

OFFICE NOTE

Ref No: - RCD23/72/ON01268

Regulatory & Commercial Dept.
01/11/2023

Sub: --Impact on Energy Charge Rate (ECR) due to use of torrefied Biomass Pellets for Co-firing with coal.

Ref:- 1. ON no. CE/FM/E2/Biomass/Torr/2383/Dtd.23.10.2023
2. MoP notification dated 08.10.2021

With reference to above subject, Please find attached rise in Projected Energy Charge Rate (ECR) taking into consideration different scenarios for Khaperkheda U#5, Chandrapur U#3-7, Koradi U# 8,9,10, Parli U# 6-7 and Paras U# 3-4 TPS as enclosed herewith as Annexure.

Assumptions

1. The approved parameters such as Availability, Aux Consumption, SHR are considered as approved in MTR order case 227 of 2022.
2. Considering the high cost for imported coal and intermittent use of the same, it seems appropriate to consider the balance coal sourced from raw coal and/or washed coal. In the month of May'23, there was no usage of imported coal at any MSPGCL station. Hence, the bunkered GCV (kcal/kg) and landed Coal rate (Rs/MT) from May'23 FAC are considered for the present analysis.

RCD analysis & comments :-

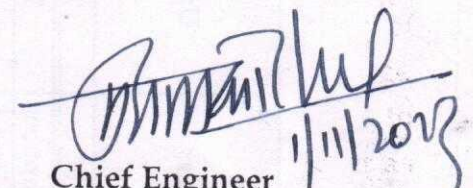
As per MoP notification dated 8.10.2021 for Biomass utilization for power generation through co-firing in coal based power plants shall mandatorily use 5% blending of biomass pellets along with coal. Accordingly, RCD section has calculated Energy charge rate with 5% blending of Biomass pellets with 95% Raw coal. The rise in ECR due to biomass co-firing can be claimed as ^{'change in law' as} part of energy billing / FAC billing, however as per notification clause 3(viii)(c), [^]such additional impact on ECR shall not be considered in deciding Merit Order Despatch (MOD) of the power plant.

Computation of ECR impact is attached herewith as Annexure.

Submitted for your information.

Enclose : Annexure .

To,
CE (FMC)


11/11/2023
Chief Engineer
Regulatory & Commercial Dept.
O/c 22 11/11/23
11/11/23

Particular	Unit	KPKD 5		CSTPS 3-7		KORADI 8,9,10		Parli 6-7		PARAS	
		Torrefied Biomass Pellet	Raw Coal + washed	Torrefied Biomass Pellet	Raw Coal + washed	Torrefied Biomass Pellet	Raw Coal + washed	Torrefied Biomass Pellet	Raw Coal	Torrefied Biomass Pellet	Raw Coal
Availability	%	85%	85%	80%	85%	85%	85%	85%	85%	85%	85%
Aux. Consumption	%	6.00%	6.00%	7.80%	7.80%	6.00%	6.00%	9.30%	9.30%	9.30%	9.30%
Normative Heat Rate	(Kcal/Kwh)	2375	2375	2375	2375	2230	2230	2430	2430	2430	2430
GCV	(Kcal/Kg)	5000	3124	5000	0	5000	0	5000	0	5000	0
Stack Loss		120	120	120	0	120	0	120	0	120	120
Bunkered GCV	(Kcal/Kg)	5000	3239	5000	3324	5000	3255	5000	3318	5000	3156
Rate	(Rs./MT)	13500	2956.74	13500	4159	13500	4443	13500	6601	13500	4083
Coal Factor	Kg/Kwh	0.475	0.733	0.475	0.715	0.446	0.685	0.486	0.732	0.486	0.770
Rate of Fuel	Rs./kwh	6.413	2.168	6.413	2.972	6.021	3.044	6.561	4.834	6.561	3.144
Variable Cost	Rs./kwh	6.822	2.306	6.955	3.223	6.405	3.238	7.234	5.330	7.234	3.467
ECR for 95% Raw Coal & 5% Pellet	Rs./kwh	2.532		3.410		3.397		5.425		3.655	
ECR increases due to use of Torrefied Biomass Pellet	Rs./kwh	0.226		0.187		0.158		0.095		0.188	

Particular	Unit	KPKD 5		CSTPS 3-7		KORADI 8,9,10		Parli 6-7		PARAS	
		Torrefied Biomass Pellete	Raw Coal + washed	Torrefied Biomass Pellete	Raw Coal + washed	Torrefied Biomass Pellete	Raw Coal + washed	Torrefied Biomass Pellete	Raw Coal	Torrefied Biomass Pellete	Raw Coal
Availibility	%	85%	85%	80%	85%	85%	85%	85%	85%	85%	85%
Aux.Consumption	%	6.00%	6.00%	7.80%	7.80%	6.00%	6.00%	9.30%	9.30%	9.30%	9.30%
Normative Heat Rate	(Kcal/Kwh)	2375	2375	2375	2375	2230	2230	2430	2430	2430	2430
GCV	(Kcal/Kg)	7000	3124	7000	0	7000	0	7000	0	7000	0
Stack Loss		120	120	120	0	120	0	120	0	120	120
Bunkered GCV	(Kcal/Kg)	7000	3239	7000	3324	7000	3255	7000	3318	7000	3156
Rate	(Rs/MT)	18900.00	2956.74	18900	4159	18900	4443	18900	6601	18900	4083
Coal Factor	Kg/Kwh	0.339	0.733	0.339	0.715	0.319	0.685	0.347	0.732	0.347	0.770
Rate of Fuel	Rs./kwh	6.413	2.168	6.413	2.972	6.021	3.044	6.561	4.834	6.561	3.144
Variable Cost	Rs./kwh	6.822	2.306	6.955	3.223	6.405	3.238	7.234	5.330	7.234	3.467
ECR for 95% Raw Coal & 5% Pellet	Rs./kwh	2.532		3.410		3.397		5.425		3.655	
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