

STATE OF 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: 022009-011 Project Number: 2008-08-044

Parent Company: TG Missouri

Parent Company Address: 2200 Plattin Rd., Perryville, MO 63775

Installation Name: TG Missouri

Installation Address: 2200 Plattin Rd., Perryville, MO 63775

Location Information: Perry County, S84, T35, R10

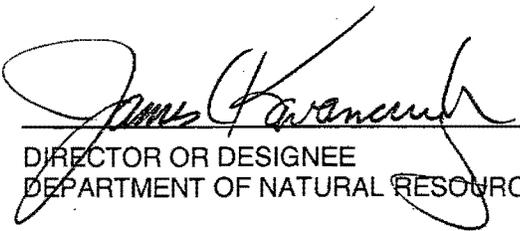
Application for Authority to Construct was made for:

The installation of a compact electroplating operation and two new automated paint spray booths. 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.

FEB 26 2009

EFFECTIVE DATE


DIRECTOR OR DESIGNEE
DEPARTMENT OF NATURAL RESOURCES

STANDARD CONDITIONS:

Permission to construct may be revoked if you fail to begin construction or modification within two years from the effective date of this permit. Permittee should notify the Air Pollution Control Program if construction or modification is not started within two years after the effective date of this permit, or if construction or modification is suspended for one year or more.

You will be in violation of 10 CSR 10-6.060 if you fail to adhere to the specifications and conditions listed in your application, this permit and the project review. In the event that there is a discrepancy between the permit application and this permit, the conditions of this permit shall take precedence. Specifically, all air contaminant control devices shall be operated and maintained as specified in the application, associated plans and specifications.

You must notify the departments' Air Pollution Control Program of the anticipated date of start up of this (these) air contaminant source(s). The information must be made available not more than 60 days but at least 30 days in advance of this date. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of this (these) air contaminant source(s).

A copy of this permit and permit review shall be kept at the installation address and shall be made available to Department of Natural Resources' personnel upon request.

You may appeal this permit or any of the listed special conditions to the Administrative Hearing Commission (AHC), P.O. Box 1557, Jefferson City, MO 65102, as provided in RSMo 643.075.6 and 621.250.3. If you choose to appeal, you must file a petition with the AHC within 30 days after the date this decision was mailed or the date it was delivered, whichever date was earlier. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the AHC.

If you choose not to appeal, this certificate, the project review and your application and associated correspondence constitutes your permit to construct. The permit allows you to construct and operate your air contaminant 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 at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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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, S84, T35, R10

1. Emission Limitation
 - A. TG Missouri shall emit less than ten (10) tons individually or twenty-five (25) tons combined of Hazardous Air Pollutants (HAPs) from the entire installation (see Table 1) in any consecutive 12-month period.
 - B. TG Missouri shall emit less than one (1) ton of nickel compounds from the nickel plating system (EP-209) in any consecutive 12-month period.
 - C. Attachment A, Attachment B and Attachment C or equivalent forms approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1(A) and 1(B). TG Missouri shall maintain all records required by this permit for not less than five (5) years and shall make them available immediately to any Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used in the entire installation.
 - D. TG Missouri shall report to the Air Pollution Control Program's Enforcement Section, P.O. Box 176, Jefferson City, MO 65102, no later than ten (10) days after the end of the month during which the records from Special Condition 1(C) indicate that the source exceeds the limitation of Special Conditions 1(A) and 1(B).

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SPECIAL CONDITIONS:

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

Table 1: Emission Points

Emission Point	Description
EP-216-212	PB20 Paint System
EP-211	Exfoliating
EP-210	Decorative Chrome Plating
EP-209	Nickel Plating
EP-208	Copper Plating
EP-207	Catalyzing
EP-206	Etching
EP-168	Transfer Of Dry Raw Material
EP-167	Fluidized Bed
EP-184-187	Robotic Paint Booths (P-10,P11, P12, P13)
EP-170	Boiler
EP-169	Printing
EP-165-166	Saturn Outerbelt Line
EP-164	Shot Blasting
EP-163	Magnesium Die Casting Furnace
EP-155-162	Air Bag Robotic Paint Booth
EP-144-148	Air Bag Robotic Paint Booth
EP-137-143	Air Bag/Column Cover Paint Booth (P-4)
EP-132-136	Mudguard Paint Booth (P-3)
EP-126-131	Back Panel (Rear Garnish) Paint Booth (P-2)
EP-116-125	Water Heaters
EP-090-115	Space Heaters
EP-085	Shot Blasting
EP-084	Aluminum Pouring/Casting
EP-083	Aluminum Die Cast Melting Furnaces (3)
EP-080-082	Building 1 Paint Booth (P-0)
EP-079	Pvc Degreaser #2

2. Operational Requirements
TG Missouri shall keep the ink solvents and cleaning solutions in sealed containers whenever the materials are not in use. TG Missouri shall provide and maintain suitable, easily read, permanent markings on all inks, solvent and cleaning solution containers used with this equipment.
3. Control Device Requirements
 - A. TG Missouri shall control emissions points EP-207 and EP-210 with a composite mesh pad scrubber and emissions points EP-211 with a vertical packed-bed scrubber.

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SPECIAL CONDITIONS:

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

- B. The scrubbers and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer's specifications. Each scrubber shall be equipped with a gauge or meter that indicates the pressure drop across the scrubber and with a flow meter that indicates the flow through the scrubber. These gauges and meters shall be located in such a way they may be easily observed by Department of Natural Resources' personnel.
- C. TG Missouri shall monitor and record the operating pressure drop across each scrubber at least once every twenty-four (24) hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.
- D. TG Missouri shall monitor and record the flow rate through the scrubber at least once every twenty-four (24) hours. The flow rate shall be maintained within the design conditions specified by the manufacturer's performance warranty.
- E. TG Missouri shall maintain an operating and maintenance log for the scrubber, which shall include the following:
 - (1) Incidents of malfunction, with impact on emissions, duration of event, probable cause, and corrective actions;
 - (2) Maintenance activities, with inspection schedule, repair actions, and replacements, etc.; and
 - (3) A record of regular inspection schedule, the date and results of all inspections, including any actions or maintenance activities that result from the inspection. Either paper copy or electronic formats are acceptable.

REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2008-08-044
Installation ID Number: 157-0019
Permit Number:

TG Missouri
2200 Plattin Rd.
Perryville, MO 63775

Complete: August 19, 2008

Parent Company:
TG Missouri
2200 Plattin Rd.
Perryville, MO 63775

Perry County, S84, T35, R10

REVIEW SUMMARY

- TG Missouri has applied for authority to construct a compact electroplating operation and two new automated paint spray booths.
- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from this process are chromium compounds, nickel compounds, ethylbenzene, xylene, hexamethylene diisocyanate (HDI) and toluene. All HAP emissions are below their respective Screen Modeling Action Levels (SMAL).
- None of the New Source Performance Standards (NSPS) apply to the proposed equipment.
- The Maximum Achievable Control Technology (MACT) standard, 40 CFR Part 63, Subpart N, *National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks*, applies to the hard chromium plating tanks. The MACT standard, 40 CFR Part 63, Subpart WWWW, *National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations*, applies to the chromic acid etch tanks. None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to the proposed equipment. The MACT standard, 40 CFR Part 63, Subpart PPPP *National Emission Standards for Hazardous Air Pollutants for Surface Coating of Plastic Parts and Products*, does not apply because the installation is not a major source of HAPs.
- A cartridge filter is being used to control the PM₁₀ emissions from the paint booth, and a composite-mesh-pad scrubber and a vertical-packed-bed scrubber are being used to control metal emissions from the electroplating operation 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 volatile organic compounds (VOC) and HAPs are below de minimis levels.
- This installation is located in Perry County, an attainment area for all criteria air pollutants.
- This installation is not on the List of Named Installations [10 CSR 10-6.020(3)(B), Table 2].
- Ambient air quality modeling was not performed since potential emissions of the application are below de minimis levels.
- Emissions testing is not required for the equipment.
- A modification of your Part 70 Operating Permit is required for this installation within 1 year of equipment startup.
- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

TG Missouri, located in Perry County, manufactures plastic, rubber, and metal automobile parts and accessories. This installation includes plastic injection and extrusion lines, plastic steering wheel and air bag cover molding presses, aluminum and magnesium die cast furnaces, degreasers, shot blasting booths, painting booths, dryers, adhesive application machines, an air bag assembly line, a rubber hose extrusion line, and numerous supporting types of equipment.

The facility holds a Part 70 operating permit and is a major source of VOCs for New Source Review. The following construction permits have been issued to TG Missouri from the Air Pollution Control Program.

Table 2: Construction Permits Issued

Permit Number	Description
0986-012A	Manufacturing of steel steering wheel & plastic governor gear.
1187-009A	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.
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

PROJECT DESCRIPTION

TG Missouri will install two automated paint spray booths and an electroplating system. The automated paint booths have a combined maximum hourly design rate of 1.164 gallons per hour. The electroplating process involves moving plastic parts coated with a catalyst sequentially through a series of liquid baths. The basic sequence is: wash, etch, copper or nickel plate, chrome plate, rinse and nitric strip. Vapors from the etching and decorative chrome plating tank will be vented to a composite mesh-pad scrubber. Vapors from the nitric stripping tank will be vented to a vertical packed-bed scrubber. Heavy metals are emitted from the electroplating system during chromium, nickel and copper electroplating. The electroplating system will be made up of the following tanks:

Table 3: Electroplating Tanks

Tank Type	Maximum Hourly Design Rate (A-hr/hr)
Copper Plating	2000
Nickel Plating	2000
Nickel Plating	2000
Nickel Plating	500
Chromium Etching	1695
Chromium Plating	1017
Chromium Plating	2119

EMISSIONS/CONTROLS EVALUATION

The emissions from the electroplating system were calculated using emission factors from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 12.20 "Electroplating," July, 1996. The control efficiencies of the scrubbers are included in the emission factors. The emissions from the paint booths were calculated using a mass balance approach and assuming 100 percent of the hazardous materials in each coating evaporate. The material safety data sheets provided by the applicant do not contain the percent solids of the coatings. However the percent VOC of the coatings is high, which typically means low solid content. The automated booth will also reduce overspray. Because of the lack of data the particulate matter emissions were not calculated but are assumed to be negligible. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8,760 hours per year.) The following table provides an emissions summary for this project.

Table 4: Emissions Summary (tons per year)

Pollutant	Regulatory De Minimis Levels	Existing Potential Emissions	Existing Actual Emissions (2007 EIQ)	Potential Emissions of the Application	New Installation Conditioned Potential
PM ₁₀	15.0	11.99	4.27	2.46	N/A
SO _x	40.0	0.11	0.04	N/A	N/A
NO _x	40.0	20.89	5.87	N/A	N/A
VOC	40.0	466.83	195.26	27.34	N/A
CO	100.0	9.18	2.03	N/A	N/A
Nickel	1*	N/A	N/D	1.77	< 1
Chromium	5*	N/A	N/D	0.000013	< 10
Ethylbenzene	10	N/D	N/D	0.04	< 10
Xylene	10	N/D	N/D	0.26	< 10
HDI	10	N/D	N/D	0.04	< 10
Toluene	10	N/D	N/D	0.07	< 10
Total HAPs	25	228.68	N/D	2.11	< 25

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

Existing Potential Emissions taken from permit: 082002-019

*SMAL

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 HAPs are 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
The emission fee is the amount established by the Missouri Air Conservation Commission annually under Missouri Air Law 643.079(1). Submission of an Emissions Inventory Questionnaire (EIQ) is required June 1 for the previous year's emissions.
- *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 Particulate Matter From Industrial Processes*, 10 CSR 10-6.400
- *Restriction of Emission of Odors*, 10 CSR 10-3.090

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*, I recommend this permit be granted with special conditions.

Michael Mittermeyer
Environmental Engineer

Date

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated August 14, 2008, received August 19, 2008, designating TG Missouri as the owner and operator of the installation.
- U.S. EPA document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition.
- Southeast Regional Office Site Survey, dated September 2, 2008.
- Material Safety Data Sheets

