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: 032013-013
Project Number: 2012-11-021
Installation Number: 159-0054

Parent Company: Delongs, Inc.
Parent Company Address: 301 Dix Road, Jefferson City, MO 65109
Installation Name: Delongs, Inc.
Installation Address: 1695 E. Harvey Street, Sedalia, MO 65301
Location Information: Pettis County, S2, T45N, R21W

Application for Authority to Construct was made for:
Construction of a new structural steel blasting and painting facility. This review was conducted in accordance with Section (5), Missouri State Rule 10 CSR 10-6.060, Construction Permits Required.

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

MAR 29 2013
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 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.”

Delongs, Inc.
Pettis County, S2, T45N, R21W

1. PM₁₀ Emission Limitation
   A. Delongs, Inc. shall emit less than 15.0 tons of PM₁₀ in any consecutive 12-month period from the entire installation, see table 1 below.

   Table 1: Installation Wide Emission Points
<table>
<thead>
<tr>
<th>Emission Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP-1</td>
<td>Spray gun</td>
</tr>
<tr>
<td>EP-3</td>
<td>Blastec blasting machine</td>
</tr>
<tr>
<td>EP-4</td>
<td>Hand held blaster</td>
</tr>
<tr>
<td>EP-5</td>
<td>Silo</td>
</tr>
<tr>
<td>EP-6</td>
<td>Water boiler for in-floor heat</td>
</tr>
<tr>
<td>EP-7</td>
<td>Miscellaneous-Cleaning paint gun</td>
</tr>
<tr>
<td>EP-8</td>
<td>Haul Road</td>
</tr>
</tbody>
</table>

   B. Attachment A 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.

2. Control Device Requirement-Baghouse
   A. Delongs, Inc. shall control emissions from the silo (EP-5) using a baghouse as specified in the permit application.

   B. Delongs, Inc. shall conduct opacity readings on the fabric filter using EPA Method 22. Readings shall be taken when the silo is in operation and when weather conditions allow, at least once monthly.

       1) If no visible emissions are read, no further action is required.
       2) If visible emissions are read, then Delongs, Inc. shall conduct opacity readings on the fabric filter using EPA Method 9. Weekly readings shall be conducted for a minimum of eight consecutive weeks.
SPECIAL CONDITIONS:

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

i. If no visible emissions are detected during this period then readings shall be taken once every two weeks for a period of eight consecutive weeks.

ii. If visible emissions are detected during this period then readings shall be conducted weekly.
   a) If no visible emissions are detected during this period then readings shall be taken once per month.
   b) If visible emissions are detected during this period then readings shall be conducted weekly.

iii. If readings shall be conducted weekly then reading frequency shall progress in accordance with special condition 2.C.2).

C. Replacement filters for the baghouse shall be kept on hand at all times. The bags shall be made of fibers appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).

D. Delongs, Inc. shall maintain an operating and maintenance log for the baghouses 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. Control Device Requirement- Dust Collector

   A. Delongs, Inc. shall control emissions from the blastec blasting machine (EP-3) using a dust collector as specified in the permit application.

   B. The dust collector shall be operated and maintained in accordance with the manufacturer's specifications. The dust collector shall be equipped with a gauge or meter, which indicates the pressure drop across the control device. These gauges or meters shall be located such that the Department of Natural Resources' employees may easily observe them.

   C. Replacement cartridges for the dust collector shall be kept on hand at all times. The cartridges shall be made of materials appropriate for operating conditions expected to occur (i.e. temperature limits, acidic and alkali resistance, and abrasion resistance).
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

D. Delongs, Inc. shall monitor and record the operating pressure drop across the dust collector at least once every 24 hours. The operating pressure drop shall be maintained within the design conditions specified by the manufacturer's performance warranty.

