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: 112013-008  Project Number: 2012-12-001
Installation Number: 095-0214

Parent Company: De Tray Plating Works, Inc.
Parent Company Address: 10405 East 11th Street, Independence, MO 64052
Installation Name: De Tray Plating Works, Inc.
Installation Address: 10405 East 11th Street, Independence, MO 64052
Location Information: Jackson County, S4, T49N, R32W

Application for Authority to Construct was made for:
The installation of an electroplating facility in Independence, Missouri. 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.

EFFECTIVE DATE: NOV 25, 2013
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 Department’s Air Pollution Control Program of the anticipated date of start up of these air contaminant sources. 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 these air contaminant sources.

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.”_

De Tray Plating Works, Inc.
Jackson County, S4, T49N, R32W

1. HAPs Emission Limitations
   A. De Tray Plating Works, Inc. shall emit less than 0.01 tons of Cadmium metal in any consecutive 12-month period from their cadmium plating tanks (T-2 thru T-5).
   B. De Tray Plating Works, Inc. shall emit less than 1.0 ton of Nickel metal in any consecutive 12-month period from their nickel plating tanks (T-6 and T-7).
   C. De Tray Plating Works, Inc. shall emit less than 10.0 tons Hydrogen Chloride in any consecutive 12-month period from their four HCL tanks (T-15 thru T-18).
   D. Attachment A, Attachment B and Attachment C or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to demonstrate compliance with Special Conditions 1.A, 1.B, and 1.C.

2. Control Requirement-Fume Suppressant
   A. De Tray Plating Works, Inc. shall control emissions from the decorative chrome plating tank using a fume suppressant as specified in the permit application.
   B. The fume suppressant shall be used in accordance with manufactures specifications and 40 CFR Part 63, Subpart N, _National Emission Standards for Chromium Emissions From Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks._
   C. De Tray Plating Works, Inc. shall maintain a copy of the fume suppressant manufacturer’s specifications on site.
SPECIAL CONDITIONS:

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

D. De Tray Plating Works, Inc. shall maintain an operating and maintenance log for the fume suppressant system 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.

3. Operational Requirement – Plating Solutions and Acids
   De Tray Plating Works, Inc. shall keep all plating solutions and acids in sealed containers whenever the materials are not in use. De Tray Plating Works, Inc. shall provide and maintain suitable, easily read, permanent markings on all plating solutions and acid containers used with this equipment.

4. Operational Requirement – HCL Tank Covers
   De Tray Plating Works, Inc. shall install covers on their hydrochloric acid tank T-15 thru T-18 such that the covers can be removed while the facility is in operation and covered when the facility is shutdown.

5. Operational Requirement – Amp/Hour Meters
   A. De Tray Plating Works, Inc. shall install amp-hour meters on the rectifiers of the following plating tanks.
      1) Cadmium Plating Tank (T-2)
      2) Cadmium Plating Tank (T-3)
      3) Cadmium Plating Tank (T-4)
      4) Cadmium Plating Tank (T-5)
      5) Nickel Plating Tank (T-6)
      6) Nickel Plating Tank (T-7)

6. Record Keeping and Reporting Requirements
   A. De Tray Plating Works, Inc. 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 MSDS for all materials used.

   B. De Tray Plating Works, Inc. 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 show an exceedance of a limitation imposed by this permit.
Review of Application for Authority to Construct and Operate
Section (5) Review
Project Number: 2012-12-001
Installation ID Number: 095-0214
Permit Number:

De Tray Plating Works, Inc. Complete: December 3, 2013
10405 East 11th Street
Independence, MO 64052

Parent Company:
De Tray Plating Works, Inc.
10405 East 11th Street
Independence, MO 64052

Jackson County, S4, T49N, R32W

Review Summary

- De Tray Plating Works, Inc. has applied for authority to install an electroplating facility in Independence, Missouri.

