

**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: **07 2017 - 007**

Project Number: 2016-06-010  
Installation Number: 157-0019

Parent Company: TG Missouri

Parent Company Address: 2200 Platin Road, Perryville, MO 63775

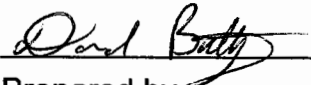
Installation Name: TG Missouri


Installation Address: 2200 Platin Road, Perryville, MO 63775

Location Information: Perry County, LG844, T35N, R10E

Application for Authority to Construct was made for:  
Installation of a new automated paint spray booth. 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  
David Buttig  
New Source Review Unit

  
Director or Designee  
Department of Natural Resources

**JUL 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."*

TG Missouri  
 Perry County, LG844, T35N, R10E

1. **Superseding Condition**  
 Special Condition 2 of this permit supersedes Special Condition 2.A. found in the previously issued construction permit 122015-018 issued by the Air Pollution Control Program.
2. **Emission Limitations**
  - A. **Plant-wide**
    - 1) TG Missouri 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 for a list of all emission points).

**Table 1: Installation HAP Emission Points**

Emission Point	Description
EP-247	P-23 Paint Kitchen
EP-246	P-23 Cooling Zone Exhaust
EP-245	P-23 Cure Oven Exhaust
EP-243	P-23 Clear Coat Booth Stack 1
EP-241	P-23 Base Coat Booth Stack 1
EP-240	Kaizen Booth Paint System
EP-238	PMF4 Decorative chrome plating
EP-237	PMF4 Nickel plating
EP-235	PMF4 Hydrochloric acid catalyst
EP-234	PMF4 Chrome etching
EP-232	PMF3 Decorative chrome plating
EP-231	PMF3 Nickel plating
EP-229	PMF3 Hydrochloric acid catalyst
EP-228	PMF3 Chrome Etching
EP-227	Blackout Booth Paint System
EP-226	CST Process film activator
EP-224	PMF2 Decorative chrome plating
EP-223	PMF2 Nickel plating
EP-221	PMF2 Hydrochloric acid catalyst
EP-220	PMF2 Chrome etching
EP-216 through 212	PB20 Paint System
EP-210	PMF1 Decorative Chrome Plating
EP-209	PMF1 Nickel Plating
EP-207	PMF1 Hydrochloric acid catalyst
EP-206	PMF1 Chrome Etching
EP-197 through 205	Robotic Paint Booth (P-12)

**SPECIAL CONDITIONS:**

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

Emission Point	Description
EP-194 through 196	Robotic Paint Booth (P-11)
EP-188 through 193	Robotic Paint Booth (P-10)
EP-171 through 183	Robotic Paint Booth (P-9)
EP-170	Boiler
EP-169	Printing
EP-168	Transfer Of Dry Raw Material
EP-167	Fluidized Bed
EP-165 through 166	Saturn Outerbelt Line
EP-164	Shot Blasting
EP-163	Magnesium Die Casting Furnace
EP-155 through 162	Air Bag Robotic Paint Booth (P-14)
EP-149 through 154	Air Bag Robotic Paint Booth (P-6)
EP-144 through 148	Air Bag Robotic Paint Booth (P-5)
EP-137 through 143	Air Bag/Column Cover Paint Booth (P-4)
EP-132 through 136	Mudguard Paint Booth (P-3)
EP-126 through 131	Back Panel (Rear Garnish) Paint Booth (P-2)
EP-116 through 125	Water Heaters
EP-090 through 115	Space Heaters
EP-085	Shot Blasting
EP-084	Aluminum Pouring/Casting
EP-083	Aluminum Die Cast Melting Furnaces (3)
EP-080 through 082	Building 1 Paint Booth (P-18)
EP-079	PVC Degreaser #2
EP-062 through 063	Paint Booth (P-8)
EP-001 through 059	Polyurethane

- 2) Attachment A and Attachment B or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2.A.

**B. Unit Specific**

- 1) TG Missouri shall emit less than 40.0 tons of Volatile Organic Compounds in any consecutive 12-month period from the emission units listed in Table 2.
- 2) TG Missouri shall emit less than 10.0 tons of PM<sub>2.5</sub> in any consecutive 12-month period from the emission units listed in Table 2.
- 3) TG Missouri shall emit less than the Screening Model Action Level (SMAL) of each HAP in any consecutive 12-month period from the emission units listed in Table 2. (See Appendix A for SMAL values)

**SPECIAL CONDITIONS:**

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

**Table 2: Emission Units associated with construction permit**

Emission Point	Description
EP-247	P-23 Paint Kitchen
EP-246	P-23 Cooling Zone Exhaust
EP-245	P-23 Cure Oven Exhaust
EP-243	P-23 Clear Coat Booth Stack 1
EP-241	P-23 Base Coat Booth Stack 1

- 4) Attachments B, C, and D or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 2.B.
3. Control Device Requirement – Water Wall
    - A. TG Missouri shall control particulate matter emissions from EP-241 and EP-243 using a water wall as specified in the permit application.
    - B. The water wall shall be operated and maintained in accordance with the manufacturer's specifications. The water wall shall be equipped with a pressure switch which will automatically shut down the booth if the pressure is outside of the manufacturer's recommended operational range.
    - C. The water wall shall be inspected for complete coverage before each shift.
    - D. TG Missouri shall maintain the operating pressure drop within the design conditions specified by the manufacturer's performance warranty.
    - E. TG Missouri shall maintain a copy of the water wall's manufacturer's performance warranty on site.
    - F. TG Missouri shall maintain an operating and maintenance log for the control device 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.
  4. Capture Device Requirement – EP-241 and EP-243
    - A. All doors and windows of the booths shall be closed during operation.
    - B. The air intake shall be equipped with a pressure switch that will automatically shut down the booth if the makeup air is insufficient.

**SPECIAL CONDITIONS:**

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

**5. Use of Alternative Coating in the Paint System**

- A. When considering using an alternative coating that is different than a material listed in the Application for Authority to Construct, TG Missouri shall calculate the potential emissions of all individual HAP.
- B. TG Missouri shall seek approval from the Air Pollution Control Program before use of the alternative material if the potential individual HAP emissions for the alternative material are equal to or greater than the screening model action level (SMAL) for any chemical listed in Appendix A.
- C. Attachment E or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to show compliance with Special Condition 5.A.

