

Enclosure 8 to
LTR-RAC-20-94
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Response to Request for Additional Information

Table 2 - Emission Calculations for Industrial Incinerator

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Hopkins, South Carolina
prepared by GEL Engineering, LLC May 30, 2019

Source	A Waste Charge Rate (tons/hr)	B Maximum Annual Throughput (tons/year)	Pollutant	C AP-42 Emission Factor for Industrial / Commercial Multiple Chamber Combuster (lbs/ton) ¹	D Control Efficiency (%) ³	E Hourly Emissions (lbs/hr) ⁴	F Annual Emissions (tons/yr) ⁴
Industrial Incinerator	0.25	2,190	PM	7.00	50	0.88	3.83
			PM ₁₀ ²	7.00	50	0.88	3.83
			PM _{2.5} ²	7.00	50	0.88	3.83
			SO ₂	2.50		0.63	2.74
			CO	10.0		2.50	10.95
			NOx	3.00		0.75	3.29
			VOCs	3.00		0.75	3.29

Footnotes:

¹ Emission factors from AP-42 Chapter 2.1, Refuse Combustion, Table 2.1-12, Uncontrolled Emission Factors for Refuse Combusters, Industrial/Commercial Multiple Chamber Combuster.

² As AP-42 provides no speciated PM emission factors, it is conservatively assumed that PM₁₀ and PM_{2.5} are equivalent to PM.

³ The incinerator is equipped with inherent radiological controls for the purpose for recovering uranic materials. These controls include HEPA filtration prior to discharge to the atmosphere. It is conservatively assumed that these inherent radiological controls will reduce PM emissions by 50 percent.

⁴ These are preliminary emission estimates based on best available data from AP-42. The renewed permit will include a "test and set" condition for the Industrial Incinerator.

Example Calculation: $\boxed{A} \frac{\text{tons throughput}}{\text{hour}} \times \boxed{C} \frac{\text{lbs emissions}}{\text{ton throughput}} \times \frac{(100\% - D\%)}{100\%} = \boxed{E} \frac{\text{lbs emissions}}{\text{hour}}$

$$\boxed{B} \frac{\text{tons throughput}}{\text{year}} \times \boxed{C} \frac{\text{lbs emissions}}{\text{ton throughput}} \times \frac{(100\% - D\%)}{100\%} \times \frac{1 \text{ ton}}{2000 \text{ lbs}} = \boxed{F} \frac{\text{tons emissions}}{\text{year}}$$