- HAP emissions are expected from the proposed equipment. HAPs of concern from this process are hexavalent chromium compounds, nickel compounds, cadmium compounds and hydrogen chloride.

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

- None of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) apply to this installation.


- A fume suppressant is being used to control the hexavalent chromium compound emissions from the decorative chromium plating 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 combined and individual HAPs are conditioned below major source levels.

- This installation is located in Jackson County, a maintenance area for ozone and an attainment area for all other 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 conditioned below the SMAL and HAP major source levels.

- Emissions testing are not required for the equipment.

- De Tray Plating Works, Inc. is not required to get an operating permit.

- Approval of this permit is recommended with special conditions.

**INSTALLATION/PROJECT DESCRIPTION**

De Tray Plating Works, Inc. (De Tray) is an electroplating facility that will be located at 10405 East 11th Street in Independence, Missouri (S4, T49N, R32W). De Tray is relocating the facility due to a building fire at their previous location. Therefore an application for authority to construct was necessary for their new facility. De Tray processes include receiving metal items including, but not limited to, fasteners, springs, hinges and small metal parts, cleaning the metal item using a series of soap, water and hydrochloric acid (HCL) baths and plating the metal items with new materials such as cadmium, zinc, copper, nickel and chromium. De Tray also has a 1.3 MMBtu/hr natural gas fired boiler (B-1) for process steam.

The cleaning process begins with a series of soap baths and steam to clean and remove dirt, oil and grease from the metal items prior to electroplating and/or striking process. De Tray does not use any solvents, flammables or oil-based cleaning agents. Some metal items may also be cleaned with one of the four hydrochloric acid (HCL) tanks (T-15 thru T-18) to remove any scale, rust and other foreign matter prior to electroplating. Acid cleaning/etching is used prior to electrolytic and electroless plating to remove any metal oxides from the surface of the substrate metal and provide a more active and rougher surface to which the plated materials can better adhere.

After the cleaning process, De Tray begins the plating process. De Tray has the capability to conduct decorative chromium plating, cadmium plating, nickel plating/striking, zinc plating and copper plating/striking. Currently there is one decorative chromium plating tank (T-1), four cadmium plating tank (T-2 thru T-5), two nickel plating tanks (T-6 and T-7), two copper plating tanks (copper sulfate T-8 and copper cyanide T-9) and five zinc plating tanks (T-10 thru T-14). The maximum amperage usage of each plating tank is 2000 amps per tank. The decorative chrome plating tank is controlled by a fume suppressant to reduce the chromium emissions from that process. During the plating process, De Tray uses a water or steam rinse after each step in the plating process to prevent any chemical contamination between steps. Contamination can lead to premature replacement of the chemicals at each step of the process.
EMISSIONS/CONTROLS EVALUATION

The particulate matter emission factors and particle size distribution used in this analysis for the decorative chrome plating (T-1), cadmium plating (T-2 thru T-5), nickel plating (T-6 and T-7), copper plating (T-8 and T-9) and zinc plating (T-10 thru T-14) 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.

According to AP-42, most of the chromium emissions from decorative chrome plating are hexavalent chromium. For this project all chromium emissions were considered hexavalent chromium. Potential emissions of hexavalent chromium were calculated using percent mass of the metal portion of the compound to the respective compound mass, multiplied by the total compound emission rate. According to MACT Subpart N §63.342(d)(1) the total chromium emission standard for decorative chrome electroplating using a chromic acid bath and chromium anodizing tanks is $3.1 \times 10^{-6}$ gr/dscf of total chromium compounds. This emission rate is a controlled emission rate and was considered the total chromium compound emission rate. For hexavalent chromium the total mass of the compound is used to determine emissions for comparison to the major source thresholds. The mass of the metal portion of the compound is used to determine emissions for comparison to the SMALs.

As mentioned above the particulate matter emission rate, or the metal portion of the nickel and cadmium emission rate, was calculated using the emission factors found in AP-42. The total nickel and cadmium compound emission rates were calculated using the percent mass of the total compound to the respective mass of the metal portion of the compound, multiplied by the metal portion emission rate. For cadmium and nickel compounds, the total mass of the compound is used to determine emissions for comparison to the major source thresholds. The mass of the metal portion of the compound is used to determine emissions for comparison to the SMALs.

The emission factors used in this analysis for the natural gas fired boiler (B-1) were obtained from AP-42, Section 1.4, Natural Gas Combustion (July 1998), SCC 1-01-006-02.

The potential emissions from the four HCL tanks (T-15 thru T-18) were calculated using the formula from Estimating Releases and Waste Treatment Efficiencies for the TRI Form, EPA-560/4-888-002. The evaporation rate was calculated and assumed to be equal the potential emission rate for these emission points. De Tray is required to install covers on their HCL tanks and HCL emissions are not expected when the tanks are covered.

The following table provides an emissions summary for this project. There are no existing potential emissions for this facility and this is considered a new facility. Existing actual emissions were taken from the installation’s last EIQ submitted in 2001. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). De Tray is taking a voluntary limit to below 10.0 tons per year of hydrogen chloride to avoid being a major source for HAPs. De
Tray will track the number of hours the HCL tanks are uncovered to determine the actual emissions from this process. The HCL tanks will be allowed to have their HCL tanks uncovered for a maximum of 3,843 hours per year based on the 10.0 tons per year hydrogen chloride limit. The hydrogen chloride limit indirectly limits combined HAPs to below 25.0 tons per year. De Tray is also taking a voluntary limit to below the SMAL for Nickel metal and Cadmium metal to avoid HAP modeling requirements found in 10 CSR 6.060.

Table 2: Emissions Summary (tons per year)

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>N/A</td>
<td>N/D</td>
<td>4.44</td>
<td>3.68 (^2)</td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>15.0</td>
<td>N/A</td>
<td>0.0093</td>
<td>2.65</td>
<td>2.20 (^2)</td>
</tr>
<tr>
<td>PM(_{2.5})</td>
<td>10.0</td>
<td>N/A</td>
<td>N/D</td>
<td>2.17</td>
<td>1.80 (^2)</td>
</tr>
<tr>
<td>SO(_x)</td>
<td>40.0</td>
<td>N/A</td>
<td>0.0017</td>
<td>0.0032</td>
<td>N/A</td>
</tr>
<tr>
<td>NO(_x)</td>
<td>40.0</td>
<td>N/A</td>
<td>0.29</td>
<td>0.54</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>N/A</td>
<td>0.015</td>
<td>22.81</td>
<td>N/A</td>
</tr>
<tr>
<td>CO</td>
<td>100.0</td>
<td>N/A</td>
<td>0.061</td>
<td>0.45</td>
<td>N/A</td>
</tr>
<tr>
<td>GHG (CO(_2)(_e))</td>
<td>75,000 / 100,000</td>
<td>N/A</td>
<td>N/D</td>
<td>653.22</td>
<td>N/A</td>
</tr>
<tr>
<td>GHG (mass)</td>
<td>0.0 / 100.0 / 250.0</td>
<td>N/A</td>
<td>N/D</td>
<td>649.29</td>
<td>N/A</td>
</tr>
<tr>
<td>Combined HAPs</td>
<td>10.0/25.0</td>
<td>N/A</td>
<td>0.0003</td>
<td>30.09</td>
<td>N/A</td>
</tr>
<tr>
<td>Chromium 6 Compounds</td>
<td>10.0</td>
<td>N/A</td>
<td>N/D</td>
<td>1.15E-05</td>
<td>1.15E-05</td>
</tr>
<tr>
<td>Chromium 6 Metal</td>
<td>(^1) 0.002</td>
<td>N/A</td>
<td>N/D</td>
<td>9.28E-06</td>
<td>9.28E-06</td>
</tr>
<tr>
<td>Cadmium Compounds</td>
<td>10.0</td>
<td>N/A</td>
<td>N/D</td>
<td>0.23</td>
<td>0.011</td>
</tr>
<tr>
<td>Cadmium Metal</td>
<td>(^1) 0.01</td>
<td>N/A</td>
<td>N/D</td>
<td>0.20</td>
<td>&lt; 0.01</td>
</tr>
<tr>
<td>Nickel Compounds</td>
<td>10.0</td>
<td>N/A</td>
<td>N/D</td>
<td>7.06</td>
<td>4.48</td>
</tr>
<tr>
<td>Nickel Metal</td>
<td>(^1) 1.0</td>
<td>N/A</td>
<td>N/D</td>
<td>1.58</td>
<td>&lt; 1.0</td>
</tr>
<tr>
<td>Hydrogen Chloride</td>
<td>10.0</td>
<td>N/A</td>
<td>N/D</td>
<td>22.78</td>
<td>&lt; 10.0 (^2)</td>
</tr>
</tbody>
</table>

N/A = Not applicable, N/D = Not determined
\(^1\) SMAL
\(^2\) PM, PM\(_{10}\), and PM\(_{2.5}\) conditioned potential were proportionally reduced based on the limits taken on Cadmium Metal and Nickel Metal.

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 HAPs are conditioned below de minimis levels.
APPLICABLE REQUIREMENTS

De Tray Plating Works, Inc. 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.

GENERAL REQUIREMENTS

- **Submission of Emission Data, Emission Fees and Process Information**, 10 CSR 10-6.110
- **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

SPECIFIC REQUIREMENTS

- **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 applies to the chromium plating tanks at this facility.

- **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 WWWW applies to the nickel and cadmium plating tanks at this facility as well as any electroless plating operations that occur at this facility.

- **Restriction of Particulate Matter Emissions From Fuel Burning Equipment Used for Indirect Heating**, 10 CSR 10-6.405 applies the boiler at this facility. De Tray burns only natural gas to fuel their boiler and therefore, is in compliance with this rule.
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.

Gerad Fox  
New Source Review Unit

PERMIT DOCUMENTS

The following documents are incorporated by reference into this permit:

- The Application for Authority to Construct form, dated November 27, 2012, received December 3, 2013, designating De Tray Plating Works, Inc. as the owner and operator of the installation.

### Cadmium Metal (Cd) Annual Emissions Tracking Sheet

#### De Tray Plating Works, Inc
Project Number: 2012-12-001
Permit Number: - 11 -

10405 East 11th Street, Independence, MO 64052
Jackson County, S4, T49N, R32W

This sheet covers the period from ___________ to ___________ (Copy as needed)

<table>
<thead>
<tr>
<th>(a)</th>
<th>(b)</th>
<th>(c)</th>
<th>(d)</th>
<th>(e)</th>
<th>(f)</th>
<th>(g)</th>
<th>(h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date (Month, Year)</td>
<td>Amp-Hour Usage of T-2 thru T-5 (amp-hrs)</td>
<td>Emission Factor (lb/amp-hr)</td>
<td>Monthly Cd Emissions (lbs)</td>
<td>Monthly Cd Emissions (tons)</td>
<td>Previous Month’s 12-Month Cd Emissions (tons)</td>
<td>Monthly Cd Emissions from Previous Year (tons)</td>
<td>12-Month Total Cd Emissions (tons)</td>
</tr>
<tr>
<td>Example</td>
<td>800,000</td>
<td>0.000006</td>
<td>4.8</td>
<td>0.0024</td>
<td>0.0012</td>
<td>0.00</td>
<td>0.0036</td>
</tr>
<tr>
<td>Example</td>
<td>750,000</td>
<td>0.000006</td>
<td>4.5</td>
<td>0.0023</td>
<td>0.0036</td>
<td>0.0015</td>
<td>0.0044</td>
</tr>
</tbody>
</table>

a) Record the current date. (Month, Year)
b) Record this month’s combined amp-hour usage of the cadmium plating tanks T-2 thru T-5 using the amp-hour meters installed on each tanks rectifier.
c) Cd emission factor for cadmium plating process.
d) Calculate using the following equation: (d) = (b) x (c).
e) Calculate using the following equation: (e) = (d) / 2,000
f) Record the 12-month Cd emissions (h) from last month.
g) Record the monthly Cd emissions (e) from this month last year.
h) Calculate the new 12-month Cd emissions. (h) = (e) + (f) – (g). A total of less than 0.01 tons of Cd per year is necessary for compliance.
Attachment B: Nickel Metal (Ni) Annual Emissions Tracking Sheet
De Tray Plating Works, Inc
Project Number: 2012-12-001
Permit Number:

10405 East 11th Street, Independence, MO 64052
Jackson County, S4, T49N, R32W

This sheet covers the period from ____________________ to ____________________ (Copy as needed)  (Month, Day Year) (Month, Day Year)

<table>
<thead>
<tr>
<th>(a) Date (Month, Year)</th>
<th>(b) Amp-Hour Usage of T-6 and T-7 (amp-hrs))</th>
<th>(c) Emission Factor (lb/amp-hr)</th>
<th>(d) Monthly Ni Emissions (lbs)</th>
<th>(e) Monthly Ni Emissions (tons)</th>
<th>(f) Previous Month’s 12-Month Ni Emissions (tons)</th>
<th>(g) Monthly Ni Emissions from Previous Year (tons)</th>
<th>(h) 12-Month Total Ni Emissions (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td>1,000,000</td>
<td>0.000009</td>
<td>90.0</td>
<td>0.045</td>
<td>0.030</td>
<td>0.00</td>
<td>0.075</td>
</tr>
<tr>
<td>Example</td>
<td>1,500,000</td>
<td>0.000009</td>
<td>135.0</td>
<td>0.068</td>
<td>0.075</td>
<td>0.054</td>
<td>0.089</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a) Record the current date. (Month, Year)
b) Record this month’s combined amp-hour usage of the nickel plating tanks T-6 and T-7 using the amp-hour meters installed on each tanks rectifier.
c) Cd emission factor for nickel plating process.
d) Calculate using the following equation:  (d) = (b) x (c).
e) Calculate using the following equation:  (e) = (d) / 2,000
f) Record the 12-month Ni emissions (h) from last month,
g) Record the monthly Ni emissions (e) from this month last year.
h) Calculate the new 12-month Ni emissions.  (h) = (e) + (f) – (g).  A total of less than 1.0 tons of Ni per year is necessary for compliance.
Attachment C: Hydrogen Chloride (HCL) Emissions Tracking Sheet
De Tray Plating Works, Inc
Project Number: 2012-12-001
Permit Number:

10405 East 11th Street, Independence, MO 64052
Jackson County, S4, T49N, R32W

This sheet covers the period from ____________________ to ____________________ (Copy as needed) (Month, Day Year) (Month, Day Year)