E. Delongs, Inc. shall maintain a copy of the dust collector manufacturer’s performance warranty on site.

F. Delongs, Inc. shall maintain an operating and maintenance log for the dust collector 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. Use of Alternative Coatings in the Paint Spray Gun (EP-1)
   A. When considering using an alternative material in the spray gun that is different than the materials listed in the Application for Authority to Construct, Delongs, Inc. shall calculate the potential emissions of each individual HAP in the alternative material and VOC in the alternative material.

   B. Delongs, Inc. 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 B or if the total VOC potential emissions exceed 11.4 tons per year.

   C. Delongs, Inc. may scale (ratio) the potential emissions of the individual HAP and VOC to the limitations stated in Special Condition 1. If the scaled potential HAP emissions for the alternative material is equal to or greater than the SMAL, then Delongs, Inc. must seek approval from the Air Pollution Control Program before use of the alternative material. If the scaled total VOC potential emissions exceed 11.4 tons per year, then Delongs, Inc. must seek approval from the Air Pollution Control Program before use of the alternative material.

   D. Attachment B or equivalent forms, such as electronic forms, approved by the Air Pollution Control Program shall be used to show compliance with Special Condition 4.A.
SPECIAL CONDITIONS:
The permittee is authorized to construct and operate subject to the following special conditions:

5. Operational Requirement - Solvent/Coating Cloths
   A. Delongs, Inc. shall keep the coating solvents and cleaning solutions in sealed containers whenever the materials are not in use. Delongs, Inc. shall provide and maintain suitable, easily read, permanent markings on all coatings, solvent and cleaning solution containers used with this equipment.

6. Record Keeping and Reporting Requirements
   A. Delongs, 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. Delongs, Inc. shall report to the Air Pollution Control Program’s Compliance/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 show an exceedance of a limitation imposed by this permit.
REVIEW OF APPLICATION FOR AUTHORITY TO CONSTRUCT AND OPERATE
SECTION (5) REVIEW

Project Number: 2012-11-021
Installation ID Number: 159-0054
Permit Number:

Delongs, Inc. Complete: November 7, 2012
131 N. Harding Avenue
Sedalia, MO 65301

Parent Company:
Delongs, Inc.
301 Dix Road
Jefferson City, MO 65109

Pettis County, S2, T45N, R21W

REVIEW SUMMARY

• Delongs, Inc. has applied for authority to construction of a new structural steel blasting and painting facility.

• HAP emissions are expected from the proposed equipment. HAPs of concern from this process are ethyl benzene (CAS# 100-41-4), xylene (CAS# 1330-20-7), toluene (CAS# 108-88-3), and hexamethylene diisocyanate (CAS# 822-06-0).

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


• A baghouse is being used to control the PM, PM$_{10}$, and PM$_{2.5}$ emissions from the silo (EP-5) in this permit. A dust collector is being used to control the PM, PM$_{10}$, and PM$_{2.5}$ emissions from the blastec blasting machine (EP-3) 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 PM$_{10}$ are conditioned below de minimis levels.

• This installation is located in Pettis 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 conditioned below de minimis levels.

- Emissions testing is not required for the equipment.

- An Operating Permit application is not required for this installation at this time.

- Approval of this permit is recommended with special conditions.

INSTALLATION DESCRIPTION

Delongs, Inc. (Delongs) has applied for authority to construct a new structural steel blasting and painting facility in Sedalia, Missouri. Delongs currently operates a “grandfathered” facility (159-0054) in Sedalia at 131 Harding Avenue, which is across Harding Avenue from the proposed new facility. The grandfathered facility makes structural beams, X-frames, drain tubes, etc. The main source of emissions from the grandfathered plant is from the welding activities (EP-2). Some torch cutting occurs at the facility; however, the majority of cutting of steel is by shear or saw. Unpainted steel components currently assembled at the grandfathered facility will go to the new facility across Harding Avenue to be blasted and painted. The two installations are considered one for permitting and MACT purposes.

No permits have been issued to Delongs, Inc. from the Air Pollution Control Program.

