

**Renewable Biomass Group
Potential Emission Calculations**

Table C-27. Pellet Storage & Loadout Operating Parameters

Emission Source	Annual Throughput (tons/year) ¹
Pellet Storage	497,000

1. Throughput based on production of finished pellets.

Table C-28. Pellet Storage/Loadout Dust Collector Control Device Operating Parameters and Potential PM Emissions

Control Device	Flow Rate (dscfm) ¹	Loading Rate (gr/dscf) ¹	Potential Emissions ²	
			Filterable PM/PM ₁₀ /PM _{2.5} (lb/hr)	(tpy)
Pellet Storage and Loadout	5,000	0.010	0.43	1.88

1. Flowrate provided by Nexus PMG. Loading rate assumed.

2. Potential emissions are calculated as follows:

$$\text{Potential Emissions (lb/hour)} = \text{Flowrate (dscfm)} * 60 \text{ (mins/hr)} * \text{Pollutant Loading (grs/dscf)} / 7,000 \text{ (gr/lb)}$$

$$\text{Potential Emissions (tons/year)} = \text{Potential Emissions (lb/hour)} * \text{Annual Operation (hours/year)} / 2,000 \text{ (lbs/ton)}$$

Where annual emissions assume 8,760 hours of operation per year for conservatism.

Table C-29. Pellet Storage Potential VOC and HAP Emissions

Pollutant	Emission factor	Potential Emissions ⁵	
		(lb/hr)	(tpy)
VOC ¹	0.40	22.69	99.40
Acetaldehyde ¹	1.00E-03	0.06	0.25
Formaldehyde ¹	2.00E-03	0.11	0.50
Methanol ¹	1.00E-03	0.06	0.25
Total HAP ^{2,3}	-	0.23	0.99

1. Emission factors from GA EPD guidance for pellet storage/handling at Wood Pellets Facilities. Holding time in the silos will be a maximum of 12 hours.

2. Individual HAP quantified are the only HAP expected from material storage.

3. Total HAP is the sum of all individual HAP emissions.

4. Emissions are quantified for all material storage and handling. Although VOC and HAP emissions can be released throughout the material handling and storage process, the total amount of emissions are included here. Potential emissions are calculated as follows:

$$\text{Potential Emissions (lb/hour)} = \text{Potential Emissions (tpy)} * 2,000 \text{ (lb/ton)} / \text{Annual Operation (hr/yr)}$$

$$\text{Potential Emissions (tons/year)} = \text{Emission Factor (lb/ton)} * \text{Annual Throughput (tons/year)} / 2,000 \text{ (lbs/ton)}$$

Where annual emissions assume 8,760 hours of operation per year for conservatism.