

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: 102017-005

Project Number: 2017-07-057
Installation Number: 011-0042

Parent Company: Redneck Manufacturing LLC

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

Installation Name: Redneck Manufacturing LLC

Installation Address: 1705 Gulf Street, Lamar, MO 64759


Location Information: Barton County, S30, T32N, R30W

Application for Authority to Construct was made for:

Usage of a new foam resin to replace the existing LizardSkin coating. 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.


Prepared by
Chia-Wei Young
New Source Review Unit


Director of Designee
Department of Natural Resources

OCT 11 2017

Effective Date

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 Enforcement and Compliance Section of 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 Enforcement and Compliance Section of the Department's Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department's regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of the permit application and this permit and permit review shall be kept at the installation address and shall be made available to Department's 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 source(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 using the contact information below.

Contact Information:
Missouri Department of Natural Resources
Air Pollution Control Program
P.O. Box 176
Jefferson City, MO 65102-0176
(573) 751-4817

The regional office information can be found at the following website:
<http://dnr.mo.gov/regions/>

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 LLC
Barton County, S30, T32N, R30W

1. Operational Limits
 - A. Redneck Manufacturing LLC shall not spray more than 148,928 gallons of M-Foam Resin in any consecutive 12-month period from the coatings spray operation.
 - B. Redneck Manufacturing LLC shall not spray more than 5,238 gallons of Premium M91 Resin BLK in any consecutive 12-month period from the coatings spray operation.
 - C. Redneck Manufacturing LLC shall develop its own form to demonstrate compliance with Special Conditions 1.A. and 1.B. The forms shall include, at a minimum, the name of the coating being tracked, the monthly coatings usage, the 12-month rolling total coatings usage, the compliance limit, and indication of compliance with Special Conditions 1.A. and 1.B.
2. Performance Testing
 - A. Redneck Manufacturing LLC shall perform tests to determine the transfer efficiency of the foam resins being used in the coatings operation. Transfer efficiency is the percent ratio of the amount of coating solids applied to the surface to the total amount of solids used. If the tested transfer efficiency is less than 98.4%, Redneck Manufacturing LLC shall contact the Compliance/Enforcement Unit of the Missouri Air Pollution Control Program for further instructions on how to demonstrate compliance with Missouri State Rules 10 CRS 10-6.400, *Restriction of Emission of Particulate Matter From Industrial Processes*.
 - B. The tests shall be performed within 60 days after installation of the coatings operation.
 - C. A completed proposed test plan form (enclosed) must be submitted to the Air Pollution Control Program 30 days prior to the proposed test date so that the Air Pollution Control Program may arrange a pretest meeting, if necessary, and assure that the test date is acceptable for an observer to be present. The proposed test plan may serve the purpose of notification and must be approved by the Director prior to conducting the required testing.

SPECIAL CONDITIONS:

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

- D. One electronic copy of a written report of the performance test results shall be submitted to Stacktesting@dnr.mo.gov within 60 days of completion of any required testing. The report must include legible copies of the raw data sheets, analytical instrument laboratory data, and complete sample calculations from the required Method for at least one sample run.
 - E. The test report is to fully account for all operational and emission parameters addressed both in the permit conditions as well as in any other applicable state or federal rules or regulations.
3. Record Keeping and Reporting Requirements
- A. Redneck Manufacturing LLC 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 LLC shall report to the Air Pollution Control Program's Compliance/Enforcement Section, by mail at P.O. Box 176, Jefferson City, MO 65102 or by email at aircompliancereporting@dnr.mo.gov, no later than 10 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: 2017-07-057
Installation ID Number: 011-0042
Permit Number: 102017-005