PROJECT DESCRIPTION


Unpainted steel components currently assembled at the grandfathered facility will go to the new facility to be blasted and painted. The blastec structural descaling machine (EP-3) will be located in a three sided roofed building. The blastec will be used to clean the oxidized surface of a structural steel beam. The beam will pass through the blastec and be blasted. The beam will be flipped 180 degrees and pass back through the machine and be blasted again. Blasting occurs inside of the blastec and emissions from the blasting are controlled by a dust collection system. Steel shot will be used as the blasting media and will be recycled through the blastec until the shot is no longer useable.

The blastec will only be able to blast one beam every two hours. The average beam surface area is approximately 800 square feet. There will be scheduled days when only smaller secondary pieces are blasted.

A Filtrex (Model C, BTC-16-4000, with a blower rated at 8,150 cubic feet per minute) pulse jet dust collector, manufactured by Steelcraft, will be used to control particulate emissions from the blastec. The collection system contains 16 bags with a filter area of 4,000 square feet.
A hand held Schmidt blaster (EP-4) will be used to clean areas of the structural beams missed by the blastec. Coal slag or black beauty abrasive will be used as the blasting media for the blaster. It is estimated that the hand blaster will clean about 0.25 percent of the area missed by the blastec. The hand blaster will be located in the same building as the blastec but will not have any dust collection.

The Schmidt hand blaster (EP-4) will use a 3/8-inch diameter nozzle at 125 pounds per square inch of pressure. According to the manufacturer (Axxiom Manufacturing, Inc.) this size nozzle can throw about 1,475 pounds per hour of material at 120 pounds per square inch of pressure.

The coal slag or black beauty abrasive will be received by a semi-truck and loaded into a silo (EP-5). The silo will have a baghouse.

Once the beam is blasted it will be moved to the climate controlled paint building by an overhead crane to be painted (EP-1). Painting will be done using one Graco paint gun/pump (EP-1) (or equal), which can spray 2.5 gallons per minute. However, the paint volume will be based on the amount of surface area of steel blasted because the blasting is the bottleneck for painting. The paint potential emissions are based on all of the blasted steel being painted. However, not all of the structural steel that is blasted will be painted. A variety of paints will be used at the facility depending on the requirements of the contract Delongs has with clients. The most widely used paint will be the Carbozinc 11 HS (base, activator, and zinc filler). Other paints, primers, and thinners used at the new facility include:

- Thinner #26,
- Carboguard 893 SG, Part A and Part B,
- Carbothane 133 HG, Part A and Urethane Converter 811, and
- Carbothane 133 HB, Part A and Urethane Converter 133.

Other materials can be used as long as they follow the requirements of Special Condition 4.

The paint gun is cleaned (EP-7) once per day using 3.5 gallons of methyl ethyl ketone (MEK). MEK is reused until it is no longer useable and then it is shipped off site with the paint waste.

The new facility will have two 0.3 MMBTU per hour natural gas boilers (EP-6) for in floor heat.

The finished steel members will be shipped out by semi-tractor trailer using the unpaved haul roads (EP-8).

EMISSIONS/CONTROLS EVALUATION

The emissions from the painting spray gun (EP-1) were calculated using the maximum paint usage and MSDS supplied by Delongs. All available VOCs and volatile HAPs were considered to be emitted. The MHDR of the paint booth was determined by the bottleneck, the amount of surface area of steel blasted. The paint potential emissions are based on all of the blasted steel being painted. However, not all of the structural
that is blasted will be painted. The MHDR for EP-1 is 1.67 gallons per hour of paint.

Multiplying the MHDR by the VOC content from the MSDS the VOC unconditioned potential emissions of EP-1 were determined. Multiplying the MHDR by the HAP weight percent and density of the material the unconditioned potential emissions of each individual HAP of EP-1 were determined.

Particulate emissions from the application of the paints were evaluated based on the solids content of the paints and transfer efficiency associated with spray application. The spray application is a high volume-low pressure spray gun. A 50 percent transfer efficiency was assumed because of the shape of the products, taken from “Chapter 5 Surface Coating” of the APTI Course 482 manual, 3rd Edition. As there is not a particle size distribution available for this type of painting, all emissions that are not collected by the paint booth filters were assumed to be PM$_{2.5}$, PM$_{10}$, and PM.

Potential emissions from the Blastec (EP-3) were estimated with the use of the dust control device. According to the manufacturer the Model C Filtrex dust collector has a control efficiency of 99.99 percent for particles larger than 0.5 microns. Therefore, a control efficiency of 99.99 percent was applied. The Blastec can throw 230 tons per hour or 460,000 pounds per hour of steel shot. The emission factors used in this analysis were obtained from the Environmental Protection Agency (EPA) document AP-42, *Compilation of Air Pollutant Emission Factors*, Fifth Edition, Section 13.2.6 Abrasive Blasting, October 1997.

The Schmidt hand blaster (EP-4) cleans 0.25 percent or less of the steel. The 0.25 percent represents the areas the Blastec (EP-3) cannot clean, 2 square feet of beam surface equivalent to 1,475 pounds per hour of steel. The emission factors used in this analysis were obtained from AP-42, Section 13.2.6 Abrasive Blasting, October 1997.

The MHDR of loading the silo (EP-5) is 0.74 tons per hour of black beauty abrasive. The emission factors used in this analysis were obtained from AP-42, Section 11.19.2 Crushed Stone Processing and Pulverized Mineral Processing, August 2004. The controlled emissions factors listed in AP-42 were used in this analysis for the baghouse control device on the silo (EP-5).

There are two natural gas boilers (EP-6) with a MHDR of 0.3 MMBTU per hour each. The emission factors used in this analysis were obtained from AP-42, Section 1.4, Natural Gas Combustion, July 2008.

The miscellaneous paint gun cleaning (EP-7) emits 0.98 pounds per hour of methyl ethyl ketone (MEK), which is a VOC, equating to 4.29 tons per year. The paint gun is cleaned once per day with 3.5 gallons of MEK. Using the specific gravity of MEK and the pounds per gallon weight of water the pounds per gallon of MEK was determined. Multiplying the MHDR of MEK (0.15 gallons per hour) and the pounds per gallon of MEK the pounds per hour of MEK was determined.
Haul road emissions were calculated using the predictive equations found in AP-42 Section 13.2.2, *Unpaved Roads*, November 2006. The average Iron and Steel Production silt loading value from AP-42 Table 13.2.2-1 was used in the equation.

The following table provides an emissions summary for this project. The existing potential emissions were calculated for the grandfathered equipment which consists of EP-02 Welding Activities. Potential emissions of the application represent the potential of the new equipment, assuming continuous operation (8760 hours per year). PM$_{10}$ emissions for the entire installation have been conditioned to 15 tons per year as shown under the New Installation Conditioned Potential column.

Table 2: Emissions Summary (tons per year)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>25.0</td>
<td>N/D</td>
<td>N/A</td>
<td>288.18</td>
<td>22.22</td>
</tr>
<tr>
<td>PM$_{10}$</td>
<td>15.0</td>
<td>0.57</td>
<td>N/A</td>
<td>194.56</td>
<td>&lt;15.0</td>
</tr>
<tr>
<td>PM$_{2.5}$</td>
<td>10.0</td>
<td>0.57</td>
<td>N/A</td>
<td>116.50</td>
<td>8.98</td>
</tr>
<tr>
<td>SOx</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.0015</td>
<td>N/A</td>
</tr>
<tr>
<td>NOx</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>0.2576</td>
<td>N/A</td>
</tr>
<tr>
<td>VOC</td>
<td>40.0</td>
<td>N/A</td>
<td>N/A</td>
<td>56.57</td>
<td>N/D</td>
</tr>
<tr>
<td>CO</td>
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<td>N/A</td>
<td>N/A</td>
<td>0.2164</td>
<td>N/A</td>
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<tr>
<td>GHG (CO$_2$e)</td>
<td>100,000</td>
<td>N/A</td>
<td>N/A</td>
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<td>N/A</td>
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<tr>
<td>GHG (mass)</td>
<td>250.0</td>
<td>N/A</td>
<td>N/A</td>
<td>326.87</td>
<td>N/A</td>
</tr>
<tr>
<td>HAPs</td>
<td>25.0</td>
<td>N/A</td>
<td>N/A</td>
<td>34.58</td>
<td>N/D</td>
</tr>
<tr>
<td>CO$_2$</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>309.18</td>
<td>N/D</td>
</tr>
<tr>
<td>CH$_4$</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0.0059</td>
<td>N/D</td>
</tr>
<tr>
<td>N$_2$O</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>0.0567</td>
<td>N/D</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>2.0</td>
<td>N/A</td>
<td>N/A</td>
<td>1.93E-04</td>
<td>N/D</td>
</tr>
<tr>
<td>Ethyl Benzene</td>
<td>10.0</td>
<td>N/A</td>
<td>N/A</td>
<td>11.12</td>
<td>N/D</td>
</tr>
<tr>
<td>Xylene</td>
<td>10.0</td>
<td>N/A</td>
<td>N/A</td>
<td>45.17</td>
<td>N/D</td>
</tr>
<tr>
<td>Toluene</td>
<td>10.0</td>
<td>N/A</td>
<td>N/A</td>
<td>22.00</td>
<td>N/D</td>
</tr>
<tr>
<td>Hexamethylene Disocyanate</td>
<td>0.02</td>
<td>N/A</td>
<td>N/A</td>
<td>0.12</td>
<td>N/D</td>
</tr>
</tbody>
</table>

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

$^1$Significance Level

$^2$For individual HAP, SMAL was used

$^3$Because of the various types of coatings, the conditioned potential emission could not be calculated in a straightforward manner and therefore were not determined. However, PTE calculations confirm that indirectly limiting each coating type to the PM$_{10}$ level of 15 tpy result in emissions below the de minimis or SMAL levels for each pollutant.
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 PM$_{10}$ are conditioned below de minimis levels. All other pollutants are indirectly conditioned below their respective de minimis levels or SMALs.

APPLICABLE REQUIREMENTS

Delongs, 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

- Restriction of Emission of Particulate Matter From Industrial Processes, 10 CSR 10-6.400
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.

______________________________   _________________________________
Susan Heckenkamp                             Date
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 7, 2012, received November 7, 2012, designating Delongs, Inc. as the owner and operator of the installation.


- Material Safety Data Sheets
This sheet covers the period from ____________ to ____________.

(month, year)   (month, year)

### PM10 Emissions from EP-01 Painting Spray Gun

<table>
<thead>
<tr>
<th>Date</th>
<th>Amount of Material Used (Gallons)</th>
<th>Density of Material (Pounds per Gallon)</th>
<th>Solids Content (Weight %)</th>
<th>PM10 Emissions (Tons)</th>
</tr>
</thead>
</table>

### PM10 Emissions from EP-03 Blastec and EP-04 Hand Blaster

<table>
<thead>
<tr>
<th>Date</th>
<th>1000 lbs blasting media (lbs of PM10/1000 lbs blasting media)</th>
<th>Composite Emission Factor (lbs of PM10/1000 lbs blasting media)</th>
<th>PM10 Emissions (Tons)</th>
</tr>
</thead>
</table>

0.0428

### Monthly Total PM10 Emissions from the Blastec (EP-3) and the hand blaster (EP-04)

<table>
<thead>
<tr>
<th></th>
<th>PM10 Emissions (Tons)</th>
</tr>
</thead>
</table>

0.013

Instructions:
- [a] Record this month’s throughput in tons.
- [b] Density and solids content should be obtained from the Material Safety Data Sheet (MSDS). If the content is given as a range, then the maximum value should be used.
- [c] \( \text{Amount of Material in gallons} \times \text{Density in lb/gal} \times \text{Solids Content in %wt} \times 0.5 / 100 \times 0.0005 = \text{PM10 Emissions in tons} \) (Note 0.5 multiplier takes into account a transfer efficiency of 50%.)
- [d] Sum PM10 emissions for all material used with EP-01.
- [e] Take the total amount of blasting media (steel shot and black beauty) used for the month and divide by 1000.
- [g] \( \text{1000 lbs blast media} \times \text{Composite EF} \times 0.0005 = \text{PM10 Emissions in tons} \)
- [h] Sum PM10 emissions for the beams blasted.
- [i] Potential emissions of EP-5, EP-6 and EP-8 were divided by 12 to derive worst case monthly emissions.
- [j] Sum [d], [h] and [i] Monthly PM10 Emissions.
- [k] Record the 12-Month PM10 Emissions [m] from Previous Month's Attachment A (tons)
- [l] Total Monthly PM10 Emissions [j] from Previous Year's Attachment A (tons)
- [m] Current 12-Month PM10 Emissions (tons) = ([j] + [k] - [l])

A total less than 15.0 tons indicates compliance.
Attachment B- Alternative Painting Potential to Emit Compliance Worksheet

Delongs, Inc.
Pettis County, S2, T45N, R21W
Project Number: 2012-11-021
Installation ID Number: 159-0054
Permit Number:

<table>
<thead>
<tr>
<th>Material Name</th>
<th>Maximum Hourly Design Rate (gallons per hour)</th>
<th>Product Density (pounds per gallon)</th>
<th>HAP Name, CAS#</th>
<th>VOC or Individual HAP Content (weight %)</th>
<th>VOC or Individual HAP PTE (tons per year)</th>
<th>PM10 Content (weight %)</th>
<th>PM10 Emissions (ton per year) for the Material</th>
<th>Scaled VOC or Individual HAP Emissions (tons per year)</th>
<th>Screen Modeling Action Level (tons per year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(example) new coating</td>
<td>1.667</td>
<td>6.64</td>
<td>(example) HAP name, CAS#</td>
<td>3.0%</td>
<td>1.45</td>
<td>55.0%</td>
<td>26.66</td>
<td>0.816</td>
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<td></td>
<td>1.667</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

a) Note: The maximum hourly design rate is equal to 1.667 gallons per hour (gph).
b) \[(\text{Column 2}) \times \text{Column 3} \times \text{Column 5} \times 4.38 \times 100 = \text{Column 6}\]
c) Screen Modeling Action Levels for individual HAPs can be found in Appendix B.
d) Compare potential emissions of the individual HAP in [Column 6] to those from [Column 10]
e) If [Column 6] is greater than [Column 10], then try scaling as detailed in (f) through (h).
f) \[(\text{Column 2}) \times \text{Column 3} \times \text{Column 7} \times 4.38 \times 100 = \text{Column 8}\]
g) \[15 \times \text{Column 6} \times \text{Column 8} = \text{Column 9}\]
h) Compare potential emissions of the scaled individual HAP in [Column 9] to those from [Column 10]. If [Column 9] is greater than [Column 10], obtain permission from Air Pollution Control Program before using this material.

Note: Same worksheet will be used to calculate VOC emissions with changes: [Column 5]: VOC Content (weight %), [Column 6]: VOC PTE (tons per year), and [Column 9]: Scaled VOC Potential Emissions (tons per year). [Column 9] shall be 4.36 tons per year.
APPENDIX A