<table>
<thead>
<tr>
<th>(a) Date (Month, Year)</th>
<th>(b) Hours HCL Tanks T-15 thru T-18 are Uncovered</th>
<th>(c) Emission Rate (lb/hr)</th>
<th>(d) Monthly HCL Emissions (lbs)</th>
<th>(e) Monthly HCL Emissions (tons)</th>
<th>(f) Previous Month’s 12-Month HCL Emissions (tons)</th>
<th>(g) Monthly HCL Emissions from Previous Year (tons)</th>
<th>(h) 12-Month Total HCL Emissions (tons)</th>
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</thead>
<tbody>
<tr>
<td>Example 200</td>
<td>5.204</td>
<td>1040.8</td>
<td>0.52</td>
<td>0.60</td>
<td>0.00</td>
<td>1.12</td>
<td>1.12</td>
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<td>Example 220</td>
<td>5.204</td>
<td>1144.9</td>
<td>0.57</td>
<td>1.12</td>
<td>0.65</td>
<td>1.04</td>
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<td>5.204</td>
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a) Record the current date. (Month, Year)
b) Record this month’s hours that HCL tanks’ T-15 thru T-18 were uncovered.
c) HCL emission rate calculated using the formula from Estimating Releases and Waste Treatment Efficiencies for the TRI Form, EPA-560/4-888-002.
d) Calculate using the following equation:  (d) = (b) x (c).
e) Calculate using the following equation:  (e) = (d) / 2,000
f) Record the 12-month HCL emissions (f) from last month.
g) Record the monthly HCL emissions (g) from this month last year.
h) Calculate the new 12-month HCL emissions.  (h) = (e) + (f) – (g).  A total of less than 10.0 tons of HCL per year is necessary for compliance
Abbreviations and Acronyms

% .......... percent
°F .......... degrees Fahrenheit
acfm ...... actual cubic feet per minute
BACT ..... Best Available Control Technology
BMPs ..... Best Management Practices
Btu........ British thermal unit
CAM ...... Compliance Assurance Monitoring
CAS ....... Chemical Abstracts Service
CEMS ..... Continuous Emission Monitor System
CFR ....... Code of Federal Regulations
CO .......... carbon monoxide
CO₂ .......... carbon dioxide
CO₂e ...... carbon dioxide equivalent
COMS ..... Continuous Opacity Monitoring System
CSR ....... Code of State Regulations
dscf ...... dry standard cubic feet
EIQ ........ Emission Inventory Questionnaire
EP ........ Emission Point
EPA ....... Environmental Protection Agency
EU ......... Emission Unit
fps .......... feet per second
ft ........... feet
GACT ..... Generally Available Control Technology
GHG ....... Greenhouse Gas
gpm ...... gallons per minute
gr .......... grains
GWP ...... Global Warming Potential
HAP ........ Hazardous Air Pollutant
hr .......... hour
hp .......... horsepower
lb .......... pound
lbs/hr ...... pounds per hour
MACT ..... Maximum Achievable Control Technology
µg/m³ ...... micrograms per cubic meter
m/s .......... meters per second
Mgal ...... 1,000 gallons
MW .......... megawatt
MHDR...... maximum hourly design rate
MMBtu .... Million British thermal units
MMCF .... million cubic feet
MSDS ..... Material Safety Data Sheet
NAAQS ... National Ambient Air Quality Standards
NESHAPs ............... National Emissions Standards for Hazardous Air Pollutants
NOₓ ........ nitrogen oxides
NSPS ...... New Source Performance Standards
NSR ....... New Source Review
PM .......... particulate matter
PM₂.⁵ ...... particulate matter less than 2.5 microns in aerodynamic diameter
PM₁₀ ...... particulate matter less than 10 microns in aerodynamic diameter
ppm ....... parts per million
PSD ....... Prevention of Significant Deterioration
PTE ......... potential to emit
RACT ...... Reasonable Available Control Technology
RAL ......... Risk Assessment Level
SCC ....... Source Classification Code
scfm ...... standard cubic feet per minute
SIC ........ Standard Industrial Classification
SIP ......... State Implementation Plan
SMAL .... Screening Model Action Levels
SOₓ ........ sulfur oxides
SO₂ ........ sulfur dioxide
tph ......... tons per hour
tpy .......... tons per year
VMT ......... vehicle miles traveled
VOC ......... Volatile Organic Compound
Mr. Jim Pierson  
Owner  
De Tray Plating Works, Inc.  
10405 East 11th Street  
Independence, MO  64052  

RE: New Source Review Permit - Project Number: 2012-12-001  

Dear Mr. Pierson:  

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 and your new source review permit application 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 Gerad Fox, 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:gf1  

Enclosures  

PAMS File: 2012-12-001  

Permit Number: