



TELANGANA STATE ELECTRICITY REGULATORY COMMISSION
#11-4-660, 5th Floor, Singareni Bhavan
Red Hills, Hyderabad – 500 004 Phone: 23397556, 23397381 / 399 Fax: 23397481

PUBLIC NOTICE

**IN THE MATTER OF DETERMINATION OF TARIFF FROM MUNICIPAL
SOLID WASTE (MSW) TO ENERGY**

1. M/s. Shalivahana (MSW) Green Energy Limited, M/s. Hema Sri Power Projects Limited and M/s. RDF Power Projects Limited have filed petitions before the Commission to determine the Tariff for generation of energy from Municipal Solid Waste (MSW) with a view to supply electricity to Telangana State Power Distribution Licensees (TSDISCOMS). Out of the above three plants only the Power Plant of M/s. Shalivahana was commissioned and attained COD on 14.04.2011. All the three petitioners have stated in their filings that they are utilising MSW after processing into Refused Derived Fuel (RDF). They also stated that the required MSW has been allocated by the erstwhile GoAP through various G.Os. from adjoining Urban Local Bodies (ULBs).
2. The Commission after hearing and examining the parties, decided to go for Generic Tariff instead of determining case wise tariff. The generic tariff is also useful for future plants and for incentivizing the plants under advance stage of construction.
3. The Commission has hired the services of a consulting firm i.e., M/s. KPMG to examine the petitions in respect of Capital cost and Technical parameters (the extracts of which are attached herewith) and to make further study on the characteristics of MSW made available to these plants. They were also directed to make a comparative study of the process of determination of tariff adopted by CERC and other SERCs.

4. The important features (parameters) useful for determination of tariff as suggested by the consultants and under active consideration of the Commission are given below and the resulting working sheets for generic tariff are attached herewith for reference.

Tariff Parameters	Unit	Values for Norm based RDF projects	Values for Norm based MSW projects
PLF (1st Year)	%	65.0%	65.0%
PLF (2nd Year onward)	%	80.0%	75.0%
Installed Capacity	MW	1.00	1.00
Useful Life	Years	20.00	20.00
Auxiliary Consumption	%	11.00%	12.00%
Capital Cost per MW	Rs Lakh	700	1400
O&M Expenses per MW	Rs Lakh	42	84
O&M Escalation	%	5.72%	5.72%
Salvage Value	%	10.00%	10.00%
Depreciation Rate-1 (1 st 15 years)	%	4.70%	4.68%
Depreciation Rate-2 (16th year onward)	%	3.90%	3.95%
Loan Tenure	Years	15.00	15.00
Interest on Term Loan	%	11.50%	11.50%
Interest on Working Capital	%	12.50%	12.50%
Debt	%	70%	70%
Return on Equity (upto 15th Year)	%	16%	16%
Return on Equity (From 16th Year)	%	16%	16%
WACC	%	12.85%	12.85%
Discount Rate - Levelised Tariff	%	12.85%	12.85%
MAT	%	20.35%	20.35%
Corporate Tax Rate	%	33.00%	33.00%
Income Tax Holiday	Years	10.00	10.00
SHR	kCal/kWh	4,000	NA
GCV	kCal/kg	2,500	NA
Fuel Cost	Rs./Tonne	1,800	NA
Fuel Cost escalation	%	5%	NA
If any tipping fee by GoT or any local body to be reduced from fuel cost		Actual amount received	Actual amount received

5. Suggestions and comments are invited from all the stakeholders and public at large, so as to reach the undersigned on or before 12.02.2016 by 5.00PM. In addition to the above, the Commission desires to hear the views on the following issues.

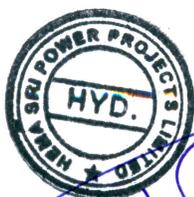
- (i) Whether to determine levelised tariff (for useful life of plant) or for first 5 years for variable cost and fixed cost for entire life of plant as cost of RDF varies from time to time;
- (ii) In case of M/s. Shalivahana, since the plant is already in operation for 5 years and selling power through open access, determination of fixed charges can be taken from the generic tariff according to number of years in operation and variable cost as per the present levelised tariff now under determination.

Sd/-
SECRETARY

Date : 22 -01-2016
Place : Hyderabad

HEMA SRI POWER PROJECTS LTD

COST CALCULATION SHEET										
12.6 MW MSW Based Power Project										
Vibhalapuram Village, Mothey Mandal, Near Suryapet, Karimnagar Dist. A.P.										
	Plant capacity	kWH	12600							
	Plant Operation	Days	330							
	Running	Hrs	24							
	Rated PLF	%	70	As per CERC Order 09-11-2010						
	No of Units Generated	kWH	69854400							
	Auxiliary Consumption		10%	As per CERC Order 09-11-2010						
	Net Exported units	kWH	62868960							
	Net Generated units / Day		190512							
S.No	Name of Fuels	Fuel Usage	GCV	SHR	SFC	Quantity	Rate / MT	Fuel Cost	Specific Fuel Price	
		%	kCal/kg	kcal/kWH	kg/kWH	MT	Rs./MT	Rs.	Rs./ kWH	
1	RDF	75	1650	4000	2.42	384.87	1150	442601	2.32	
2	BIOMASS	10	3000	4000	1.33	28.22	2300	64906	0.34	
3	Coal	15	3200	4000	1.25	39.69	3400	134946	0.71	
4						452.78		642453	3.37	
5										
I	COG			On Actual Basis						
	A	Fuel cost					Rs./kWH		3.37	
	B	Operational & Maintanance Cost					Rs./kWH		0.60	
		cost - I							3.97	
	A	Depreciation					Rs./kWH		0.69	
	B	interest on term loan					Rs./kWH		1.39	
	C	interest on Working Capital					Rs./kWH		0.12	
	D	RoE					Rs./kWH		0.50	
		cost - II	Sum (A+B+C+D)				Rs./kWH		2.70	
III	Total Cost of Generation				Sum (I+II)		Rs./kWH		6.67	



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COST CALCULATION SHEET

RDF POWER PROJECTS LIMITED

Chinaravulapally Vil, Bibinagar Mandal, Nalgonda Dist- Andhra Pradesh - India

	Plant capacity	kWH	11000						
	Plant Operation	Days	330						
	Running	Hrs	24						
	Rated PLF	%	70	As per CERC Order 09-11-2010					
	No of Units Generated	kWH	60984000						
	Auxiliary Consumption		10%	As per CERC Order 09-11-2010					
	Net Exported units	kWH	54885600						
	Net Generated units / Day		166320						
S.No	Name of Fuels	Fuel Usage	GCV	SHR	SFC	Quantity	Rate / MT	Fuel Cost	Specific Fuel Price
		%	kCal/kg	kcal/kWH	kg/kWH	MT	Rs./MT	Rs.	Rs./ kWH
1	RDF	75	1600	4000	2.50	495.00	810	400950	2.41
2	BIOMASS	25	3000	4000	1.33	88.00	2200	193600	1.16
3									
4						583.00		594550	3.57
5									
I	COG			On Actual Basis					
	A	Fuel cost					Rs./kWH	3.57	
	B	Operational & Maintanance Cost					Rs./kWH	1.25	
		cost - I						4.82	
	A	Depreciation					Rs./kWH	0.78	
	B	interest on term loan					Rs./kWH	1.65	
	C	interest on Working Capital					Rs./kWH	0.06	
	D	RoE					Rs./kWH	1.18	
		cost - II	Sum (A+B+C+D)				Rs./kWH	3.67	
III	Total Cost of Generation					Sum (I+II)	Rs./kWH	8.49	



SHALIVAHANA (MSW) GREEN ENERGY LIMITED

COST CALCULATION SHEET									
12. MW MSW Based Power Project									
Rebladevpalli Village, Sultanabad Mandal, Karimnagar Dist. A.P.									
	Plant capacity	kWH	12000						
	Plant Operation	Days	330						
	Running	Hrs	24						
	Rated PLF	%	70	As per CERC Order 09-11-2010					
	No of Units Generated	kWH	66528000						
	Auxiliary Consumption		10%	As per CERC Order 09-11-2010					
	Net Exported units	kWH	59875200						
	Net Generated units / Day		201600						
S.No	Name of Fuels	Fuel Usage	GCV	SHR	SFC	Quantity	Rate / MT	Fuel Cost	Specific Fuel Price
		%	kCal/kg	kcal/kWH	kg/kWH	MT	Rs./MT	Rs.	Rs./kWH
1	RDF	75	1650	4000	2.42	366.55	1150	421527	2.09
2	BIOMASS	10	3000	4000	1.33	26.88	2300	61824	0.31
3	Coal	15	3200	4000	1.25	37.80	3400	128520	0.64
4						431.23		611871	3.04
5									
I	COG			On Actual Basis					
	A	Fuel cost					Rs./kWH	3.04	
	B	Operational & Maintenance Cost					Rs./kWH	0.60	
		cost - I						3.64	
	A	Depreciation					Rs./kWH	0.69	
	B	Interest on term loan					Rs./kWH	1.39	
	C	Interest on Working Capital					Rs./kWH	0.12	
	D	RoE					Rs./kWH	0.50	
		cost - II	Sum (A+B+C+D)				Rs./kWH	2.70	
III	Total Cost of Generation				Sum (I+II)		Rs./kWH	6.34	

