PERMIT BOOK

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: 122010-014 Project Number: 2010-04-062

Parent Company: TG Missouri

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

Installation Name: TG Missouri

Installation Number: 157-0019

Installation Address: 2200 Plattin Road, Perryville, MO 63775

Location Information: Perry County, LG844, T35N, R10E

Application for Authority to Construct was made for:
The installation of a water transfer imaging process including a clearcoat spray booth designated as CST Process and the installation of a second chromium electroplating process designated as PMF 2 Plating System. 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.

DEC 27 2010
EFFECTIVE DATE

Kyra L Moore
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 devises 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 sources(s). The information must be made available within 30 days of actual startup. Also, you must notify the Department of Natural Resources Regional office responsible for the area within which you are located within 15 days after the actual start up of 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 sources(s), but in no way relieves you of your obligation to comply with all applicable provisions of the Missouri Air Conservation Law, regulations of the Missouri Department of Natural Resources and other applicable federal, state and local laws and ordinances.

The Air Pollution Control Program invites your questions regarding this air pollution permit. Please contact the Construction Permit Unit at (573) 751-4817. If you prefer to write, please address your correspondence to the Missouri Department of Natural Resources, Air Pollution Control Program, P.O. Box 176, Jefferson City, MO 65102-0176, attention: Construction Permit Unit.

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
   The conditions of this permit supersede Special Condition 1.A. and Special Condition 3 found in construction permit 022009-011 issued by the Air Pollution Control Program.

2. Emission Limitation
   A. TG Missouri shall emit less than 10.0 tons individually and 25.0 tons combined of Hazardous Air Pollutants (HAPs) in any consecutive 12-month period from the entire installation as defined in Table 1.

   B. TG Missouri shall emit less than 0.02 tons of Hexamethylene Diisocyanate (HDI) CAS 822-06-0 in any consecutive 12-month period from the CST Process clearcoat spray booth (EP-218).

   C. TG Missouri shall emit less than 1.0 ton of nickel compounds in any consecutive 12-month period from the PMF 2 Plating System nickel plating (EP-223).

   D. Attachment A, Attachment B, Attachment C, and Attachment 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.A, 2.B, and 2.C.

Table 1: Installation HAP Emission Points

Emission Point	Description
EP-226	CST Process film activator
EP-224	Decorative chrome plating
EP-223	Nickel plating
EP-221	Hydrochloric acid catalyst
EP-220	Chrome etching
EP-218	CST Process clearcoat spray booth
EP-216-212	PB20 Paint System
EP-210	Decorative Chrome Plating

SPECIAL CONDITIONS:

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

Emission Point	Description
EP-209	Nickel 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

3. Control Device Requirement – Packed-Bed Scrubbers

A. TG Missouri shall control PMF 1 nitric acid exfoliate (EP-211) and PMF 2 nitric acid exfoliate (EP-225) with packed-bed scrubbers (CD-211 and CD-225, respectively).

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.

SPECIAL CONDITIONS:

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

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.

4. Control Device Requirement – Composite Mesh-Pad System

A. TG Missouri shall control PMF 1 chrome etch (EP-206) and decorative chrome plating (EP-210) and PMF 2 chrome etch (EP-220) and decorative chrome plating (EP-224) with composite mesh-pad systems (CD-206, CD-220, and CD-224, respectively).

B. The composite mesh-pad systems and any related instrumentation or equipment shall be operated and maintained in accordance with the manufacturer's specifications. Each composite mesh-pad system shall be equipped with a gauge or meter that indicates the pressure drop across the composite mesh-pad system. 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 composite mesh-pad system at least once every twenty-four (24) hours. The operating pressure drop shall be maintained within the specifications of MACT Subpart N §63.343.

D. TG Missouri shall determine the outlet chromium concentration according to MACT Subpart N §63.343.

SPECIAL CONDITIONS:

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

E. TG Missouri shall maintain an operating and maintenance log for the composite mesh-pad systems, 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.

5. Control Device Requirement - Filter

A. TG Missouri shall control emissions from the CST Process clearcoat spray booth (EP-218) using a filter as specified in the permit application.

B. The filter 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. TG Missouri shall maintain an operating and maintenance log for the filters 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

TG Missouri shall keep the solvents, coatings, and acids in sealed containers whenever the materials are not in use. TG Missouri shall provide and maintain suitable, easily read, permanent markings on all solvent, coating, and acid containers used with this equipment.

7. Record Keeping and Reporting Requirements

A. 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

SPECIAL CONDITIONS:

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

Missouri Department of Natural Resources' personnel upon request. These records shall include Material Safety Data Sheets (MSDS) for all materials used.

B. 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 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: 2010-04-062
Installation ID Number: 157-0019
Permit Number:

TG Missouri
2200 Plattin Road
Perryville, MO 63775

Complete: May 3, 2010

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

Perry County, LG844, T35N, R10E

REVIEW SUMMARY

- TG Missouri has applied for authority to install a water transfer imaging process including a clearcoat spray booth designated as CST Process and to install a second chromium electroplating process designated as PMF 2 Plating System.

- Hazardous Air Pollutant (HAP) emissions are expected from the proposed equipment. HAPs of concern from the CST Process are xylene, ethylbenzene, dimethyl phthalate, butoxyethanol acetate, and hexamethylene diisocyanate (HDI). HAPs of concern from the PMF2 Plating System are hexavalent chromium and nickel compounds.

- None of the New Source Performance Standards (NSPS) apply to the installation.

- The Maximum Achievable Control Technology (MACT) regulation 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 chromium electroplating tanks, EP-220 and EP-224. The MACT standard, 40 CFR Part 63, Subpart WWWWWW, *National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations,* applies to the non-chromium electroplating and electroless plating tanks, EP-222, EP-223, and EP-225. 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. None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation.

- A filter (CD-218) is being used to control the particulate matter emissions from the CST Process clearcoat spray booth (EP-218). A composite mesh-pad (CD-220 and CD-224) is being used to control the particulate matter and chromium emissions from the PMF2 Plating System chrome etching and plating tanks (EP-220 and EP-224, respectively). A packed-bed scrubber (CD-225) is being used to control the nitric acid (particulate matter) emissions from the PMF 2 Plating System nitric acid exfoliate (EP-225).

- This review was conducted in accordance with Section (5) of Missouri State Rule 10 CSR 10-6.060, *Construction Permits Required*. Potential emissions of HDI and nickel compounds are conditioned below the respective screening model action level (SMAL).
- 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.
- Initial performance testing is required according to MACT Subpart N.
- A modification to the 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 manufactures plastic, rubber, and metal automobile parts and accessories. TG Missouri is a major source (Part 70) under operating permits and major source under construction permits. The following permits have been issued to TG Missouri from the Air Pollution Control Program.

Table 2: 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)

TG Missouri received two Notices of Violation (NOV) in 2010 related to the first chrome plating line permitted under 022009-011.

PROJECT DESCRIPTION

TG Missouri is proposing to install a water transfer imaging process including a clearcoat spray booth designated as CST Process and to install a second chromium electroplating process designated as PMF 2 Plating System.

According to the application, the CST Process begins with plastic injection molded parts being cleaned by hand with alcohol wipes. The plastic parts are placed face-down on top of a coating film that floats in a water and activator bath. Once removed and dried, the plastic parts are coated with clearcoat. Particulate emissions from the clearcoat spray booth are controlled with a filter.

The PMF 2 Plating System is similar to the plating system permitted under 022009-011. It is a decorative chrome electroplating process consisting of chrome etching, catalyst, copper and nickel plating, chrome plating, and exfoliation. Chrome etching and chrome plating are controlled by a composite mesh-pad system. Exfoliation is controlled by a packed-bed scrubber.

This project also incorporates an amendment to permit 022009-011 in response to the two NOVs for the first chrome plating system (PMF 1) regarding compliance and data recording.

Table 3: Project Emission Points

CST Process				
Designation	**Description**	**Maximum Hourly Design Rate**	**Control Device**	**Control Device Description**
EP-217	Isopropyl alcohol wipe	0.057 gal/hr	N/A	N/A
EP-226	Film activator	0.264 gal/hr	N/A	N/A
EP-218	Clearcoat spray booth	6.614 lbs/hr	CD-218	Particulate filter
PMF2 Plating System				
EP-220	Chrome etching	1,695 dscf 1,000 amp	CD-220	Composite mesh-pad
EP-221	Hydrochloric acid catalyst	9.69 ft^2	N/A	N/A
EP-222	Copper plating tanks	106,800 dscf	N/A	N/A
EP-223	Nickel plating tanks	2,000 amp 2,000 amp 500 amp	N/A	N/A
EP-224	Decorative chrome plating tanks	1,017 dscf 1,000 amp 2,119 dscf 1,000 amp	CD-224	Composite mesh-pad
EP-225	Nitric acid exfoliate	8.40 ft^2	CD-225	Packed-bed scrubber

N/A = Not Applicable

EMISSIONS/CONTROLS EVALUATION

Potential emissions for the alcohol wipes were calculated using mass balance and the MSDS, assuming all alcohol is emitted. According to TG, one wipe, containing 0.0017 gallons of isopropyl alcohol, is used per part set. This is a VOC source.

Potential emissions from the film activator were calculated using mass balance and the MSDS, assuming all volatiles are emitted. This is a VOC and HAP source. According to TG, the activator application rate is 14.7 milliliters per minute. TG calculations include a factor of safety, increasing the application rate to 1,000 milliliters per hour.

Potential emissions from the manual clearcoat spray booth were calculated using mass balance and the MSDS for a polyurethane and hardener. The combined spray rate is 3,000 grams per hour, with 25 percent as hardener. Conservatively, all volatiles were considered emitted. Particulate matter emissions were calculated using 40 percent transfer efficiency from a conventional spray gun and 95 percent control efficiency from the exhaust filter. The booth is a VOC, HAP and PM_{10} source.

The particulate matter emission factors and control efficiencies used in this analysis for chrome etching and chrome plating (EP-220 and EP-224, respectively) were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, section 12.20 *Electroplating* July 1996, SCC 3-09-010-28, 0.69 grains per amp-hour. The maximum total chromium emission factor, 4.4 E-06 grains per dry standard cubic feet was obtained from MACT Subpart N §63.342(d)(1). This is a controlled emission factor. According to AP-42, most of the chromium emissions are hexavalent chromium. Conservatively, all chromium emissions were considered hexavalent chromium.

Emissions from copper plating (EP-222) were calculated using the emission factor for SCC 3-09-010-45, but without control, of 0.0081 grains per dry standard cubic feet. Copper emissions are considered PM_{10}. Emissions from nickel plating (EP-223) were calculated using the emission factor for SCC 3-09-010-68, 0.63 grains per amp hour. Nickel emissions are particulate HAPs.

Emissions from nitric acid exfoliation (EP-225) and hydrochloric acid catalyst (EP-221) were calculated using the formula from *Estimating Releases and Waste Treatment Efficiencies for the TRI Form*, EPA-560/4-888-002. Ninety-eight percent control was assigned to the packed-bed scrubber at EP-225. Emissions from the exfoliation were considered PM_{10}. Hydrochloric acid emissions from the catalyst are HAPs.

Existing Potential Emissions are cited from permit 022009-011. Conditioned 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 (2009 EIQ)	Conditioned Potential Emissions of the Application	New Installation Conditioned Potential
PM_{10}	15.0	14.45	2.00	4.66	N/A
SOx	40.0	0.11	0.03	N/A	N/A
NOx	40.0	20.89	4.63	N/A	N/A
VOC	40.0	494.17	144.76	27.69	N/A
CO	100.0	9.18	1.29	N/A	N/A
Combined HAPs	25.0	< 25.0	0.00	5.90	< 25.0
Xylene	10.0	< 10.0	N/D	0.84	< 10.0
Ethylbenzene	10.0	< 10.0	N/D	0.19	< 10.0
Dibutyl Phthalate	10.0	N/A	N/D	1.89	< 10.0
Toluene	10.0	< 10.0	N/D	N/A	< 10.0
Hydrogen Chloride	10.0	N/A	N/D	0.07	< 10.0
Butoxyethanol Acetate	[1] 5	N/A	N/D	1.09	< 10.0
[2] HDI	[1] 0.02	< 10.0	N/D	< 0.02	< 10.0
Chromium Compounds	[1] 5	< 10.0	N/D	1.33E-07	< 10.0
Nickel Compounds	[1] 1	< 1	N/D	< 1.0	< 10.0

N/A = Not Applicable; N/D = Not Determined
[1] Screening Model Action Level (SMAL)
[2] Hexamethylene Diisocyanate (HDI)

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 HDI and nickel compounds are conditioned below the respective SMAL.

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 a hardcopy Emissions Inventory Questionnaire (EIQ) is required April 1 for the previous year's emissions. Submission of an electronic EIQ via MoEIS is required May 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 Odors*, 10 CSR 10-3.090

SPECIFIC REQUIREMENTS

- *Maximum Achievable Control Technology (MACT) Regulations*, 10 CSR 10-6.075, *National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks,* 40 CFR Part 63, Subpart N.

- *Maximum Achievable Control Technology (MACT) Regulations*, 10 CSR 10-6.075, *National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations,* 40 CFR Part 63, Subpart WWWWWW.

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.

_____ _____

David Little Date
Environmental Engineer

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated April 20, 2010, received April 22, 2010, 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 May 14, 2010.

Attachment A – Combined HAPs Compliance Worksheet

TG Missouri
Perry County, LG844, T35N, R10E
Project Number: 2010-04-062
Installation ID Number:
Permit Number: _____

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 Emissions from EP-206, EP-210, EP 220, and EP-224	
Nickel Emissions from Attachment D in Tons	
(c) Total HAP Emissions Calculated for this Month in Tons	
(d) 12-Month HAP Emissions Total from Previous Month's Worksheet in Tons	
(e) Monthly HAP Emissions Total (c) from Previous Year's Worksheet in Tons	
(f) Current 12-month Total of HAP Emissions in Tons: [(c) + (d) - (e)]	

(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 appropriate emission factor from AP-42, Section 12.20 *Electroplating*. Also record this month's nickel compound emissions from Attachment D.
(c) Summation of [Column 5] in Tons;
(d) 12-Month HAP emissions (f) from last month's Worksheet A in Tons;
(e) Monthly HAP emissions total (c) from the previous year's Worksheet A in Tons;
(f) Calculate the new 12-month combined HAPs emissions total. A 12-Month HAP emissions total (f) of less than 25 tons indicates compliance.

Attachment B – Individual HAP Compliance Worksheet

TG Missouri
Perry County, LG844, T35N, R10E
Project Number: 2010-04-062
Installation ID Number:
Permit Number: _____

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)**

(c) Total Individual HAP Emissions for this Month, Tons	
(d) 12-Month Individual HAP Emissions Total (f) from Previous Month's Worksheet B, Tons	
(e) Monthly Individual HAP Emissions Total (c) from Previous 12 Month's Worksheet B, Tons	
(f) Current 12-month Total of HAP Emissions in Tons: [(c) + (d) - (e)]	

(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 5] in Tons;
(d) Record the previous 12-Month individual HAP emission total (f) from last month's Worksheet B, in Tons;
(e) Record the monthly HAP emission total (c) from previous 12-Month Worksheet 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 – HDI (CAS 822-06-0) Compliance Worksheet
CST Process EP-218

TG Missouri
Perry County, LG844, T35N, R10E
Project Number: 2010-04-062
Installation ID Number:
Permit Number: _____

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

Column 1	Column 2	Column 3	Column 4	Column 5 (a)
Coating Name	**Monthly Usage (gal)**	**HDI content (weight %)**	**Coating Density (lb/gal)**	**HDI Monthly Emissions (tons)**
(Example) Red Spot LE9425R	*260.0*	*0.60 %*	*8.48*	*0.0066*
(b) Sum of previous 11 month's HDI emissions (tons)				
(c) 12 month cumulative HDI emissions (tons)				

(a) Multiply the monthly usage, HDI content, and coating density. Divide the result by 2,000. Record the monthly HDI emissions in tons.
(b) Record the total of the previous 11 month's emissions.
(c) Sum this month's emissions with the previous 11 month's. A total of less than 0.02 ton indicates compliance.

Attachment D – Nickel Compounds Compliance Worksheet
PMF 2 Plating System EP-223

TG Missouri
Perry County, LG844, T35N, R10E
Project Number: 2010-04-062
Installation ID Number:
Permit Number: _______

This sheet covers the period ________________ to _________________. (Copy this sheet as needed.)
(month, year) (month, year)

Column 1	Column 2	Column 3	Column 4 (a)
Month, Year	**Amp-hours**	**Emission Factor (grains per amp-hour)**	**Nickel Compound Emissions (tons)**
example	*720,000*	*0.63*	*0.0324*
		0.63	
		0.63	
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(b) Sum of previous 11 month's nickel compound emissions (tons)			
(c) 12 month cumulative nickel compound emissions (tons)			

(a) Multiply this month's total amp-hours for PMF 2 Plating System EP-223 by the emission factor. Divide the result by 1.4 E 07 to yield this month's nickel compound emissions in tons.
(b) Record the total of the previous 11 month's emissions.
(c) Sum this month's emissions with the previous 11 month's. A total of less than 1.0 ton indicates compliance.

Appendix A: Table of Hazardous Air Pollutants and Screening Model Action Levels (August 16, 2010 Revision 6)

Chemical	CAS #	SMAL (tons/yr)	Group ID	VOC	PM
ACETALDEHYDE	75-07-0	9		Y	N
ACETAMIDE	60-35-5	1		Y	N
ACETONITRILE	75-05-8	4		Y	N
ACETOPHENONE	98-86-2	1		Y	N
ACETYLAMINOFLUORINE, [2-]	53-96-3	0.005	V	Y	Y
ACROLEIN	107-02-8	0.04		Y	N
ACRYLAMIDE	79-06-1	0.02		Y	N
ACRYLIC ACID	79-10-7	0.6		Y	N
ACRYLONITRILE	107-13-1	0.3		Y	N
ALLYL CHLORIDE	107-05-1	1		Y	N
AMINOBIPHENYL, [4-]	92-67-1	1	V	Y	N
ANILINE	62-53-3	1		Y	N
ANISIDINE, [ORTHO-]	90-04-0	1		Y	N
ANTHRACENE	120-12-7	0.01	V	Y	N
ANTIMONY COMPOUNDS		5	H	N	Y
ANTIMONY PENTAFLUORIDE	7783-70-2	0.1	H	N	Y
ANTIMONY POTASSIUM TARTRATE	28300-74-5	1	H	N	Y
ANTIMONY TRIOXIDE	1309-64-4	1	H	N	Y
ANTIMONY TRISULFIDE	1345-04-6	0.1	H	N	Y
ARSENIC COMPOUNDS		0.005	I	N	Y
ASBESTOS	1332-21-4	0	A	N	Y
BENZ(A)ANTHRACENE	56-55-3	0.01	V	Y	N
BENZENE	71-43-2	2		Y	N
BENZIDINE	92-87-5	0.0003	V	Y	N
BENZO(A)PYRENE	50-32-8	0.01	V	Y	N
BENZO(B)FLUORANTHENE	205-99-2	0.01	V	Y	N
BENZO(K)FLUORANTHENE	207-08-9	0.01	V	Y	N
BENZOTRICHLORIDE	98-07-7	0.006		Y	N
BENZYL CHLORIDE	100-44-7	0.1		Y	N
BERYLLIUM COMPOUNDS		0.008	J	N	Y
BERYLLIUM SALTS		0.00002	J	N	Y
BIPHENYL, [1,1-]	92-52-4	10	V	Y	N
BIS(CHLOROETHYL)ETHER	111-44-4	0.06		Y	N
BIS(CHLOROMETHYL)ETHER	542-88-1	0.0003		Y	N
BROMOFORM	75-25-2	10		Y	N
BROMOMETHANE	74-83-9	10		Y	N
BUTADIENE, [1,3-]	106-99-0	0.07		Y	N
BUTOXYETHANOL ACETATE, [2-]	112-07-2	5	P	Y	N
BUTYLENE OXIDE, [1,2-]	106-88-7	1		Y	N
CADMIUM COMPOUNDS		0.01	K	N	Y
CALCIUM CYANAMIDE	156-62-7	10		Y	Y
CAPROLACTAM (Delisted)	105-60-2				
CAPTAN	133-06-2	10		Y	Y
CARBARYL	63-25-2	10	V	Y	Y
CARBON DISULFIDE	75-15-0	1		Y	N
CARBON TETRACHLORIDE	56-23-5	1		Y	N
CARBONYL SULFIDE	463-58-1	5		Y	N
CATECHOL	120-80-9	5		Y	N
CHLORAMBEN	133-90-4	1		Y	Y
CHLORDANE	57-74-9	0.01		Y	Y
CHLORINE	7782-50-5	0.1		N	N
CHLOROACETIC ACID	79-11-8	0.1		Y	N
CHLOROACETOPHENONE, [2-]	532-27-4	0.06		Y	N
CHLOROBENZENE	108-90-7	10		Y	N
CHLOROBENZILATE	510-15-6	0.4	V	Y	Y
CHLOROFORM	67-66-3	0.9		Y	N
CHLOROMETHYL METHYL ETHER	107-30-2	0.1		Y	N
CHLOROPRENE	126-99-8	1		Y	N
CHROMIUM (VI) COMPOUNDS		0.002	L	N	Y
CHROMIUM COMPOUNDS		5	L	N	Y
CHRYSENE	218-01-9	0.01	V	Y	N
COBALT COMPOUNDS		0.1	M	N	Y
COKE OVEN EMMISIONS	8007-45-2	0.03	N	Y	N
CRESOL, [META-]	108-39-4	1	B	Y	N
CRESOL, [ORTHO-]	95-48-7	1	B	Y	N
CRESOL, [PARA-]	106-44-5	1	B	Y	N
CRESOLS (MIXED ISOMERS)	1319-77-3	1	B	Y	N
CUMENE	98-82-8	10		Y	N
CYANIDE COMPOUNDS		0.1	O	Y	N
DDE	72-55-9	0.01	V	Y	Y
DI(2-ETHYLHEXYL) PHTHALATE, (DEHP)	117-81-7	5		Y	N
DIAMINOTOLUENE, [2,4-]	95-80-7	0.02		Y	N
DIAZOMETHANE	334-88-3	1		Y	N
DIBENZ(A,H)ANTHRACENE	53-70-3	0.01	V	Y	N
DIOXINS/FURANS		6E-07	D,V	Y	N
DIBENZOFURAN	132-64-9	5	V	Y	N
DIBROMO-3-CHLOROPROPANE, [1,2-]	96-12-8	0.01		Y	N
DIBROMOETHANE, [1,2-]	106-93-4	0.1		Y	N
DIBUTYL PHTHALATE	84-74-2	10		Y	Y
DICHLOROBENZENE, [1,4-]	106-46-7	3		Y	N
DICHLOROBENZIDENE, [3,3-]	91-94-1	0.2	V	Y	Y
DICHLOROETHANE, [1,1-]	75-34-3	1		Y	N
DICHLOROETHANE, [1,2-]	107-06-2	0.8		Y	N
DICHLOROETHYLENE, [1,1-]	75-35-4	0.4		Y	N
DICHLOROMETHANE	75-09-2	10		N	N
DICHLOROPHENOXY ACETIC ACID, [2,4-]	94-75-7	10	C	Y	Y
DICHLOROPROPANE, [1,2-]	78-87-5	1		Y	N
DICHLOROPROPENE, [1,3-]	542-75-6	1		Y	N
DICHLORVOS	62-73-7	0.2		Y	N
DIETHANOLAMINE	111-42-2	5		Y	N
DIETHYL SULFATE	64-67-5	1		Y	N
DIETHYLENE GLYCOL MONOBUTYL ETHER	112-34-5	5	P	Y	N
DIMETHOXYBENZIDINE, [3,3-]	119-90-4	0.1	V	Y	Y
DIMETHYL BENZIDINE, [3,3-]	119-93-7	0.008	V	Y	Y
DIMETHYL CARBAMOYL CHLORIDE	79-44-7	0.02		Y	N
DIMETHYL FORMAMIDE	68-12-2	1		Y	N
DIMETHYL HYDRAZINE, [1,1-]	57-14-7	0.008		Y	N
DIMETHYL PHTHALATE	131-11-3	10		Y	N
DIMETHYL SULFATE	77-78-1	0.1		Y	N
DIMETHYLAMINOAZOBENZENE, [4-]	60-11-7	1		Y	N
DIMETHYLANILINE, [N-N-]	121-69-7	1		Y	N
DINITRO-O-CRESOL, [4,6-] (Note 6)	534-52-1	0.1	E	Y	Y
DINITROPHENOL, [2,4-]	51-28-5	1		Y	N
DINITROTOLUENE, [2,4-]	121-14-2	0.02		Y	N
DIOXANE, [1,4-]	123-91-1	6		Y	N
DIPHENYLHYDRAZINE, [1,2-]	122-66-7	0.09	V	Y	Y
DIPHENYLMETHANE DIISOCYANATE, [4,4-]	101-68-8	0.1	V	Y	N
EPICHLOROHYDRIN	106-89-8	2		Y	N
ETHOXYETHANOL, [2-]	110-80-5	10	P	Y	N
ETHOXYETHYL ACETATE, [2-]	111-15-9	5	P	Y	N
ETHYL ACRYLATE	140-88-5	1		Y	N
ETHYL BENZENE	100-41-4	10		Y	N
ETHYL CHLORIDE	75-00-3	10		Y	N
ETHYLENE GLYCOL	107-21-1	10		Y	N
ETHYLENE GLYCOL MONOBUTYL ETHER (Delisted)	111-76-2				
ETHYLENE GLYCOL MONOHEXYL ETHER	112-25-4	5	P	Y	N
ETHYLENE IMINE [AZIRIDINE]	151-56-4	0.003		Y	N
ETHYLENE OXIDE	75-21-8	0.1		Y	N
ETHYLENE THIOUREA	96-45-7	0.6		Y	Y
FORMALDEHYDE	50-00-0	2		Y	N
GLYCOL ETHER (ETHYLENE GLYCOL ETHERS)		5	P	Y	N
GLYCOL ETHER (DIETHYLENE GLYCOL ETHERS)		5	P	Y	N
HEPTACHLOR	76-44-8	0.02		Y	N
HEXACHLOROBENZENE	118-74-1	0.01		Y	N
HEXACHLOROBUTADIENE	87-68-3	0.9		Y	N
HEXACHLOROCYCLOHEXANE, [ALPHA-]	319-84-6	0.01	F	Y	N
HEXACHLOROCYCLOHEXANE, [BETA-]	319-85-7	0.01	F	Y	N
HEXACHLOROCYCLOHEXANE, [DELTA-]	319-86-8	0.01	F	Y	N
HEXACHLOROCYCLOHEXANE, [TECHNICAL]	608-73-1	0.01	F	Y	N

Appendix A: Table of Hazardous Air Pollutants and Screening Model Action Levels (August 16, 2010 Revision 6)

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

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

Ms. Cindy Rollet
Environmental Coordinator
TG Missouri
2200 Plattin Road
Perryville, MO 63775

RE: New Source Review Permit - Project Number: 2010-04-062

Dear Ms. Rollet:

Enclosed with this letter is your permit to construct. Please study it carefully. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions, your new source review permit application and with your modified operating permit is necessary for continued compliance. The reverse side of your permit certificate has important information concerning standard permit conditions and your rights and obligations under the laws and regulations of the State of Missouri.

If you have any questions regarding this permit, please do not hesitate to contact David Little, at the Departments' 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

Kendall B. Hale
New Source Review Unit Chief

KBH:dll

Enclosures

c: Southeast Regional Office
PAMS File: 2010-04-062

Permit Number: