

WE-CFB Biomass vs. Weston-4

		Preliminary Calculations – Not Checked							
Sizing Parameters		WE Biomass			Weston-4			RATIOS	
Installed Generating Capacity	MW	50			590			WE Biomass	
Fuel Consumption	Tons/day	1,370			7,218			to Weston-4	
Stack Emissions			per MW	per / Ton/day		per MW	per / Ton/day	per MW	per / Ton/day
Particulate Emissions <10 micron.	Lb PM-10/day	576	11.52	0.42	2,483	4.21	0.34	2.74	1.22
Particulate Emissions <2.5 micron.	Lb PM-2.5/day	442	8.83	0.32	2,235	3.79	0.31	2.33	1.04
Carbon Monoxide (CO)	Lb CO / Day	3,840	76.80	2.80	18,623	31.56	2.58	2.43	1.09
Nitrogen Oxides (NO x)	Lb NO x / Day	1,920	38.40	1.40	8,691	14.73	1.20	2.61	1.16
Sulfur Dioxide (SO x)	Lb SO x / Day	1,728	34.56	1.26	12,415	21.04	1.72	1.64	0.73
								Totals	
75 Diesel Trucks /day @ 60 minutes / truck			per MW	per / Ton/day				per MW	per / Ton/day
Particulate Emissions	Lb PM / day	23	0.46	0.02				2.85	1.27
Nitrogen Oxides (NO x)	Lb NO x / Day	308	6.16	0.22				3.03	1.35
		WE Biomass		Background	"Fenceline"	NAAQS	% of		
		Mass Flow	Concentration	Concentration	Concentration	Concentration	NAAQS		
Stack Emissions "At The Fence line"		ug / sec.	ug / m3	ug / m3	ug / m3	ug / m3	(%)		
Particulate Emissions <10 micron.	ug PM-10	3,020,000	50.80	29.40	80.20	150.00	53.00%		
Particulate Emissions <2.5 micron.	ug PM-2.5	2,315,333	8.60	25.60	34.20	35.00	98.00%		
Nitrogen Oxides (NO x)	ug NO x	10,066,667	61.00	77.00	138.20	188.00	74.00%		
Sulfur Dioxide (SO x)	ug SO x	9,060,000	252.00	11.20	263.20	365.00	72.00%		
		Diesel Trucks			"Fenceline"				
		Mass Flow	Concentration		Concentration				
75 Diesel Trucks /day @ 60 minutes / truck		ug / sec.	ug / m3		ug / m3				
Particulate Emissions	ug PM	119,792	?		??				
Nitrogen Oxides (NO x)	ug NO x	1,614,583	?		??				
WE Biomass emissions: Table 2.18-5 on page 58 of the final PSC application Case #6630-CE-305									
WE Biomass "Fenceline" emissions: Table 2.18-10 on page 64 of the final PSC application Case #6630-CE-305									
Diesel truck emissions from SAE paper 81186, "Characterization of Particulate Emissions from In-Use Gasoline Fueled Motor vehicles"									
(Note that this paper also presented data on Diesel Vehicles which is used above at 2.3 g.PM/mi & 31 g.NOx/m @ 60 mile/hr)									
Weston-4 Fuel consumption = (5,173 mmBtu/ Hr) / (8600 Btu/Lb-coal * 2000lb/ton): p.9 note 2, Final Construction/Operating Permit FID# 737009020, 18-Oct-2004									
Weston-4 Stack Emissions: pages 2, 4, 5, 6, 7 & 9 Final Construction/Operating Permit FID# 737009020, 18-Oct-2004									