewable energy shall be taken into account while determining tariff by SERCs. Long term growth trajectory of Renewable Purchase Obligations (RPOs) will be prescribed by the Ministry of Power in consultation with MNRE.

6.4(2) States shall endeavor to procure power from renewable energy sources through competitive bidding to keep the tariff low, except from the waste to energy plants, Procurement of power by Distribution Licensee from renewable energy sources from projects above the notified capacity, shall be done through competitive bidding process, from the date to be notified by the Central Government.

### 1.3 Orders of the Commission on determination of tariff for the bagasse based co-generation power plants

#### 1.3.1 With regard to Fixed Cost Component of Tariff:

- i) For the power plants commissioned during the period from FY 2004-05 to FY 2008-09:- In pursuant to Order dated 20.12.2012 in Appeal Nos.50, 166, 168, 172, 173 of 2011 and Appeal Nos.9, 18, 26, 29 and 38 of 2012 and Order dated 30.04.2013 in Review Petition Nos.3, 4 & 5 of 2013 of Hon'ble APTEL, the Commission vide order dated 22.06.2013, based on the norms indicated in the orders of the Hon'ble APTEL, has determined Fixed Cost component of tariff for Bagasse based co-generation power plants which were existing as on 31.03.2004 and those commissioned between 01.04.2004 to 31.03.2009 except for the projects covered by negotiated PPAs, as given below:

**Table 1: The Commission determined fixed cost component of tariff for the bagasse based co-generation power plants commissioned during the period from FY 2004-05 to FY 2008-09 vide order dated 22.06.2013** (in pursuant to Order dated 20.12.2012 in Appeal Nos.50, 166, 168, 172, 173 of 2011 and Appeal Nos.9, 18, 26, 29 and 38 of 2012 and Order dated 30.04.2013 in Review Petition Nos.3, 4 & 5 of 2013 of Hon'ble APTEL)

Year of operation since commencement of unit	Fixed cost Rs/unit	Other terms
1 <sup>st</sup>	1.92	<ul style="list-style-type: none"> <li>▪ Incentive on generation beyond threshold PLF of 55% is payable by APDISCOMs at the rate of 35 paise/kWh.</li> <li>▪ The Commission worked out O&amp;M Escalation as per Hon'ble APTEL norms at 6.69%.</li> <li>▪ Minimum Alternate Tax (MAT) / Income Tax is a pass</li> </ul>
2 <sup>nd</sup>	1.88	
3 <sup>rd</sup>	1.84	
4 <sup>th</sup>	1.80	
5 <sup>th</sup>	1.77	
6 <sup>th</sup>	1.73	
7 <sup>th</sup>	1.70	
8 <sup>th</sup>	1.67	
9 <sup>th</sup>	1.60	
10 <sup>th</sup>	1.16	

Year of operation since commencement of unit	Fixed cost Rs/unit	Other terms
		<p>through and is to be paid by the Discom to the developer.</p> <ul style="list-style-type: none"> <li>Electricity Duty is a pass through and is to be paid by the Discom to the developer.</li> </ul>

The norms considered in determining the above-mentioned fixed cost component of tariff for Bagasse based co-generation power plants and as indicated in the orders of the Hon'ble APTEL are as given below:

**Table 2: Norms considered in determining the fixed cost component of tariff for the bagasse based co-generation power plants commissioned during the period from FY 2004-05 to FY 2008-09 vide order dated 22.06.2013 and as indicated in the orders of the Hon'ble APTEL**

Sl. No.	Particulars	Units	Value
1	Capital Cost	Rs. in lakh / MW	325
2	Auxiliary consumption	%	9
3	Threshold Plant Load Factor (PLF)	%	55
4	Useful life	Years	20
5	Debt Equity ratio	ratio	70:30
6	Interest on Debt	% PA	12
7	Return on Equity (ROE) (Pre-Tax) with MAT/ Income Tax as pass through	% PA	16
8	Depreciation		
	a) Depreciation Rate for 1 <sup>st</sup> 8 years	%	7.84
	b) Depreciation Rate 9 <sup>th</sup> year	%	7.28
	c) Depreciation spread over evenly in the balance 11 years	%	1.82
9	Computation of Working Capital		
	<i>O&amp;M expenses</i>	Months	1

Sl. No.	Particulars	Units	Value
	<i>Maintenance spares (@% of project cost)</i>	%	1
	<i>Receivables of fixed and variable cost at threshold PLF</i>	Months	2
	<i>Fuel cost computed at threshold PLF of 55%</i>	Months	1
10	Interest on Working Capital	% PA	12
11	Heat rate	kcal/kWh	3600
12	Gross Calorific Value (GCV)	Kcal/kg	2250
13	Operation & Maintenance (O&M) expenses in percentage of capital cost	%	4
14	O&M Escalation Based on actual CAGR of WPI & CPI indices for the control period 2004-09 with 40% weightage to CPI and 60% to WPI.	%	6.69 (as worked out)
15	Fuel (Bagasse) Price	Rs. per MT	745
16	Fuel price escalation	%	5
17	Specific fuel consumption	kg/kWh	1.6
18	Incentive on generation beyond threshold PLF	Rs./kWh	0.35
19	Electricity Duty on energy sold to distribution licensees	Rs.	to be allowed as pass through.

Further, the Commission in its **Common Order dated 05.08.2014** in O.P.Nos.8 of 2011, 9 of 2012, 12 of 2012, 22 of 2014 and 25 of 2014 having distilled the findings of the seven (7) elements viz., –

- (i) consultation paper floated on the norms;
- (ii) public hearing held on the issues identified in the consultation paper;



- (iii) Analysis and report of the KPMG, an independent consultant, on the operating parameters/norms and economics of NCE projects in general with special reference to their working on the determination of cost and performance norms for NCE sources;
- (iv) Analyzing the CERC and SERC's orders with reference to determination of norms for NCE sources;
- (v) CERC (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2012 and its subsequent amendments;
- (vi) the written and oral submissions made by both the parties in their petitions and the documents submitted by them in support of their respective contentions; and
- (vii) The operational, financial, commercial and generation details supported by the relevant Balance Sheets & Profits and Loss Accounts (from CoD till 31.03.2013) as well as projections into the future submitted by the respondent;

The Commission has determined the generic fixed cost for the period 11<sup>th</sup>–20<sup>th</sup> year of their operation for Bagasse based co-generation power plants, irrespective of whether they have approached the Commission or not for such determination, as given below:

**Table 3: The Commission determined the generic fixed cost for the period 11<sup>th</sup>–20<sup>th</sup> year of their operation for Bagasse based co-generation power plants commissioned during the period from FY 2004-05 to FY 2008-09 vide Common Order dated 05.08.2014 in O.P.Nos.8 of 2011, 9 of 2012, 12 of 2012, 22 of 2014 and 25 of 2014.**

Year of operation	Fixed cost Rs / unit	Other terms
11	1.18	<ul style="list-style-type: none"> <li>▪ Exclusive of Income Tax and Minimum Alternate Tax</li> <li>▪ Tariff is applicable only upto 55% PLF.</li> <li>▪ Discom to pay an incentive of Rs.0.50 per unit generation of</li> </ul>
12	1.22	
13	1.27	
<b>14</b>	<b>1.32</b>	
<b>15</b>	<b>1.37</b>	
<b>16</b>	<b>1.43</b>	



Year of operation	Fixed cost Rs / unit	Other terms
17	1.49	<p>electricity above 55% PLF to bagasse based project developer.</p> <ul style="list-style-type: none"> <li>▪ Electricity Duty paid by the Bagasse project developers during this period shall be reimbursed.</li> </ul>
18	1.55	
19	1.62	
20	1.70	

The norms considered in determination of above-mentioned fixed cost component of tariff for Bagasse based co-generation power plants are as given below:

