



Missouri Department of dnr.mo.gov

# NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

JAN 07 2019

Mr. Russ Hurt  
Director of Manufacturing  
Redneck Manufacturing  
1705 Gulf Street  
Lamar, MO 64759

RE: New Source Review Permit - Project Number: 2018-07-053

Dear Mr. Hurt:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions, if any, on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your amended operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you were adversely affected by this permit decision, you may be entitled to pursue an appeal before the administrative hearing commission pursuant to Sections 621.250 and 643.075.6 RSMo. To appeal, you must file a petition with the administrative hearing commission within thirty days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed; if it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, [www.ao.mo.gov/ahc](http://www.ao.mo.gov/ahc). If you have questions regarding this permit, contact Chia-Wei Young, at the Department of Natural Resources' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Susan Heckenkamp  
New Source Review Unit Chief

SH:cyj

Enclosures

c: Southwest Regional Office  
PAMS File: 2018-07-053

Permit Number: 012019-003  Recycled paper

STATE OF MISSOURI



DEPARTMENT OF NATURAL RESOURCES

MISSOURI AIR CONSERVATION COMMISSION

PERMIT TO CONSTRUCT

Under the authority of RSMo 643 and the Federal Clean Air Act the applicant is authorized to construct the air contaminant source(s) described below, in accordance with the laws, rules and conditions as set forth herein.

Permit Number: 012019-003

Project Number: 2018-07-053  
Installation Number: 011-0042

Parent Company: Redneck Outdoor Products LLC

Parent Company Address: 1705 Gulf Street, Lamar, MO 64759

Installation Name: Redneck Outdoor Products LLC

Installation Address: 1705 Gulf Street, Lamar, MO 64759

Location Information: Barton County, S25, T32N, R31W

Application for Authority to Construct was made for:

The installation of a closed mold system for resin application and using different resins in the chop gun and open resin processes. This review was conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*.

Standard Conditions (on reverse) are applicable to this permit.

Standard Conditions (on reverse) and Special Conditions are applicable to this permit.

JAN 07 2019

Effective Date

A handwritten signature in black ink, appearing to read "Mary A. Byrd", written over a horizontal line.

Director or Designee  
Department of Natural Resources

## STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the Department's Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources' regional office responsible for the area within which you are located within 15 days after the actual start up of these air contaminant sources.

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

*The special conditions listed in this permit were included based on the authority granted the Missouri Air Pollution Control Program by the Missouri Air Conservation Law (specifically 643.075) and by the Missouri Rules listed in Title 10, Division 10 of the Code of State Regulations (specifically 10 CSR 10-6.060). For specific details regarding conditions, see 10 CSR 10-6.060 paragraph (12)(A)10. "Conditions required by permitting authority."*

## 1. Superseding Condition

The conditions of this permit supersede all special conditions found in the previously issued construction permits No. 032011-004, 062011-012, 062011-012A, 052012-011, 022014-001, 022015-003, 012016-001, 072016-003, 082017-008, and 082017-008A issued by the Air Pollution Control Program.

## 2. Styrene Emissions Limits

A. Redneck manufacturing shall not emit styrene in amounts greater than those listed in Table 1 below.

**Table 1: Daily Styrene Emission Limits**

<b>153 SE 1<sup>st</sup> Lane Location</b>		
<b>Emission Units</b>	<b>Emission Process</b>	<b>Emission Limit (lb/day)</b>
EU1	Gel Coat Application	50.77
EU2	Resin (Chop Gun) Application	18.45
EU3	Open Resin	56.78
<b>1101 East 12<sup>th</sup> Street Location</b>		
<b>Emission Units</b>	<b>Emission Process</b>	<b>Emission Limit (lb/day)</b>
EU1	Gel Coat Application	42.31
EU3	Open Resin	82.78
EU9	Closed Mold Resin	11.68
<b>1705 Gulf Street Location</b>		
<b>Emission Units</b>	<b>Emission Process</b>	<b>Emission Limit (lb/day)</b>
EU3	Open Resin	63.09
EU6	Adhesive Application	35.78

B. Attachment A, or equivalent forms, such as electronic forms, shall be used to demonstrate compliance with Special Condition 2.A. The equivalent forms shall contain the same information and use the same calculation method as Attachment A.

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

3. Control Measures

- A. During gel coat and resin spraying operations, Redneck Manufacturing shall use the controlled spray procedure as outlined in the Composites Fabricators Association's (CFA's) "Controlled Spray Handbook."
- B. Redneck Manufacturing shall ensure that the mold containment flanges are in place during spraying operations in accordance with the CFA's "Controlled Spray Handbook."
- C. Redneck Manufacturing shall keep records that verify the following, in accordance with the CFA's "Controlled Spray Handbook."
  - 1.) The spray gun pressure has been calibrated, at a minimum, once every 3 months.
  - 2.) The operators have been trained in the techniques of controlled spraying.

4. Operating Time Restrictions

Redneck Manufacturing shall only operate daily between the hours of 7 a.m. to 12:00 am (midnight) at all three sites, which include 1<sup>st</sup> Lane, East 12<sup>th</sup> Street, and Gulf Street locations, for any emission sources that emit styrene. The sources that emit styrene are listed above in Table 1. For sources that do not emit styrene, there are no restrictions on operating time.

5. Facility Design Requirements

Before making significant alterations to the facility design, Redneck Manufacturing shall submit, to the Air Pollution Control Program, an updated Ambient Air Quality Impact Analysis (AAQIA) that shows continued compliance with the styrene RAL. If the facility cannot show continued compliance with the styrene RAL using the new design, it shall contact the Air Pollution Control Program for further instructions.

6. Operational Requirement

Redneck Manufacturing shall keep all chemicals, including the gel coats, resins, catalysts, coatings, and adhesives, in sealed containers whenever the materials are not in use. Redneck Manufacturing shall provide and maintain suitable, easily read, permanent marking on the containers.

7. Use of Alternative Material and Coatings or Production of Different Deer Blinds

- A. When considering using an alternative gel coat, resin, adhesive, or manufacturing a different type of deer blind than those listed in the Application for Authority to Construct, Redneck Manufacturing shall calculate the potential emissions of all HAPs (except styrene) and VOCs. If the potential emissions of the VOC are equal to or greater than 250.0

**SPECIAL CONDITIONS:**

The permittee is authorized to construct and operate subject to the following special conditions:

tons per year and individual HAP (except styrene) are greater than their respective SMAL, Redneck Manufacturing shall seek approval from the Air Pollution Control Program before implementing their use. A list of the SMAL can be found on the website <http://dnr.mo.gov/env/apcp/docs/cp-hapraltbl6.pdf>.

- B. Attachment B and C, or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to show compliance with Special Condition 7.A.
8. Record Keeping and Reporting Requirements
- A. Redneck Manufacturing shall maintain all records required by this permit for not less than five years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include SDS for all materials used.
  - B. Redneck Manufacturing shall report to the Air Pollution Control Program's Compliance/Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than 10 days after the end of the month during which any record required by this permit show an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE  
SECTION (6) REVIEW

Project Number: 2018-07-053  
Installation ID Number: 011-0042  
Permit Number: 012019-003

Installation Address:  
Redneck Manufacturing  
1705 Gulf Street  
Lamar, MO 64759

Parent Company:  
Redneck Manufacturing  
1705 Gulf Street  
Lamar, MO 64759

Barton County, S25, T32N, R31W

REVIEW SUMMARY

- Redneck Manufacturing has applied for authority to install a closed mold system for resin application and to change the resin currently used in the chop gun and open resin process.
- The application was deemed complete on September 12, 2018.
- HAP emissions are expected from the affected equipment. HAPs of concern from this process are styrene and methyl methacrylate (MMA)
- None of the NSPS apply to the installation.
- None of the NESHAPs apply to this installation.
- 40 CFR 63, Subpart WWWW, *National Emissions Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production*, of the MACT regulations applies to this installation.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of HAPs are greater than the de minimis/major source level. However, Section (9) permit is not required because the facility is subject to MACT, Subpart WWWW. Emissions of VOC from this project are greater than the de minimis level. Therefore, this permit is issued under Section (6). Emissions of all other criteria pollutants are less than their de minimis levels.
- This installation is located in Barton County, an attainment area for all criteria pollutants.

