



Missouri Department of dnr.mo.gov

NATURAL RESOURCES

Michael L. Parson, Governor

Carol S. Comer, Director

JAN 15 2020

Mr. Kevin Dobson
HR Director
Hutchens - Mansfield Facility
PO Box 137
Mansfield, MO 65704

RE: New Source Review Permit - Project Number: 2019-04-033

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 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.oh.mo.gov/ahc.



Mr. Kevin Dobson
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If you have any questions regarding this permit, please do not hesitate to contact Susan Heckenkamp, 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



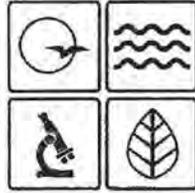
Susan Heckenkamp
New Source Review Unit Chief

SH:shj

Enclosures

c: Southwest Regional Office
PAMS File: 2019-04-033

Permit Number: **012020-009**



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: **012020-009**

Project Number: 2019-04-033
Installation Number: 229-0001

Parent Company: Hutchens Industries, Inc.

Parent Company Address: PO Box 127, Springfield, MO 65704

Installation Name: Hutchens - Mansfield Facility

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

Location Information: Wright County, S2, T28N, R17W

Application for Authority to Construct was made for:

Construction of two 18 foot by 20 foot robotic spray paint booths (EP-38a), one 18 foot by 20 foot manual spray paint booth that will serve as an initial touch-up booth (EP-38b), a curing oven (EP-39) and a final manual touch-up booth (EP-40). 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.



Director or Designee
Department of Natural Resources

JAN 15 2020

Effective Date



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

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

Director or Designee
Department of Natural Resources

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 to 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 (3)(E). "Conditions required by permitting authority."

Hutchens - Mansfield Facility
Wright County, S2, T28N, R17W

1. **Superseding Condition**
The conditions of this permit supersede Special Condition 1 found in the previously issued construction permit, Permit No. 012017-011, issued by the Air Pollution Control Program.

2. **VOC and HAPs Emission Limitations**
 - A. Hutchens - Mansfield Facility shall emit less than 250.0 tons of VOCs in any consecutive 12-month rolling period from the entire installation (see Table 1).

 - B. Hutchens - Mansfield Facility shall emit less than the SMAL for each individual HAP and less than 25.0 tons of combined HAPs in any consecutive 12-month rolling period from the entire installation (see Table 1). A list of the SMAL values for each individual HAP can be found in Appendix B.

 - C. Hutchens Industries - Mansfield shall develop and use forms to demonstrate compliance with Special Conditions 2.A & 2.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 or HAPs in the current month
 - 5) Emission factors for each applicable emission unit:
 - a) For the paint booths (EP-38a, EP-38b, and EP-40)
VOC/HAP content shall be determined from the coating SDS. If a range is given, the highest value shall be used.
 - (i) VOC/volatile HAP emissions shall be calculated using mass balances, assuming that 100% of VOCs/HAPs in the coatings are emitted.

$$\text{VOC or volatile HAP (tpy)} = \text{Gallons of coating} \times \text{Density (lb/gal)} \times (\text{VOC content or Wt\% of HAP}) / 100 \times (1 \text{ ton}/2000 \text{ lbs})$$

SPECIAL CONDITIONS:

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

- (ii) Particulate HAP emission shall be calculated using mass balances, assuming a transfer efficiency of 85%, 75%, and 60% for EP-38a, EP-38b, and EP-40, respectively and an overall capture/control efficiency of 89.49% for each of the booths.

Individual particulate HAP (tpy) = Gallons of coating x Density (lb/gal) x (Wt% of HAP / 100) x (1 ton / 2000 lbs) x (100 – Transfer Efficiency) / 100 x (100 – Overall Control Efficiency) / 100.

(For metal HAPs and comparison to the SMAL limit only, the individual particulate HAP can be multiplied by the molecular weight of the metal portion divided by the molecular weight of the total compound.)

- b) For the curing oven (EP-39), 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 OP2019-011.
- 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 2.A & 2.B

3. Paint Gun Usage Restriction

- A. Hutchens Industries - Mansfield shall use the following types of spray guns in the designate paint booth:
- 1) EP-38a – Electrostatic air-assisted airless spray guns
- 2) EP-38b – Air-assisted airless spray guns
- 3) EP-40 – Conventional air spray equipment

4. Capture Device Requirement - Paint Booth

- A. Hutchens Industries - Mansfield shall capture emissions from the new paint booths (EP-38a, EP-38b, and EP40) by maintaining and operating the paint booths in accordance with 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.

SPECIAL CONDITIONS:

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

5. Control Device Requirement - Fabric Mat Filters
 - A. Hutchens Industries - Mansfield shall control emissions from the new paint booth (EP-130) using fabric mat 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.
6. Operational Requirement - Solvent Cloths

Hutchens - Mansfield Facility shall keep the solvents and cleaning solutions in sealed containers whenever the materials are not in use. Hutchens - Mansfield Facility shall provide and maintain suitable, easily read, permanent markings on all solvent and cleaning solution containers used with this equipment.
7. Record Keeping and Reporting Requirements
 - A. Hutchens - Mansfield Facility 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. Hutchens - Mansfield Facility 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 e-mail 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: 2019-04-033
Installation ID Number: 229-0001
Permit Number:

Installation Address:

Hutchens - Mansfield Facility
898 East Commercial Street
Mansfield, MO 65704

Parent Company:

Hutchens Industries, Inc.
PO Box 127
Springfield, MO 65704

Wright County, S2, T28N, R17W

REVIEW SUMMARY

- Hutchens - Mansfield Facility has applied for authority to construct two 18 foot by 20 foot robotic spray paint booths (EP-38a), one 18 foot by 20 foot manual spray paint booth that will serve as an initial touch-up booth (EP-38b), a curing oven (EP-39) and a final manual touch-up booth (EP-40).
- The application was deemed complete on April 12, 2019.
- HAP emissions are expected from the combustion of natural gas in the curing ovens, but in very small amounts. HAP emissions are also emitted from coating used in the final manual touch-up booth.
- None of the New Source Performance Standards (NSPS) apply to the installation.
- Subpart HHHHHH (6H), *National Emissions Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources*, applies to your facility.
- Fabric filters are being used to control the particulate emissions from the spray booths (EP-38a, EP-38b, and EP-40) in 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 VOCs are above the de minimis levels, but below the major source level. Potential emission of all other pollutants are below their respective de minimis levels.
- This installation is located in Wright County, an attainment/unclassifiable 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.

- Even though VOC emission are above de minimis levels, ambient air quality modeling was not performed since there is no modeling standard for VOCs. The potential emissions of the application for all other pollutants are below de minimis levels, and therefore do not require modeling.
- 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.
- An amendment to your Part70 Operating Permit, OP2019-011, is required for this installation within one year of start of operations.
- 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 synthetic minor NSR source, a synthetic HAP area source, and currently operates under Part 70 Operating Permit OP2019-011, which expires March 12, 2024. 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-12A	Robotic Welding Booth #1
EP-12B	Robotic Welding Booth #2
EP-12C	Robotic Welding Booth #3
EP-12D	Robotic Welding Booth #4
EP-12E	Robotic Welding Booth #5
EP-12F	Robotic Welding Booth #6
EP-12G	Robotic Welding Booth #7
EP-12H	Robotic Welding Booth #8
EP-13A	Spray Booth # 1
EP-13B	<i>(Being removed)</i> Spray Booth # 2
EP-13C	<i>(Dismantled)</i> Spray Booth # 3
EP-13D	Spray Booth #5
EP-13E	Curing Oven #3
EP-17	Space Heaters
EP-19	Pyrolysis Furnace # 1
EP-26	Plasma Torch
EP-27	Spray Booth # 4
EP-28	Dip Paint Operation # 1
EP-29A	Alkaline Wash
EP-29 B	Phosphate Wash
EP-30	Curing Oven #1
EP-31	Dip Paint Operation # 2
EP-32	Combined Welding

Emission Point	Description
EP-33	Dip Tank
EP-34A	Alkaline Wash # 2
EP-34B	Phosphate Wash # 2
EP-35	Curing Oven # 2
EP-36	Pyrolysis Furnace #2
EP-37	Gasoline Storage Tank
EP-38a	(New) Robotic Spray Paint Booths (2 total)
EP-38b	(New) Manual Spray Paint Booth – Initial Touch-up
EP-39	(New) Paint Cure Oven – (4 MMBtu/hr total capacity)
EP-40	(New) Final Touch-up Booth

The following New Source Review permits have been issued to Hutchens - Mansfield Facility 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
012017-011	Construction of a paint booth and curing oven

PROJECT DESCRIPTION

Hutchens Industries, Inc. plans to install two 18 foot by 20 foot robotic spray paint booths (EP-38a), one 18 foot by 20 foot manual spray paint booth that will serve as the initial touch-up booth (EP-38b), a curing oven (EP-39), and a final manual touch-up booth (EP-40) at their existing facility in Mansfield, Missouri. The new robotic spray booths (EP-38a) are replacing the existing paint booths (EP-13B) which will be removed once this project is complete.

All new construction will be fed by a conveyor system that transports the trailer suspension steel parts hung on hooks through the booths at a standard operating rate based on the speed of the conveyor system. Components will first travel through the robotic spray booths (EP-38a) where an optical eye will sense that the part is in place and communicate to the guns to begin spraying. Each of the two robotic booths in EP-38a will spray one side of the components. Electrostatic air-assisted airless spray guns will be used in EP-38a. Components will then move into the initial touch-up booth (EP-38b) for any additional manually-applied spray. Air assisted airless spray guns will be used in EP-38b. Components will then move into a curing oven (EP-39). Following the curing process, the components will travel through a final manual touch-up painting (EP-

40) where they are removed from the hooks so that the area of the components covered by the hooks may be coated. Air spray guns will be used in EP-40. All new booths will be equipped with fabric mat filters to control particulate emissions.

The MHDR of the paint booths (EP-38a) is based on the amount of coating needed for each frame (which is 1 gallon per frame) and the cycle time per frame (which is 2 minutes per frame). This equates to a maximum usage rate of 30 gallons per hour. The amount of coating per frame for EP-38B and EP-40 are estimated at 0.15 and 0.033 gallons per frame, respectively. This results in MHDRs of 4.5 and 1.0 gallon per hour, respectively. The curing oven consists of two natural burners, each with a 2 MMBtu/hr capacity, for a total capacity of 4 MMBtu/hr.

The existing assembly portion of line which include robotic welders continues to be the bottleneck to the painting portion of the line. The speed of the conveyor system for the coating portion is set based on the assembly portion of the plant.

EMISSIONS/CONTROLS EVALUATION

VOC emissions from spray painting (EP38a, EP38b, and EP40) were calculated using a mass balance approach. It was assumed that 100% of VOCs are emitted. PM₁₀ and PM_{2.5} emissions from spray painting were also calculated using a mass balance approach. The solids content of each coating type was multiplied by their respective densities, a solids transfer efficiency depending on the spray gun type, and the maximum design rate of each paint booth. The solids transfer efficiency of the electrostatic air-assisted airless spray guns used in EP38a is 85%. The solids transfer efficiency for the air-assisted airless spray gun used in EP38b is 75%. The solids transfer efficiency for the air spray gun used in EP40 is 60%. The transfer efficiencies for the spray gun equipment were supplied by equipment manufacturer, Graco, based on previous testing performed by Graco. These transfer efficiencies are in line with values provided in the spray coating section of the APTI document, *Sources and Control of Volatile Organic Air Pollutants* (November 2002) and therefore were approved. It was assumed that all particulate matter is PM_{2.5}.

Hutchens submitted information that showed the face velocity of the openings in the robotic booths were in excess of 200 feet per minute; therefore, because of this with conjunction of Special Condition 4, a booth capture efficiency of 90% was granted. The fabric filters used in the paint booths have a control efficiency of 99.43% (taken from the manufacturer's specifications), yielding an overall efficiency of 89.49% for both PM₁₀ and PM_{2.5}.

Emissions from the curing oven (EP38) 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 construction permit, No. 012017-011. Existing actual emissions were taken from the installation's 2018 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, SMALs for individual HAPs, and 25.0 tons per year for combined HAPs. The PM_{2.5} emissions listed is over its de minimis level; however it will be indirectly limited below the de minimis level by the installation-wide annual VOC limit.

Table 2: Emissions Summary (tpy)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2018 EIQ)	Potential Emissions of the Project	New Installation Conditioned Potential
PM	25.0	N/D	N/D	10.41	N/D
PM ₁₀	15.0	44.43	13.72	10.51	54.94
PM _{2.5}	10.0	44.43	13.64	10.51 ⁽¹⁾	54.94
SO _x	40.0	0.13	0.0	0.01	0.14
NO _x	40.0	20.60	0.0	1.72	22.32
VOC	40.0	<250.0	100.3	420.44	<250.0
CO	100.0	6.45	0.0	1.44	7.89
HAPs (individual/combined)	10.0/25.0	<10.0/25.0	0.17	21.36	<SMAL/250.0

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

⁽¹⁾ PM_{2.5} emissions are indirectly limited below de minimis levels by the VOC installation wide limit.

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

APPLICABLE REQUIREMENTS

Hutchens - Mansfield Facility 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.B(II) and (4)(B)2.C(II) a full EIQ is required for the first full calendar year the equipment (or modifications) approved by this permit are in operation.
- *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*

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 April 9, 2019, received April 12, 2019, designating Hutchens Industries, Inc. as the owner and operator of the installation.

APPENDIX A

Abbreviations and Acronyms

% percent	Mgal 1,000 gallons
°F degrees Fahrenheit	MWmegawatt
acfm actual cubic feet per minute	MHDRmaximum hourly design rate
BACT Best Available Control Technology	MMBtuMillion British thermal units
BMPs Best Management Practices	MMCFmillion cubic feet
Btu British thermal unit	MSDSMaterial Safety Data Sheet
CAM Compliance Assurance Monitoring	NAAQSNational Ambient Air Quality Standards
CAS Chemical Abstracts Service	NESHAPs National Emissions Standards for Hazardous Air Pollutants
CEMS Continuous Emission Monitor System	NO_xnitrogen oxides
CFR Code of Federal Regulations	NSPSNew Source Performance Standards
CO carbon monoxide	NSRNew Source Review
CO₂ carbon dioxide	PMparticulate matter
CO_{2e} carbon dioxide equivalent	PM_{2.5}particulate matter less than 2.5 microns in aerodynamic diameter
COMS Continuous Opacity Monitoring System	PM₁₀particulate matter less than 10 microns in aerodynamic diameter
CSR Code of State Regulations	ppmparts per million
dscf dry standard cubic feet	PSDPrevention of Significant Deterioration
EIQ Emission Inventory Questionnaire	PTEpotential to emit
EP Emission Point	RACTReasonable Available Control Technology
EPA Environmental Protection Agency	RALRisk Assessment Level
EU Emission Unit	SCCSource Classification Code
fps feet per second	scfmstandard cubic feet per minute
ft feet	SDSSafety Data Sheet
GACT Generally Available Control Technology	SICStandard Industrial Classification
GHG Greenhouse Gas	SIPState Implementation Plan
gpm gallons per minute	SMALScreening Model Action Levels
gr grains	SO_xsulfur oxides
GWP Global Warming Potential	SO₂sulfur dioxide
HAP Hazardous Air Pollutant	SSMStartup, Shutdown & Malfunction
hr hour	tphtons 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	

Appendix B: Air Pollution Control Program

Table of Hazardous Air Pollutants and Screening Model Action Levels

Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM	Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM
ACETALDEHYDE	75-07-0	9		Y	N	CHLOROMETHYL METHYL ETHER	107-30-2	0.1		Y	N
ACETAMIDE	60-35-5	1		Y	N	CHLOROPRENE	126-99-8	1		Y	N
ACETONITRILE	75-05-8	4		Y	N	CHROMIUM (VI) COMPOUNDS		0.002	L	N	Y
ACETOPHENONE	98-86-2	1		Y	N	CHROMIUM COMPOUNDS		5	L	N	Y
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	V	Y	Y	CHRYSENE	218-01-9	0.01	V	Y	N
ACROLEIN	107-02-8	0.04		Y	N	COBALT COMPOUNDS		0.1	M	N	Y
ACRYLAMIDE	79-06-1	0.02		Y	N	COKE OVEN EMISSIONS	8007-45-2	0.03	N	Y	N
ACRYLIC ACID	79-10-7	0.6		Y	N	CRESOL, [META-]	108-39-4	1	B	Y	N
ACRYLONITRILE	107-13-1	0.3		Y	N	CRESOL, [ORTHO-]	95-48-7	1	B	Y	N
ALLYL CHLORIDE	107-05-1	1		Y	N	CRESOL, [PARA-]	106-44-5	1	B	Y	N
AMINOBIHENYL, [4-]	92-67-1	1	V	Y	N	CRESOLS (MIXED ISOMERS)	1319-77-3	1	B	Y	N
ANILINE	62-53-3	1		Y	N	CUMENE	98-82-8	10		Y	N
ANISIDINE, [ORTHO-]	90-04-0	1		Y	N	CYANIDE COMPOUNDS		0.1	O	Y	N
ANTHRACENE	120-12-7	0.01	V	Y	N	DDE	72-55-9	0.01	V	Y	Y
ANTIMONY COMPOUNDS		5	H	N	Y	DI(2-ETHYLHEXYL) PHTHALATE, (DEHP)	117-81-7	5		Y	N
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	H	N	Y	DIAMINOTOLUENE, [2,4-]	95-80-7	0.02		Y	N
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	H	N	Y	DIAZOMETHANE	334-88-3	1		Y	N
ANTIMONY TRIOXIDE	1309-64-4	1	H	N	Y	DIBENZ(A,H)ANTHRACENE	53-70-3	0.01	V	Y	N
ANTIMONY TRISULFIDE	1345-04-6	0.1	H	N	Y	DIOXINS/FURANS		6E-07	D,V	Y	N
ARSENIC COMPOUNDS		0.005	I	N	Y	DIBENZOFURAN	132-64-9	5	V	Y	N
ASBESTOS	1332-21-4	0	A	N	Y	DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01		Y	N
BENZ(A)ANTHRACENE	56-55-3	0.01	V	Y	N	DIBROMOETHANE, [1,2-]	106-93-4	0.1		Y	N
BENZENE	71-43-2	2		Y	N	DIBUTYL PHTHALATE	84-74-2	10		Y	Y
BENZIDINE	92-87-5	0.0003	V	Y	N	DICHLOROENZENE, [1,4-]	106-46-7	3		Y	N
BENZO(A)PYRENE	50-32-8	0.01	V	Y	N	DICHLOROENZIDENE, [3,3-]	91-94-1	0.2	V	Y	Y
BENZO(B)FLUORANTHENE	205-99-2	0.01	V	Y	N	DICHLOROETHANE, [1,1-]	75-34-3	1		Y	N
BENZO(K)FLUORANTHENE	207-08-9	0.01	V	Y	N	DICHLOROETHANE, [1,2-]	107-06-2	0.8		Y	N
BENZOTRICHLORIDE	98-07-7	0.006		Y	N	DICHLOROETHYLENE, [1,1-]	75-35-4	0.4		Y	N
BENZYL CHLORIDE	100-44-7	0.1		Y	N	DICHLOROMETHANE	75-09-2	10		N	N
BERYLLIUM COMPOUNDS		0.008	J	N	Y	DICHLOROPHENOXY ACETIC ACID, [2,4-]	94-75-7	10	C	Y	Y
BERYLLIUM SALTS	2E-05		J	N	Y	DICHLOROPROPANE, [1,2-]	78-87-5	1		Y	N
BIPHENYL, [1,1-]	92-52-4	10	V	Y	N	DICHLOROPROPENE, [1,3-]	542-75-6	1		Y	N
BIS(CHLOROETHYL)ETHER	111-44-4	0.06		Y	N	DICHLORVOS	62-73-7	0.2		Y	N
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003		Y	N	DIETHANOLAMINE	111-42-2	5		Y	N
BROMOFORM	75-25-2	10		Y	N	DIETHYL SULFATE	64-67-5	1		Y	N
BROMOMETHANE	74-83-9	10		Y	N	DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	P	Y	N
BUTADIENE, [1,3-]	106-99-0	0.07		Y	N	DIMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	V	Y	Y
BUTOXYETHANOL ACETATE, [2-]	112-07-2	5	P	Y	N	DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	V	Y	Y
BUTYLENE OXIDE, [1,2-]	106-88-7	1		Y	N	DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02		Y	N
CADMIUM COMPOUNDS		0.01	K	N	Y	DIMETHYL FORMAMIDE	68-12-2	1		Y	N
CALCIUM CYANAMIDE	156-62-7	10		Y	Y	DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008		Y	N
CAPROLACTAM (Delisted)	105-60-2					DIMETHYL PHTHALATE	131-11-3	10		Y	N
CAPTAN	133-06-2	10		Y	Y	DIMETHYL SULFATE	77-78-1	0.1		Y	N
CARBARYL	63-25-2	10	V	Y	Y	DIMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1		Y	N
CARBON DISULFIDE	75-15-0	1		Y	N	DIMETHYLANILINE, [N-N-]	121-69-7	1		Y	N
CARBON TETRACHLORIDE	56-23-5	1		Y	N	DINITRO-O-CRESOL, [4,6-] (Note 6)	534-52-1	0.1	E	Y	Y
CARBONYL SULFIDE	463-58-1	5		Y	N	DINITROPHENOL, [2,4-]	51-28-5	1		Y	N
CATECHOL	120-80-9	5		Y	N	DINITROTOLUENE, [2,4-]	121-14-2	0.02		Y	N
CHLORAMBEN	133-90-4	1		Y	Y	DIOXANE, [1,4-]	123-91-1	6		Y	N
CHLORDANE	57-74-9	0.01		Y	Y	DIPHENYLHYDRAZINE, [1,2-]	122-66-7	0.09	V	Y	Y
CHLORINE	7782-50-5	0.1		N	N	DIPHENYLMETHANE DIISOCYANATE, [4,4-]	101-68-8	0.1	V	Y	N
CHLOROACETIC ACID	79-11-8	0.1		Y	N	EPICHLOROHYDRIN	106-89-8	2		Y	N
CHLOROACETOPHENONE, [2-]	532-27-4	0.06		Y	N	ETHOXYETHANOL, [2-]	110-80-5	10	P	Y	N
CHLOROENZENE	108-90-7	10		Y	N	ETHOXYETHYL ACETATE, [2-]	111-15-9	5	P	Y	N
CHLOROENZILATE	510-15-6	0.4	V	Y	Y	ETHYL ACRYLATE	140-88-5	1		Y	N
CHLOROFORM	67-66-3	0.9		Y	N	ETHYL BENZENE	100-41-4	10		Y	N

Appendix B: Air Pollution Control Program

Table of Hazardous Air Pollutants and Screening Model Action Levels

Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM	Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM
ETHYL CHLORIDE	75-00-3	10		Y	N	NITROBENZENE	98-95-3	1		Y	N
ETHYLENE GLYCOL	107-21-1	10		Y	N	NITROBIPHENYL, [4-]	92-93-3	1	V	Y	N
ETHYLENE GLYCOL MONOBUTYL ETHER (Delisted)	111-76-2					NITROPHENOL, [4-]	100-02-7	5		Y	N
ETHYLENE GLYCOL MONOHEXYL ETHER	112-25-4	5	P	Y	N	NITROPROPANE, [2-]	79-46-9	1		Y	N
ETHYLENE IMINE [AZIRIDINE]	151-56-4	0.003		Y	N	NITROSODIMETHYLAMINE, [N-]	62-75-9	0.001		Y	N
ETHYLENE OXIDE	75-21-8	0.1		Y	N	NITROSOMORPHOLINE, [N-]	59-89-2	1		Y	N
ETHYLENE THIOUREA	96-45-7	0.6		Y	Y	NITROSO-N-METHYLUREA, [N-]	684-93-5	0.0002		Y	N
FORMALDEHYDE	50-00-0	2		Y	N	OCTACHLORONAPHTHALENE	2234-13-1	0.01	V	Y	N
GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	P	Y	N	PARATHION	56-38-2	0.1		Y	Y
GLYCOL ETHER (DIETHYLENE GLYCOL ETHERS)		5	P	Y	N	PCB [POLYCHLORINATED BIPHENYLS]	1336-36-3	0.009	X	Y	Y
HEPTACHLOR	76-44-8	0.02		Y	N	PENTACHLORONITROBENZENE	82-68-8	0.3		Y	N
HEXACHLOROBENZENE	118-74-1	0.01		Y	N	PENTACHLOROPHENOL	87-86-5	0.7		Y	N
HEXACHLOROBUTADIENE	87-68-3	0.9		Y	N	PHENOL	108-95-2	0.1		Y	N
HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	F	Y	N	PHENYLENEDIAMINE, [PARA-]	106-50-3	10		Y	N
HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	F	Y	N	PHOSGENE	75-44-5	0.1		Y	N
HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	F	Y	N	PHOSPHINE	7803-51-2	5		N	N
HEXACHLOROCYCLOHEXANE, [TECHNICAL]	608-73-1	0.01	F	Y	N	PHOSPHOROUS (YELLOW OR WHITE)	7723-14-0	0.1		N	N
HEXACHLOROCYCLOPENTADIENE	77-47-4	0.1		Y	N	PHTHALIC ANHYDRIDE	85-44-9	5		Y	N
HEXACHLOROETHANE	67-72-1	5		Y	N	POLYCYCLIC ORGANIC MATTER		0.01	V	Y	N
HEXAMETHYLENE,-1,6-DIISOCYANATE	822-06-0	0.02		Y	N	PROPANE SULTONE, [1,3-]	1120-71-4	0.03		Y	Y
HEXAMETHYLPHOSPHORAMIDE	680-31-9	0.01		Y	N	PROPIOLACTONE, [BETA-]	57-57-8	0.1		Y	N
HEXANE, [N-]	110-54-3	10		Y	N	PROPIONALDEHYDE	123-38-6	5		Y	N
HYDRAZINE	302-01-2	0.004		N	N	PROPOXUR [BAYGON]	114-26-1	10		Y	Y
HYDROGEN CHLORIDE	7647-01-0	10		N	N	PROPYLENE OXIDE	75-56-9	5		Y	N
HYDROGEN FLUORIDE	7664-39-3	0.1		N	N	PROPYLENEIMINE, [1,2-]	75-55-8	0.003		Y	N
HYDROQUINONE	123-31-9	1		Y	N	QUINOLINE	91-22-5	0.006		Y	N
INDENO(1,2,3CD)PYRENE	193-39-5	0.01	V	Y	N	QUINONE	106-51-4	5		Y	N
ISOPHORONE	78-59-1	10		Y	N	RADIONUCLIDES		Note 1	Y	N	Y
LEAD COMPOUNDS		0.01	Q	N	Y	SELENIUM COMPOUNDS		0.1	W	N	Y
LINDANE [GAMMA-HEXACHLOROCYCLOHEXANE]	58-89-9	0.01	F	Y	N	STYRENE	100-42-5	1		Y	N
MALEIC ANHYDRIDE	108-31-6	1		Y	N	STYRENE OXIDE	96-09-3	1		Y	N
MANGANESE COMPOUNDS		0.8	R	N	Y	TETRACHLORODIBENZO-P-DIOXIN,[2,3,7,8]	1746-01-6	6E-07	D,V	Y	Y
MERCURY COMPOUNDS		0.01	S	N	N	TETRACHLOROETHANE, [1,1,2,2-]	79-34-5	0.3		Y	N
METHANOL	67-56-1	10		Y	N	TETRACHLOROETHYLENE	127-18-4	10		N	N
METHOXYCHLOR	72-43-5	10	V	Y	Y	TITANIUM TETRACHLORIDE	7550-45-0	0.1		N	N
METHOXYETHANOL, [2-]	109-86-4	10	P	Y	N	TOLUENE	108-88-3	10		Y	N
METHYL CHLORIDE	74-87-3	10		Y	N	TOLUENE DIISOCYANATE, [2,4-]	584-84-9	0.1		Y	N
METHYL ETHYL KETONE (Delisted)	78-93-3					TOLUIDINE, [ORTHO-]	95-53-4	4		Y	N
METHYL HYDRAZINE	60-34-4	0.06		Y	N	TOXAPHENE	8001-35-2	0.01		Y	N
METHYL IODIDE	74-88-4	1		Y	N	TRICHLOROBENZENE, [1,2,4-]	120-82-1	10		Y	N
METHYL ISOBUTYL KETONE	108-10-1	10		Y	N	TRICHLOROETHANE, [1,1,1-]	71-55-6	10		N	N
METHYL ISOCYANATE	624-83-9	0.1		Y	N	TRICHLOROETHANE, [1,1,2-]	79-00-5	1		Y	N
METHYL METHACRYLATE	80-62-6	10		Y	N	TRICHLOROETHYLENE	79-01-6	10		Y	N
METHYL TERT-BUTYL ETHER	1634-04-4	10		Y	N	TRICHLOROPHENOL, [2,4,5-]	95-95-4	1		Y	N
METHYLCYCLOPENTADIENYL MANGANESE	12108-13-3	0.1	R	N	Y	TRICHLOROPHENOL, [2,4,6-]	88-06-2	6		Y	N
METHYLENE BIS(2-CHLOROANILINE), [4,4-]	101-14-4	0.2	V	Y	Y	TRIETHYLAMINE	121-44-8	10		Y	N
METHYLENEDIANILINE, [4,4-]	101-77-9	1	V	Y	N	TRIFLURALIN	1582-09-8	9		Y	Y
METHYLNAPHTHALENE, [2-]	91-57-6	0.01	V	Y	N	TRIMETHYLPENTANE, [2,2,4-]	540-84-1	5		Y	N
MINERAL FIBERS		0	T	N	Y	URETHANE [ETHYL CARBAMATE]	51-79-6	0.8		Y	N
NAPHTHALENE	91-20-3	10	V	Y	N	VINYL ACETATE	108-05-4	1		Y	N
NAPHTHYLAMINE, [ALPHA-]	134-32-7	0.01	V	Y	N	VINYL BROMIDE	593-60-2	0.6		Y	N
NAPHTHYLAMINE, [BETA-]	91-59-8	0.01	V	Y	N	VINYL CHLORIDE	75-01-4	0.2		Y	N
NICKEL CARBONYL	13463-39-3	0.1	U	N	Y	XYLENE, [META-]	108-38-3	10	G	Y	N
NICKEL COMPOUNDS		1	U	N	Y	XYLENES (MIXED ISOMERS)	1330-20-7	10	G	Y	N
NICKEL REFINERY DUST		0.08	U	N	Y						
NICKEL SUBSULFIDE	12035-72-2	0.04	U	N	Y						

Appendix B: Air Pollution Control Program Table of Hazardous Air Pollutants and Screening Model Action Levels

Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM	Chemical	CAS #	SMAL tons/yr	Group ID	VOC	PM
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Legend	
Group ID	
A	Asbestos
B	Cresols/Cresylic Acid (isomers and mixtures)
C	2,4 - D, Salts and Esters
D	Dibenzofurans, Dibenzodioxins
E	4, 6 Dinitro-o-cresol, and Salts
F	Lindane (all isomers)
G	Xylenes (all isomers and mixtures)
H	Antimony Compounds
I	Arsenic Compounds
J	Beryllium Compounds
K	Cadmium Compounds
L	Chromium Compounds
M	Cobalt Compounds
N	Coke Oven Emissions
O	Cyanide Compounds
P	Glycol Ethers
Q	Lead Compounds (except elemental Lead)
R	Manganese Compounds
S	Mercury Compounds
T	Fine Mineral Fibers
U	Nickel Compounds
V	Polycyclic Organic Matter
W	Selenium Compounds
X	Polychlorinated Biphenyls (Aroclors)
Y	Radionuclides
Notes	The SMAL for radionuclides is defined as the effective dose equivalent to 0.3 millirems per year for 7 years exposure associated with a cancer risk of 1 in 1 million