

STATE OF MISSOURI



PERMIT BOOK

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: 022016 - 013

Project Number: 2015-08-018
Installation Number: 069-0076

Parent Company: Manac Trailers USA, Inc.

Parent Company Address: 2275, 107e Rue, Saint-Georges, QC, Canada G5Y8G8

Installation Name: Manac Trailers USA, Inc.

Installation Address: 1240 Riggs Street, Kennett, MO 63771

Location Information: Dunklin County, S36, T19N, R9E

Application for Authority to Construct was made for:

The installation of Emission Unit (EU) - 05, a plasma cutter (Prostar model made by Sector Technologies). This source was constructed prior to a receipt of a construction permit from the Missouri Department of Natural Resources. Obtaining this permit is a part of remedial action required by the Missouri Air Pollution Control Program. 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.

Daronn A. Williams

Prepared by
Daronn A. Williams
New Source Review Unit

Kyra L Moore

Director or Designee
Department of Natural Resources

FEB 25 2016

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 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.

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Permit No.	
Project No.	2015-08-018

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."

Manac Trailers USA, Inc.
Dunklin County, S36, T19N, R9E

1. Operational Limitation
 - A. Manac Trailers USA, Inc. shall operate the Sector Technologies Prostar model plasma cutter (EU-05) no more than 2,000 hours in any consecutive 12-month period.
 - B. Manac Trailers USA, Inc. shall track the hours EU-05 is in use by using Attachment A, or an equivalent form, such as an electronic form, approved by the Air Pollution Control Program to demonstrate compliance with Special Conditions 2.A.
2. Record Keeping and Reporting Requirements
 - A. Manac Trailers USA, Inc. 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. Manac Trailers USA, Inc. 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 (5) REVIEW

Project Number: 2015-08-018
Installation ID Number: 069-0076
Permit Number:

Installation Address:

Manac Trailers USA, Inc.
1240 Riggs Street
Kennett, MO 63771

Parent Company:

Manac Trailers USA, Inc.
2275, 107e Rue
Saint-Georges, QC, Canada G5Y8G8

Dunklin County, S36, T19N, R9E

REVIEW SUMMARY

- Manac Trailers USA, Incorporated (Manac) has applied for authority to install a plasma cutter (EU-05), a Prostar model made by Sector Technologies. This source was constructed prior to a receipt of a construction permit from the Missouri Department of Natural Resources. Obtaining this permit is a part of remedial action required by the Missouri Air Pollution Control Program.
- The application was deemed complete on August 17, 2015.
- HAP emissions are expected from the proposed equipment. HAPs emitted from this process are chromium compounds, chromium (VI) compounds, manganese, cobalt, cadmium and nickel. These HAP emissions are limited below their respective SMAL by the 2,000 hour per year operating limit.
- None of the NESHAP and NSPS regulations apply to the proposed plasma cutter.
- MACT XXXXXX, National Emission Standards for Hazardous Air Pollutants Area Source Standards for Nine Metal Fabrication and Finishing Source Categories, does not apply to the facility because the facility's SIC (3556) is not included in the EPA's list of SICs to which this regulation applies.
- Per Manac's application, the U.S. EPA's Region 7 Office issued an exemption from MACT HHHHHH, National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, on January 21, 2015 because the coatings Manac uses does not contain the target HAPs listed in MACT HHHHHH.
- A dust collector is used with this plasma cutter, but the Manac has elected to not make this a federally enforceable condition. This dust collector was not considered during the review of this permit.
- 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 criteria

pollutants are conditioned below de minimis levels.

- This installation is located in Dunklin 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.
- Manac is a de minis source for all pollutants and an operating permit is not required.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Manac manufactures trailers for over-the-road hauling. Manac's operations include gas metal arc welding, shot blasting, surface coating and plasma cutting.

The following New Source Review permits have been issued to Manac from the Air Pollution Control Program.

Table 1: Permit History

Permit Number	Description
072007-005	Installation of gas metal arc welding, shot blasting and surface coating operations

PROJECT DESCRIPTION

Manac has applied for authority to install a plasma cutter (EU-05), a Prostar model made by Sector Technologies. This source was constructed prior to a receipt of a construction permit from the Missouri Department of Natural Resources. The plasma cutter was installed August 2015. The new plasma cutter will use oxygen and compressed air as the gas media. The gases are blown out of a nozzle at a high velocity and when coupled with an electrical arc, some of the gas is turned to plasma. The plasma has a high temperature and melts the material it is applied to. Manac will use the plasma cutter to cut steel and aluminum for trailer assembly. The plasma cutter will be used to cut mild steel and aluminum alloys.

A permit is required for this project because the uncontrolled, unconditioned potential PM₁₀ emissions exceed 1.0 pounds per hour insignificant level and the uncontrolled, unconditioned potential manganese, cobalt and cadmium emissions exceed their individual SMAL.

EMISSIONS EVALUATION

The following sources were used to calculate emissions of this project: a research paper titled "Emission of Fume, Nitrogen Oxides, and Noise in Plasma Cutting of Stainless and Mild Steel" written by Broman B., et. al and published in The Swedish Institute of Production Engineering Research in March 1994, the steel and aluminum SDS and the state of California's South Coast Air Quality Management District Permit, Application # 480171/2. The research paper is referenced in the EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Chapter 12: Metallurgical Industry.

PM, PM₁₀, PM_{2.5}, and manganese emissions were calculated using the Broman research paper. The plasma cutting will be a dry process and will cut mild steel and aluminum alloys. The steel's thickness will vary but a maximum thickness of 0.32 inches is expected. As a result, an emission rate of 26 grams of fumes per minute (3.44 pounds per hour) was used. Because a particle size distribution is not available, 100% of the fume was assumed to be PM, PM₁₀ and PM_{2.5}. The Broman research paper estimates that up to 10% of fume emissions are manganese. Manganese emissions were calculated by multiplying the overall particulate emissions from the plasma cutting by the max manganese content.

Chromium and nickel emissions were calculated using the Safety Data Sheet (SDS) for the hot rolled coiled steel. This SDS reports that the steel is made up of up to 5% of chromium compounds and up to 5% of nickel. Chromium and nickel emissions were calculated by multiplying the overall particulate emissions from the plasma cutting by the max chromium and nickel content found in the steel SDS. One hundred percent of these HAPS were assumed to be emitted from the hot rolled coiled steel.

Hexavalent chromium, also known as chromium (VI) compounds, emissions were calculated by using a source test performed by the state of California during the review of application number 480171/2. When chromium compounds are heated to a high temperature, some emissions are converted to chromium (VI) compounds. This source test showed that 0.022% of total chromium emissions were hexavalent chromium emissions. As a result, hexavalent chromium emissions were calculated by multiplying this maximum concentration by the overall chromium emissions from the plasma cutting process.

Cobalt and cadmium emissions were calculated using the SDS for the aluminum alloys. Per this SDS, this material is made up of 2% of cobalt and 0.2% of cadmium. Since these are particulate HAPs, these maximum content levels were multiplied by the overall particulate emissions from the plasma cutting. One hundred percent of these HAPS were assumed to be emitted from the aluminum alloys.

The following table provides an emissions summary for this project. Existing potential emissions were taken from Construction Permit 072007-005. Existing actual emissions were taken from the installation's 2014 EIQ. Potential emissions of the application represent the potential of the new plasma cutter, assuming continuous operation (8760 hours per year). Application conditioned potential emissions are based on a voluntary

2,000 hour per 12 consecutive months operation limit for the installation's plasma cutter to prevent HAP emissions exceeding their SMAL.

Table 2: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis/ SMAL Levels	Existing Potential Emissions	Existing Actual Emissions (2014 EIQ)	Potential Emissions of the Application	Application Conditioned Potential Emissions	New Installation Conditioned Potential Emissions
PM	25.0	N/D	N/D	15.06	N/D	N/D
PM ₁₀	15.0	1.26	0.31	15.06	0.34	1.6
PM _{2.5}	10.0	N/D	0.31	15.06	0.34	N/D
SO _x	40.0	Negligible	N/D	N/A	N/A	Negligible
NO _x	40.0	Negligible	N/D	N/A	N/A	Negligible
VOC	40.0	< 40.0	21.58	N/A	N/A	< 40.0
CO	100.0	0.11	N/D	N/A	N/A	0.11
Chromium Compounds	5.0	N/A	N/A	0.75	0.17	0.17
Chromium (VI) Compounds	0.002	N/A	N/A	1.66 x 10 ⁻⁶	3.78 x 10 ⁻⁷	3.78 x 10 ⁻⁷
Manganese	0.8	N/A	N/A	1.51	0.34	0.34
Cobalt	0.1	N/A	N/A	0.30	0.07	0.07
Cadmium	0.01	N/A	N/A	0.03	0.007	0.007
Nickel	1.0	N/A	N/A	0.75	0.17	0.17
Combined HAPs	25.0	N/A	N/A	3.34	0.76	0.76

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 criteria pollutants are conditioned below de minimis levels.

APPLICABLE REQUIREMENTS

Manac Trailers USA, Inc. 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

- *Submission of Emission Data, Emission Fees and Process Information, 10 CSR 10-6.110*
- *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*

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 recommend 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 August 12, 2015, received August 17, 2015, designating Manac Trailers USA, Inc. as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

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

Mr. Rick Lott
Safety Specialist
Manac Trailers USA, Inc.
8593 State Hwy 77
Oran, MO 63771

RE: New Source Review Permit - Project Number: 2015-08-018

Dear Mr. Lott:

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 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 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, whose contact information is: Administrative Hearing Commission, Truman State Office Building, Room 640, 301 W. High Street, P.O. Box 1557, Jefferson City, Missouri 65102, phone: 573-751-2422, fax: 573-751-5018, website: www.oa.mo.gov/ahc.

If you have any questions regarding this permit, please do not hesitate to contact Daronn A. Williams, 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:dwl

Enclosures

c: Southeast Regional Office
PAMS File: 2015-08-018

Permit Number: