

APPENDIX B
NEW PROCESS EMISSIONS CALCULATIONS

**Coal Handling System
New Equipment Only**

Point ID	Stack ID	Description	Design Rate Thruput	Units	Description	Controls		Emission Factor	Units	Emissions	
						Capture (%)	Control (%)			Overall Efficiency	Source
E119	C12	Reclaim dump of raw coal (JR)	750.0 tph		Baghouse	85	99	5.56E-05	lb/ton	AP-42 Section 13.2.4; Aggregate Handling and Storage Piles	0.0066
E120	C13	Conveyor transfer to drive tower (JR)	750.0 tph		Baghouse	99	99	0.0014	lb/ton	AP-42 Table 11.19.2-2; Conveyor transfer point	0.0209
E121	C14	Stack drop point onto active coal pile (JR)	750.0 tph		Canyower Water Spray / Telescoping Chute	99	99	5.56E-05	lb/ton	AP-42 Section 13.2.4; Aggregate Handling and Storage Piles	0.0267
E122	C15	Active coal transfer to truck reclaim (JR)	800.0 tph		Baghouse	85	99	0.0001	lb/ton	AP-42 Table 11.19.2-2; Truck loading-Conveyor	0.0127
E123	C16	Conveyor transfer to truck loadout (JR)	800.0 tph		Baghouse	99	99	1.40E-03	lb/ton	AP-42 Table 11.19.2-2; Conveyor transfer point	0.0223
E124	C17	Active coal transfer to underground conveyor	170.0 tph		Baghouse	85	99	0.0001	lb/ton	AP-42 Table 11.19.2-2; Truck loading-Conveyor	0.0027

Haul Road Emission Calculations

Vehicle Miles Traveled (VMT) = 2 * Length of Haul Road * Maximum Hourly Amount Hauled
Capacity of Vehicle

Paved Haul Road Emission Equations, From AP-42 Section 13.2.1

Updated 10/02
Emission Factor => E = $k * (sL/2)^{0.65} * (W/3)^{1.5} * (1 - P/4N)$

Where

- E = Emission factor (pounds per VMT)
- k = constant
- sL = Silt loading (g/m2)
- W = mean vehicle weight (tons)
- P = Number of days with 0.01" of precipitation
- N = number of days in averaging period

k = 0.016
sL = 0.015
P = 105
N = 365

Taken from Table 13.2.1-1 in AP-42
Taken from Text - Limited access roadways
105 days for Missouri
365 days per year

Calculations

Emission Point	PAC Haul Road	Paved PACRD	Paved JRCRD	Length meters	Speed mph	Truck Weight		Max Hourly tons	Emission Factor lb PM10/VMT	Vehicle Miles Traveled VMT/hr		Emissions	
						Loaded tons	Unloaded tons			Uncontrolled lb PM10/hr	Controlled lb PM10/hr		
E127				639.4	10	40	20	20	0.020	0.795	0.016	0.016	
E125	JR Coal Haul Road	Paved JRCRD		396.12	10	80	40	40	0.055	0.492	0.027	0.0272	