- This installation is not on the List of Named Installations found in 10 CSR 10-6.020(3)(B), Table 2. The installation's major source level is 250 tons per year and fugitive emissions are not counted toward major source applicability.
- Ambient air quality modeling was performed to determine the ambient impact of styrene. Ambient air quality modeling was not performed on VOC because no model is readily available which can accurately predict ambient ozone concentrations caused by the VOC emissions.
- Emissions testing is not required for the equipment.
- A modification to the facility's Part 70 Operating Permit application is required within one (1) year after permit issuance.
- Approval of this permit is recommended with special conditions.

#### INSTALLATION DESCRIPTION

Redneck Manufacturing owns and operates a deer blind production facility in Lamar, MO. Gelcoats are applied to a number of open molds. After a short curing period, fiberglass reinforced resins are applied using a chopper gun system before additional hand-lay resin application and curing. The parts are then sanded and prepped before being assembled into units. Screws and rivets will be used to temporarily hold the pieces together before the seams are bonded together with chopped strand mat. After curing, the blinds are rolled to the next station where the shelves are installed with screws and filled with a seam sealer. The blinds will then be painted with a water-based paint. Catalysts will be used with the resins.

The facility is composed of four separate locations in Lamar, MO: 153 SE 1<sup>st</sup> Lane, 1701 Maple Street, 1705 Gulf Street, and 1101 East 12<sup>th</sup> Street. The four (4) locations are considered part of the same installation for permitting purposes and are identified by a single plant ID, 011-0042. The Maple Street location is being used as a warehouse and does not contain any production equipment. The 1<sup>st</sup> Lane location consists of the gelcoat (EU1) and chop gun (EU2) operations. The 12<sup>th</sup> Street location consists of the gelcoat (EU1) and hand lay/open seaming (EU3) operations. The Gulf Street location consists of the hand lay/open seaming (EU3) operation, the paint application to the blinds (EU4), and the foam application to blinds (EU10).

This facility is considered a major source of HAP and minor source for criteria pollutants. The facility is a Part 70 source for operating permits. The following New Source Review permits have been issued to Redneck Manufacturing from the Air Pollution Control Program.

**Table 2: Permit History**

Permit Number	Description
032011-004	New deer blinds production facility
062011-012	Relocating deer blind production facility to new location
062011-012A	Eliminating weekly production limit
052012-011	Increase deer blind production limit
022014-001	Elimination of HAP limits
022015-003	Installation of a new manufacturing line
012016-001	Change the amount of gel coat, resins, and adhesives. Adding a painting operation. Relocate equipment.
072016-003	Increase in gelcoat, resin, and adhesive usage
082017-008	Changing daily styrene limits
102017-005	Usage of new foam resin to replace existing coating
082017-008A	Changing daily styrene emission limits and installation of a new gel coat spray booth.

### PROJECT DESCRIPTION

Redneck Outdoor Products LLC proposes to install a closed mold system for resin application on the blind tops at their 12<sup>th</sup> street location. Open resin will continue to be used for the other parts of each blind. The closed mold process can process a maximum of 30 blinds per day. The resin in the closed mold process will be different than the resin used in the open mold process. The installation will initially try out 3 different resins (the R431-WPF-10, R937-DOE-10, and the XR-5064 resins), but only one will eventually be used.

Redneck Outdoor Products also proposes to use a different resin in the chop gun and open resin processes.

### EMISSIONS/CONTROLS EVALUATION

For this project, there will be emissions increase from the change in the styrene emissions limit. Normally, emissions increase will be calculated using potential emissions minus the baseline actual emissions. However, finding representative baseline actual emissions is difficult because the facility operates multiple sites and these sites have undergone significant changes within the last few years. Therefore, the emissions from the project are taken to be the potential emissions. There will also be emissions increase from installation of the new closed mold process.

Styrene and MMA emissions from the gelcoat and resin application process were calculated using emission factors from the "Unified Emission Factors for Open Molding of Composites" developed by the National Marine Manufacturer's Association (NMMA) and Composite Fabricators Association (CFA) and published in 1999 in the paper "Technical Discussion of the Unified Emission for Open Molding of Composites." Other VOC and volatile HAPs emissions were calculated using information from the safety

data sheets (SDS) and mass balances assuming 100% emitted. The open resin process (EU3) does use resins that contain cobalt, which is a HAP. However, cobalt is considered a particulate and the resins will be applied by a roller. Therefore, the cobalt in the resins is not expected to be emitted into the air.

For the closed mold process, styrene emissions were calculated assuming that 3% of the styrene are emitted. This value comes from EPA document AP-42, Chapter 4.4, *Polyester Resin Plastic Products Fabrication*, February 2007.

The following table provides an emissions summary for this project. Existing potential emissions were taken from Permit 082017-008A. Existing actual emissions were taken from the installation's 2017 EIQ. Potential emissions of the application represent the potential of the gelcoat, resin, and adhesives application taking into account hours of day restrictions. New installation potential emissions include the gelcoat, resin, closed mold and adhesives application as well as the paint booth and combustion emissions.

**Table 3: Emissions Summary (tons per year)**

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2017 EIQ)	Potential Emissions of the Application	New Installation Potential Emissions
PM	25.0	17.25	N/D	N/A	17.25
PM <sub>10</sub>	15.0	15.30	N/D	N/A	15.30
PM <sub>2.5</sub>	10.0	7.99	N/D	N/A	7.99
SO <sub>x</sub>	40.0	0.000016	N/D	N/A	0.000016
NO <sub>x</sub>	40.0	0.25	N/D	N/A	0.25
VOC	40.0	209.04	31.79	92.22	153.62
CO	100.0	0.14	N/D	N/A	0.14
GHG (CO <sub>2</sub> e)	100,000	243.96	N/D	N/A	243.96
GHG (mass)	250.0	238.77	N/D	N/A	238.77
Styrene	1.0/10.0	54.70	N/D	70.00	70.00
MMA	10.0	6.56	N/D	8.77	8.77
HAPs	10.0/25.0	91.10	N/D	79.60	79.60

N/A = Not Applicable; N/D = Not Determined

Note 1: For Styrene, 1.0 tpy is the SMAL while the 10.0 tpy is the de minimis level.

Note 2: Includes other HAPs than styrene and MMA. The potential emissions of these HAPs are less than their respective SMAL.

## PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOC are greater than the de minimis level.

## APPLICABLE REQUIREMENTS

Redneck Manufacturing shall comply with the following applicable requirements. The Missouri Air Conservation Laws and Regulations should be consulted for specific record keeping, monitoring, and reporting requirements. Compliance with these emission standards, based on information submitted in the application, has been verified at the time this application was approved.

## GENERAL REQUIREMENTS

- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
  - Per 10 CSR 10-6.110(4)(B)2.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *Operating Permits*, 10 CSR 10-6.065
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin*, 10 CSR 10-6.170
- *Restriction of Emission of Visible Air Contaminants*, 10 CSR 10-6.220
- *Restriction of Emission of Odors*, 10 CSR 10-6.165

## SPECIFIC REQUIREMENTS

- *Restriction of Emission of Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *MACT Regulations*, 10 CSR 10-6.075
  - *National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production*, 40 CFR Part 63, Subpart WWWW

## AMBIENT AIR QUALITY IMPACT ANALYSIS

Ambient air quality modeling was performed to determine the ambient impact of styrene. Results show that the facility will be in compliance with the RAL for styrene. Table 4 below gives the highest ambient impact. More information regarding the modeling analysis can be found in the memo "Ambient Air Quality Impact Analysis (AAQIA) for Redneck Manufacturing, LLC" from the Modeling Unit.

**Table 4: Styrene Ambient Air Quality Modeling Results**

Pollutant	NAAQS/AAL ( $\mu\text{g}/\text{m}^3$ )	<sup>1</sup> Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	Time Period
Styrene	2240	1635.18	24-Hours
Styrene	333	325.28	Annual

Note 1: Highest modeled in the past five years.

## STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (6), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, it is recommended that this permit be granted with special conditions.

## PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated July 25, 2018, received July 30, 2018, designating Redneck Outdoor Products as the owner and operator of the installation.

## Attachment A – Styrene Emissions Compliance Worksheet

Redneck Manufacturing  
 Barton County (S30, T32N, R30W)

Project Number: 2018-07-053

Installation ID Number: 011-0042

Permit Number: **012019-003**      Date:

Column1	Column2	Column 3	Column 4	Column 5
Type of Process	Usage per day (lb/day)	(a) Emission Factors (lb/ton or % Content)	(b) Emissions (lb/day)	Emissions Limit (lb/day)
153 SE 1 <sup>st</sup> Lane Location				
Gelcoat Application (EU1)				50.77
Resin (Chop Gun) Application (EU2)				18.45
Open Resin (EU3)				56.78
1101 12 <sup>th</sup> Street Location				
Gelcoat Application (EU1)				42.31
Open Resin (EU3)				82.78
Closed Mold Resin (EU9)				11.68
1705 Gulf Street Location				
Open Resin (EU3)				63.09
Adhesive Application (EU6)				35.78

(a) Emission factors, in lb/ton, for the Gelcoat Application, Resin (Chop Gun) Application, and Open Resin (including resin, styrene monomer, and patchaid) should be taken from the Table “Unified Emission Factors for Open Molding of Composites.”

Emission factors (% Content) for the adhesive application shall be taken from the Safety Data Sheets (SDS) of the resins. If a range is given, the highest number shall be used.

Emission factor (% Content) for the closed mold resin shall be taken from the SDS of the resins.

(b) Emissions (lb/day) for the Gelcoat Application, Resin (Chop Gun) Application, and Open Resin (including resin, styrene monomer, and patchaid) calculated from  $[\text{Column 2} \div 2,000 \text{ lb/ton}] \times \text{Column 3}$

Emissions from adhesive application (lb/day) calculated by using  $\text{Column 2} \times \text{Column 3}$

Emissions from closed molding (lb/day) calculated by using  $\text{Column 2} \times \text{Column 3} \times 0.03$ . The 0.03 is the 3% styrene lost during the closed molding process. The value is taken from AP-42, Chapter 4.4, *Polyester Resin Plastic Products Fabrication*.

**Daily emissions no more than the values given in Column 5 (Special Condition 2.A.) indicate compliance.**

## Attachment B – MMA Calculations

Redneck Manufacturing  
 Barton County (S30, T32N, R30W)  
 Project Number: 2018-07-053  
 Installation ID Number: 011-0042  
 Permit Number: 012019 - 003

Copy this sheet as needed.

Column 1	Column 2	Column 3	Column 4
Type of Process	Maximum Usage per Blind (lb/day)	(a) Emission Factors (lb/ton or % Content)	(b) Emissions (lb/day)
153 SE 1 <sup>st</sup> Lane Location			
Gelcoat Application (EU1)			
Resin (Chop Gun) Application (EU2)			
Open Resin (EU3)			
1101 East 12 <sup>th</sup> Street Location			
Gelcoat Application (EU1)			
Open Resin (EU3)			
Closed Mold Resin (EU9)			
1705 Gulf Street Location			
Open Resin (EU3)			
Adhesive Application (EU6)			

- (a) Emission factors, in lb/ton, for the Gelcoat Application, Resin (Chop Gun) Application, and Open Resins should be taken from the Table “Unified Emission Factors for Open Molding of Composites.”
- (b) Emissions (lb/day) for the Gelcoat Application, Resin (Chop Gun) Application, and Open Resins calculated from  $[\text{Column 2} \div 2,000 \text{ lb/ton}] \times \text{Column 3}$ .  
 Emissions from Adhesive Application (lb/day) calculated by using  $\text{Column 2} \times \text{Column 3}$ .  
 Emissions from closed molding (lb/day) calculated by using  $\text{Column 2} \times \text{Column 3} \times 0.03$ . The 0.03 is the 3% styrene lost during the closed molding process. The value is taken from AP-42, Chapter 4.4, *Polyester Resin Plastic Products Fabrication*.

**For MMA, Redneck Manufacturing LLC may use the alternative material if emissions do not exceed its SMAL, which is 10 tpy. Column 4 gives emission rates in lb/day. Tons per year can be calculated using  $(\text{lb/day}) \times 365 \text{ days/yr} \div 2,000 \text{ lb/ton}$**

## Attachment C – Individual HAP and VOC Emissions Calculations from Alternative Material (Other than Styrene and MMA)

Redneck Manufacturing  
 Barton County (S30, T32N, R30W)  
 Project Number: 2018-07-053  
 Installation ID Number: 011-0042  
 Permit Number **012019-003**

### Individual HAP

Column 1 Material	Column 2 MHDR (gal/hr)	Column 3 Density (lb/gal)	Column 4 HAP Name, CAS #	Column 5 Individual HAP Content (Wt. %)	Column 6 (a) Individual HAP PTE (tpy)	Column 7 (b) SMAL (tpy)
<i>Example</i>	1.67	8.75	<i>Toluene</i>	3.0%	1.92	10.0

- (a) Individual HAP PTE (tpy) calculated using (Column 2) x (Column 3) x [(Column 5)÷100] x 8760 hours/yr ÷ 2,000 lb/ton  
 (b) SMAL can be found on-line at <http://dnr.mo.gov/env/apcp/docs/cp-hapaltbl6.pdf>

### VOC

Column 1 Material	Column 2 MHDR (gal/hr)	Column 3 Density (lb/gal)	Column 4 VOC (Wt. %)	(a) Column 5 VOC PTE (tpy)
<i>Example</i>	1.67	8.75	30	19.20

- (a) VOC (tpy) calculated using (Column 2) x (Column 3) x [(Column 4) ÷ 100] x 8760 hours/yr ÷ 2,000 lb/ton. If the material contains styrene or MMA, the styrene and MMA emissions should be calculated using Attachment B and added to the VOC emissions (tpy) from Attachment C.

**Redneck Manufacturing LLC may use the new alternative material if the individual HAP emissions do not exceed their respective SMAL and VOC emissions from the entire installation are less than 250.0 tons per year. A copy of the SMAL values can be found on-line at <http://dnr.mo.gov/env/apcp/docs/cp-hapaltbl6.pdf> or by contacting the Missouri Air Pollution Control Program**

## APPENDIX A

### Abbreviations and Acronyms

<b>%</b> .....	percent	<b>m/s</b> .....	meters per second
<b>°F</b> .....	degrees Fahrenheit	<b>Mgal</b> .....	1,000 gallons
<b>acfm</b> .....	actual cubic feet per minute	<b>MW</b> .....	megawatt
<b>BACT</b> .....	Best Available Control Technology	<b>MHDR</b> .....	maximum hourly design rate
<b>BMPs</b> .....	Best Management Practices	<b>MMBtu</b> ...	Million British thermal units
<b>Btu</b> .....	British thermal unit	<b>MMCF</b> .....	million cubic feet
<b>CAM</b> .....	Compliance Assurance Monitoring	<b>MSDS</b> .....	Material Safety Data Sheet
<b>CAS</b> .....	Chemical Abstracts Service	<b>NAAQS</b> ..	National Ambient Air Quality Standards
<b>CEMS</b> .....	Continuous Emission Monitor System	<b>NESHAPs</b>	National Emissions Standards for Hazardous Air Pollutants
<b>CFR</b> .....	Code of Federal Regulations	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CO</b> .....	carbon monoxide	<b>NSPS</b> .....	New Source Performance Standards
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>NSR</b> .....	New Source Review
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>PM</b> .....	particulate matter
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>CSR</b> .....	Code of State Regulations	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>dscf</b> .....	dry standard cubic feet	<b>ppm</b> .....	parts per million
<b>EIQ</b> .....	Emission Inventory Questionnaire	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>EP</b> .....	Emission Point	<b>PTE</b> .....	potential to emit
<b>EPA</b> .....	Environmental Protection Agency	<b>RACT</b> .....	Reasonable Available Control Technology
<b>EU</b> .....	Emission Unit	<b>RAL</b> .....	Risk Assessment Level
<b>fps</b> .....	feet per second	<b>SCC</b> .....	Source Classification Code
<b>ft</b> .....	feet	<b>scfm</b> .....	standard cubic feet per minute
<b>GACT</b> .....	Generally Available Control Technology	<b>SDS</b> .....	Safety Data Sheet
<b>GHG</b> .....	Greenhouse Gas	<b>SIC</b> .....	Standard Industrial Classification
<b>gpm</b> .....	gallons per minute	<b>SIP</b> .....	State Implementation Plan
<b>gr</b> .....	grains	<b>SMAL</b> .....	Screening Model Action Levels
<b>GWP</b> .....	Global Warming Potential	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>HAP</b> .....	Hazardous Air Pollutant	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>hr</b> .....	hour	<b>tph</b> .....	tons per hour
<b>hp</b> .....	horsepower	<b>tpy</b> .....	tons per year
<b>lb</b> .....	pound	<b>VMT</b> .....	vehicle miles traveled
<b>lbs/hr</b> .....	pounds per hour	<b>VOC</b> .....	Volatile Organic Compound
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		