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

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS#</th>
<th>State</th>
<th>VOD</th>
<th>Risk</th>
<th>Chemical</th>
<th>CAS#</th>
<th>State</th>
<th>VOD</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaldehyde</td>
<td>78-09-0</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Carbaryl</td>
<td>53-25-2</td>
<td>10</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Acetamide</td>
<td>00-35-0</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Dichloroacetic Acid</td>
<td>70-58-4</td>
<td>10</td>
<td>Y</td>
<td>Y</td>
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<tr>
<td>Acetone</td>
<td>67-64-1</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Chloroform</td>
<td>123-98-5</td>
<td>10</td>
<td>Y</td>
<td>Y</td>
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<td>67-64-1</td>
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<td>N</td>
<td>Y</td>
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<td>5</td>
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<tr>
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<td>N</td>
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<td>Acrolein</td>
<td>107-02-6</td>
<td>0.24</td>
<td>Y</td>
<td>Y</td>
<td>Diamines</td>
<td>133-90-4</td>
<td>5</td>
<td>Y</td>
<td>Y</td>
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<td>Acrylamide</td>
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<td>Acrylon</td>
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<td>N</td>
<td>Y</td>
<td>Vinylidene (1,3,5)</td>
<td>118-85-4</td>
<td>0.1</td>
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<tr>
<td>Acrylon</td>
<td>5174-68-9</td>
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<td>N</td>
<td>Y</td>
<td>Diethylenediamine (5,5)</td>
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<td>0.1</td>
<td>Y</td>
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<tr>
<td>Acrolein</td>
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<td>Diamines</td>
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<tr>
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<td>Vinylidene (1,3,5)</td>
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<tr>
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<td>Diethylenediamine (5,5)</td>
<td>118-85-4</td>
<td>0.1</td>
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</table>
# Appendix B: Table of Hazardous Air Pollutants and Screening Model Action Levels (May 3, 2012 Revision 10)

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS #</th>
<th>SMAR</th>
<th>GQG</th>
<th>GQG in</th>
<th>VOC</th>
<th>Psi</th>
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<tr>
<td>Hexachloroethylene</td>
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<td>N</td>
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<td>N</td>
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<tr>
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<tr>
<td>Hexachlorozone [j]</td>
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<tr>
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<td>Y</td>
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<td>0.02</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>N</td>
</tr>
</tbody>
</table>

**Legend**

- A: Asbestos
- B: Chloro- and Bifluorides (gases and mixtures)
- C: Dioxins, Dibenzofurans, and Dibenzothiophenes
- D: Dibutenes, Dibutadienes, and Dibutadienyls
- E: Dibutoxycholorides and Aldehydes
- F: Dibutyl Phthalate (diester)
- G: Dibutyl Phthalate (monester)
- H: Dibutyl Phthalate (phenoxyester)
- I: Dibutyl Phthalate (phenoxyester)
- J: Dibutyl Phthalate (phenoxyester)
- K: Dibutyl Phthalate (phenoxyester)
- L: Dibutyl Phthalate (phenoxyester)
- M: Dibutyl Phthalate (phenoxyester)
- N: Dibutyl Phthalate (phenoxyester)
- O: Dibutyl Phthalate (phenoxyester)
- P: Dibutyl Phthalate (phenoxyester)
- Q: Dibutyl Phthalate (phenoxyester)
- R: Dibutyl Phthalate (phenoxyester)
- S: Dibutyl Phthalate (phenoxyester)
- T: Dibutyl Phthalate (phenoxyester)
- U: Dibutyl Phthalate (phenoxyester)
- V: Dibutyl Phthalate (phenoxyester)
- W: Dibutyl Phthalate (phenoxyester)
- X: Dibutyl Phthalate (phenoxyester)
- Y: Dibutyl Phthalate (phenoxyester)
- Z: Dibutyl Phthalate (phenoxyester)

*Note: The SMAR for each compound is defined as the effective dose equivalent (EDE) of 0.3 milligrams per year for 7 years exposure associated with a cancer risk of 1 in 1 million.*
Dear Mr. Bachta:

Enclosed with this letter is your permit to construct. Please study it carefully and refer to Appendix A for a list of common abbreviations and acronyms used in the permit. Also, note the special conditions on the accompanying pages. The document entitled, "Review of Application for Authority to Construct," is part of the permit and should be kept with this permit in your files. Operation in accordance with these conditions 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 me 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:shl

Enclosures

c: Kansas City Regional Office
   PAMS File: 2012-11-021

Permit Number: