Tariff for MSW based Waste to Energy Plants -Annex to Tariff Order dtd. 19.09.2016

Assumptions for Financial parameters	
Capital Cost- Rs. Lakhs	1700
Debt: Equity Ratio	70/30
Debt-Rs. Lakhs	1190
Interest charges on Debt-%	12.00%
Tenure Debt Repayment in Yrs.	12
Plant Load Factor (PLF)	65% during stabilization and 75% for balance life
Equity- Rs. lakhs	510
ROE-%	16.00%
Auxiliary consumption for Power plant in % of total generation	12.00%
O & M expenses - Rs. lakhs	102
O & M Escalation p.a.	5.72%
WC interest @12.50% on 2 Months recievables - Rs. Lakhs	Rs.58.46 lakhs for first year and Rs.76.65 lakhs from second year onwards.
Depreciation for first 12yrs	5.83%
Depreciation for next 8yrs	2.50%

Discount Rate

Particulars	**Weight**	**Rate**	**%**
Debt	0.7	0.12	0.084
Equity	0.3	0.16	0.048
Discount Rate			**0.132**

Tariff Calculations																					**(All amounts in Rs. Lakhs)**
Particulars	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Outstanding Debt at beginning	1190.00	1090.83	991.67	892.50	793.33	694.17	595.00	495.83	396.67	297.50	198.33	99.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Loan repayment	99.17	99.17	99.17	99.17	99.17	99.17	99.17	99.17	99.17	99.17	99.17	99.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Outstanding Debt at end	1090.83	991.67	892.50	793.33	694.17	595.00	495.83	396.67	297.50	198.33	99.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Equity	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	510.00	
Expenditure																					
Interest charges on debt	136.85	124.95	113.05	101.15	89.25	77.35	65.45	53.55	41.65	29.75	17.85	5.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Return on Equity	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	81.60	
O& M Cost escalated @ 5.72% p.a	102.00	107.83	114.00	120.52	127.42	134.71	142.41	150.56	159.17	168.27	177.90	188.07	198.83	210.21	222.23	234.94	248.38	262.59	277.61	293.49	
Depreciation	99.11	99.11	99.11	99.11	99.11	99.11	99.11	99.11	99.11	99.11	99.11	99.11	42.67	42.67	42.67	42.67	42.67	42.67	42.67	37.05	
Interest on Working Capital	7.12	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	8.21	
Total Expenditure	**426.68**	**421.71**	**415.98**	**410.60**	**405.59**	**400.98**	**396.79**	**393.03**	**389.74**	**386.95**	**384.67**	**382.95**	**331.32**	**342.69**	**354.71**	**367.42**	**380.86**	**395.07**	**410.09**	**420.35**	
Generation @ 65% PLF in first year and 75% for balance period in lakh units	56.94	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	65.70	
Auxiliary Consumption for Power plant and fuel process plant @12% of generation	6.83	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	7.88	
Net Generation-Lakh units	**50.11**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	**57.82**	
Tariff in Rs/Unit	8.52	7.29	7.19	7.10	7.02	6.94	6.86	6.80	6.74	6.69	6.65	6.62	5.73	5.93	6.14	6.36	6.59	6.83	7.09	7.27	
Discount rate	1.00	0.88	0.78	0.69	0.61	0.54	0.48	0.42	0.37	0.33	0.29	0.26	0.23	0.20	0.18	0.16	0.14	0.12	0.11	0.09	
Discounted tariff	8.52	6.44	5.61	4.90	4.27	3.73	3.26	2.85	2.50	2.19	1.93	1.69	1.29	1.18	1.08	0.99	0.91	0.83	0.76	0.69	
Levelised tariff for 20yrs	**7.08**																				