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

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

Barton County, S30, T32N, R30W

REVIEW SUMMARY

- Redneck Manufacturing LLC has applied for authority to use a new foam resin in its coatings operation, in place of the LizardSkin coating.
- The application was deemed complete on July 24, 2017.
- HAP emissions are not expected from the proposed equipment.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- None of the NESHAPs apply to this installation.
- None of the currently promulgated MACT regulations apply to the proposed equipment. However, Subpart WWWW, *National Emission Standards for Hazardous Air Pollutants: Reinforced Plastic Composites Production*, applies to other equipment at the installation. Non-gel coat surface coating operations are specifically exempted under this subpart.
- No air pollution control equipment is being used in association with the new equipment. However, if the transfer efficiency test required in Special Condition 2 shows efficiency less than 98.4%, the facility may have to install a paint booth and filters to show compliance with Missouri State Rules 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter from Industrial Processes*.
- 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 but greater than the exemption levels in Missouri State Rules 10 CSR 10-6.061(3)(A)3.A.
- 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 not performed since potential emissions of the application are below de minimis levels.
- Emissions testing is not required for the equipment as a part of this permit. However, the installation is required to test for the transfer efficiency of the new foam coating to show compliance with Missouri State Rule 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter From Industrial Processes*
- A modification to the facility's Part 70 Operating Permit application is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Redneck Manufacturing LLC 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 permitted to operate at three (3) separate locations in Lamar, MO: 153 SE 1st Lane, 1705 Gulf Street, and 1101 East 12th Street. A fourth site, located at 1701 Maples Street, is being used as a warehouse only and does not contain any equipment for production.

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 1: 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	Change daily styrene emission limits

On August 31, 2017, the Missouri Air Pollution Control Program issued Construction Permit No. 082017-008 to the installation. The former project is to change the daily styrene emissions limit for the gelcoat application operation and is unrelated to this current project. Therefore, two separate permits will be issued.

PROJECT DESCRIPTION

Redneck Manufacturing LLC has applied for authority to use a new foam resin in place of the existing LizardSkin coating. The foam resin will be applied only at the 1705 Gulf Street location. The facility will also continue to use waterborne paint as a coating as it has been previously permitted.

The foam resin will be a combination of 2 raw ingredients: the M-Foam Resin and the Premium M91 Resin BLK. The MHDR is 35.2 gallons per hour, calculated from the facility's expected usage plus a safety factor in case their production increases in the future. 34.0 gph comes from the M-foam resin while the remaining 1.2 gph comes from the M91 Resin. The facility is required by special condition in this permit to limit the annual usages to 148,928 gallons of M-Foam Resin and 5,238 gallons of M91 Resin. The annual limit is based on 12 hours of operation for 365 days per year since the installation is limited in its most recent permit to only operating 12 hours per day.

The facility expects to achieve an overspray of only 1%. If the overspray is greater than 1%, the facility is willing to install a booth and filter to control particulate emissions. Calculations performed on particulate emissions using a 50% overspray shows that the installation will still emit PM_{2.5}, PM₁₀ and PM emissions below their respective *de minimis* levels. Therefore, the installation of a spray booth and filter are not required in this permit. However, if the overspray is greater than 1.6%, the facility will not be in compliance with Missouri State Rule 10 CSR 10-6.400, *Restriction of Emission of Particulate Matter From Industrial Processes*. Therefore, this permit requires that the facility perform tests to determine the amount of overspray, and if the overspray is greater than 1.6%, the installation shall contact the Compliance/Enforcement Unit of the Missouri Air Pollution Control Program for further instruction on how to demonstrate compliance with 10 CSR 10-6.400, which may include the installation of control devices to control particulate emissions from the foam resin usage.

EMISSIONS/CONTROLS EVALUATION

Particulate emissions from the foam spray were calculated using mass balances, assuming an overspray of 50%. The solid contents of the M-Foam resin and the

Premium M91 resin were taken from the SDS. The uncontrolled emissions of PM_{2.5}, PM₁₀, and PM are less than their respective *de minimis* levels.

PM_{2.5} emissions were assumed to be 40.8% of PM emissions. This value is taken from data in the paper "Characterization of Airborne Particulates Generated by a Spray Polyurethane Foam Insulation Kit," University of South Florida, (2014). In this paper, percentage of PM that is PM_{2.5} was not analyzed. Instead, it was determined that 40.8% of PM is PM_{3.3}. This number was used to calculate PM_{2.5} because it would give the most conservative value. This paper also did not measure PM₁₀. Instead, it measured up to PM_{9.0}, which is 90.1% of PM. To be conservative, 98% was used to calculate PM₁₀ emissions.

The M-foam resin does not contain any VOCs. The only volatile component, 1,1,1,3,3-Pentafluoropropane (HFC-245fa), is not considered a VOC because of its known lack of participation in atmospheric reactions to produce ozone. The M91 resin BLK contains 80% VOCs and it was assume that all VOCs are emitted. Besides particulates and VOCs, no other emissions are expected from the foam coating operation. None of the VOC in M91 resin are considered HAPs.

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2016 EIQ)	Potential Emissions of the Project	New Installation Conditioned Potential
PM	25.0	4.49	N/D	12.76	N/A
PM ₁₀	15.0	3.06	N/D	12.24	N/A
PM _{2.5}	10.0	2.79	N/D	5.20	N/A
SOx	40.0	0.000016	N/D	N/A	N/A
NOx	40.0	0.25	N/D	N/A	N/A
VOC	40.0	228.41	29.01	17.9	N/A
CO	100.0	0.14	N/D	N/A	N/A
GHG (CO ₂ e)	N/A	243.96	N/D	N/A	N/A
GHG (mass)	N/A	238.77	N/D	N/A	N/A
HAPs	10.0/25.0	110.47	N/D	N/A	N/A

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

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 but above the exemption levels in Missouri State Rules 10 CSR 10-6.061(3)(A)3.A.

APPLICABLE REQUIREMENTS

Redneck Manufacturing LLC 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. For a complete list of applicable requirements for your installation, please consult your operating permit.

GENERAL REQUIREMENTS

- *Operating Permits*, 10 CSR 10-6.065
- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Submission of Emission Data, Emission Fees and Process Information*, 10 CSR 10-6.110
 - Per 10 CSR 10-6.110(4)(B)2.A., a full EIQ is required annually for all Part 70 sources.
- *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
 - The installation's compliance status with this rule cannot be determined at this time. The facility believes it can achieve 1.0% overspray (i.e. 99% transfer efficiency) for the use of the foam resin. At an overspray less than 1.6% (i.e. greater than 98.4% transfer efficiency), the facility will be in compliance with 10 CSR 10-6.400. The facility is required, as a special condition in this permit, to perform tests to determine the overspray percentage. If the overspray is less than 1.6%, the facility will be in compliance with this rule. If the overspray is greater than 1.6%, the facility shall contact the Compliance/Enforcement Unit of the Missouri Air Pollution Control Program for further instructions on how to demonstrate compliance with 10 CSR 10-6.400.

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*, 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 11, 2017, received July 24, 2017, designating Redneck Manufacturing LLC as the owner and operator of the installation.
- E-mail communications between the Missouri Air Pollution Control Program and Curtis Heider, environmental consultant for Redneck Manufacturing LLC.
- Safety Data Sheets (SDS) for M-Foam Resin and Premium M91 Resin BLK

Other documents relied upon in the preparation of this permit:

- Foster, Loren Lee, "Characterization of Airborne Particulates Generated by a Spray Polyurethane Foam Insulation Kit," (2014), *Graduate Theses and Dissertations*, University of South Florida.

