NO_2 BART 24-Hour Short Term Emission Rates
at the Packaging Corporation of America
Valdosta, Georgia Mill

Emission Unit	ISCST3 Modeling ID	Time Period	Maximum Rated Capacity		Max Fuel Use/time period		Max Emission Factor		lb/hour or time period	NO_2 Emission Rate (g/sec)	Basis for Emission Rate
C.E. Combination Boiler			1.62	Mgal/hr	5.418	Mgal/24hr	47	lb/Mgal #6 Fuel Oil	254.65		Based on maximum daily No. 6 fuel oil usage for baseline period. Assume no control from Over-Fired Air Project.
243 MMBtu/hr					530.3	tons/24 hours	0.22	lb/MMBtu	1049.99		50% Bark moisture assumed for 4,500 Btu/lb
		Total 24-hr Maximum Actual							*1304.64*		based on bark firing for 19+-hrs and oil firing for 3+-hrs
		Maximum Actual Hourly Average							*54.36*	*6.85*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*228.42*		based on oil firing for 3-hrs
		Maximum Actual Hourly Average							*76.14*	*9.59*	lb/hr and g/sec emission rates for 3-hour air quality modeling
Riley Bark Boiler			2.4	Mgal/hr	10.206	Mgal/24hr	47	lb/Mgal #6 Fuel Oil	479.68		Based on maximum daily fuel oil usage for baseline period. Assume no control from Over-Fired Air Project.
360 MMBtu/hr					785.7	tons/24 hours	0.22	lb/MMBtu	1555.69		50% Bark moisture assumed for 4,500 Btu/lb
BART Source		*Total 24-hr Maximum Actual*							*2035.37*		based on bark firing for 19-hrs and oil firing for 4-hrs
		Maximum Actual Hourly Average							*84.81*	*10.69*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*338.40*		based on oil firing for 3-hrs
		Maximum Actual Hourly Average							*112.80*	*14.21*	lb/hr and g/sec emission rates for 3-hour air quality modeling
C.E. Power Boiler Stack	CEPBS		1.2333	Mgal/hr	31.5252	Mgal/24hr	47	lb/Mgal #6 Fuel Oil			Based on maximum daily fuel oil usage for baseline period.
		Total 24-hr Maximum Actual							*1391.16*		
		Maximum Actual Hourly Average							*57.97*	*7.30*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*173.90*		based on oil firing for 3-hrs
		Maximum Actual Hourly Average							*57.97*	*7.30*	lb/hr and g/sec emission rates for 3-hour air quality modeling
#1 Recovery Furnace Stack	#1RFS		249.4	MMBtu/hr	3.03	Mgal/24-hr	47	lb/Mgal #6 Fuel Oil			based on the maximum daily total Recovery Furnace fuel usage of 238.5 bbl/day and using a ratio of the heat inputs to distribute fuel usage.
					3.03	Mgal for 2-hr	47	lb/Mgal #6 Fuel Oil	142.41		
					473.00	Tons BLS/hr*22hr	0.1	lb/MMBtu	548.68		
		Total 24-hr Maximum Actual							*691.09*		based on BLS firing for 22-hrs and oil firing for 2-hrs
		Maximum Actual Hourly Average							*28.80*	*3.63*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*144.56*		based on BLS firing for 1-hr and oil firing for 2-hrs
		Maximum Actual Hourly Average							*48.19*	*6.07*	lb/hr and g/sec emission rates for 3-hour air quality modeling
#2 Recovery Furnace Stack	#2RFS		249.4	MMBtu/hr	3.03	Mgal/24-hr	47	lb/Mgal #6 Fuel Oil			based on the maximum daily total Recovery Furnace fuel usage of 238.5 bbl/day and using a ratio of the heat inputs to distribute fuel usage.
					3.03	Mgal for 2-hr	47	lb/Mgal #6 Fuel Oil	142.41		
					473.00	Tons BLS/hr*22hr	0.1	lb/MMBtu	548.68		
		Total 24-hr Maximum Actual							*691.09*		based on BLS firing for 22-hrs and oil firing for 2-hrs
		Maximum Actual Hourly Average							*28.80*	*3.63*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*144.56*		based on BLS firing for 1-hr and oil firing for 2-hrs
		Maximum Actual Hourly Average							*48.19*	*6.07*	lb/hr and g/sec emission rates for 3-hour air quality modeling
#3 Recovery Furnace Stack	#3RFS		324.8	MMBtu/hr	3.95	Mgal/24-hr	47	lb/Mgal #6 Fuel Oil			based on the maximum daily total Recovery Furnace fuel usage of 238.5 bbl/day and using a ratio of the heat inputs to distribute fuel usage.
BART Source					3.95	Mgal for 2-hr	47	lb/Mgal #6 Fuel Oil	185.65		
					622.60	Tons BLS/hr*22hr	0.1	lb/MMBtu	722.22		
		Total 24-hr Maximum Actual							*907.87*		based on BLS firing for 22-hrs and natural gas firing for 2-hrs
		Maximum Actual Hourly Average							*37.83*	*4.77*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*188.48*		based on BLS firing for 1-hr and oil firing for 2-hrs
		Maximum Actual Hourly Average							*62.83*	*7.92*	lb/hr and g/sec emission rates for 3-hour air quality modeling
#1 Smelt Dissolving Tank Stack	#1SDTS				514.84	tons BLS/day	0	lb/ton BLS	0.00	0.00	0.016 lb/ton BLS & Title V Maximum Process Rate from Mill max 24-hr period throughput
		3-hr Maximum Actual and 24-hr Maximum Actual							*0.00*	*0.00*	based on incremental increase associated with the project
#2 Smelt Dissolving Tank Stack	#2SDTS				460.14	tons BLS/day	0	lb/ton BLS	0.00	0.00	0.016 lb/ton BLS & Title V Maximum Process Rate from Mill max 24-hr period throughput
		3-hr Maximum Actual and 24-hr Maximum Actual							*0.00*	*0.00*	based on incremental increase associated with the project
#3 Smelt Dissolving Tank Stack	#3SDTS				652.33	tons BLS/day	0	lb/ton BLS	0.00	0.00	0.016 lb/ton BLS & Title V Maximum Process Rate from Mill max 24-hr period throughput
BART Source	*3-hr Maximum Actual and 24-hr Maximum Actual*								*0.00*	*0.00*	based on incremental increase associated with the project
#4 Lime Kiln Stack	#4LKS		108	MMBtu/hr	15.16	Mgal/24-hr	47	lb/Mgal #6 Fuel Oil			based on the maximum daily total Lime Kiln fuel usage of 360.9 bbl/day and equates to 21 hours of oil firing at max heat input.
			fuel oil		0.72	Mgal/hr	47	lb/Mgal #6 Fuel Oil	710.64		This value is the sum of the daily emissions rate over a 21-hour period
			natural gas		0.10	MMcf/hr	0.6	lb/MMcf	0.19		3 hours per day of natural gas to make up 24 hours total.
		Total 24-hr Maximum Actual							*710.83*		Total emissions summed over 24-hours of 21 hours of oil and 3 hours of natural gas firing.
		Maximum Actual Hourly Average							*29.62*	*3.73*	Hourly average emissions based on fuel oil firing for 21-hrs and natural gas firing for 3-hrs.
		Total 3-hr Maximum Actual							*101.52*		Total emissions summed over 3-hours of oil firing.
		Maximum Actual Hourly Average							*33.84*	*4.26*	Hourly average emissions based on fuel oil firing for 3-hrs.
Non-Condensable Gas Incinerator Stack	NCGIS										
	3-hr Maximum Actual and 24-hr Maximum Actual				0.23	lb/ADTUBP	1550	ADTP per day	*14.85*	*1.87*	lb/hr and g/sec emission rates for 24-hour air quality modeling

SO_2 BART 24-Hour Short Term Emission Rates
at the Packaging Corporation of America
Valdosta, Georgia Mill

Emission Unit	ISCST3 Modeling ID	Time Period	Maximum Rated Capacity		Max Fuel Use/time period		Max Emission Factor		lb/hour or time period	SO_2 Emission Rate (g/sec)	Basis for Emission Rate
C.E. Combination Boiler			1.62	Mgal/hr	5.418	Mgal/24hr	314	lb/Mgal #6 Fuel Oil	1701.25		Based on maximum daily fuel oil usage for baseline period. 2% Sulfur for No. 6 fuel oil. Assume 60% control per PCA.
243 MMBtu/hr					530.3	tons/24 hours	0.075	lb/ton bark	39.77		
		Total 24-hr Maximum Actual							*1741.02*		based on bark firing for 19+-hrs and oil firing for 3+-hrs
		Maximum Actual Hourly Average							*29.02*	*3.66*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*1526.04*		*based on oil firing for 3-hrs*
		Maximum Actual Hourly Average							*203.47*	*25.64*	lb/hr and g/sec emission rates for 3-hour air quality modeling
Riley Bark Boiler			2.4	Mgal/hr	10.206	Mgal/24hr	314	lb/Mgal #6 Fuel Oil	3204.68		Based on maximum daily fuel oil usage for baseline period. 2% Sulfur for No. 6 fuel oil. Assume 60% control per PCA.
360 MMBtu/hr					785.7	tons/24 hours	0.075	lb/ton bark	58.93		
BART Source		*Total 24-hr Maximum Actual*							*3263.61*		based on bark firing for 19+-hrs and oil firing for 4-hrs
		Maximum Actual Hourly Average							*54.39*	*6.85*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*2260.80*		based on oil firing for 3-hrs
		Maximum Actual Hourly Average							*301.44*	*37.98*	lb/hr and g/sec emission rates for 3-hour air quality modeling
C.E. Power Boiler Stack	CEPBS		1.2333	Mgal/hr	31.5252	Mgal/24hr	157	lb/Mgal #6 Fuel Oil			Based on maximum daily fuel oil usage for baseline period. 1% Sulfur for No. 6 fuel oil will be used, therefore the PSD emission rate reflects the 1% value.
		Total 24-hr Maximum Actual							*4647.07*		based on bark firing for 20-hrs and oil firing for 4-hrs
		Maximum Actual Hourly Average							*193.63*	*24.40*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*580.88*		based on oil firing for 3-hrs
		Maximum Actual Hourly Average							*193.63*	*24.40*	lb/hr and g/sec emission rates for 3-hour air quality modeling
#1 Recovery Furnace Stack	#1RFS	background	249.4	MMBtu/hr	3.03	Mgal/24-hr	314	lb/Mgal #6 Fuel Oil			based on the maximum daily total Recovery Furnace fuel usage of 238.5 bbl/day and using a ratio of the heat inputs to distribute fuel usage. 2% Sulfur for No. 6 fuel oil.
					3.33	Mgal for 2-hr	312.273	lb/Mgal #6 Fuel Oil	1038.41		
					473.00	Tons BLS/hr*22hr	1.76	lb/ton BLS	832.48		
		Total 24-hr Maximum Actual							*1870.89*		based on BLS firing for 22-hrs and oil firing for 2-hrs
		Maximum Actual Hourly Average							*77.95*	*9.82*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*1076.25*		based on BLS firing for 1-hr and oil firing for 2-hrs
		Maximum Actual Hourly Average							*358.75*	*45.20*	lb/hr and g/sec emission rates for 3-hour air quality modeling
#2 Recovery Furnace Stack	#2RFS	background	249.4	MMBtu/hr	3.03	Mgal/24-hr	314	lb/Mgal #6 Fuel Oil			based on the maximum daily total Recovery Furnace fuel usage of 238.5 bbl/day and using a ratio of the heat inputs to distribute fuel usage. 2% Sulfur for No. 6 fuel oil.
					3.33	Mgal for 2-hr	312.273	lb/Mgal #6 Fuel Oil	1038.41		
					473.00	Tons BLS/hr*22hr	1.76	lb/ton BLS	832.48		
		Total 24-hr Maximum Actual							*1870.89*		based on BLS firing for 22-hrs and oil firing for 2-hrs
		Maximum Actual Hourly Average							*77.95*	*9.82*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*1076.25*		based on BLS firing for 1-hr and oil firing for 2-hrs
		Maximum Actual Hourly Average							*358.75*	*45.20*	lb/hr and g/sec emission rates for 3-hour air quality modeling
#3 Recovery Furnace Stack	#3RFS		324.8	MMBtu/hr	3.95	Mgal/24-hr	314	lb/Mgal #6 Fuel Oil			based on the maximum daily total Recovery Furnace fuel usage of 238.5 bbl/day and using a ratio of the heat inputs to distribute fuel usage. 2% Sulfur for No. 6 fuel oil.
BART Source					4.33	Mgal for 2-hr	312.273	lb/Mgal #6 Fuel Oil	1352.35		
					622.60	Tons BLS/hr*22hr	1.76	lb/ton BLS	1095.78		
		Total 24-hr Maximum Actual							*2448.13*		based on BLS firing for 22-hrs and natural gas firing for 2-hrs
		Maximum Actual Hourly Average							*102.01*	*12.85*	lb/hr and g/sec emission rates for 24-hour air quality modeling
		Total 3-hr Maximum Actual							*1402.16*		based on BLS firing for 1-hr and oil firing for 2-hrs
		Maximum Actual Hourly Average							*467.39*	*58.89*	lb/hr and g/sec emission rates for 3-hour air quality modeling
#1 Smelt Dissolving Tank Stack	#1SDTS				514.84	tons BLS/day	0.016	lb/ton BLS	0.34	0.04	0.016 lb/ton BLS & Title V Maximum Process Rate from Mill max 24-hr period throughput
	3-hr Maximum Actual and 24-hr Maximum Actual								*0.34*	*0.04*	based on incremental increase associated with the project
#2 Smelt Dissolving Tank Stack	#2SDTS				460.14	tons BLS/day	0.016	lb/ton BLS	0.31	0.04	0.016 lb/ton BLS & Title V Maximum Process Rate from Mill max 24-hr period throughput
	3-hr Maximum Actual and 24-hr Maximum Actual								*0.31*	*0.04*	based on incremental increase associated with the project
#3 Smelt Dissolving Tank Stack	#3SDTS				652.33	tons BLS/day	0.016	lb/ton BLS	0.43	0.05	0.016 lb/ton BLS & Title V Maximum Process Rate from Mill max 24-hr period throughput
	3-hr Maximum Actual and 24-hr Maximum Actual								*0.43*	*0.05*	based on incremental increase associated with the project
#4 Lime Kiln Stack	#4LKS	background	108	MMBtu/hr	15.16	Mgal/24-hr	3.925	lb/Mgal #6 Fuel Oil			based on the maximum daily total Lime Kiln fuel usage of 360.9 bbl/day. 90% control efficiency per PCA
			fuel oil		0.72	Mgal/hr	314	lb/Mgal #6 Fuel Oil	226.08		This value is the maximum hourly fuel burning rate and the maximum hourly emission rate
			natural gas		0.10	MMcf/hr	0.6	lb/MMcf	0.06		1.76 lb/ton BLS & Title V Maximum Process Rate of 21.5 ton/hr BLS
											1.76 lb/ton BLS & Title V Maximum Process Rate of 21.5 ton/hr BLS
		Total 24-hr Maximum Actual							*4747.87*		based on fuel oil firing for 3-hrs
		Maximum Actual Hourly Average							*19.78*	*2.49*	based on fuel oil firing for 22-hrs and natural gas firing for 2-hrs
		Total 3-hr Maximum Actual							*678.24*		based on incremental increase associated with the project
		Maximum Actual Hourly Average							*22.61*	*2.85*	based on incremental increase associated with the project
Non-Condensable Gas Incinerator Stack	NCGIS										40 TPY Permit Limit
	3-hr Maximum Actual and 24-hr Maximum Actual								*9.13*	*1.15*	based on incremental increase associated with the project using the No. 3 BSW