



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: **052012-011**

Project Number: 2012-01-042
Installation Number: 011-0042

Parent Company: Redneck Manufacturing

Parent Company Address: 153 SE 1st Lane, Lamar, MO 64759

Installation Name: Redneck Manufacturing

Installation Address: 153 SE 1st Lane, Lamar, MO 64759

Location Information: Barton County (S30, T32N, R30W)

Application for Authority to Construct was made for:

An increase in the production limit for an existing deer blind manufacturing plant. This review was conducted in accordance with Section (5), 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.

MAY 16 2012

EFFECTIVE DATE

Kyra L Moore

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 Departments' 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.

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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."

Redneck Manufacturing
Barton County (S30, T32N, R30W)

1. **Superseding Condition**
The conditions of this permit supersede all special conditions found in the previously issued construction permits 032011-004, 062011-012 and 062011-012A issued by the Air Pollution Control Program.
2. **Production Limitations**
 - A. Redneck Manufacturing shall not produce more than 24 deer blinds per day.
 - B. Attachment A, or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2.A.
3. **Emissions Limitations**
 - A. Redneck Manufacturing shall emit less than 10.0 tons of styrene in any consecutive 12-month period from the entire installation. The following equipment/activities emit styrene.
 - 1) Gel coat application (EU-1)
 - 2) Chop Gun (EU-2)
 - 3) Open Seaming (EU-3)
 - B. Attachment B, or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Condition 3.A.
4. **Control Measures**
 - A. Redneck Manufacturing shall use the controlled spray procedures as outlined in the "CFA Controlled Spray Handbook."
 - B. Redneck Manufacturing shall ensure that the mold containment flanges are in place during spraying operations in accordance with the "CFA

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SPECIAL CONDITIONS:

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

Controlled Spray Handbook.”

- C. Redneck Manufacturing shall keep records that verify the following, in accordance with the “CFA Controlled Spray Handbook.”
 - 1) The spray gun pressure has been calibrated.
 - 2) The operators have been trained in the techniques of controlled spraying.
5. Operating Time Restrictions
Redneck Manufacturing shall only operate daily between the hours of 7 a.m. to midnight (12 a.m.)
6. Use of Alternative Material or Production of Different Deer Blinds
 - A. When considering using an alternative gelcoat or resin or manufacturing a different deer blind than listed in the Application for Authority to Construct, Redneck Manufacturing shall calculate the potential emissions of styrene and ensure that the styrene emissions are less than 7.05 lbs/hr from the chop gun (EU-2), less than 3.93 lbs/hr from the gelcoat application (EU-1) and less than 1.41 lbs/hr from open seaming (EU-3). Attachment C, or equivalent forms approved by the Air Pollution Control Program, shall be used for this purpose. Redneck Manufacturing shall keep a copy of the calculations on-site in accordance with Special Condition 7.
 - B. If the potential emissions of styrene exceed the values in Special Condition 6.A., Redneck Manufacturing shall seek approval from the Air Pollution Control Program before the use of the alternative gelcoat or resin or before the production of the new type of deer blind.
7. Facility Design Requirements
If significant alterations are made to the facility design as described in the permit application, 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 risk assessment levels (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.
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 to any Missouri Department of Natural Resources’ personnel upon request. These

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SPECIAL CONDITIONS:

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

records shall include Material Safety Data Sheets (MSDS) 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 ten days after the end of the month during which any record required by this permit shows an exceedance of a limitation imposed by this permit.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2012-01-042
Installation ID Number: 011-0042
Permit Number:

Redneck Manufacturing
153 SE 1st Lane
Lamar, MO 64759

Complete: January 31, 2012

Parent Company:
Redneck Manufacturing
153 SE 1st Lane
Lamar, MO 64759

Barton County (S30, T32N, R30W)

REVIEW SUMMARY

- Redneck Manufacturing has applied for authority to increase the production limit at an existing deer blinds manufacturing facility from 12 blinds per day to 24 blinds per day.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are styrene and methyl methacrylate (MMA).
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation. None of the currently promulgated Maximum Achievable Control Technology (MACT) regulations apply to the proposed equipment. Subpart WWWW, "National Emissions Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production," does not apply to this installation because it is not a major source for HAP emissions.
- No air pollution control equipment is being used in association with the new equipment.
- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Conditioned potential emissions of all pollutants are below their respective *de minimis* level.
- 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.
- Emissions testing are not required for the equipment.
- No Operating Permit is required for this installation.
- Approval of this permit is recommended with special conditions.

INSTALLATION AND PROJECT DESCRIPTION

Redneck Manufacturing owns and operates a deer blind manufacturing installation in Lamar, Missouri. Gelcoats are applied to a number of open molds. After a short curing period, fiberglass reinforced resin are applied using a chopper gun system before additional 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.

This facility is a minor source for construction permits and does not need to apply for an operating permit because emissions of all pollutants are below their respective *de minimis* levels and no federal rules apply to the installation.

Redneck Manufacturing proposes to increase its production level from the 12 blinds per day it was limited to in Permit 062011-012A to 24 blinds per day. Five different deer blinds - the 6x6 palace, the 5x6 combo, the 5x6 shooter, the 5x5 C/Over and the 4x6 Tower – will be manufactured by the facility. It also updated the amount of gelcoats and resins used on each blind.

EMISSIONS/CONTROLS EVALUATION

The main pollutants expected from the operation are styrene and methyl methacrylate (MMA), which are considered both volatile organic compounds (VOC) and HAPs. Styrene and MMA emissions were calculated using 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 Factors for Open Molding of Composites.” The controlled emission factors were used because the facility will be using the controlled spray procedure as outlined in the “CFA Controlled Spray Handbook.” Emissions were calculated assuming that only the 6x6 Palace are being produced because emissions are highest while producing this blind. A maximum of

131.6 pounds of resin and 27.5 pounds of gelcoat are used for each 6x6 Palace blind.

VOC emissions from painting of the deer blinds were calculated using the VOC emissions rate given in the Material Safety Data Sheet (MSDS) of the paint. The particulate matter (PM) emissions from painting were calculated assuming a 75% transfer efficiency, for flat surfaces, taken from Table 5-7 of the Air Pollution Training Institute (APTI) Course 482 manual. Particulate matter less than two-and-a-half microns in diameter (PM_{2.5}) and particulate matter less than ten microns in diameter (PM₁₀) emissions from painting were calculated by taking the PM emissions and multiplying by the percentage of PM_{2.5} and PM₁₀ that are in the PM. The particle size distribution was taken from the California Emissions Inventory Development and Reporting System (CEIDARS) table. Each deer blind is expected to receive 0.66 gallons of paint on average. The calculations were performed by adding a 10% safety factor for a total of 0.73 gallons of paint per blind, to account for any variability of paint on each blind. The paint will be applied using an airless spray gun.

No emission factor is currently available for the sanding of fiberglass. However, comparison with other sanding operations suggests that the emissions are negligible. For example, the emission factor for sanding of retread tires is 9.0×10^{-7} pounds of PM per pound processed. This emission factor is from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources*, Fifth Edition, the "Emission Factor Tables," Chapter 4.12, "Manufacture of Rubber Products," (11/2008). Therefore, emissions from fiberglass sanding were not calculated.

Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). The limit of 10.0 tons per year of styrene was set to keep this facility from becoming a major source for HAP. The limit of 25.0 tons of combined HAPs per year is not needed because by limiting the styrene emissions to 10.0 tpy, the total HAP emissions will be conditioned to less than 25.0 tpy.

Table 1: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions	¹ Potential Emissions of the Application	² New Installation Conditioned Potential
PM _{2.5}	10.0	N/A	N/A	1.61	0.42
PM ₁₀	15.0	N/A	N/A	1.76	0.46
PM	25.0	N/A	N/A	2.59	0.67
SOx	40.0	N/A	N/A	N/A	N/A
NOx	40.0	N/A	N/A	N/A	N/A
VOC	40.0	N/A	N/A	42.77	11.12
CO	100.0	N/A	N/A	N/A	N/A
Total HAPs	25.0	N/A	N/A	42.48	11.04
Styrene	³ 1.0	N/A	N/A	38.44	<10.0
MMA	10.0	N/A	N/A	4.04	1.04

N/A = Not Applicable

Note 1: Potential emissions of the application based maximum production without limitations.

Note 2: Styrene conditioned potential based on limit to avoid major source status. Other pollutants proportionally reduced.

PERMIT RULE APPLICABILITY

This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of all pollutants are below *de minimis* levels.

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
- *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

AMBIENT AIR QUALITY IMPACT ANALYSIS

The Air Pollution Control Program requires that modeling be performed for individual HAP with emissions greater than its Screening Model Action Level (SMAL) and that the modeled ambient impact be less than the Risk Assessment Level (RAL) for that pollutant. The SMAL for styrene is 1.0 tons per year while the conditioned potential emission for styrene is 10.0 tons per year. Therefore, the styrene emissions from the installation were modeled. Results show that the facility will be in compliance with the RAL.

For the 24-hour averaging period, the ambient impact analysis was based on 24 blinds per day and for the annual averaging period, the ambient impact analysis was based on the limit of 10 tons per year of styrene. Daily operating hours between 7 a.m. and midnight were also used. Details regarding the ambient impact analysis can be found in the Air Pollution Control Program memo “Ambient Air Quality Impact Analysis (AAQIA) for Redneck Manufacturing, LLC – 2012-01-042 - Correction.”

STAFF RECOMMENDATION

On the basis of this review conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*, I recommend this permit be granted with special conditions.

Chia-Wei Young
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated June 9, 2011, received January 12, 2012, designating Redneck Manufacturing as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Air Pollution Control Program memo “Ambient Air Quality Impact Analysis (AAQIA) for Redneck Manufacturing, LLC – 2012-01-042 - Correction” dated April 25, 2012.

Attachment A – Production Limit Compliance Worksheet

Redneck Manufacturing
 Barton County, (S30, T32N, R30W)
 Project Number: 2012-01-042
 Installation ID Number: 011-0042
 Permit Number: _____

This sheet covers the period from _____ to _____.
 (month, year) (month, year)

Date							
Days of the Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
¹Production							
Date							
Days of the Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
¹Production							
Date							
Days of the Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
¹Production							
Date							
Days of the Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
¹Production							
Date							
Days of the Week	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
¹Production							

Note 1: A daily production of less than or equal to **24** deer blinds is necessary for compliance.

Attachment B – Styrene Emissions Compliance Worksheet

Redneck Manufacturing
 Barton County (S30, T32N, R30W)
 Project Number: 2012-01-042
 Installation ID Number: 011-0042
 Permit Number: _____

This sheet covers the month of _____ in the year _____

Copy this sheet as needed.

Column 1	Column 2	Column 3	Column 4	Column 5
Type of Process	Amount of Gel Coat or Resin Used (lbs)	Type of HAP	Emission Factors (lbs/ton)	(b) Emissions (tons)
Gel Coat Gun for Deer Blinds		Styrene	202.61	
(a) Chop Gun for the Blinds		Styrene	76.44	
Open Seaming		Styrene	74.09	
(c) Total Styrene Emissions Calculated for this Month in Tons:				
(d) Total Styrene Emissions From the Previous 11 Months in Tons				
(e) Total Styrene Emissions for the Current 12-Month Period in Tons:				

- (a) Amount used for the deer blinds should only be the resin portion and not the fiberglass portion.
- (b) Emission (tons) calculated using $[\text{Column 2} \div 2,000 \times \text{Column 4}] \div 2,000$
- (c) Total styrene emissions (tons) for the current month calculated from summing Column 5.
- (d) Total styrene emissions (tons) from the previous 11 months can be found by adding the total monthly styrene emissions from Attachment B of the previous 11 months.
- (e) Total styrene emissions (tons) for the current 12-month period can be calculated by adding (c) and (d). A total of less than **10.0 tons per year** indicates compliance.

Attachment C – Styrene Emissions From Alternative Gelcoats, Resins or Deer Blinds

Redneck Manufacturing
 Barton County (S30, T32N, R30W)
 Project Number: 2012-01-042
 Installation ID Number: 011-0042
 Permit Number: _____

Copy this sheet as needed.

Column 1	Column 2	Column 3	Column 4	Column 5
Type of Process	(a) Maximum Hourly Gelcoat or Resin Usage (lbs/hr)	Type of HAP	(b) Emission Factors (lbs/ton)	(c) Hourly Emissions (lbs/hr)
Gel Coat Gun for Deer Blinds		Styrene		
(d) Chop Gun for the Blinds		Styrene		
Open Seaming		Styrene		

- (a) Maximum Hourly Gelcoat or Resin Usage (lbs/hr) can be calculated using [Gelcoat or Resin per Blind (lbs) x 24 blinds/day ÷ 17 Hours of Operations/day].
- (b) Emission factors should be obtained from the “Unified Emission Factors for Open Molding of Composites.” A copy is attached as Appendix A.
- (c) Hourly Emissions (lbs/hr) calculated using ([Column 2]x 0.0005 tons/lb) x [Column 4]. A total of less than **3.93 lbs/hr** from the gelcoat application, **7.05 lbs/hr** from the chop gun and **1.41 lbs/hr** from open seaming indicate compliance.
- (d) Amount used for the deer blinds should only be the resin portion and not the fiberglass portion.

Appendix A

Unified Emission Factors for Open Molding of Composites

July 23, 2001

Emission Rate in Pounds of Styrene Emitted per Ton of Resin or Gelcoat Processed

Styrene content in resin/gelcoat, % ⁽¹⁾	<33 ⁽²⁾	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	>50 ⁽²⁾
Manual	0.126 x %styrene x 2000	83	89	94	100	106	112	117	123	129	134	140	146	152	157	163	169	174	180	((0.286 x %styrene) - 0.0529) x 2000
Manual w/ Vapor Suppressed Resin VSR⁽³⁾	Manual emission factor [listed above] x (1 - (0.50 x specific VSR reduction factor for each resin/suppressant formulation))																			
Mechanical Atomized	0.169 x %styrene x 2000	111	126	140	154	168	183	197	211	225	240	254	268	283	297	311	325	340	354	((0.714 x %styrene) - 0.18) x 2000
Mechanical Atomized with VSR⁽³⁾	Mechanical Atomized emission factor [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))																			
Mechanical Atomized Controlled Spray⁽⁴⁾	0.130 x %styrene x 2000	86	97	108	119	130	141	152	163	174	185	196	207	218	229	240	251	262	273	0.77 x ((0.714 x %styrene) - 0.18) x 2000
Mechanical Controlled Spray with VSR	Mechanical Atomized Controlled Spray emission factor [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))																			
Mechanical Non-Atomized	0.107 x %styrene x 2000	71	74	77	80	83	86	89	93	96	99	102	105	108	111	115	118	121	124	((0.157 x %styrene) - 0.0165) x 2000
Mechanical Non-Atomized with VSR⁽³⁾	Mechanical Non-Atomized emission factor [listed above] x (1 - (0.45 x specific VSR reduction factor for each resin/suppressant formulation))																			
Filament application	0.184 x %styrene x 2000	122	127	133	138	144	149	155	160	166	171	177	182	188	193	199	204	210	215	((0.2746 x %styrene) - 0.0298) x 2000
Filament application with VSR⁽³⁾	0.120 x %styrene x 2000	79	83	86	90	93	97	100	104	108	111	115	118	122	125	129	133	136	140	0.65 x ((0.2746 x %styrene) - 0.0298) x 2000
Gelcoat Application	0.445 x %styrene x 2000	294	315	336	356	377	398	418	439	460	481	501	522	543	564	584	605	626	646	((1.03646 x %styrene) - 0.195) x 2000
Gelcoat Controlled Spray Application⁽⁴⁾	0.325 x %styrene x 2000	215	230	245	260	275	290	305	321	336	351	366	381	396	411	427	442	457	472	0.73 x ((1.03646 x %styrene) - 0.195) x 2000
Gelcoat Non-Atomized Application⁽⁸⁾	SEE Note 9 below	196	205	214	223	232	241	250	259	268	278	287	296	305	314	323	332	341	350	((0.4506 x %styrene) - 0.0505) x 2000
Covered-Cure after Roll-Out	Non-VSR process emission factor [listed above] x (0.80 for Manual <or> 0.85 for Mechanical)																			
Covered-Cure without Roll-Out	Non-VSR process emission factor [listed above] x (0.50 for Manual <or> 0.55 for Mechanical)																			

Emission Rate in Pounds of Methyl Methacrylate Emitted per Ton of Gelcoat Processed

MMA content in gelcoat, % ⁽⁶⁾	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	≥20
Gel coat application⁽⁷⁾	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225	240	255	270	285	0.75 x %MMA x 2000

Notes

- 1 Including styrene monomer content as supplied, plus any extra styrene monomer added by the molder, but before addition of other additives such as powders, fillers, glass,...etc.
- 2 Formulas for materials with styrene content < 33% are based on the emission rate at 33% (constant emission factor expressed as percent of available styrene), and for styrene content > 50% on the emission rate based on the extrapolated factor equations; these are not based on test data but are believed to be conservative estimates. The value for "% styrene" in the formulas should be input as a fraction. For example, use the input value 0.30 for a resin with 30% styrene content by wt.
- 3 The VSR reduction factor is determined by testing each resin/suppressant formulation according to the procedures detailed in the **CFA Vapor Suppressant Effectiveness Test**.
- 4 SEE the **CFA Controlled Spray Handbook** for a detailed description of the controlled spray procedures.
- 5 The effect of vapor suppressants on emissions from filament winding operations is based on the **Dow Filament Winding Emissions Study**.
- 6 Including MMA monomer content as supplied, plus any extra MMA monomer added by the molder, but before addition of other additives such as powders, fillers, glass,...etc.
- 7 Based on gelcoat data from **NMMA Emission Study**.
- 8 SEE the July 17, 2001 EECS report **Emission Factors for Non-Atomized Application of Gel Coats used in the Open Molding of Composites** for a detailed description of the non-atomized gelcoat testing.
- 9 Use the equation **((0.4506 x %styrene) - 0.0505) x 2000** for gelcoats with styrene contents between 19% and 32% by wt.; use the equation **0.185 x %styrene x 2000** for gelcoats with less than 19% styrene content by wt.

Mr. Russ Hurt
Director of Manufacturing
Redneck Manufacturing
153 SE 1st Lane
Lamar, MO 64759

RE: New Source Review Permit - Project Number: 2011-06-027

Dear Mr. Riegel:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions, 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 and your new source review permit application 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 have any questions regarding this permit, please do not hesitate to contact Chia-Wei Young at the Departments' Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102 or at (573) 751-4817. Thank you for your attention to this matter.

Sincerely,

AIR POLLUTION CONTROL PROGRAM

Kendall B. Hale
New Source Review Unit Chief

KBH:cyl

Enclosures

c: Southwest Regional Office
PAMS File: 2012-01-042

Permit Number: