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Re: Newberry Recycling emission calcs.

Thank you Steve!

Letter head with your signature? 

Elizabeth Basil, Assistant Bureau Chief
Bureau of Environmental Health Services
S.C. Dept. of Health & Environmental Control
Office: 803.896.8408
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Connect: www.scdhec.gov [Facebook](#) [Twitter](#)



From: McCaslin, Steven <mccasld@dhec.sc.gov>
Sent: Tuesday, April 20, 2021 2:48 PM
To: Basil, Elizabeth <basilej@dhec.sc.gov>
Cc: Burrows, Rachel N. <burrowrn@dhec.sc.gov>
Subject: Newberry Recycling emission calcs.

Liz as requested attached are the estimates for the torch cutting. The estimates show they are well below our permit thresholds. Let me know if you need anything else.

Steve McCaslin, P.E.
Director, Air Permitting Division
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Re: Newberry Recycling emission calcs.



Basil, Elizabeth
Wed 4/21/2021 8:38 AM
To: McCaslin, Steven
Cc: Burrows, Rachel N.



Steve, someone has to put the servant into civil servant

Elizabeth Basil, Assistant Bureau Chief
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From: McCaslin, Steven <mccaslsd@dhec.sc.gov>
Sent: Wednesday, April 21, 2021 8:04 AM
To: Basil, Elizabeth <basilej@dhec.sc.gov>
Cc: Burrows, Rachel N. <burrowrn@dhec.sc.gov>
Subject: RE: Newberry Recycling emission calcs.

Sure I can even put my PE stamp on it, who should I send the bill 😊

From: Basil, Elizabeth
Sent: Tuesday, April 20, 2021 3:26 PM
To: McCaslin, Steven <mccaslsd@dhec.sc.gov>
Cc: Burrows, Rachel N. <burrowrn@dhec.sc.gov>
Subject: Re: Newberry Recycling emission calcs.

Thank you Steve!
Letter head with your signature? 📝

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The Air Permitting Division received a request from the BEHS to provide information on whether torch cutting at the Newberry Recycling site would require an air permit.

Researching the availability of emission factors for this type of resource results in limited emissions data. The site in question uses an Oxypropane torch. I was able to determine that the state of Ohio approximates emissions from torch cutting operations throughout the state using the emission factor scarfing from AP-42, Section 12.5 Iron and Steel Production, table 12.5-1 (10/86) This is an emission factor of 0.10 pounds of particulate per ton of metal processed. They also approximate the emissions of the propane combustion by using the emission factors for LPG combustion in boilers, which are found in AP-42, section 1.5, table 1.5-1 (07/08) Other states have used similar approaches.

Emissions from Propane Combustion:

Worst case facility reports to fill 400 gallon tank every 2 months, assuming the tank is empty on each fill that equates to 2,400 gallons of propane per year combusted.

$$\text{Particulate} = (0.7 \text{ lbs}/1000 \text{ gallons burned})(2400 \text{ gal./year}) = 1.68 \text{ lbs/year}$$

$$\text{NOx} = (13.0 \text{ lbs}/1000 \text{ gal})(2400 \text{ gal/year}) = 31.2 \text{ lbs/year}$$

Emissions from metal cutting:

The facility reported they normally cut about 20 tons per month of metal. For the current month they have cut about 300 tons. For determining the need for an air permit the emissions will be estimated on the worst case of 300 tons/month or 3,600 tons/year.

$$\text{Particulate} = (0.1 \text{ lbs}/\text{ton metal})(3,600 \text{ tons/year}) = 360 \text{ lbs /year.}$$

Total particulate emitted from the torch cutting operation is approximately 361.68 lbs per year or 0.18 tons per year. Particulate emissions less than 5 tons/year are exempt from the requirement to obtain an air permit. NOx is the next biggest emission at 31.2 lbs/year or 0.0156 tons per year which is less than the 5 ton per year permit threshold. There are some other pollutants from the propane combustion but the factors for these are lower and would not change the need for an air permit.

Process	EF	Units
Scarfig		0.1 lb-PM/ton-metal
LPG combustion		0.7 lb-PM/1,000-gal propane
LPG Combustion		13 lb-Nox/1,000-gal propane

Combustion Calcs:

400 gal-propane/2-month
 2400 gal-propane/yr

1.68 lb-PM/yr
 31.2 lb-NOx/yr

Total Calcs:		
	lb/yr	TPY
PM	361.68	0.18084
Nox	31.2	0.0156

Scarfig Calcs:

300 tons metal/month processed
 3600 tons metal/yr processed

360 lbs-PM/yr