

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: **01 2017 - 011** Project Number: 2016-10-008
Installation Number: 229-0001

Parent Company: Hutchens Industries, Inc.

Parent Company Address: P.O. Box 1427, Springfield, MO 65801

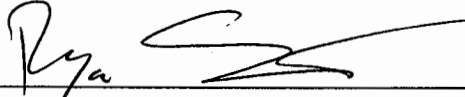
Installation Name: Hutchens Industries – Mansfield

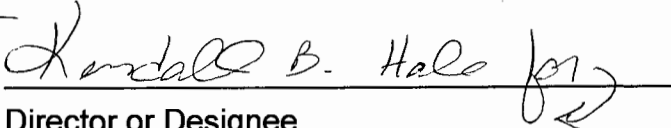
Installation Address: 898 East Commercial Street, Mansfield, MO 65704

Location Information: Wright County (S2, T28N, R17W)

Application for Authority to Construct was made for:
The installation of a paint booth and curing oven. 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.


Prepared by
Ryan Schott
New Source Review Unit


Director or Designee
Department of Natural Resources
JAN 18 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 startup 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 startup 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."

Hutchens Industries – Mansfield
Wright County (S2, T28N, R17W)

1. VOC and HAP Emission Limitations
 - A. Hutchens Industries – Mansfield shall emit less than 250.0 tons of VOCs in any consecutive 12-month period from the entire installation (see Table 1).
 - B. Hutchens Industries – Mansfield shall emit less than 10.0 tons individually and 25.0 tons combined of HAPs in any consecutive 12-month period from the entire installation (see Table 1).
 - C. Hutchens Industries – Mansfield shall develop and use forms to demonstrate compliance with Special Conditions 1.A & 1.B. The forms shall contain, at a minimum, the following information.
 - 1) Installation name & ID number
 - 2) Permit number
 - 3) Current month & 12-month date range
 - 4) Monthly throughput for each emission unit (listed in Table 1) that emits VOCs/HAPs in the current month
 - 5) Emission factors for each applicable emission unit:
 - a) For the paint booth (EP-13D), VOC/HAP emissions shall be calculated using mass balances, assuming that 100% of VOCs/HAPs in the coatings are emitted. VOC/HAP content shall be determined from the coating SDS. If a range is given, the highest value shall be used.
 - b) For the curing oven (EP-13E), the VOC/HAP emission factors shall be taken from AP-42 Section 1.4 *Natural Gas Combustion* (September 1998).
 - c) For all previously permitted emission units, continue using the VOC/HAP emission calculation methods listed in the recordkeeping requirements of operating permit OP2013-049.
 - 6) Monthly emissions for each applicable emission unit
 - 7) Total monthly emissions for VOCs/HAPs
 - 8) 12 month rolling total for VOCs/HAPs that includes the sum of all startup, shutdown, and malfunction emissions, as reported to the Air Pollution Control Program's Compliance/Enforcement Section
 - 9) Indication of compliance with Special Conditions 1.A & 1.B

SPECIAL CONDITIONS:

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

2. **Paint Gun Usage Restriction**
Hutchens Industries – Mansfield shall use no more than two (2) paint guns at a time in the new paint booth (EP-13D).
3. **Capture Device Requirement – Paint Booth**
 - A. Hutchens Industries – Mansfield shall capture emissions from the new paint booth (EP-13D) by operating according to the manufacturer's specifications.
 - B. All doorways into the booth shall be closed during operation, and all fresh air vents shall be equipped with visual indicators, such as streamers, that show air flow into the booth. Such indicators are not required at the conveyor entry/exit, because they may restrict operation of the conveyor and/or damage freshly painted parts.
4. **Control Device Requirement – Fabric Filters**
 - A. Hutchens Industries – Mansfield shall control emissions from the new paint booth (EP-13D) using fabric filters, as specified in the permit application.
 - B. The filters shall be operated and maintained in accordance with the manufacturer's specifications.
 - C. Replacement filters shall be kept on hand at all times. The filters shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
 - D. Hutchens Industries – Mansfield shall maintain a copy of the filter manufacturer's performance warranty on site.
 - E. Hutchens Industries – Mansfield shall maintain an operating and maintenance log for the paint booths, which shall include the following:
 - 1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions; and
 - 2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.
5. **Record Keeping and Reporting Requirements**
 - A. Hutchens Industries – Mansfield 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.

SPECIAL CONDITIONS:

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

- B. Hutchens Industries – Mansfield 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 shows an exceedance of a limitation imposed by this permit.

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

Project Number: 2016-10-008
Installation ID Number: 229-0001
Permit Number: 012017-011

Installation Address:
Hutchens Industries – Mansfield
898 East Commercial Street
Mansfield, MO 65704

Parent Company:
Hutchens Industries, Inc.
P.O. Box 1427
Springfield, MO 65801

Wright County (S2, T28N, R17W)

REVIEW SUMMARY

- Hutchens Industries – Mansfield has applied for authority to install a paint booth and curing oven.
- The application was deemed complete on October 17, 2016.
- The only expected HAP emissions are the products of natural gas combustion.
- None of the New Source Performance Standards (NSPS) or NESHAPs apply to this installation. None of the currently promulgated MACT regulations apply to the proposed equipment.
- A fabric filter is being used to control particulate emissions from the equipment in this permit.
- This review was conducted in accordance with Section (6) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of VOCs are above the de minimis level but below the major source level. Potential emissions of all other pollutants are below their respective de minimis levels.
- This installation is located in Wright 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.
- Emissions testing is not required for the equipment as a part of this permit. Testing may be required as part of other state, federal or applicable rules.
- Submittal of an amendment to your Intermediate Operating Permit is required within 90 days of equipment startup or submittal of a Part 70 Operating Permit application is required within one year of equipment startup.

- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Hutchens Industries, Inc. operates a facility in Mansfield, Missouri that manufactures truck trailer suspensions. Operations at the installation also include welding and surface coating of metal parts. Hutchens Industries – Mansfield is a minor source, and currently operates under Intermediate Operating Permit OP2013-049, which expires December 13, 2018. The installation will utilize the emission points listed in the following table upon the completion of this project.

Table 1. Installation Emission Point Summary

Emission Point	Description
EP-13A	Spray Booth # 1
EP-13B	Spray Booth # 2
EP-13C	Spray Booth # 3
EP-13D	(New) Spray Booth #5
EP-13E	(New) Curing Oven #3
EP-27	Spray Booth # 4
EP-28	Dip Paint Operation # 1
EP-31	Dip Paint Operation # 2
EP-30	Curing Oven #1
EP-19	Pyrolysis Furnace # 1
EP-26	Plasma Torch
EP-12A	Robotic Welding Booth #1
EP-12B	Robotic Welding Booth #2
EP-12C	Robotic Welding Booth #3
EP-12D	Robotic Welding Booth #4
EP-17	Space Heaters
EP-29A	Alkaline Wash
EP-29 B	Phosphate Wash
EP-32	Combined Welding
EP-33	Dip Tank
EP-34A	Alkaline Wash # 2
EP-34B	Phosphate Wash # 2
EP-35	Curing Oven # 2
EP-36	Pyrolysis Furnace #2

The following New Source Review permits have been issued to Hutchens Industries – Mansfield from the Air Pollution Control Program.

Table 2: Permit History

Permit Number	Description
0691-015	Construction of 2 pyrolysis cleaning furnaces and 4 paint booths
0596-008	Primer conversion, construction of LPG burner and a paint booth
0996-006	Construction of sawdust storage, lumber drying kiln, and robotic welding line
1197-002	Construction of a dry metal cutting plasma torch
0298-006	Construction of a paint booth
062003-007	Construction of a primer dip tank
122003-005	Construction of a welding assembly area

062007-013	Increase dip tank production and feed conveyor speed
082009-009	Construction of a dip coating operation
102011-008	Construction of a pyrolysis cleaning furnace
102011-008A	Change opacity determination method of pyrolysis cleaning furnace

PROJECT DESCRIPTION

Hutchens Industries, Inc. plans to install a new epoxy spray paint booth (EP-13D) at their existing facility in Mansfield, Missouri. The new paint booth will be equipped with a conveyor system that transports steel parts through the booth as they are coated by two paint guns, simultaneously. EP-13D has an overall maximum paint application rate of 4.95 gallons per hour, which represents the maximum amount of coating that can be sprayed during a single shift, averaged over the length of the shift. A fabric mat filter will be used to control particulate emissions from the new paint booth. After being painted, the parts will be transported to a 2.0 MMBtu/hr curing oven (EP-13E).

EMISSIONS/CONTROLS EVALUATION

VOC emissions from spray painting (EP-13D) were calculated using a mass balance approach. The volatile percentage of the epoxy and activator were multiplied by their respective densities (taken from the SDS) and the maximum design rate of the process to obtain a maximum VOC usage rate. The epoxy and activator must be applied in a 4:1 ratio for the coating to cure properly. It was assumed that 100% of VOCs are emitted. Neither the epoxy nor the activator contain HAPs.

PM₁₀ and PM_{2.5} emissions from spray painting were also calculated using a mass balance approach. The solids content of the epoxy and activator were multiplied by their respective densities, a solids transfer efficiency of 45% for the air atomized spray guns [taken from the spray coating section of the APTI document, *Sources and Control of Volatile Organic Air Pollutants* (November 2002) and considering a 5% degree of error], and then multiplied the maximum design rate of the process. It was assumed that all particulate matter is PM_{2.5}.

The fabric filters used in the paint booths are rated with a capture efficiency of 98.67% and a control efficiency of 80% (taken from the manufacturer's specifications), yielding an overall efficiency of 78.94% for both PM₁₀ and PM_{2.5}.

Emissions from the curing oven (EP-13E) were calculated using emission factors taken from AP-42 Section 1.4 *Natural Gas Combustion* (July 1998).

The following table provides an emissions summary for this project. Existing potential emissions were taken from the installation's Operating Permit (OP2013-049). Existing actual emissions were taken from the installation's 2015 EIQ. Potential emissions of the project represent the potential of the new equipment, assuming continuous operation (8,760 hours per year). New installation conditioned potential emissions account for voluntary installation-wide limits of 250.0 tons per year for VOCs, 10.0 tons per year for individual HAPs, and 25.0 tons per year for combined HAPs.

Table 3: Emissions Summary (tons per year)

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2015 EIQ)	Potential Emissions of the Project	New Installation Conditioned Potential
PM	25.0	N/D	N/D	4.82	N/D
PM ₁₀	15.0	39.61	11.85	4.82	44.43
PM _{2.5}	10.0	39.61	11.63	4.82	44.43
SO _x	40.0	0.12	N/D	0.01	0.13
NO _x	40.0	19.74	N/D	0.86	20.60
VOC	40.0	<100.0	58.64	56.99	<250.0
CO	100.0	5.73	N/D	0.72	6.45
Total HAPs	25.0	<25.0	N/D	0.02	<25.0

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

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 VOCs are above the de minimis level but below the major source level. Potential emissions of all other pollutants are below their respective de minimis levels.

APPLICABLE REQUIREMENTS

Hutchens Industries – Mansfield 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

- *Start-Up, Shutdown, and Malfunction Conditions*, 10 CSR 10-6.050
- *Operating Permits*, 10 CSR 10-6.065
- *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 approved by this permit is in operation.

- *Restriction of Emission of Odors*, 10 CSR 10-6.165
- *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

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 September 27, 2016, received October 11, 2016, designating Hutchens Industries, 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
EIQ	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		


Hutchens Industries - Mansfield
 229-0001
 2016-10-008

EP-13D Epoxy Spray Paint Booth		
MHDR =		4.95 gal/hr
Solids Transfer Efficiency =		45%
Filter Capture Efficiency =		98.67%
Filter Control Efficiency =		80%
Component	RAL 2004 Pure Orange Epoxy	Epoxy Activator
Fraction of Total Coating Applied	4/5	1/5
Density (lb/gal)	11.12	7.66
VOC Content (lb/gal)	2.06	4.90
Solids Content (lb/gal)	9.06	2.76
VOC Emissions (tons/yr)	35.71	21.24
Uncontrolled Solids Emissions (tons/yr)	19.72	1.50
Controlled Solids Emissions (tons/yr)	4.42	0.34

EP-13E Curing Oven		
MHDR =		2 MMBtu/hr
hv =		1020 Btu/cf
Pollutant	EF (lb/MMcf)	Emissions (tons/yr)
PM	7.6	0.065
PM10	7.6	0.065
PM2.5	7.6	0.065
SOx	0.6	0.005
NOx	100	0.859
VOC	5.5	0.047
CO	84	0.721
HAPs	1.88	0.016

Project Emissions Summary	
Pollutant	Emissions (tons/yr)
PM	4.82
PM10	4.82
PM2.5	4.82
SOx	0.01
NOx	0.86
VOC	56.99
CO	0.72
HAPs	0.02

Paint Booth Emission Factors	
VOCs	2.628 lb/gal epoxy+activator sprayed
PM	0.219 lb/gal epoxy+activator sprayed



STATE OF MISSOURI
DEPARTMENT OF NATURAL RESOURCES

Eric R. Greitens, Governor • Todd Sampsell, Acting Director

dnr.mo.gov

JAN 18 2017

Mr. Kevin Dobson
HR Director
Hutchens Industries – Mansfield
P.O. Box 137
Mansfield, MO 65704

RE: New Source Review Permit - Project Number: 2016-10-008

Dear Mr. Dobson:

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 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.




Mr. Kevin Dobson
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If you have any questions regarding this permit, please do not hesitate to contact Ryan Schott, 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:rsj

Enclosures

c: Southwest Regional Office
PAMS File: 2016-10-008

Permit Number:

01 2017 - 011