**6. Record Keeping and Reporting Requirements**

- A. TG Missouri 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. TG Missouri 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 (5) REVIEW

Project Number: 2016-06-010  
Installation ID Number: 157-0019  
Permit Number: **07 2017 - 007**

Installation Address:  
TG Missouri  
2200 Platin Road  
Perryville, MO 63775

Parent Company:  
TG Missouri  
2200 Platin Road  
Perryville, MO 63775

Perry County, LG844, T35N, R10E

REVIEW SUMMARY

- TG Missouri has applied for authority to install a new automated paint spray booth.
- The application was deemed complete on July 12, 2016.
- HAP emissions are expected from the proposed equipment. HAPs emitted from the proposed equipment are Ethylbenzene (CAS 100-41-4), Xylene (CAS 1330-20-7), Toluene (CAS 108-88-3), Hexamethylene-1,6-Diisocyanate (CAS 822-06-0), Styrene (CAS 100-42-5), Methanol (CAS 67-56-1), Formaldehyde (CAS 50-00-0), Naphthalene (CAS 91-20-3), Benzene (CAS 71-43-2), and Cumene (CAS 98-82-8).
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- None of the NESHAPs apply to this installation.
- None of the currently promulgated MACT regulations apply to the proposed equipment.
- A water wall is being used to control the particulate matter emissions from the equipment 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 VOC and PM<sub>2.5</sub> have been conditioned below de minimis levels.
- This installation is located in Perry 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 or their respective SMALs.
- 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.
- A 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

TG Missouri (herein TG) manufactures plastic, rubber, and metal automobile parts and accessories including steering wheels, airbags and interior panels. TG Missouri is a major source (Part 70) under operating permits and major source under construction permits for volatile organic compounds (VOCs). The following permits have been issued to TG Missouri from the Air Pollution Control Program.

Table 3: Permit History

Permit Number	Description
0986-012A	Manufacturing of steel steering wheel & plastic governor gear
1187-009	Installation of parts molding operation
0290-003	Installation of six (6) polyurethane presses to mold air bag covers
0290-004	Installation of 14 polyurethane presses, a spray booth, and an adhesive coating machine
0590-006	Addition of painting equipment for side protection molding
0691-002	Installation of nine (9) polyurethane presses for molding air bag covers
0791-010	Installation of six (6) polyurethane steering wheel presses
0791-013	Installation of injection molding, aluminum die cast, and air bag assembly
0592-001	Installation of six (6) polyurethane steering wheel presses
0792-029	Installation of three (3) polyurethane steering wheel presses
0393-010	Installation of six (6) polyurethane presses and one (1) aluminum die cast furnace
0794-018	Installation of aluminum die casting, air bag assembly, polyurethane processing, and spray painting
0595-007	Addition of Injection molding equipment
1295-019	Installation of an air bag robotic paint booth
0396-005	Installation of magnesium die casting
0896-005	Installation of Saturn outer-belt process line
157-0019-0001	Part 70 operating permit
1297-018	Installation of two (2) magnesium die casting lines
0298-014	Construction of six (6) new polyurethane paint booths
0998-006	Installation of four (4) polyurethane paint booths
042002-018	Installation of a robotic paint booth
082002-019	Paint booths
OP2008-022	Part 70 operating permit renewal
022009-011	Two automated spray booths and one chrome plating line (PMF1)



Permit Number	Description
122010-014	CST Process and PMF2
012012-010	Installation of blackout paint booth
042012-008	Installation of compact plating system PMF3
042012-008A	True-up to actual
082014-016	New compact plating system PF4
122015-018	Construct a Kaizen Paint Booth System (EF-240)

## PROJECT DESCRIPTION

TG Missouri proposes to install one (1) new automated paint spray booth designated as P-23. The paint system will be similar to others already in use at the facility for coating plastic automobile parts.

The P-23 system will be used to coat plastic automobile parts with solvent-based, low-HAP coatings. Parts are first loaded onto a conveyor by operators. The parts travel to a manual deionization/cleaning station. The parts then move through a robotic base coat spray booth. The base coat booth contains 2 robots with 1 spray gun each and emits through 1 exhaust emission point (EP-241). EP-241 operates at a maximum hourly design rate of 0.9235 gallons per hour. The parts flash dry for 2 minutes and move to the robotic clear coat spray booth. The clear coat booth contains 2 robots with 1 spray gun each and emits through 1 exhaust emission point (EP-243). EP-243 operates at a maximum hourly design rate of 0.9199 gallons per hour. The parts then flash off for 7 minutes at an ambient temperature and move through a 1 MMBtu/hr natural gas fired curing oven (EP-245) for 40 minutes. The parts then cool down in the cooling zone (EP-246) for 10 minutes and are manually unloaded by operators.

TG Missouri is requesting to use the following coatings in Paint Booth System P-23.

Table 4: Coating Requested for use in Paint Booth System P-23

Product	Product Number	Emission Point
Thinner	810143	Base Coat Emission Points (EP-241)
Red Metallic Paint	2800	
White Paint	2820	
Grey Metallic Paint	2840	
Blue Paint	814850	
Silver Metallic Paint	800253	
Orange Paint	814849	
Black Paint	800551	Clear Coat Emission Points (EP-243)
Clear Coat	804032	
Clear Reducer	804033	
Converter	804034	

The spray guns used in the system are high volume low pressure (HVLP) Sprigmag Model LPA-200-122P. EP-241 and EP-243 are controlled by a water wall. The overspray is collected at the bottom of the water wall and is pulled up the back section of the booth. The liquid and solids travel through a section of baffles which separate the

solids from the air. A centrifuge spins the material and separates the solids and liquids. The solids (sludge) are collected in a basket and the water is sent back to the paint booth.

After the application was submitted TG Missouri decided that both the base coat booth and the clear coat booth would each have one (1) exhaust vent instead of the proposed two (2) vents each. Therefore, EP-242 and EP-244 have not been included in this construction permit.

### EMISSIONS/CONTROLS EVALUATION

The emissions from the paint booth were calculated using the maximum paint usage and material safety data sheets (MSDS) supplied by TG. All available VOCs were considered to be emitted. All HAPs in this review are volatile HAPs and are also considered to be emitted. All particulate matter emissions were assumed to be less than 2.5 micrometers in diameter. Coating was assigned 20 percent solids transfer efficiency as reported from TG Missouri from similar process yields. Overspray solids are controlled by the water wall. Solids are captured by the booth at 100 percent efficiency and controlled by the water wall at 95 percent efficiency.

Emission factors for the curing oven have been taken from WebFIRE for SCC 10500106.

The following table provides an emissions summary for this project. Existing potential emissions were taken from Construction Permit 122015-018. Existing actual emissions were taken from the installation's 2015 EIQ. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year).

Table 5: Emissions Summary (tpy)

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	3.0	N/D	0.0371	N/A
PM <sub>10</sub>	15.0	6.14	1.19	0.00848	N/A
PM <sub>2.5</sub>	10.0	3.0	1.14	< 10.0	N/A
SOx	40.0	0.14	0.02	0.0026	N/A
NOx	40.0	19.43	0.27	0.43	N/A
VOC	40.0	545.33	103.74	< 40.0	N/A
CO	100.0	7.63	N/D	0.085	N/A
HAPs	25.0	< 25.0	3.34	< 25.0	<25.0
Ethylbenzene (CAS 100-41-4)	10.0	<10.0	N/D	<10.0	<10.0
Xylene	10	<10.0	N/D	<10.0	<10.0

Pollutant	Regulatory <i>De Minimis</i> Levels	Existing Potential Emissions	Existing Actual Emissions (2015 EIQ)	Potential Emissions of the Project	New Installation Conditioned Potential
(CAS 1330-20-7)					
Toluene (CAS 108-88-3)	10	<10.0	N/D	<10.0	<10.0
Hexamethylene- 1,6-Diisocyanate (CAS 822-06-0)	0.02	<0.02	N/D	<0.02	<0.02
Styrene (CAS 100-42-5)	1	<1.0	N/D	<1.0	<1.0
Methanol (CAS 67-56-1)	10	<10.0	N/D	<10.0	<10.0
Formaldehyde (CAS 50-00-0)	2	<2.0	N/D	<2.0	<2.0
Naphthalene (CAS 91-20-3)	10	<10.0	N/D	<10.0	<10.0
Benzene (CAS 71-43-2)	2	<2.0	N/D	<2.0	<2.0
Cumene (CAS 98-82-8)	10	<10.0	N/D	<10.0	<10.0

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 VOC and PM<sub>2.5</sub> have been conditioned to below de minimis levels.

### APPLICABLE REQUIREMENTS

TG Missouri 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*
  - 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.
- *Operating Permits, 10 CSR 10-6.065*
- *Restriction of Particulate Matter to the Ambient Air Beyond the Premises of Origin, 10 CSR 10-6.170*
- *Restriction of Emission of Visible Air Contaminants, 10 CSR 10-6.220*
- *Restriction of Emission of Odors, 10 CSR 10-6.165*

## 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 June 01, 2016, received June 02, 2016, designating TG Missouri as the owner and operator of the installation.

## Attachment A – Combined Installation Wide HAPs Compliance Worksheet

TG Missouri  
 Perry County, LG844, T35N, R10E  
 Project Number: 2016-06-010  
 Installation ID Number: 157-0019  
 Permit Number: **072017-007**

This sheet covers the period from \_\_\_\_\_ to \_\_\_\_\_. (Copy this sheet as needed.)  
(month, year) (month, year)

Column 1	Column 2 (a)	Column 3	Column 4	Column 5
Material Used, (Name, HAP CAS #)	Amount of Material Used (Include Units)	Density (lbs/gal)	HAP Content (Weight %)	HAP Emissions (Tons)
(b) Chromium Compound Emissions from CD-206, CD-220, CD-7, CD-234 and CD238				
Nickel Emissions from Attachment B in Tons				
(c) Natural Gas Combustion Combined HAP Emissions in Tons				
(d) Total HAP Emissions Calculated for this Month in Tons				
(e) 12-Month HAP Emissions Total from Previous Month's Worksheet in Tons				
(f) Monthly HAP Emissions Total (d) from Previous Year's Worksheet in Tons				
(g) Current 12-month Total of HAP Emissions in Tons: (g) = [(d) + (e) - (f)]				

- (a) 1) If usage is in tons - [Column 2] x [Column 4] = [Column 5];
- 2) If usage is in pounds - [Column 2] x [Column 4] x [0.0005] = [Column 5];
- 3) If usage is in gallons - [Column 2] x [Column 3] x [Column 4] x [0.0005] = [Column 5];
- (b) Calculate the monthly chromium emissions (tons) using the permitted emission factor from 40 CFR 63 Subpart N, or AP-42 Section 12.20 *Electroplating*, respectively. Also record this month's nickel compound emissions from Attachment B.
- (c) Calculate the monthly combined HAP emissions from natural gas combustion. The emission factor is 1.888 pounds of combined HAPs per million cubic feet of natural gas. Convert to tons.
- (d) Summation of [Column 5, (b), and (c)] in Tons;
- (e) 12-Month HAP emissions (g) from last month's Attachment A in Tons;
- (f) Monthly HAP emissions total (d) from the previous year's Attachment A in Tons;
- (g) Calculate the new 12-month combined HAPs emissions total. A 12-Month HAP emissions total of less than 25.0 tons indicates compliance.

## Attachment B – Individual Installation Wide HAP Compliance Worksheet

TG Missouri  
 Perry County, LG844, T35N, R10E  
 Project Number: 2016-06-010  
 Installation ID Number: 157-0019  
 Permit Number:

07 2 0 1 7 - 0 0 7

HAP Name: \_\_\_\_\_ CAS No.: \_\_\_\_\_

This sheet covers the month of \_\_\_\_\_ in the year \_\_\_\_\_. (Copy this sheet as needed.)

Column 1 (a)	Column 2 (b)
List materials that contain this HAP (Name, Type)	HAP emissions from Attachment A [Column 5] (in Tons)
<b>(c) Total Individual HAP Emissions for this Month, Tons</b>	
<b>(d) 12-Month Individual HAP Emissions Total (f) from Previous Month's Attachment B, Tons</b>	
<b>(e) Monthly Individual HAP Emissions Total (c) from Previous 12 Month's Attachment B, Tons</b>	
<b>(f) Current 12-month Total of HAP Emissions in Tons: [(c) + (d) - (e)]</b>	

- (a) Individually list each material which emits this specific HAP identified from Appendix A.
- (b) Record the Individual HAP emissions already calculated for Attachment A in [Column 5] in Tons;
- (c) Summation of [Column 2] in Tons;
- (d) Record the previous 12-Month individual HAP emission total (f) from last month's Attachment B, in Tons;
- (e) Record the monthly HAP emission total (c) from previous 12-Month Attachment B, in Tons;
- (f) Calculate the new 12-month individual HAP emissions total. A 12-Month individual HAP emissions total of less than 10.0 tons indicates compliance.

## Attachment C – Project VOC Compliance Worksheet

TG Missouri  
 Perry County, LG844, T35N, R10E  
 Project Number: 2016-06-010  
 Installation ID Number: 157-0019  
 Permit Number: **07 2017 - 007**

<sup>1</sup> Coating Used	Amount of Coating Used (Gallons)	<sup>2</sup> Density (lb/gal)	<sup>3</sup> VOC Content (Wt %)	<sup>4</sup> VOC Emissions (tons)
<b>Total VOC Emissions from Natural Gas Combustion:</b>				<b>0.0019</b>
<b><sup>5</sup>Total VOC Emissions Calculated for this Month in tons:</b>				
<b><sup>6</sup>12-Month VOC Emissions Total from Previous Month's Attachment A, in tons:</b>				
<b><sup>7</sup>Monthly VOC Emissions Total from Previous Year's Attachment A, in tons:</b>				
<b><sup>8</sup>Current 12-month Total of VOC Emissions in tons:</b>				

- Note 1: Coatings approved to be used in the construction permit application.
- Note 2: Highest density as reported in the coatings SDS or MSDS.
- Note 3: Highest VOC content as reported in the coatings SDS or MSDS.
- Note 4: VOC Emissions (tons) = [Amount of Coating Used (gallons)] x [ Density (lb/gal)] x [VOC Content (Wt. %)] x 0.0005 tons/lb.
- Note 5: Total VOC emissions from all coatings used and natural gas combustion.
- Note 6: 12-Month VOC emissions total (tons) from last month's Attachment A, in tons;
- Note 7: Monthly VOC emissions total (tons) from previous year's Attachment A, in tons;
- Note 8: Calculate the new 12-month VOC emissions total by using [5]+[6]-[7]

**A 12-Month VOC emissions total of less than 40.0 tons indicates compliance.**

## Attachment D – PM<sub>2.5</sub> Compliance Worksheet

TG Missouri  
 Perry County, LG844, T35N, R10E  
 Project Number: 2016-06-010  
 Installation ID Number: 157-0019  
 Permit Number: **07 2017 - 007**

<sup>1</sup> Coating Used	Amount of Coating Used (Gallons)	<sup>2</sup> Density (lb/gal)	<sup>3</sup> PM <sub>2.5</sub> Content (Wt %)	<sup>4</sup> Control Efficiency (%)	<sup>5</sup> PM <sub>2.5</sub> Emissions (tons)
<b>Total PM<sub>2.5</sub> Emissions from Natural Gas Combustion:</b>					0.0031
<b><sup>6</sup>Total PM<sub>2.5</sub> Emissions Calculated for this Month in tons:</b>					
<b><sup>7</sup>12-Month PM<sub>2.5</sub> Emissions Total from Previous Month's Attachment A, in tons:</b>					
<b><sup>8</sup>Monthly PM<sub>2.5</sub> Emissions Total from Previous Year's Attachment A, in tons:</b>					
<b><sup>9</sup>Current 12-month Total of PM<sub>2.5</sub> Emissions in tons:</b>					

- Note 1: Coatings approved to be used in the construction permit application.
- Note 2: Highest density as reported in the coatings SDS or MSDS.
- Note 3: Highest PM<sub>2.5</sub> content as reported in the coatings SDS or MSDS.
- Note 4: The overall PM control efficiency includes the HVLP transfer efficiency (20%), booth capture efficiency (100%), and water wall control efficiency (95%):  $20\% + (1 - 20\%) \times 100\% \times 95\% = 96\%$
- Note 5: PM<sub>2.5</sub> Emissions (tons) = [Amount of Coating Used (gallons)] x [Density (lb/gal)] x [PM<sub>2.5</sub> Content (Wt. %)] x 0.0005 tons/lb.
- Note 6: Total PM<sub>2.5</sub> emissions from all coatings used and natural gas combustion.
- Note 7: 12-Month PM<sub>2.5</sub> emissions total (tons) from last month's Attachment A, in tons;
- Note 8: Monthly PM<sub>2.5</sub> emissions total (tons) from previous year's Attachment A, in tons;
- Note 9: Calculate the new 12-month PM<sub>2.5</sub> emissions total by using [5]+[6]-[7]

**A 12-Month PM<sub>2.5</sub> emissions total of less than 10.0 tons indicates compliance.**



## Attachment E – P-23 Paint Booth System Alternative Coating Potential to Emit Compliance Worksheet

TG Missouri

Perry County, LG844, T35N, R10E

Project Number: 2016-06-010

Installation ID Number: 157-0019

Permit Number:           072017-007          

Coating Name: \_\_\_\_\_ Date: \_\_\_\_\_ Copy this sheet as needed.

A	B	C	D	E	F	G	H
Individual HAP Name and CAS No.	HAP is also PM (yes / no)	Individual HAP Content (max weight %)	Maximum Density of Coating (lb/gal)	Maximum Application Rate (lbs coating per hour)	Overall PM Control Efficiency (%)	Individual HAP PTE (tons per year)	Individual HAP SMAL (tons per year)
<i>Benzene 71-43-2</i>	<i>no</i>	<i>2.0%</i>	<i>1.587</i>	<i>1.466</i>	<i>N/A</i>	<i>0.13</i>	<i>2.0</i>
<i>Cobalt 2-Ethylhexanoate 136-52-7</i>	<i>yes</i>	<i>0.5%</i>			<i>96.0</i>	<i>0.0003</i>	<i>0.1</i>

- A. Record the all individual HAPs from this single coating MSDS.
- B. Compare the HAP to Appendix B for verification as particulate matter.
- C. Record the maximum weight percent of each HAP from the MSDS.
- D. Record the maximum density of the coating from the MSDS
- E. Calculate the maximum application rate for the coating:  $E = D \times (\text{MHDR of } 0.9235 \text{ gal/hr})$ . If the MHDR of 1 gal/hr is exceeded, seek approval from the Air Pollution Control Program New Source Review Unit before using this coating.
- F. The overall PM control efficiency includes the HVLP transfer efficiency (20%), booth capture efficiency (100%), and exhaust filter control efficiency (95%):  $20\% + (1 - 20\%) \times 100\% \times 95\% = 96\%$
- G. Calculate the particulate matter HAP potential to emit:  $G = C \times E \times (1 - F) \times 8,760 / 2,000$ . Otherwise calculate the volatile HAP potential to emit:  $G = C \times E \times 8,760 / 2,000$ .
- H. Record the individual HAP SMAL from the most recent Appendix B, also available at <http://www.dnr.mo.gov/env/apcp/permits/constpmtguide.htm> as *Table of Hazardous Air Pollutants, Screening Model Action Levels and Risk Assessment Levels*. If the individual HAP potential to emit is greater than the SMAL seek approval from the Air Pollution Control Program New Source Review Unit before using this coating.

**Appendix A: Table of Hazardous Air Pollutants and Screening Model Action Levels (May 3, 2012 Revision 10)**

Chemical	CAS #	SMAL (ton/yr)	Group D	VOC	PM	Chemical	CAS #	SMAL (ton/yr)	Group D	VOC	PM	Chemical	CAS #	SMAL (ton/yr)	Group D	VOC	PM
ACETALDEHYDE	75-07-0	9		Y	N	CARBARYL	63-25-2	10	V	Y	Y	DICHLOROPROPANE, [1,2-]	78-87-5	1		Y	N
ACETAMIDE	60-35-5	1		Y	N	CARBON DISULFIDE	75-15-0	1		Y	N	DICHLOROPROPENE, [1,3-]	542-75-6	1		Y	N
ACETONITRILE	75-05-8	4		Y	N	CARBON TETRACHLORIDE	56-23-5	1		Y	N	DICHLORVOS	62-73-7	0.2		Y	N
ACETOPHENONE	98-88-2	1		Y	N	CARBONYL SULFIDE	463-58-1	5		Y	N	DIETHANOLAMINE	111-42-2	5		Y	N
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	V	Y	Y	CATECHOL	120-80-9	5		Y	N	DIETHYL SULFATE	64-67-5	1		Y	N
ACROLEIN	107-02-8	0.04		Y	N	CHLORAM BEN	133-90-4	1		Y	Y	DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	P	Y	N
ACRYLAMIDE	79-08-1	0.02		Y	N	CHLORDANE	57-74-9	0.01		Y	Y	DIMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	V	Y	Y
ACRYLIC ACID	79-10-7	0.6		Y	N	CHLORINE	7782-50-5	0.1	N	N	N	DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	V	Y	Y
ACRYLONITRILE	107-13-1	0.3		Y	N	CHLOROACETIC ACID	79-11-8	0.1		Y	N	DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02		Y	N
ALLYL CHLORIDE	107-05-1	1		Y	N	CHLOROACETOPHENONE, [2-]	532-27-4	0.06		Y	N	DIMETHYL FORMAMIDE	68-12-2	1		Y	N
AMINOBIOPHENYL, [4-]	92-67-1	1	V	Y	N	CHLOROBENZENE	108-90-7	10		Y	N	DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008		Y	N
ANILINE	62-53-3	1		Y	N	CHLOROBENZYLATE	510-15-6	0.4	V	Y	Y	DIMETHYL PHTHALATE	131-11-3	10		Y	N
ANISIDINE, [ORTHO-]	90-04-0	1		Y	N	CHLOROFORM	67-66-3	0.9		Y	N	DIMETHYL SULFATE	77-78-1	0.1		Y	N
ANTHRACENE	120-12-7	0.01	V	Y	N	CHLOROMETHYL METHYL ETHER	107-30-2	0.1		Y	N	DIMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1		Y	N
ANTIMONY COMPOUNDS		5	H	N	Y	CHLOROPRENE	126-99-8	1		Y	N	DIMETHYLANILINE, [N-N-]	121-69-7	1		Y	N
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	H	N	Y	CHROMIUM (VI) COMPOUNDS		0.002	L	N	Y	DINITRO-O-CRESOL, [4,6-] (Note 6)	534-52-1	0.1	E	Y	Y
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	H	N	Y	CHROMIUM COMPOUNDS		5	L	N	Y	DINITROPHENOL, [2,4-]	51-28-5	1		Y	N
ANTIMONY TRIOXIDE	1305-84-4	1	H	N	Y	CHRYSENE	218-01-9	0.01	V	Y	N	DINITROTOLUENE, [2,4-]	121-14-2	0.02		Y	N
ANTIMONY TRISULFIDE	1345-04-6	0.1	H	N	Y	COBALT COMPOUNDS		0.1	H	N	Y	DIOXANE, [1,4-]	123-91-1	6		Y	N
ARSENIC COMPOUNDS		0.005	I	N	Y	COKE OVEN EMISSIONS	8007-45-2	0.03	N	Y	N	DIPHENYLHYDRAZINE, [1,2-]	122-66-7	0.09	V	Y	Y
ASBESTOS	1332-21-4	0	A	N	Y	CRESOL, [META-]	108-39-4	1	B	Y	N	DIPHENYLMETHANE DISOCYANATE, [4,4-]	101-68-8	0.1	V	Y	N
BENZ(A)ANTHRACENE	56-55-3	0.01	V	Y	N	CRESOL, [ORTHO-]	95-48-7	1	B	Y	N	EPICHLOROHYDRIN	106-89-8	2		Y	N
BENZENE	71-43-2	2		Y	N	CRESOL, [PARA-]	105-44-5	1	B	Y	N	ETHOXYETHANOL, [2-]	110-80-5	10	P	Y	N
BENZIDINE	92-87-5	0.0003	V	Y	N	CRESOLS (MIXED ISOMERS)	1319-77-3	1	B	Y	N	ETHOXYETHYL ACETATE, [2-]	111-15-9	5	P	Y	N
BENZD(A)PYRENE	50-32-8	0.01	V	Y	N	CUMENE	98-82-8	10		Y	N	ETHYL ACRYLATE	140-88-5	1		Y	N
BENZD(B)FLUORANTHENE	205-99-2	0.01	V	Y	N	CYANIDE COMPOUNDS		0.1	O	Y	N	ETHYL BENZENE	100-41-4	10		Y	N
BENZD(K)FLUORANTHENE	207-09-9	0.01	V	Y	N	DDE	72-55-9	0.01	V	Y	Y	ETHYL CHLORIDE	75-00-3	10		Y	N
BENZOTRICHLORIDE	98-07-7	0.006		Y	N	DI(2-ETHYLHEXYL) PHTHALATE, (DEHP)	117-81-7	5		Y	N	ETHYLENE GLYCOL	107-21-1	10		Y	N
BENZYL CHLORIDE	100-44-7	0.1		Y	N	DIAMINOTOLUENE, [2,4-]	95-80-7	0.02		Y	N	ETHYLENE GLYCOL MONOBUTYL ETHER (Distilled)	111-76-2				
BERYLLIUM COMPOUNDS		0.008	J	N	Y	DIAZOMETHANE	334-88-3	1		Y	N	ETHYLENE GLYCOL MONOHEXYL ETHER	112-25-4	5	P	Y	N
BERYLLIUM SALTS		2E-05	J	N	Y	DIBENZ(A,H)ANTHRACENE	53-70-3	0.01	V	Y	N	ETHYLENE IMINE [AZRIDINE]	151-66-4	0.003		Y	N
BIPHENYL, [1,1-]	92-52-4	10	V	Y	N	DIOXINS/FURANS		6E-07	D,V	Y	N	ETHYLENE OXIDE	75-21-8	0.1		Y	N
BIS(CHLOROETHYL)ETHER	111-44-4	0.06		Y	N	DIBENZOFURAN	132-64-9	5	V	Y	N	ETHYLENE THIOUREA	96-45-7	0.6		Y	Y
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003		Y	N	DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01		Y	N	FORMALDEHYDE	50-00-0	2		Y	N
BROMOFORM	75-25-2	10		Y	N	DIBROMOETHANE, [1,2-]	106-93-4	0.1		Y	N	GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	P	Y	N
BROMOMETHANE	74-83-9	10		Y	N	DIBUTYL PHTHALATE	84-74-2	10		Y	Y	GLYCOL ETHER (DIETHYLENE GLYCOL ETHERS)		5	P	Y	N
BUTADIENE, [1,3-]	106-99-0	0.07		Y	N	DICHLOROBENZENE, [1,4-]	106-46-7	3		Y	N	HEPTACHLOR	76-44-8	0.02		Y	N
BUTOXYETHANOL ACETATE, [2-]	112-07-2	5	P	Y	N	DICHLOROBENZENE, [3,3-]	91-94-1	0.2	V	Y	Y	HEXACHLOROBENZENE	118-74-1	0.01		Y	N
BUTYLENE OXIDE, [1,2-]	106-88-7	1		Y	N	DICHLOROETHANE, [1,1-]	75-34-3	1		Y	N	HEXACHLOROBUTADIENE	87-68-3	0.9		Y	N
CADMIUM COMPOUNDS		0.01	K	N	Y	DICHLOROETHANE, [1,2-]	107-06-2	0.8		Y	N	HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	F	Y	N
CALCIUM CYANAMIDE	156-62-7	10		Y	Y	DICHLOROMETHANE	75-08-2	10		N	N	HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	F	Y	N
CAPROLACTAM (Distilled)	105-60-2					DICHLOROMETHANE	75-08-2	10		N	N	HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	F	Y	N
CAPTAN	133-06-2	10		Y	Y	DICHLOROPHENOXYACETIC ACID, [2,4-]	94-75-7	10	C	Y	Y	HEXACHLOROCYCLOHEXANE, [TECHNICAL]	508-73-1	0.01	F	Y	N

## Appendix A: Table of Hazardous Air Pollutants and Screening Model Action Levels (May 3, 2012 Revision 10)

Chemical	CAS #	SMAL (ton/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (ton/yr)	Group ID	VOC	PM	Chemical	CAS #	SMAL (ton/yr)	Group ID	VOC	PM
HEXACHLOROCYCLOPENTADIENE	77-47-4	0.1		Y	N	NITROSODIMETHYLAMINE, [N-]	62-75-9	0.001		Y	N	TRIMETHYLPENTANE, [2,2,4-]	540-84-1	5		Y	N
HEXACHLOROETHANE	67-72-1	5		Y	N	NITROSOMORPHOLINE, [N-]	59-89-2	1		Y	N	URETHANE [ETHYL CARBAMATE]	51-79-8	0.8		Y	N
HEXAMETHYLENE, -1,6-DIISOCYANATE	822-08-0	0.02		Y	N	NITROSO-N-METHYLUREA, [N-]	684-83-5	0.0002		Y	N	VINYL ACETATE	108-05-4	1		Y	N
HEXAMETHYLPHOSPHORAMIDE	680-31-9	0.01		Y	N	OCTACHLORONAPHTHALENE	2234-13-1	0.01	V	Y	N	VINYL BROMIDE	583-80-2	0.6		Y	N
HEXANE, [N-]	110-54-3	10		Y	N	PARATHION	56-38-2	0.1		Y	Y	VINYL CHLORIDE	75-01-4	0.2		Y	N
HYDRAZINE	302-01-2	0.004		N	N	PCB [POLYCHLORINATED BIPHENYLS]	1336-36-3	0.009	X	Y	Y	XYLENE, [META-]	108-38-3	10	G	Y	N
HYDROGEN CHLORIDE	7647-01-0	10		N	N	PENTACHLORONITROBENZENE	82-88-8	0.3		Y	N	XYLENE, [ORTHO-]	95-47-8	10	G	Y	N
HYDROGEN FLUORIDE	7664-39-3	0.1		N	N	PENTACHLOROPHENOL	87-86-5	0.7		Y	N	XYLENE, [PARA-]	106-42-3	10	G	Y	N
HYDROQUINONE	123-31-9	1		Y	N	PHENOL	108-95-2	0.1		Y	N	XYLENES (MIXED ISOMERS)	1330-20-7	10	G	Y	N
INDENO(1,2,3CD)PYRENE	193-39-5	0.01	V	Y	N	PHENYLENEDIAMINE, [PARA-]	108-50-3	10		Y	N						
ISOPHORONE	78-59-1	10		Y	N	PHOSGENE	75-44-5	0.1		Y	N						
LEAD COMPOUNDS		0.01	Q	N	Y	PHOSPHINE	7803-51-2	5		N	N						
LINDANE [GAMMA-HEXACHLOROCYCLOHEXANE]	58-89-9	0.01	F	Y	N	PHOSPHOROUS (YELLOW OR WHITE)	7723-14-0	0.1		N	N						
MALEIC ANHYDRIDE	108-31-6	1		Y	N	PTHALIC ANHYDRIDE	85-44-9	5		Y	N						
MANGANESE COMPOUNDS		0.8	R	N	Y	POLYCYCLIC ORGANIC MATTER		0.01	V	Y	N						
MERCURY COMPOUNDS		0.01	S	N	N	PROPANE SULTONE, [1,3-]	1120-71-4	0.03		Y	Y						
METHANOL	67-56-1	10		Y	N	PROPIOLACTONE, [BETA-]	57-57-8	0.1		Y	N						
METHOXYCHLOR	72-43-5	10	V	Y	Y	PROPIONALDEHYDE	123-38-6	5		Y	N						
METHOXYETHANOL, [2-]	109-86-4	10	P	Y	N	PROPOXUR [BAYGON]	114-26-1	10		Y	Y						
METHYL CHLORIDE	74-87-3	10		Y	N	PROPYLENE OXIDE	75-58-9	5		Y	N						
METHYL ETHYL KETONE (Delisted)	78-93-3					PROPYLENEIMINE, [1,2-]	75-55-8	0.003		Y	N						
METHYL HYDRAZINE	80-34-4	0.06		Y	N	QUINOLINE	91-22-5	0.006		Y	N						
METHYL IODIDE	74-88-4	1		Y	N	QUINONE	108-51-4	5		Y	N						
METHYL ISOBUTYL KETONE	108-10-1	10		Y	N	RADIONUCLIDES		Note 1		Y	N	Y					
METHYL ISOCYANATE	824-83-9	0.1		Y	N	SELENIUM COMPOUNDS		0.1	W	N	Y						
METHYL METHACRYLATE	80-82-6	10		Y	N	STYRENE	100-42-5	1		Y	N						
METHYL TERT-BUTYL ETHER	1034-04-4	10		Y	N	STYRENE OXIDE	98-09-3	1		Y	N						
METHYLCYCLOPENTADIENYL MANGANESE	12108-13-3	0.1	R	N	Y	TETRACHLORODIBENZO-P-DIOXIN, [2,3,7,8]	1748-01-6	6E-07	D,V	Y	Y						
METHYLENE BIS(2-CHLOROANILINE), [4,4-]	101-14-4	0.2	V	Y	Y	TETRACHLOROETHANE, [1,1,2,2-]	79-34-5	0.3		Y	N						
METHYLENEDIANILINE, [4,4-]	101-77-9	1	V	Y	N	TETRACHLOROETHYLENE	127-18-4	10		N	N						
METHYLNAPHTHALENE, [2-]	91-57-6	0.01	V	Y	N	TITANIUM TETRACHLORIDE	7550-45-0	0.1		N	N						
MINERAL FIBERS		0	T	N	Y	TOLUENE	108-88-3	10		Y	N						
NAPHTHALENE	91-20-3	10	V	Y	N	TOLUENE DIISOCYANATE, [2,4-]	584-64-9	0.1		Y	N						
NAPHTHYLAMINE, [ALPHA-]	134-32-7	0.01	V	Y	N	TOLUIDINE, [ORTHO-]	95-53-4	4		Y	N						
NAPHTHYLAMINE, [BETA-]	91-59-8	0.01	V	Y	N	TOXAPHENE	8001-35-2	0.01		Y	N						
NICKEL CARBONYL	13463-39-3	0.1	U	N	Y	TRICHLOROEBENZENE, [1,2,4-]	120-82-1	10		Y	N						
NICKEL COMPOUNDS		1	U	N	Y	TRICHLOROETHANE, [1,1,1-]	71-55-8	10		N	N						
NICKEL REFINERY DUST		0.08	U	N	Y	TRICHLOROETHANE, [1,1,2-]	79-00-5	1		Y	N						
NICKEL SUBSULFIDE	12035-72-2	0.04	U	N	Y	TRICHLOROETHYLENE	79-01-6	10		Y	N						
NITROBENZENE	98-95-3	1		Y	N	TRICHLOROPHENOL, [2,4,5-]	95-95-4	1		Y	N						
NITROBIPHENYL, [4-]	92-93-3	1	V	Y	N	TRICHLOROPHENOL, [2,4,6-]	88-08-2	6		Y	N						
NITROPHENOL, [4-]	100-02-7	5		Y	N	TRIETHYLAMINE	121-44-8	10		Y	N						
NITROPROPANE, [2-]	79-48-9	1		Y	N	TRIFLURALIN	1582-09-8	9		Y	Y						

Legend	
Group ID	Aggregate Group Name
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**

Note 1 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

## APPENDIX B

### Abbreviations and Acronyms

<b>%</b> .....	percent	<b>m/s</b> .....	meters per second
<b>°F</b> .....	degrees Fahrenheit	<b>Mgal</b> .....	1,000 gallons
<b>acfm</b> .....	actual cubic feet per minute	<b>MW</b> .....	megawatt
<b>BACT</b> .....	Best Available Control Technology	<b>MHDR</b> .....	maximum hourly design rate
<b>BMPs</b> .....	Best Management Practices	<b>MMBtu</b> .....	Million British thermal units
<b>Btu</b> .....	British thermal unit	<b>MMCF</b> .....	million cubic feet
<b>CAM</b> .....	Compliance Assurance Monitoring	<b>MSDS</b> .....	Material Safety Data Sheet
<b>CAS</b> .....	Chemical Abstracts Service	<b>NAAQS</b> ..	National Ambient Air Quality Standards
<b>CEMS</b> .....	Continuous Emission Monitor System	<b>NESHAPs</b>	National Emissions Standards for Hazardous Air Pollutants
<b>CFR</b> .....	Code of Federal Regulations	<b>NO<sub>x</sub></b> .....	nitrogen oxides
<b>CO</b> .....	carbon monoxide	<b>NSPS</b> .....	New Source Performance Standards
<b>CO<sub>2</sub></b> .....	carbon dioxide	<b>NSR</b> .....	New Source Review
<b>CO<sub>2e</sub></b> .....	carbon dioxide equivalent	<b>PM</b> .....	particulate matter
<b>COMS</b> .....	Continuous Opacity Monitoring System	<b>PM<sub>2.5</sub></b> .....	particulate matter less than 2.5 microns in aerodynamic diameter
<b>CSR</b> .....	Code of State Regulations	<b>PM<sub>10</sub></b> .....	particulate matter less than 10 microns in aerodynamic diameter
<b>dscf</b> .....	dry standard cubic feet	<b>ppm</b> .....	parts per million
<b>EIQ</b> .....	Emission Inventory Questionnaire	<b>PSD</b> .....	Prevention of Significant Deterioration
<b>EP</b> .....	Emission Point	<b>PTE</b> .....	potential to emit
<b>EPA</b> .....	Environmental Protection Agency	<b>RACT</b> .....	Reasonable Available Control Technology
<b>EU</b> .....	Emission Unit	<b>RAL</b> .....	Risk Assessment Level
<b>fps</b> .....	feet per second	<b>SCC</b> .....	Source Classification Code
<b>ft</b> .....	feet	<b>scfm</b> .....	standard cubic feet per minute
<b>GACT</b> .....	Generally Available Control Technology	<b>SDS</b> .....	Safety Data Sheet
<b>GHG</b> .....	Greenhouse Gas	<b>SIC</b> .....	Standard Industrial Classification
<b>gpm</b> .....	gallons per minute	<b>SIP</b> .....	State Implementation Plan
<b>gr</b> .....	grains	<b>SMAL</b> .....	Screening Model Action Levels
<b>GWP</b> .....	Global Warming Potential	<b>SO<sub>x</sub></b> .....	sulfur oxides
<b>HAP</b> .....	Hazardous Air Pollutant	<b>SO<sub>2</sub></b> .....	sulfur dioxide
<b>hr</b> .....	hour	<b>tph</b> .....	tons per hour
<b>hp</b> .....	horsepower	<b>tpy</b> .....	tons per year
<b>lb</b> .....	pound	<b>VMT</b> .....	vehicle miles traveled
<b>lbs/hr</b> .....	pounds per hour	<b>VOC</b> .....	Volatile Organic Compound
<b>MACT</b> .....	Maximum Achievable Control Technology		
<b>µg/m<sup>3</sup></b> .....	micrograms per cubic meter		

POTENTIAL TO EMIT:

	2 Gun Potential lb / min	Transfer Efficiency 20%	Overspray Potential lb / min
Base Coat Booth	2.08		1.664
Clear Coat Booth	2.08		1.664

Material ID	Max Density	VOC		100-41-4 Ethylbenzene		1330-20-7 Xylene		108-88-3 Toluene		822-06-0 Dimethylene-1,6-Diisocya		100-42-5 Styrene		67-56-1 Methanol		50-00-0 Formaldehyde		91-20-3 Naphthalene		71-43-2 Benzene		98-82-8 Cumene		
		Max Percentage	Max (lb/hr)	(TPY)	(wt.%)	(TPY)	(wt.%)	(TPY)	(wt.%)	(TPY)	(wt.%)	(TPY)	(wt.%)	(TPY)	(wt.%)	(TPY)	(wt.%)	(TPY)	(wt.%)	(TPY)	(wt.%)	(TPY)	(wt.%)	(TPY)
Base Coat Theoretical Paint	9.415	100%	939.9936	4,120	1.0297%	42	4.3957%	181	0.2736%	11	0.0000%	0	0.0000%	0	0.0484%	2	0.0020%	0	0.0865%	4	0.0011%	0	0.0358%	1
Clear Coat Theoretical Paint	9.060	100%	904.5504	3,965	0.0400%	2	0.0000%	0	0.0000%	0	1.0000%	41	0.3700%	15	0.0000%	0	0.0000%	0	0.0000%	0	0.0000%	0	0.0000%	0
Total			8,085			44		181		11		41		15		2		0		4		0		1

PM, PM10 AND PM2.5 CALCULATIONS:  
MAXIMUM POTENTIAL CALCULATIONS:

Booth Efficiency	3 mg/m <sup>3</sup> of exhaust air 3380135814 lb per hour
Booth Exhaust	34,600 CFM per Booth
2 Booths Total	69,200 Total CFM
Gun Potential	1.04 lb per min. or 62.4 lb per hour
4 Guns Total	4.16 lb per min. or 249.6 lb per hour
Booth Eff. %	95.000000%
Transfer Efficiency	20%
24/7 operation	8,766 hours max.

PM10 and PM2.5 Calc. are considered the same for surface coating calculations.

Formula: Max Density (lb/gal) X Max annual paint usage (gal/year) X Max % Solids X (1-TE) X (1-CE) X (1 ton / 2000 lbs)

Density (lb/gal)	Max annual Paint Usage per Booth (gal / year)	Max Paint % Solids	1-TE	1-CE	Ton	Annual Tons per Booth	2 Booths Total Tons
9.415	1,093,997	48.6	80%	5.00%	2,000	10,012	20,023.16

PM2.5 and PM10 Max Potential Tons 20,023.16

TG MISSOURI  
P-23 Paint Booth Emission Calculations

ESTIMATED USAGE RATES

Material Type	Material ID	Hourly (gal/hr)	Annual (gal/yr)
<b>Base Coat Booth</b>			
810143	Thinner	0.41	1,715.41
2800	Red Metallic Paint	0.12	500.62
2820	White Paint	0.27	1,123.16
2840	Grey Metallic Paint	0.20	844.89
814850	Blue Paint	0.10	416.63
800253	Silver Metallic Paint	0.16	653.41
814849	Orange Paint	0.09	365.57
800551	Black Paint	0.11	451.43
<b>Total for Base Coat Booth</b>			<b>6,071.12</b>
<b>Clear Coat Booth</b>			
804032	Clear Coat	0.09	373.65
804033	Clear Reducer	0.06	233.16
804034	Converter	0.02	65.02
<b>Total for Clear Coat Booth</b>			<b>671.83</b>
<b>Total (gal/yr)</b>			<b>6,743</b>

MATERIAL PROPERTIES:

Material Type	Material ID	Density (lb/gal)	VOC		100-41-4 Ethylbenzene		1330-20-7 Xylene		108-88-3 Toluene		822-06-0 m-methylene-1,6-Diisocya		100-42-5 Styrene		67-56-1 Methanol		50-00-0 Formaldehyde		91-20-3 Naphthalene		71-43-2 Benzene		98-82-8 Cumene		
			(wt.%)	(lb/gal ctg)	(wt.%)	(lb/gal ctg)	(wt.%)	(lb/gal ctg)	(wt.%)	(lb/gal ctg)	(wt.%)	(lb/gal ctg)	(wt.%)	(lb/gal ctg)	(wt.%)	(lb/gal ctg)	(wt.%)	(lb/gal ctg)	(wt.%)	(lb/gal ctg)	(wt.%)	(lb/gal ctg)	(wt.%)	(lb/gal ctg)	
<b>Base Coat Booth</b>																									
810143	Thinner	6.868	100.00%	6.87	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%
2800	Red Metallic Paint	8.037	62.00%	4.98	0.8828%	0.08	4.2032%	0.34	0.1738%	0.01	0.0000%	0.00	0.0000%	0.00	0.0428%	0.00	0.0014%	0.00	0.0792%	0.01	0.0010%	0.00	0.0000%	0.00	0.0000%
2820	White Paint	9.415	51.41%	4.84	0.8131%	0.08	3.5196%	0.33	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0349%	0.00	0.0013%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%
0240	Grey Metallic Paint	7.896	62.87%	4.96	0.9738%	0.08	4.1212%	0.33	0.1152%	0.01	0.0000%	0.00	0.0000%	0.00	0.0460%	0.00	0.0020%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%
814850	Blue Paint	8.273	59.96%	4.96	0.9534%	0.08	4.1377%	0.34	0.2232%	0.02	0.0000%	0.00	0.0000%	0.00	0.0401%	0.00	0.0013%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%
800253	Silver Metallic Paint	8.114	61.71%	5.01	0.8941%	0.07	3.8505%	0.31	0.2736%	0.02	0.0000%	0.00	0.0000%	0.00	0.0391%	0.00	0.0015%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%
814849	Orange Paint	8.060	61.58%	4.96	1.0297%	0.08	4.3957%	0.35	0.1691%	0.01	0.0000%	0.00	0.0000%	0.00	0.0467%	0.00	0.0016%	0.00	0.0865%	0.01	0.0011%	0.00	0.0000%	0.00	0.0000%
800551	Black Paint	7.885	62.74%	4.95	0.8653%	0.07	3.4910%	0.28	0.0002%	0.00	0.0000%	0.00	0.0000%	0.00	0.0484%	0.00	0.0017%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0358%
<b>Clear Coat Booth</b>																									
804032	Clear Coat	7.971	51.34%	4.09	0.0400%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.3700%	0.03	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%
804033	Clear Reducer	7.239	100.00%	7.24	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%
804034	Converter	9.060	19.98%	1.81	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	1.0000%	0.09	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%	0.00	0.0000%

ESTIMATED EMISSIONS:

Material Type	Material ID	VOC		100-41-4 Ethylbenzene		1330-20-7 Xylene		108-88-3 Toluene		822-06-0 m-methylene-1,6-Diisocya		100-42-5 Styrene		67-56-1 Methanol		50-00-0 Formaldehyde		91-20-3 Naphthalene		71-43-2 Benzene		98-82-8 Cumene			
		(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)	(lb/hr)	(TPY)		
<b>Base Coat Booth</b>																									
810143	Thinner	2.83	5.66	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	
2800	Red Metallic Paint	0.60	1.20	0.0095	0.02	0.0407	0.08	0.0017	0.00	0.0000	0.00	0.0000	0.00	0.0004	0.00	0.0000	0.00	0.0008	0.00	0.0000	0.00	0.0000	0.00	0.0000	
2820	White Paint	1.31	2.61	0.0207	0.04	0.0895	0.18	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0009	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	
0240	Grey Metallic Paint	1.01	2.02	0.0156	0.03	0.0661	0.13	0.0018	0.00	0.0000	0.00	0.0000	0.00	0.0007	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	
814850	Blue Paint	0.50	0.99	0.0079	0.02	0.0343	0.07	0.0018	0.00	0.0000	0.00	0.0000	0.00	0.0003	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	
800253	Silver Metallic Paint	0.79	1.57	0.0114	0.02	0.0491	0.10	0.0035	0.01	0.0000	0.00	0.0000	0.00	0.0005	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	
814849	Orange Paint	0.44	0.87	0.0073	0.01	0.0311	0.06	0.0012	0.00	0.0000	0.00	0.0000	0.00	0.0003	0.00	0.0000	0.00	0.0006	0.00	0.0000	0.00	0.0000	0.00	0.0000	
800551	Black Paint	0.54	1.07	0.0074	0.01	0.0299	0.06	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0004	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0003	
<b>Base Coat Booth Totals</b>			<b>16.01</b>		<b>0.16</b>		<b>0.68</b>		<b>0.02</b>		<b>0.00</b>		<b>0.00</b>		<b>0.01</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>
<b>Clear Coat Booth</b>																									
804032	Clear Coat	0.37	0.74	0.0003	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0026	0.01	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	
804033	Clear Reducer	0.41	0.81	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	
804034	Converter	0.03	0.06	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0014	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	0.00	0.0000	
<b>Clear Coat Booth Totals</b>			<b>1.60</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>		<b>0.01</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>
<b>TOTALS (TPY)</b>			<b>17.61</b>		<b>0.16</b>		<b>0.68</b>		<b>0.02</b>		<b>0.00</b>		<b>0.01</b>		<b>0.01</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>		<b>0.00</b>



Missouri Department of dnr.mo.gov

# NATURAL RESOURCES

Eric R. Greitens, Governor

Carol S. Comer, Director

JUL 11 2017

Mr. Tim Baer  
Assistant General Manager Environmental  
TG Missouri  
2200 Plattin Road  
Perryville, MO 63775

RE: New Source Review Permit - Project Number: 2016-06-010

Dear Mr. Baer:

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](http://www.oa.mo.gov/ahc).



Recycled paper

Mr. Tim Baer  
Page Two

If you have any questions regarding this permit, please do not hesitate to contact David Buttig, 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:hjj

Enclosures

c: Southeast Regional Office  
PAMS File: 2016-06-010

Permit Number: **07 2017 - 007**