APPENDIX A

Abbreviations and Acronyms

%	percent	Mgal	1,000 gallons
°F	degrees Fahrenheit	MW	megawatt
acfm	actual cubic feet per minute	MHDR	maximum hourly design rate
BACT	Best Available Control Technology	MMBtu	Million British thermal units
BMPs	Best Management Practices	MMCF	million cubic feet
Btu	British thermal unit	MSDS	Material Safety Data Sheet
CAM	Compliance Assurance Monitoring	NAAQS	National Ambient Air Quality Standards
CAS	Chemical Abstracts Service	NESHAPs	National Emissions Standards for Hazardous Air Pollutants
CEMS	Continuous Emission Monitor System	NO_x	nitrogen oxides
CFR	Code of Federal Regulations	NSPS	New Source Performance Standards
CO	carbon monoxide	NSR	New Source Review
CO₂	carbon dioxide	PM	particulate matter
CO_{2e}	carbon dioxide equivalent	PM_{2.5}	particulate matter less than 2.5 microns in aerodynamic diameter
COMS	Continuous Opacity Monitoring System	PM₁₀	particulate matter less than 10 microns in aerodynamic diameter
CSR	Code of State Regulations	ppm	parts per million
dscf	dry standard cubic feet	PSD	Prevention of Significant Deterioration
EIQ	Emission Inventory Questionnaire	PTE	potential to emit
EP	Emission Point	RACT	Reasonable Available Control Technology
EPA	Environmental Protection Agency	RAL	Risk Assessment Level
EU	Emission Unit	SCC	Source Classification Code
fps	feet per second	scfm	standard cubic feet per minute
ft	feet	SDS	Safety Data Sheet
GACT	Generally Available Control Technology	SIC	Standard Industrial Classification
GHG	Greenhouse Gas	SIP	State Implementation Plan
gpm	gallons per minute	SMAL	Screening Model Action Levels
gr	grains	SO_x	sulfur oxides
GWP	Global Warming Potential	SO₂	sulfur dioxide
HAP	Hazardous Air Pollutant	SSM	Startup, Shutdown & Malfunction
hr	hour	tph	tons per hour
hp	horsepower	tpy	tons per year
lb	pound	VMT	vehicle miles traveled
lbs/hr	pounds per hour	VOC	Volatile Organic Compound
MACT	Maximum Achievable Control Technology		
µg/m³	micrograms per cubic meter		
m/s	meters per second		

Foam Resin		
MHDR =	34.002	gal/hr
Density =	2.23	lb/ft ³
	0.2981	lb/gal
Usage =	10.1363	lb/hr
Solid % =	95%	
VOC % =	0%	
Solid Wt. =	9.629442	lb/hr
M91 Resin Blk		
MHDR =	1.196	ga/hr
Density =	1.022	g/cm ³
	8.528995	lb/gal
Usage =	10.20068	lb/hr
VOC Wt. % =	80.20%	
Solids Wt. % =	19.80%	
Total Resin		
MHDR =	35.198	gal/hr
Usage =	20.3369	lb/hr
VOC =	8.180944	lb/hr
VOC =	17.91627	tpy
Solids Content =	11.64918	lb/hr
% Overspray =	50.00%	
Solids Emitted =	5.824588	lb/hr
Solids Emitted =	12.75585	tpy
6.400 Limit =	0.189516	lb/hr

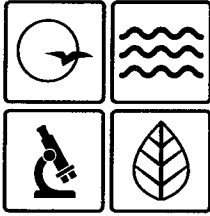
Total Resin		
MHDR =	35.198	gal/hr
Usage =	20.3369	lb/hr
VOC =	8.180943673	lb/hr
VOC =	17.91626664	tpy
Solids Content =	11.6491767	lb/hr
% Overspray =	1.63%	
Solids Emitted =	0.189515623	lb/hr
Solids Emitted =	0.415039214	tpy
6.400 Limit =	0.189515623	lb/hr

	% in PM	E (tpy)
PM	100%	12.75585
PM10	98.00%	12.50073
PM2.5	40.80%	5.204386

From the Paper "Characterization of the Airborn Particulates Generated from the Installation of an Insulation Kit"

Foam Resin =	148928.8	gal/year
M91 Resin =	5238.48	gal/year

Generated by a Spray Polyurethane Foam



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

OCT 11 2017

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

RE: New Source Review Permit - Project Number: 2017-07-057

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.

This permit may include requirements with which you may not be familiar. If you would like the department to meet with you to discuss how to understand and satisfy the requirements contained in this permit, an appointment referred to as a Compliance Assistance Visit (CAV) can be set up with you. To request a CAV, please contact your local regional office or fill out an online request. The regional office contact information can be found at the following website: <http://dnr.mo.gov/regions/>. The online CAV request can be found at <http://dnr.mo.gov/cav/compliance.htm>.

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, whose contact information is: Administrative Hearing Commission, United States Post Office Building, 131 West High Street, Third Floor, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.



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Mr. Russ Hurt
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If you have any questions regarding this permit, please do not hesitate to contact Young, Chia-Wei, at the Department of Natural Resources' 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



Susan Heckenkamp
New Source Review Unit Chief

SH:cj

Enclosures

c: Southwest Regional Office
PAMS File: 2017-07-057

Permit Number: 102017-005