

**Objections/suggestions of TSNPDCL in the matter of public notice Date:07.10.2021 in  
OP No: 71/2018 for determination of fixed cost tariff for 7.5 MW Industrial Waste  
Based Power Project of M/s MSR Mega Bio Power Pvt Ltd**

- 1) Power Purchase Agreement (PPA) dated 30.04.2016 and amendment dated 01.05.2018 were entered by TSNPDCL with M/s MSR Mega Bio Power Private Limited towards purchase of power from their 7.5 MW capacity Industrial Waste based power project located at Nidigonda (V), Raghunathpally (M), Warangal (D). As the tariff in respect of the RE projects (including Industrial Waste based projects) commissioned from 01.04.2009 was yet to be determined, the PPA was signed with an interim tariff (as detailed below) till final tariff is fixed by the Commission:

Fixed Cost		Indicative Variable Cost for Industrial Waste based power projects for the period FY 2014-15 to 2018-19	
Year of operation	Fixed Cost (Rs. Per unit)	FY	Variable Cost Rs. Per unit
1 <sup>st</sup>	1.77**	2014-15	4.28
2 <sup>nd</sup>	1.74	2015-16	4.54
3 <sup>rd</sup>	1.72	2016-17	4.81
4 <sup>th</sup>	1.69	2017-18	5.10
5 <sup>th</sup>	1.67	2018-19	5.40
6 <sup>th</sup>	1.67		
7 <sup>th</sup>	1.65		
8 <sup>th</sup>	1.64		
9 <sup>th</sup>	1.59		
10 <sup>th</sup>	1.23		

- 2) The Commercial operation date of the project was declared as 01.06.2016.
- 3) As such, the Developer is being paid as per the interim tariff of the PPA for the energy delivered from the date of COD.
- 4) It is pertinent to mention that erstwhile APERC issued order dated 22.06.2013 determining tariff (Fixed Cost for 10 years of operation and

Variable Cost for FY 2004-09) payable to RE projects (Biomass, Bagasse, Mini Hydel & Industrial Waste based) based on the norms indicated by APTEL vide order dated 20.12.2012, applicable for the projects existing as on 31.03.2004 and those commissioned between 01.04.2004 to 31.03.2009.

- 5) Further, the erstwhile APERC, vide orders dated 20.03.2004 has concluded that Industrial Waste to Energy projects are identical to Biomass projects and hence treated Industrial Waste based projects on par with Biomass projects with same tariff.
- 6) Accordingly, the tariff determined vide order dated 22.06.2013 for the Biomass projects was also made applicable for the Industrial Waste based projects.
- 7) In view of the above, this Hon'ble Commission may adopt the parameters fixed for Biomass power projects while determining the tariff for the Developer's Industrial Waste based (poultry litter) project also.
- 8) In their petition, the Developer M/s MSR Mega Bio Power Private Limited has sought to determine the tariff for their 7.5 MW Industrial Waste project in accordance with the parameters fixed by the Hon'ble CERC for the Biomass projects issued vide orders dated 29.04.2016 in SM/03/2016 determining Levelised generic tariff for the control period FY 2016-17 and orders passed by this Hon'ble Commission suo-motu order 10.04.2018 notifying the actual fuel price escalation & Variable Cost.
- 9) In this regard, the following submissions/objections of TSNPDCL, with respect to various technical and financial parameters for determination of tariff for the 7.5 MW Industrial Waste based (poultry litter) project of the Developer, keeping the interests of the state electricity consumers.

(i) Useful life :

The useful life of the project be taken as 20 years from COD of the Plant, in line with the CERC RE tariff order dated 29.04.2016 issued for the control period FY 2016-17 (herein after called CERC RE tariff order in short) and earlier Commission orders dated 20.03.2004 & 22.06.2013.

(ii) Capital Cost :

Capital Cost proposed by the Developer @ Rs 671.5L/MW is too high and is not acceptable to the DISCOM.

CERC RE tariff order specified the Capital cost (arrived based on indexation mechanism considering capital cost specified for FY 2013-14 as base year) as follows :

Biomass Rankine Cycle projects	Capital Cost (FY 2016-17) Rs. Lakh/MW
Project (other than rice straw and julifora (plantation) based project) with water cooled condenser	559.03
Project (other than rice straw and julifora (plantation) based project) with air cooled condenser	600.44
For rice straw and julifora (plantation) based project with water cooled condenser	610.80
For rice straw and julifora (plantation) based project with air cooled condenser	652.20

It may please be noted that CERC in the tariff orders for further FYs from FY 2017-18 till FY 2020-21 has fixed the same Capital cost as was determined for FY 2016-17.

Since the actual audited accounts of the Project are available in the subject case, this Hon'ble Commission is prayed to fix the Capital cost as per the actual audited costs incurred by the Petitioner subject to

ceiling limit of Rs 559.03 L/MW fixed by the Hon'ble CERC for the relevant tariff year.

(iii) Plant Load Factor (PLF) :

Earlier APERC order dated 22.06.2013 fixed the PLF for the Industrial Waste based projects as 80% in line with CERC Regulations. Hence the PLF @ 80% may please be adopted.

Since the Project is commissioned on 01.06.2016 and is currently in its 5<sup>th</sup> year of operation, the PLF may be fixed @ 80% which is applicable for second year onwards.

(iv) Auxiliary Consumption :

Auxiliary Consumption @ 12% sought by the Developer is not acceptable to the DISCOM.

Erstwhile APERC order dated 22.06.2013 adopted an auxiliary consumption of 10%. Further, CERC RE tariff order specifies for an auxiliary consumption of 10% from second year onwards. Since the project is running in 5<sup>th</sup> year of operation, auxiliary consumption @ 10% may be adopted.

(v) O&M expenses and escalation :

O&M expenses @ Rs 47.26L/MW and escalation @5.72% sought by the Developer are too high and are not acceptable

O&M expenses were determined @ 5.5% of capital cost for the first year of operation in the APERC order dated 22.06.2013. Accordingly, the same may please be adopted. Further annual escalation @ 3.84% for the O&M expenses may be adopted in line with the CERC RE tariff order dated 31.03.2021 in Petition No. 2/SM/2021.

(vi) Debt Equity ratio :

Debt Equity Ratio of 70:30 may be adopted in line with earlier Commission orders and CERC Regulations.

(vii) Depreciation :

In line with the CERC RE tariff Regulations, the value base for the purpose of depreciation shall be the Capital cost of the project with 10% salvage value and depreciation be allowed up to maximum 90 % of the Capital cost @5.83% for 12 years and 2.51% thereafter.

(viii) Return on Equity :

Return equity @ 20% for 1<sup>st</sup> 10 years and for 11<sup>th</sup> year onwards @24% sought by the Developer are too high and are not in line with the current market rates and are not acceptable to the DISCOM

Return on Equity @ 14% for whole plant life of 20 years may be adopted in line with the latest CERC RE tariff order dated 31.03.2021 in Petition No. 2/SM/2021.

(ix) Interest on Debt :

Interest on debt @12% being sought by the Developer is too high and is not acceptable to the DISCOM

CERC RE tariff order dated 31.03.2021 in Petition No. 2/SM/2021 specifies Interest on debt @ 9%. The same may be adopted.

(x) Interest on Working Capital :

Interest on working capital @13.26% being sought by the Developer is too high and is not acceptable to the DISCOM

CERC RE tariff order dated 31.03.2021 in Petition No. 2/SM/2021 specifies Interest on Working Capital @ 10.50%. The same may be adopted.

(xi) Discount Factor :

With RoE @ 14% and 9% Interest on Debt, the Discount factor would be 8.30%. Accordingly, Discount factor @ 8.30% may be fixed, as against @10.64% being sought by the Developer is high and not acceptable to the DISCOM.

(xii) Station Heat Rate (SHR) :

Though not specified by the Developer, SHR @ 4200 Kcal/Kwh may be adopted in line with this Hon'ble Commission earlier orders dated 16.05.2014 determining Variable Cost for Biomass/ Industrial Waste based power projects.

(xiii) Gross Calorific Value (GCV) :

Though not specified by the Developer, GCV @ 3100 Kcal/Kg may be adopted in line with the Commission's earlier orders dated 16.05.2014 determining Variable Cost for Biomass/ Industrial Waste based power projects.

(xiv) Fuel Cost and escalation :

Though not specified by the Developer, the fuel cost may be fixed in line with the cost indicated by the Hon'ble CERC in RE tariff orders with a 5% annual escalation.

- 10) Summing the above, the abstract of parameters prayed by the DISCOM in comparison with that of the Developer's is submitted as below :

Parameter	Sought by the Developer	Sought by the TSNPDCL
Useful life	-	20 years
Capital Cost	Rs 5036.25 lakh i.e. 671.5L/MW	As per actuals subject to max ceiling of Rs 559.03 lakh/MW
Debt Equity Ratio	70 : 30	70 : 30
Return on Equity	20% for first 10 years 24% from 11 <sup>th</sup> year onwards	14%
Interest on debt	12.70%	9%
Parameter	Sought by the Developer	Sought by the TSNPDCL
Depreciation	5.8% for first 12 years	5.83% for first 12 years

	and 2.51% from 13th year onwards	and 2.51% from 13th year onwards
Interest on Working Capital	13.26%	10.50%
O&M expenses	Rs 47.26 lakh/MW	5.5% of capital cost
O&M Escalation	5.72%	3.84%
PLF	80%	80%
Auxiliary Consumption	12%	10%
Discount Factor	10.64%	8.30%
SHR	--	4200 Kcal/Kwh
GCV	--	3100 Kcal/Kg

- 11) This Hon'ble Commission may please determine the Levelised Fixed Cost tariff for the entire life of the project viz., 20 years of operation.
- 12) The Fixed charges determined with the above submitted parameters may be made payable for a PLF of 80% of energy exported and Variable Cost only for the energy exported beyond 80% PLF.
- 13) Since, the project specific Tariff is being determined to the Developer, this Hon'ble Commission may be take up the determination of the Fixed Cost based on actual audited accounts/costs incurred, subject to the ceiling limits fixed by the Hon'ble CERC.