**Table 4: Norms considered for determining the generic fixed cost for the period 11<sup>th</sup> – 20<sup>th</sup> year of their operation for Bagasse based co-generation power plants commissioned during the period from FY 2004-05 to FY 2008-09 vide Common Order dated 05.08.2014 in O.P.Nos.8 of 2011, 9 of 2012, 12 of 2012, 22 of 2014 and 25 of 2014.**

Sl. No.	Particulars	Units	Value
1	Capital Cost	Rs. in crore / MW	3.25
2	Auxiliary consumption	%	9
3	Threshold Plant Load Factor (PLF)	%	55
4	Debt Equity ratio	ratio	70:30
5	Interest on Debt <i>As no term loan outstanding existed after the 10<sup>th</sup> year</i>	% PA	No Need
6	Return on Equity (ROE) (Pre-Tax) with MAT/ Income Tax as pass through	% PA	16
7	Depreciation		
	a) Depreciation Rate for 1 <sup>st</sup> 8 years	%	7.84
	b) Depreciation Rate 9 <sup>th</sup> year	%	7.28
	c) Depreciation spread over evenly in the balance 11 years	%	1.82

Sl. No.	Particulars	Units	Value
8	Computation of Working Capital		
	<i>O&amp;M expenses</i>	Months	1
	<i>Maintenance spares ( @% of project cost)</i>	%	1
	<i>Receivables at threshold PLF</i>	Months	2
	<i>Fuel cost computed at threshold PLF</i>	Months	1
9	Interest on Working Capital	% PA	12
10	Operation & Maintenance (O&M) expenses for the base year in percentage of capital cost	%	4
11	O&M Escalation Based on actual CAGR of WPI & CPI indices for the control period 2004-09 with 40% weightage to CPI and 60% to WPI.	%	6.69 (as worked out)
12	Incentive on generation beyond threshold PLF	Rs./kWh	0.50
13	Electricity Duty on energy sold to distribution licensees	Rs.	to be allowed as pass through.

- ii) For the power plants commissioned during the period from FY 2018-19 to FY 2019-20 and is also adoptable for those projects whose COD happened to be after year 2009 for which they have obtained sanctions and permissions from the competent nodal agencies in the combined state of AP and in the Telangana State:- The Commission vide order dated 20.10.2018, in exercise of powers conferred under Sections 62, 86(1)(a), (b) & (e) of the Electricity Act, 2003 read with Tariff Policy and Central Electricity Regulatory Commission (Terms and Conditions for Tariff determination from Renewable Energy Sources) Regulations, 2017 dated 17.04.2017, duly floating a consultative paper indicating cost plus tariff methodology and through public consultation process has

considered, adopted and approved the norms and determined the levelized fixed cost of tariff @ Rs.2.23 per unit for bagasse based co-generation power plants –

- a) commissioned during the period from FY 2018-19 to FY 2019-20 in the Telangana State which are having PPAs with the distribution licensee;
- b) whose COD happened to be after the year 2009 for which they have obtained sanctions and permission from the competent nodal agencies in the combined State of Andhra Pradesh and later in the Telangana State;
- c) which have obtained sanctions and permission from the competent nodal agencies in the combined State of Andhra Pradesh and later in the Telangana State but have not yet commissioned the project and are likely to commission the same during the period FYs 2018-2020;

The Norms considered, adopted and approved by the Commission for determination of generic levelized fixed cost tariff component is as given below:

**Table 5: Norms considered by the Commission for determination of generic levelized fixed cost tariff for the period from FY 2018-19 to FY 2019-20**

Sl. No.	Particulars	Units	Value
1	Installed Power Generation considered for workings	MW	1
2	Auxiliary consumption	%	9.00
3	Plant Load Factor (PLF)	%	55
4	Useful life	Years	20
5	Capital Cost	Rs. in lakh/MW	435.5
6	Debt	%	70
7	Equity	%	30
8	Total Debt Amount	Rs.in lakh	304.85

Sl. No.	Particulars	Units	Value
9	Total Equity Amount	Rs.in lakh	130.65
10	Interest on Debt	% PA	10.25
11	Return on Equity (Pre-Tax)	% PA	17.60
12	Discount Rate (Equity to WACC)	%	9.29
13	Depreciation		
	a) Depreciation Rate for 1 <sup>st</sup> 13 years	%	5.28
	b) Depreciation Rate 14 <sup>th</sup> year onwards	%	3.05
14	Working Capital		
	a) <u>For Fixed Charges</u>		
	O&M expenses	Months	1
	Maintenance spares (15% of O&M expenses)	Rs. in lakh	3.327
	Receivables for Debtors	Months	2
	b) <u>For Variable Charges</u>		
	Bagasse stock	Months	1
15	Interest on Working Capital	% PA	11.25
16	Heat rate	kcal/kWh	3600
17	Gross Calorific Value (GCV)	kcal/kg	2250
18	Operation & Maintenance (O&M) expenses	Rs.lakh/MW	22.18
19	O&M Escalation	%	5.00
20	<b>Levelized Fixed Cost for the life of the plant</b>	<b>Rs./unit</b>	<b>2.23</b>

The levelized fixed cost to be @ Rs.2.23 per unit and year-wise fixed cost as indicated in the statement from 14<sup>th</sup> to 20<sup>th</sup> year of operation is as given below:

**Table 6: Year-wise fixed cost as indicated in the statement from 14<sup>th</sup> to 20<sup>th</sup> year of operation**

Year of operation	14	15	16	17	18	19	20
Fixed Cost	1.95	2.01	2.07	2.13	2.19	2.26	2.33

**1.3.2 With regard to Variable Cost Component of Tariff:**

- i) For the power plants commissioned during the period from FY 2020-21 to FY 2023-24:- The Commission vide its order dated 28.08.2020 in O.P.No.21 of 2020 (*Suo Moto*), in exercise of powers vesting in it under Sections 62(1), 86(1)(a), (b) & (e) of the Electricity Act, 2003 after previous publication and through public consultation process has approved norms and determined the Variable Cost for the period from FY 2020-21 to FY 2023-24 for existing Bagasse based co-generation power projects in the Telangana State which are having PPAs with the Distribution Licensee as given below:

**Table 7: The Commission approved norms and determined the Variable Cost for the period from FY 2020-21 to FY 2023-24 for existing Bagasse based co-generation power projects in the Telangana State.**

Financial Year	Station Heat Rate (kcal/kWh)	Auxiliary Consumption (%)	Gross Calorific Value (kcal/kg)	Fuel Price (Rs./MT)	Variable Cost (Rs./kWh)
2020-21	3600	9	2250	1877	3.3002
2021-22				1971	3.4655
2022-23				2070	3.6396
2023-24				2174	3.8224

**1.4 Earlier Petition [O.P.No.9 of 2021]**

- 1.4.1 The petitioner has earlier filed a petition on 30.12.2020 vide O.P.No.9 of 2021 under Sections 62, 86(1)(b) and 86(1)(e) of the Electricity Act, 2003 seeking (a) determination of fixed component of tariff @ Rs.2.42 per unit; (b) variable cost as per the Commission's order dated 28.08.2020 in O.P.No.21 of 2020 for

the petitioner's 24.2 MW bagasse based co-generation project; and (c) consequent direction to the respondent to purchase the power under long term PPA for the balance period of normative life of the project. The Commission has disposed the petition on 09.09.2021 and it has been held therein as below:

10. Section 62 of the Electricity Act, 2003 empowers the Commission to determine tariff for supply of electricity by a generating company to a distribution licensee. The petitioner has requested the Commission for determination project specific tariff, without having PPA with the respondent. In the present case, there is disagreement between the petitioner and the respondent on the basis to be considered for tariff, let alone the non-existence of the Power Purchase Agreement (PPA). Such disagreements can be ironed out only if a PPA is executed between the parties. Tariff determination in the present case would be a futile exercise as there is no mutual consent of the parties for sale and purchase of electricity, in the form of PPA. In view of the same, the Commission does not find it appropriate to accept the petitioner's request to determine the project specific tariff in the absence of PPA.

... ..

13. The respondent being a distribution licensee is empowered to purchase required energy for distribution and retail supply in accordance with the regulations, guidelines, directions issued by the Commission from time to time, which shall further be subject to approval of the Commission. A power purchase agreement (PPA) contains provisions related to commercial, technical, tariff and other related matters and therefore it is the exclusive domain of the respondent to take decisions on entering into PPA for availing the required power. In the petitioner's case, the Commission finds that there is a fundamental disagreement between the petitioner and respondent on the capacity itself. Essentially what emerges for the submission is that the parties are seeking adjudication, without even having PPA between themselves, which is unwarranted. In the light of the above, the petitioner's request, to direct the respondent to enter into PPA with the petitioner is beyond the regulatory purview of the Commission and hence the Commission does not accept the same.

The petitioner is at liberty to approach the respondent for execution of PPA, if it intends to sell power from its bagasse based co-generation power plant.

## **1.5 Power Purchase Agreement and its consent [O.P.No.23 of 2022]**

1.5.1 Subsequently, the petitioner approached the respondent (the distribution licensee operating within the area of the petitioner). Both parties upon mutual discussion have come to an understanding and executed a draft PPA on 10.12.2021 for the sale of 19 MW power from petitioner's 24.2 MW bagasse based co-generation plant [out of installed capacity of 24.2 MW, auxiliary consumption is 1.7 MW, for captive usage 3.5 MW and balance 19 MW is for sale to Respondent]. Article 2.2 of the draft PPA stipulates that –

“The Company shall be paid the tariff for the energy delivered at the interconnection point for sale to DISCOM at the tariff to be determined by TSERC upon filing of Petition by the Company, specified in Schedule I A. No tariff will be paid for the energy delivered at the interconnection point beyond contracted capacity i.e., 19 MW.”

Thereafter, the respondent has requested for consent of the said PPA in its letter D. No. 416 / 21 dated 21.12.2021. The Commission after undertaking the public consultation process has passed an order dated 09.02.2022 in O. P. No. 23 of 2022 (Suo Moto) by according consent to the draft PPA subject to modifications required to be done as set out in the said order. Accordingly, the petitioner entered into fair PPA with the respondent on 05.03.2022 and copy of the same is placed before the Commission for record purpose.

## **1.6 Commencement of Supply**

1.6.1 After signing of draft PPA on 10.12.2021, as the sugar season commenced, and the generation of power started the petitioner requested the respondent to draw the energy being generated. As the cane season started in November, to safe guard the interest of cane farmers as well as public at large of the Telangana State, the respondent has availed power from the petitioner's project vide letter dated 17.12.2021 subject to determination of tariff by the Commission upon filing the petition by the petitioner. Accordingly, the power is being fed into the grid with effect from 19.12.2021. The respondent had



admitted that the energy is being injected with effect from 19.12.2021 - 00:00 hours RTC as certified by the State Load Dispatch Centre (TSSLDC).

## **1.7 Present Petition, its admission and Regulatory Process**

1.7.1 On 27.12.2021 the petitioner has filed the following petition / application –

- (i) Original Petition under Sections 62, 86 (1) (b), and 86 (1) (e) of the Electricity Act, 2003 read with Regulation No.2 of 2015 seeking for the (a) determination of levelized fixed cost tariff @ Rs.2.16 per unit for the petitioner's 24.2 MW Bagasse based co-generation project for the entire duration of the PPA by approving the draft PPA dated 10.12.2021 executed between the parties for the sale of 19 MW; and (b) to declare that the variable cost determined by the Commission vide order dated 21.04.2020 in O.P.No.15 of 2020 would also be applicable to the petitioner's project.
- (ii) Interlocutory Application (I. A.) under section 94 (2) of the Electricity Act, 2003 read with clauses 24 and 38 of TSERC Conduct of Business Regulation, 2015 seeking relief

“for payment of variable cost as determined by this Commission vide order dated 28.08.2020 in O.P.No.21 of 2020 from 19.12.2021 onwards”.

The petition and application have been admitted, taken on record and numbered as O.P.No.26 of 2022 and I.A.No.14 of 2022 respectively.

1.7.2 **Data gaps and Petitioner's responses:** During the examination of the filings of the petitioner in so far as technical and financial aspects, deficiencies were found on certain aspects and therefore, additional information was sought. The Commission has considered the original filings and additional information submitted by the petitioner.

1.7.3 **Overview of Stakeholders' Consultation Process:**

- (a) **Public Notice:** Petitioner, as directed by the Commission, published a Public Notice in two (2) English, two (2) Telugu and One (1) Urdu daily newspapers on 09.03.2022 (Annexure-I) informing all the stakeholders and general public at large that the petitioner has filed a petition before the Commission and also invited objections / suggestions together with supporting material on or before 30.03.2022 by 5 pm. The filings have

been made available by the petitioner at its office for the perusal of interested person(s). The filings were also made accessible on the websites of the petitioner as well as the Commission viz., [www.madhuconsugars.com](http://www.madhuconsugars.com) and [www.tserc.gov.in](http://www.tserc.gov.in).

- (b) **Response to Public Notice**: In response to the public notice, objections / suggestions were received in time from One (1) stakeholder other than the respondent (Annexure-II). Whereas, the respondent has filed a counter affidavit on the filings of the petitioner. The petitioner was directed to give reply/response to the counter filed by the respondent and to the objections/suggestions filed by the stakeholders by 01.11.2021 by sending the same to the respective stakeholder with a copy to the Commission. The counter filed by the respondent, objections / suggestions received on the petition and the petitioner's replies were also posted on the website of the Commission.
- (c) **Public Hearing**: The Commission has conducted the Public Hearing as per schedule notified in the Public Notice on 13.04.2022. The list of stakeholders who attended the virtual Public Hearing is enclosed at Annexure-III. During the Public Hearing, the petitioner made a brief submission on its filings and then the Commission heard the respondent and other stakeholders desiring to be heard. At the end, the petitioner responded on the issues raised by the objectors.

## CHAPTER 2

### SUMMARY OF FILINGS

#### 2.1 Petitioner's submissions

2.1.1 **Fixed Cost:** The petitioner requested that the norms for other parameters may be fixed as per the Commission's order dated 20.10.2018 duly placing the relevant data with regard to the capital cost, debt equity amount, O&M expenses, interest on debt and working capital. The norms/parameters for levelized fixed cost tariff claimed by the petitioner are as under:

**Table 8: Parameters for fixed cost tariff claimed by the Petitioner**

Sl. No.	Parameter	Units	Value
1	Installed capacity	MW	24.2
2	Commercial Operation Date	Date	20.10.2008
3	Plant Load Factor (PLF)	%	55
4	Auxiliary consumption	%	9
5	Tariff period	Years	7
6	Total Capital Cost	Rs. in lakh	10081.24
	<i>Capital Cost per MW</i>	<i>Rs. in lakh / MW</i>	<i>416.58</i>
7	Debt	%	70
8	Equity	%	30
9	Total Debt amount	Rs. in lakh	7057.12
	<i>Total Debt amount per MW</i>	<i>Rs. in lakh / MW</i>	<i>291.61</i>
10	Total Equity amount	Rs. in lakh	3024.48
	<i>Total Equity amount per MW</i>	<i>Rs. in lakh / MW</i>	<i>124.97</i>
11	Debt repayment period	Years	8.5
12	Interest rate	%	12.25
13	Rate of Return on Equity	%	17.60
14	Depreciation		
	a) Depreciation Rate for first 13 years	%	5.28

Sl. No.	Parameter	Units	Value
	b) Depreciation Rate 14 <sup>th</sup> year onwards	%	3.05
15	Operation & Maintenance (O&M) expenses for first year of operation	Rs. in lakh/ MW	28.85
16	Annual escalation for O&M expenses	%	5
17	Working Capital components		
	<i>O&amp;M expenses</i>	No. of Months	1
	<i>Maintenance spares (% of O&amp;M expenses)</i>	%	15
	<i>Bagasse stock</i>	No. of Months	1
	<i>Receivables</i>	Months	2
18	Rate of interest on Working capital	%	12.65
19	Heat Rate	Kcal / kWh	3600
20	GCV	Kcal / kg	2250
21	Fuel (Bagasse) Cost at 11 <sup>th</sup> year of operation	Rs. / MT	1743
22	Fuel Cost yearly escalation	%	6
23	Discount rate	%	9.29
<b>24</b>	<b>Levelized Tariff</b>		<b>2.16</b>

The petitioner prayed to determine the levelized fixed cost component of tariff @ Rs.2.16 per unit for the entire duration of the PPA executed between the parties for the sale of 19 MW.

**2.1.2 Variable Cost** The petitioner also prayed to declare that the variable cost determined by this Commission in the order dated 28.08.2020 of O.P.No.21 of 2020 *inter alia* for bagasse based power projects for FYs 2020-21 to FY 2023-24 would also be applicable equally to the petitioner's power project.

**2.1.3** The petitioner in the copy of the statement detailing the parameters and calculation of tariff for the project has claimed the following year-wise costs.

**Table 9: Year-wise fixed cost and variable cost as claimed by the  
Petitioner**

<b>Year of operation</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>
Variable cost	3.4655	3.6388	3.8207	4.0117	4.2123	4.4230	4.6441
<b>Fixed Cost</b>	<b>1.87</b>	<b>1.92</b>	<b>1.98</b>	<b>2.04</b>	<b>2.10</b>	<b>2.16</b>	<b>2.24</b>
Total	5.33	5.56	5.80	6.05	6.31	6.58	6.88



## **CHAPTER 3**

### **ISSUES RAISED BY STAKEHOLDERS, RESPONSES OF PETITIONER AND COMMISSION'S VIEWS**

#### **3.1 Objections / Suggestions made on filings**

- 3.1.1 The respondent has filed counter affidavit and One (1) stakeholder have filed objections / suggestions on the present petition/application. As directed by the Commission the petitioner has filed replies against the counter affidavit and on the objections / suggestions received from the stakeholder. The Commission has concluded all the objections / suggestions raised by the stakeholder and the contention of the respondent in their counter affidavit as well as oral submissions made during the public hearing held on 13.04.2022, the filings on record and responses of the petitioner have been consolidated and summarized issue-wise in the paragraphs hereunder:

#### **3.2 Renewable Power Purchase Obligation (RPPO) Stakeholders' submissions**

- 3.2.1 It is obvious that the proposed purchase of renewable energy (RE) power under the subject PPA is intended only to meet the RPPO obligations of the TSDISCOMs. Hence, it is appropriate to keep the subject petition (relating to the PPA) on hold till it takes up the issue of RPPO to be issued for the year 2022-23 and subsequent years and finalizes the same.
- 3.2.2 Now, under the fig-leaf of RPPO, with consent to the PPA becoming a fait accompli, only the formality of determining levelized fixed charge for the subject project remains to be completed by the Commission for purchase of unwarranted and high-cost power by respondent from petitioner. Apparently, this outcome is detrimental to consumer interest, is a result of unwarranted fixing of the targets of minimum percentage of purchase of RE by DISCOMs from solar and non-solar separately under RPPO. TSDISCOMs have earlier informed that they have achieved purchase of 9.20% of solar and 0.79% of non-solar RE against 8% RE during 2021-22 out of which solar is 7.10% and non-solar RE is 0.90% determined under the RPPO order of the Commission.

#### **Petitioner's replies**

- 3.2.3 The Commission has laid down RPPO obligation by Regulation No.7 of 2022 for the period 2022-23 to 2026-27 as the existing regulation No.2 of 2018 has

worked out for the control period specified therein. The RPPO emanates from the legislative mandate specified u/s 86 (1) (e) of the Act, 2003 r/w. clause No.6.4 of Tariff Policy, 2016 and clause 5.2.20 of National Electricity Policy (NEP). The said policies required the Ministry of Power (MoP), Government of India (GoI) to specify long term trajectory RPPO for both Solar and Non-Solar energy, considering the same the State ERC's are required to specify the RPPO having regard to availability of resources within the State. In the present case, this Commission has undertaken such exercises by specifying RPPO non-solar energy as 1% to 2% for coming five (5) years. It is also the case of DISCOM that they can fulfill non-Solar RPPO by procuring power from sources such as bio-mass, bagasse and municipal solid waste and the present agreements with them were not sufficient to meet the non-solar RPPO and therefore have come forward to enter into PPA with the developer which has been approved by this Commission.

- 3.2.4 The contention that specifying RPPO is un-warranted and detrimental to the consumer interest for Solar and non-Solar separately is fallacious in as much as the same would run contrary to the legislative scheme. Encouraging generation of RE and fixing RPPO has a larger impact of the society. This is in-line with policy of Government of India to honor international treaties on climatic changes to safeguard interests of mankind. The policy envisages to reduce dependency on fossil fuel and to encourage clean and green energy though the later may cost more compared to fossil fuels, however due to progressing of technology, the cost of clean and green energy over a period of time is bound to come down significantly. The order dated 09.02.2022 passed by this Commission granting consent to the PPA and the regulations specifying RPPO i.e., Regulation No.2 of 2018 and Regulation No.7 of 2022 are binding on all the stakeholders unless the same are challenged.

**Commission's view**

- 3.2.5 The Commission taking into consideration the statutory mandate and with the objective of balancing the interest of all the stakeholders at large, in exercise of powers conferred on it under Sections 61, 66, 86(1)(e) and 181 of the Electricity Act, 2003 and all other powers enabling it in this behalf duly following, mandate of previous publication, has notified the RPPO trajectory through Regulation No.7 of 2022 for the period from FY 2022-23 to FY 2026-27.



3.2.6 Further, the Commission in its order dated 09.02.2022, while according consent to the PPA, has examined the status of non-solar PPAs of the respondent and observed that out of the total capacity of 70.7 MW of non-solar PPAs, the PPAs aggregating to the capacity of 38.7 MW would expire by FY 2021-22 and FY 2022-23. As the respondent has been procuring from those existing PPAs, the shortfall due to completion of term of those PPAs has to be made good by making arrangement for extension of the existing sources or entering into arrangement for additional sources of NCE power.

### **3.3 Long term PPA with the DISCOM**

#### **Respondents' submissions**

3.3.1 It is pertinent to submit that after bifurcation of the State, TSERC vide Regulation No.1 of 2014 adopted all Regulations, decisions, directions, orders issued by the erstwhile APERC as in existence as on the date of its constitution.

3.3.2 In spite of availability of erstwhile APERC tariff for the petitioner's project (which was commissioned during October 2008), the developer did not chose to enter into PPA with the respondent DISCOM and instead preferred to sell the power under Short term basis as they found it more beneficial at that time than to enter PPA. In fact, this reluctance of the petitioner to enter PPA in those critical years of power scarcity resulted in additional power purchase cost by the DISCOMs in open market.

#### **Petitioner's replies**

3.3.3 The petitioner's project was commissioned in the month of October, 2008. The so-called APERC regulations are applicable for all those generators who have conceived their projects primarily on the sole purpose for entering PPA with the DISCOMs (such as the respondents herein) and the tariff determined therein was specifically to all those projects who have entered into long term PPAs with the DISCOMs for entire period of life of the plant i.e., 20 years.

3.3.4 Further in the case of the petitioner, for to secure funding, the precursive condition from the bankers was that the petitioner should have a valid PPA with 3<sup>rd</sup> parties or DISCOMs, since it was time consuming process for the petitioner to get approval from the DISCOMs and the erstwhile APERC, the petitioner entered into PPA with M/s PTC India Limited for a period of one year and which

was extendable year on year on mutual basis. Later, as the petitioner could not procure a NOC for open access from the DISCOMs, the petitioner started the supply of power to the respondent on short-term basis.

- 3.3.5 In fact, it is pertinent to mention here that, although the period when the petitioner was supplying power at short-term basis, the respondents have never come forward calling upon the petitioner to enter into long-term PPA, the present contention that the petitioner has not come forward to enter into long term PPA with the DISCOM is utterly misconceived.

**Commission's view**

- 3.3.6 The Commission takes note of the submissions of the petitioner and the respondent.

**3.4 Useful life of the Plant**

**Stakeholders' submissions**

- 3.4.1 The balance capital cost if any i.e., after deducting the depreciation charges paid, need to be taken into account for the balance useful lifespan of the plant. The petitioner has shown the useful lifespan of their plant as 20 years. It is to be noted that the term of PPA and useful lifespan of a power plant need not be coterminous. Based on experience of existing bagasse-based cogeneration power plants, the useful lifespan of such plants has to be determined, not based on what was determined by the Commission in the past based on presumptuous projections.
- 3.4.2 If the useful lifespan of the subject project is determined to be more than 20 years by the Commission, then the remaining capital cost of the project has to be adjusted for the remaining lifespan for the purpose of working out levelized fixed charges.

**Petitioner's replies**

- 3.4.3 The useful lifespan of power project has been considered by the Commission, the previous Commission for composite State and confirmed by Hon'ble APTEL as 20 years, therefore having regard to the year of establishment and the technology employed therein, in the absence of any material being placed otherwise by the objector, there is no change in the circumstance for departing with 20 years as considered earlier.

### **Commission's view**

- 3.4.4 The Commission takes note of the stakeholders' submissions and replies of the petitioner.

## **3.5 Plant Load Factor**

### **Stakeholders' submissions**

- 3.5.1 Based on experience and ground reality the revenue that should accrue to the project for generation and supply of power with a PLF of 55% and actual revenue and profit accrued to it every year based on actual PLF achieved, as shown in its IT returns and audited accounts, since the CoD - the justifiability or otherwise of parameters determined by the Commission in its past orders needs to be re-examined and redetermined prudently for the seven years of the PPA of the project.

### **Petitioner's replies**

- 3.5.2 The PLF has been arrived by erstwhile Commission for composite State and confirmed by the Hon'ble APTEL by order dated 20.12.2012, which was once again re-iterated by this Commission in the order dated 20.10.2018, therefore, the Commission is requested to retain the same. As a matter of fact, none of the bagasse plants have achieved PLF of more than 55%, therefore, the objector has not placed any cogent material to take a different view.

### **Commission's view**

- 3.5.3 Plant Load Factor considered by the Commission is dealt in Chapter 4.

## **3.6 Capital Cost**

### **Stakeholders' submissions**

- 3.6.1 While the commercial operation date of the subject project was declared on 20.10.2008, the petitioner has requested the Commission to adopt the capital cost of Rs.4.355 crore per MW for the purpose of working out the said levelized fixed charge of Rs.2.16 per unit. Since the CoD of the project was declared about 13 years back, depreciation charges paid since then need to be subtracted from the said capital cost.

### **Petitioner's replies**

- 3.6.2 The petitioner has incurred capital cost of Rs. 4.1658 crore per MW at the relevant point of time i.e., FY 2008-09 and the same is in line with the capital

cost as considered by CERC RE tariff regulation, 2009. The depreciation has been considered @ 5.28% for initial thirteen years and for balance period of seven years @ 3.05%, which is in line with prevalent CERC regulation. Since the tariff has to be fixed considering the capital cost incurred as on date of declaration of COD, for all purposes for the next thirteen years, the depreciation allowed at the rate mentioned above would be factored and the project would be allowed to recover the fixed cost for the balance power and in this case, the petitioner has proposed to recover the same by way of levelized fixed cost @ Rs.2.16 for next seven years, which is the usual practice.

**Commission's view**

- 3.6.3 The Commission has approved the capital cost based on prudent check of the actual cost as per the audited accounts as detailed in Chapter 4.

**3.7 Interest rate on Debt and Working Capital**

**Stakeholders' submissions**

- 3.7.1 Outdated parameters like interest rate of 12.25% on debt and 12.65% on working capital shown by the petitioner need to be reworked out, taking into account the falling rates of interest and scope for swapping old loans with new loans with lower rates of interest.

**Petitioner's replies**

- 3.7.2 The petitioner has proposed interest rate of 12.65% on working capital which is as per sanction letter and there is no interest claimed on term loan as the term loans have been repaid. Therefore, the petitioner requested the Commission may consider the interest @ 12.65% on working capital.

**Commission's view**

- 3.7.3 Rate of interest on term loan and working capital considered by the Commission is dealt in Chapter 4.

**3.8 Return on Equity**

**Stakeholders' submissions**

- 3.8.1 In view of the trend of drastically falling rates of interest, the proposed return on equity also needs to be reduced from the projected 17.60%.

### **Petitioner's replies**

3.8.2 Return on equity has been claimed as per the order dated 20.10.2012 issued by the Commission which was fixed by considering the relevant factors and after hearing the DISCOMs and various objectors including the objector herein.

The Commission has held as under:

"24. The Commission has examined the issue in the absence of any submission from the stakeholders. Clause 16(2) of the CERC Regulation, 2017, stipulates that the normative RoE shall be 14%, to be grossed by prevailing MAT as on 1<sup>st</sup> April of previous year for the entire useful life of the project. The RoE as proposed at 17.60% is based on grossing up of average MAT rates as on 01.04.2017 on normative rate of return on equity of 14% detailed as under:

Note:

- (a) MAT rates, as on 01.04.2017, for companies having profit less than Rs.1 Cr, between Rs.1 Cr & 10 Cr and above Rs. 10 Cr are 19.055%, 20.389% and 21.342% respectively, resulting in an average MAT rate of 20.26%. Accordingly, the RoE is arrived at 17.60%.
- (b) Similarly, the MAT rates, as on 01.04.2018, for companies having profit less than Rs.1 Cr, between Rs.1 Cr to Rs.10 Cr and above Rs.10 Cr is 19.24%, 20.59% and 21.55% respectively resulting in an average MAT rate of 20.46%.

Thus, the normative rate of return on equity of 14% when grossed up by average MAT rate of 20.46% being the prevailing MAT rate (as on 01.04.2018) would result in a ROE of 17.60%. Accordingly, the Commission considers it to adopt RoE of 17.60%."

Therefore, the contention of the objector that the Return on equity should be reduced is baseless and liable to be rejected.

### **Commission's view**

3.8.3 Return on Equity considered by the Commission is dealt in Chapter 4.

### **3.9 Applicability of Generic Tariffs**

#### ***Respondents' submissions***

- 3.9.1 The co-generation power plant of the petitioner was commissioned on 20.10.2008 i.e., in FY 2008-09. The Commission had already determined generic tariffs to the co-generation plants which were commissioned during the period FYs 2004-09 for the first 10 years of operation and subsequently for 11<sup>th</sup> to 20<sup>th</sup> years of operation vide orders dated 22.06.2013 and 05.08.2014 respectively.
- 3.9.2 The tariff determined by TSERC in the order dated 20.10.2018 technically cannot be made applicable to the Developer's project, since the same is applicable for the Bagasse based co-generation projects commissioned during the control period 2018-2020; but, Developer's project was commissioned on 20.10.2008. Even the levelized tariffs indicated in the generic tariff order of TSERC dated 20.10.2018 are w.e.f. 01.04.2009 only. Further, it is stated that the generic tariff order of TSERC has been challenged by TSDISCOMs before Hon'ble APTEL vide Appeal No.19 of 2021 and the same is posted for hearing on 11.05.2022.
- 3.9.3 Determination of project specific tariff is not appropriate when generic tariff has been determined for the projects during the applicable control period of 2004-09. This fact has been noticed by this Commission in paragraph-9 of the order dated 09.09.2021 in O.P.No.09 of 2021.
- 3.9.4 Most importantly there are other bagasse projects in the State, which had entered PPAs long back and have been receiving payments as per the tariff determined by the erstwhile APERC in the order dated 05.08.2014.
- 3.9.5 The Commission vide its order dated 21.04.2020 in O.P.No.15 of 2020 had determined variable cost inter-alia for bagasse based power projects for the FY 2019-20 and for the further period of FY 2020-21 to FY 2023-24 by order dated 28.08.2020 in O.P.No.21 of 2020. The said variable cost as determined by this Commission will apply equally to the petitioner's project also.
- 3.9.6 In the light of the detailed submissions made above, the respondent prays that determination of project specific Tariff doesn't arise in this case and applicability of the order dated 20.10.2018 passed by the Commission determining generic tariff, also does not arise.



### **Petitioner's replies**

3.9.7 It is stated that merely because the petitioner's plant achieved COD on 20.10.2008 i.e., FY 2008-09, the order passed by erstwhile APERC and revised by the Hon'ble APTEL for the control period 2004-09 cannot be made applicable to the present case. The petitioner has provided the actual and specific capital cost incurred and also the other expenses in terms of the required parameter, therefore the same are required to be considered for the present purpose. Further, the parameters and norms considered by this Commission by order dated 20.10.2018 are more apt and relevant, therefore the same are required to be considered as pleaded by the petitioner. Though the DISCOMs appears to have filed Appeal.No.19 of 2021, as there is no stay granted, the said order remains to be in operation. So far as, the variable cost is concerned, the generic order dated 28.08.2020 would apply for FY 2020-21 to 2023-24 as mentioned by DISCOMs.

### **Commission's view**

3.9.8 The Commission takes note of the submissions of the petitioner and the respondent and the details of parameters considered for determination of tariff are dealt in Chapter 4.

## **3.10 Terms of payment for the energy delivered**

### **Respondents' submissions**

3.10.1 It has been stated by the petitioner that, since the commissioning of the co-generation plant, the power generated is partly used for its captive purpose and surplus power is being sold to DISCOMs of composite State of Andhra Pradesh till its bifurcation and later to the DISCOMs of the Telangana State under short term PPA s year-on-year. Later, after the bifurcation of the State, the petitioner approached the respondent for selling of energy through long term PPA at a tariff determined by the Commission, which the respondent has not acceded to.

3.10.2 The Commission by order dated 09.09.2021 in O. P. No. 9 of 2021 stated that a PPP contains provisions related to commercial, technical, tariff and other related matters and therefore it is exclusive domain of the respondent to take decisions on entering into PPA for availing the required power.



- 3.10.3 Subsequently, the petitioner approached the respondent to enter into PPA and for compliance of the non-solar RPPO. The respondent agreed for purchase of energy from the petitioner's Project. On 10.12.2021 both the parties executed a 'draft PPA' for a capacity of 19 MW for the balance life period of 20 years from the COD and same was placed before the Commission for consent. As per the Article 2.2 of the PPA the company shall be paid the tariff for the energy delivered at the inter connection point for sale to DISCOM at the tariff to be determined by the Commission upon filing of a petition by the petitioner as specified in Schedule IA of the PPA. No tariff will be paid for the energy delivered at the interconnection point beyond contracted capacity i.e., 19 MW.
- 3.10.4 It is to submit that, after signing of draft PPA on 10.12.2021, keeping in view the ongoing sugar crushing season, the petitioner requested the respondent to draw the energy being generated, which the respondent agreed to subject to tariff determination by the Commission upon filing of a petition by the petitioner for the said purpose. It is to submit that the energy is being delivered by the petitioner with effect from 19.01.2022 as certified by the SLDC.

**Petitioner's replies**

- 3.10.5 It is stated that the DISCOM had come forward to execute the draft PPA and the same has been entered into on 10.12.2021. As per clause 2.1 of the said agreement, it is agreed that the DISCOM shall purchase power from the petitioner from effective date of PPA i.e., 10.12.2021.
- 3.10.6 Thereafter as sugar season had commenced and the generation of power had also started, at the request of the petitioner, the DISCOM had drawn the power subject to the tariff to be fixed by this Commission vide their letter dated 17.12.2021, accordingly, power is being fed into the grid with effect from 19.12.2021. Though the power is being received, as no specific tariff is determined so far, the petitioner could only raise invoices for variable cost as per the generic order and as the fixed cost has not been factored in view of the pending determination of the same.
- 3.10.7 The DISCOM had admitted that the energy is being injected with effect from 19.12.2021 as certified by the SLDC. In fact, the petitioner had also filed I. A. No. 14 of 2022, seeking direction for payment for the same pending the determination of the tariff and the same is also considered along with this O.P. In view of the same, the petitioner has sought directions from Commission to

the respondent to pay for the energy supplied with effect from 19.12.2021, which is after execution of draft PPA in terms of the tariff to be determined by the Commission.

**Commission's view**

- 3.10.8 Payment for the energy delivered shall be as per the terms of PPA along with the certification of TSSLDC.

**3.11 Generic Variable Tariff**

**Stakeholders' submissions**

- 3.11.1 The petitioner has sought determination of a levelized fixed charge of Rs.2.16 per unit under the PPA dated 10.12.2021 for a period of seven (7) years. If the Commission determines the levelized fixed charge accordingly, the tariff for 2022-23 works out to Rs.5.7996 per unit, for 2023-24 Rs.5.9824 per unit, thereafter it will vary as decided by the Commission for the subsequent five (5) years. This is how the consumers of power are being saddled with higher tariffs for purchasing unwarranted power on a long-term basis, thereby masquerading pampering of developers of NCE/RE plants under the guise of protecting environment and encouraging NCE/RE and the interminable asinities that have been going on in the name of reforms being imposed by the Governments in the power sector in the service of the private corporate sector.
- 3.11.2 The petitioner has contended that the variable tariff of Rs.3.6396 per unit for 2022-23 and Rs.3.8224 per unit for 2023-24, as determined by the Commission in its order dated 28.08.2020 for bagasse based co-generation plants, is applicable for power to be supplied from their subject plant to respondent.

**Petitioner's replies**

- 3.11.3 The contention raised that by adopting generic variable tariff to the present case would result in higher tariff detrimental to interest of the consumers is misconceived. The Commission by following the parameters as laid down by Hon'ble APTEL dated 20.12.2012 and having considered the prevailing circumstances in the State and availability of fuel, determined the variable cost for the control period FY 2020-21 to FY 2023-24 by order dated 23.05.2020 and

the same is governing the field. The variable cost would not vary from project to project as the percentage for consideration would be uniform.

**Commission's view**

3.11.4 The Commission takes note of the stakeholders' submissions and replies of the petitioner.

**3.12 Determination of Project Specific Tariff**

**Respondents' submissions**

3.12.1 The specific tariff for the fixed cost component is to be fixed at lower than the already determined generic tariff determined by the Commission in order dated 05.08.2014, since the other similarly placed developers are supplying power since long time @ generic Tariff of the Commission order dated 05.08.2014.

**Petitioner's replies**

3.12.2 In view of the submissions made above, it is prayed that Project Specific tariff may be determined for the petitioner's plant.

**Commission's view**

3.12.3 The Commission takes note of the submissions made by the petitioner and the respondent.

## **CHAPTER 4**

### **ANALYSIS AND CONCLUSION ON DETERMINATION OF TARIFF**

#### **4.1 Fixed Cost Tariff Component**

- 4.1.1 The contention of the petitioner is that it is seeking determination of levelized fixed cost component of tariff @ Rs.2.16 per unit for the entire duration of the PPA for its 24.2 MW [out of which 19 MW is for sale to respondent] bagasse based co-generation power project and which is lower than the determination made by the Commission @ Rs.2.23 per unit in the generic tariff order dated 20.10.2018. The parameters/norms of capital cost, debt and equity amounts of the petitioner project are lower though the O&M expenses and interest on working capital are slightly higher than those determined by the Commission in the generic order dated 20.10.2018. The petitioner submitted further that alternatively for the balance period, the fixed cost component of the tariff has to be determined on a project specific basis by considering the relevant data furnished for that purpose.
- 4.1.2 The respondent sought to state that the norms/parameters considered in determination of the levelized fixed cost tariff component in the order dated 20.10.2018 which are w.e.f. 01.04.2009 cannot be technically made applicable to the petitioner's project, since the same are applicable for the bagasse based co-generation projects which are commissioned during the control period 2018-2020, whereas petitioner's project was commissioned on 20.10.2008. Further it is stated that when Commission determined generic tariff applicable to the bagasse based co-generation plants commissioned during the period FYs 2004-09 for the first ten (10) years of operation and subsequently for 11<sup>th</sup> to 20<sup>th</sup> years of operation vide orders dated 22.06.2013 and 05.08.2014 respectively, determination of project specific tariff is not appropriate and does not arise. Also, submitted that there are other bagasse based co-generation power projects in the State, which had entered PPAs long-back and have been receiving payments as per the orders on tariff of erstwhile APERC, dated 05.08.2014.

#### **4.2 Commission's Analysis and View**

- 4.2.1 Earlier after undertaking thorough exercise by following the due procedure of public consultation process, the Commission had passed Common Order on

05.08.2014 determining the generic fixed tariff for the 11<sup>th</sup> to 20<sup>th</sup> year of operation to take effect on completion of ten (10) years from the date of commissioning of bagasse based co-generation power projects, which is applicable for the power plants which are commissioned during the period from 2004-05 to 2008-09, which complete ten (10) years of operation irrespective of whether they have approached the Commission or not for such determination. The said order has adopted by this Commission vide Regulation No.1 of 2014. With regard to norms/parameters relevant to the determination of fixed cost the Commission held at para 36 of the common order dated 05.08.2014 that –

36. After detailed analysis of the financial and operational parameters relevant to the performance of Bagasse players over the last ten years, including aspects like loan repayment, actual generation as compared to the normative Plant Load Factor (PLF) and the overall financial health of the project developers, the Commission came to the conclusion that the performance of all the project developers is broadly consistent with the existing norms.

4.2.2 In the conclusion of the Common Order dated 05.08.2014 the Commission observed as below:

61. Based on the detailed discussion in respect of different parameters as mentioned in the previous chapter, the Commission determines that the fixed cost payable for Bagasse Power Projects will be as follows:

**Table 10: The Commission determined the generic fixed cost for the period 11<sup>th</sup>–20<sup>th</sup> year of their operation for Bagasse based co-generation power plants commissioned during the period from FY 2004-05 to FY 2008-09 vide Common Order dated 05.08.2014 in O.P.Nos.8 of 2011, 9 of 2012, 12 of 2012, 22 of 2014 and 25 of 2014.**

Year of operation	Fixed cost Rs / unit
11	1.18
12	1.22
13	1.27
<b>14</b>	<b>1.32</b>
<b>15</b>	<b>1.37</b>
<b>16</b>	<b>1.43</b>

<b>Year of operation</b>	<b>Fixed cost Rs / unit</b>
<b>17</b>	<b>1.49</b>
<b>18</b>	<b>1.55</b>
<b>19</b>	<b>1.62</b>
<b>20</b>	<b>1.70</b>

- Exclusive of Income Tax and Minimum Alternate Tax
- Tariff is applicable only upto 55% PLF.
- Discom to pay an incentive of Rs.0.50 per unit generation of electricity above 55% PLF to all such Bagasse based project developers.
- Electricity Duty paid by the Bagasse project developers during this period shall be reimbursed.

4.2.3 In view of the determination of generic fixed cost made in the above referred common order dated 05.08.2014, the Commission is in agreement with the contentions of the respondent and opines that there is no necessity of undertaking a separate exercise for determination of fixed cost tariff with reference to the petitioner's project specifically. Suffice it to state that the Commission determined generic fixed cost tariff component supra would equally apply to the petitioner's bagasse based co-generation power project as it is commissioned on 20.10.2008, which would have completed its ten (10) years of operation much later to the common order dated 05.08.2014. Moreover, the petitioner itself has filed an application praying to declare that the variable cost determined by this Commission (generic in nature) in the order dated 21.04.2020 in O.P.No.15 of 2020 would be applicable to the petitioner's project. Considering one component of tariff (fixed cost) as specific and another component of tariff (variable cost) as generic is not judicious and when the variable cost is factored in calculating the Working Capital constituent in determining the fixed cost. It is also appropriate to state that the Commission is not required to go into the rival contentions in view of the subsisting generic order which is occupying the field. That all the other contentions are left open except tariff determination which is covered by this order and the same observations are being applied to this case as has been observed in the order dated 05.08.2014.



4.2.4 The year-wise fixed cost tariff per unit determined in the Common Order dated 05.08.2014 shall be applicable to the petitioner's 24.2 MW bagasse based co-generation power project for the delivered energy corresponding to the normative PLF for the corresponding year of the Order. Respondent has to pay an incentive of Rs.0.50 per unit generation of electricity above 55% PLF to the petitioner. The per unit tariff is exclusive of the income tax. The income tax paid by the petitioner on the income derived from the power project during the period of PPA shall be reimbursed by respondent on submission of challans of tax paid to Income Tax Department. Further, the electricity duty paid by the petitioner during the period of PPA shall be reimbursed.

4.2.5 As the year-wise per unit tariff shall be payable by TSNPDCL, the Commission does not find the need to determine the levelized per unit tariff.

### **4.3 Variable Cost [I.A.No.14 of 2022]**

4.3.1 The petitioner in its application I. A. No. 14 of 2022 prayed to declare that the generic variable cost determined by this Commission in its order dated 28.08.2020 in O.P.No.21 of 2020 (*Suo Moto*), for the period from FY 2020-21 to FY 2023-24 for existing bagasse based co-generation power projects in the Telangana State which are having PPAs with the Distribution Licensee on the ground that it will equally apply to the Applicant's project.

4.3.2 That, the respondent did not object for application of generic variable cost as determined by this Commission to the petitioner's project and in fact submitted that the said variable cost as determined by this Commission will apply equally to the petitioner's project also.

4.3.3 The Commission having considered the prevailing circumstances in the State and availability of fuel, determined the variable cost for the control period FY 2020-21 to FY 2023-24 by order dated 28.08.2020 and the same is governing the field. Accordingly, the Commission allows the I.A. as prayed for.

### **4.4 Conclusion**

4.4.1 Having considered the rival contentions with regard to the fixed cost component of the tariff and concurring with regard to the applicability of generic variable cost component of the tariff, relevant material including the discussion in the preceding paragraphs, the present O.P. along with the I.A. are disposed in



terms of the findings made supra. However, in the circumstances without any costs.

**This Order is corrected and signed on this the 22<sup>nd</sup> day of June, 2022.**

Sd/-	Sd/-	Sd/-
(BANDARU KRISHNAIAH)	(M.D.MANO HAR RAJU)	(T.SRIRANGA RAO)
MEMBER	MEMBER	CHAIRMAN

**//CERTIFIED COPY//**



**APPENDIX-A**  
**SCHEDULE OF APPROVED TARIFF**

1. **Fixed Cost**: The schedule of approved year-wise fixed cost as per Commission determined Common Order dated 05.08.2014 in O.P.Nos.8 of 2011, 9 of 2012, 12 of 2012, 22 of 2014 and 25 of 2014, which is also applicable to the petitioner's 24.2 MW (out of which 19 MW sale to Discom) bagasse based co-generation power project is as under:

Year of operation	Rs./kWh
14	1.32
15	1.37
16	1.43
17	1.49
18	1.55
19	1.62
20	1.70

2. The year-wise per unit tariff shall be applicable, for the delivered energy corresponding to the normative PLF for the corresponding year. Discom has to pay an incentive of Rs.0.50 per unit generation of electricity above 55% PLF to the petitioner.
3. The tariff per unit tariff is exclusive of the income tax. The income tax paid by the petitioner on the income derived from the power project during the period of PPA shall be reimbursed by respondent on submission of challans of Tax paid to Income Tax Department.
4. The electricity duty paid by the petitioner during the period of PPA shall be reimbursed.
5. **Variable Cost**: The schedule of the Commission approved norms and determined the variable cost in its order dated 28.08.2020 in O.P.No.21 of 2020

(*Suo Moto*) for the period from FY 2020-21 to FY 2023-24 for existing Bagasse based co-generation power projects in the Telangana State having PPAs with the distribution licensee, which is also applicable to the petitioner's 24.2 MW (out of which 19 MW sale to Discom) bagasse based co-generation power project is as given below:


Financial Year	Station Heat Rate (kcal/kWh)	Auxiliary Consumption (%)	Gross Calorific Value (kcal/kg)	Fuel Price (Rs./MT)	Variable Cost (Rs./kWh)
2021-22	3600	9	2250	1971	3.4655
2022-23				2070	3.6396
2023-24				2174	3.8224

# ANNEXURE-I

## PUBLIC NOTICE

Appeared in Nava Telangana, Praja Paksham Telugu newspapers,  
Telangana Today, Hans India English newspapers and  
Siysat Urdu newspaper on 09.03.2022

**BEFORE THE HONOURABLE**  
**TELANGANA STATE ELECTRICITY REGULATORY COMMISSION**  
D.No: 11-4-660, 5<sup>th</sup> Floor, Singareni Bhavan, Red Hills, Hyderabad-500 004.

 **Madhucon Sugar and Power Industries Limited**  
**PUBLIC NOTICE**

- Notice is hereby given to all that M/s Madhucon Sugar and Power Industries Limited filed before the Telangana State Electricity Regulatory Commission (TSEERC) the petition for determination of tariff for its Plant at Rajeswarapuram, Ammagudem Post, Nelakondapally Mandal, Khammam Dist for the capacity of 24.2 MW for the bagasse-based co-generation project. These filings have been taken on record by the Hon'ble Commission in O.P.No: 26 of 2022.
- Copies of the filings referred are available at Madhucon Sugar and Power Industries Limited and Rajeswarapuram, Nelakondapally Mandal, Khammam Dist, 507160. Interested persons may inspect / peruse the said filings and take note thereof during office hours any of the said offices free of cost. These proposals are also available on [www.madhuconsugars.com](http://www.madhuconsugars.com) and the same may be accessed at [www.tserc.gov.in](http://www.tserc.gov.in). A copy of these filings can be obtained from the above offices from 09.03.2022 onwards on payment of photocopying charges.
- Objections / suggestions, if any, on filings, together with supporting material may be sent to the Madhucon Sugar and Power Industries Limited and Rajeswarapuram, Nelakondapally Mandal, Khammam Dist, 507160 in person or through registered post so as to reach on or before 30.03.2022 by 5 pm. A copy of the same must also be filed with the Secretary, TSEERC, at the address mentioned above. The objections / suggestions should be duly signed and should carry full name, postal address, emailed and contact number of the persons (s) sending the objections / suggestions. If the objections/suggestions are filed on behalf of any organization or any category of consumers, it should be clearly mentioned. If objections / suggestion should accompany the following statement

Name & full address of the Objector along with e-mail id and contact number	Brief details of objections(s)/ Suggestion(s)	Whether copy of objection & proof of delivery at M/s Madhucon Sugar and Power Limited office enclosed (Yes/No)	Whether Objector wants to be heard in person (Yes/No)

- The gist of the filings of M/s Madhucon Sugar and Power Industries Limited are indicated in the schedule below.
- The public Hearing in the matter shall be held in the Court Hall of the commission's office on 13.04.2022 (Wednesday) from 11:00 hrs. onwards.

**Date : 09-03-2022**  
**Place : Khammam**

**M. Srinivasa Rao**  
**Director (Operations)**

<b>SCHEDULE</b>			
<b>PARAMETERS FOR FIXED COST CLAIMED BY</b>			
<b>M/S. Madhucon Sugar and Power Industries Limited</b>			
Sl. No.	Parameter	Units	Value
1	Installed Capacity	MW	24.2
2	Commercial Operation date	Date	20.10.2008
3	Plant Load Factor (PLF)	%	55
4	Auxiliary Consumption	%	9
5	Tariff Period	Years	7
6	Total Capital Cost	Rs Lakhs	10081.6
7	Debt	%	70
8	Equity	%	30
9	Total Debt Amount	Rs Lakhs	7057.12
10	Total Equity Amount	Rs Lakhs	3024.48
11	Debt Repayment Period	Years	8.5
12	Interest Rate	%	12.25
13	Rate of Return on Equity	%	17.60
14	Depreciation rate	%	5.28
15	Operation and Maintenance (O&M) expenses for first year of operation.	Rs Lakhs/MW	28.85
16	Annual escalation for O&M Expenses	%	5
17	Working Capital Components		
	O&M Expenses	No. of Months	12
	Maintenance Spares (% of O&M expenses)	%	15
	Receivables	Months	2
18	Rate of Interest on Working capital	%	12.65
19	Discount rate	%	9.29
20	Levelized Tariff		2.16

## **ANNEXURE-II**

### **LIST OF STAKEHOLDERS WHO SUBMITTED THE WRITTEN SUGGESTIONS/ OBJECTIONS**

<b>Sl. No.</b>	<b>Name and address of the stakeholder</b>
1	Northern Power Distribution Company of Telangana Limited, # 2-5-31/2, Vidyut Bhavan, Nakkalagunta, Hanamakonda, Warangal 506 001.
2	Sri M.Venugopala Rao, Senior Journalist & Convenor, Centre for Power Studies, H.No.1-100/MP/101, Monarch Prestige, Journalists' Colony, Serilingampally Mandal, Hyderabad 500 032.

## **ANNEXURE-III**

### **LIST OF STAKEHOLDERS WHO PARTICIPATED IN PUBLIC HEARING HELD ON 13.04.2022**

<b>Sl. No.</b>	<b>Name and address of the stakeholder</b>
1	Northern Power Distribution Company of Telangana Limited, # 2-5-31/2, Vidyut Bhavan, Nakkalagunta, Hanamakonda, Warangal 506 001.
2	Sri M.Venugopala Rao, Senior Journalist & Convenor, Centre for Power Studies, H.No.1-100 / MP / 101, Monarch Prestige, Journalists' Colony, Serilingampally Mandal, Hyderabad 500 032.