



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

TO: Interested Parties / Applicant

DATE: December 12, 2012

RE: Valmont Coatings Gateway Galvanizing / 019 - 32438 - 00100

FROM: Matthew Stuckey, Branch Chief
Permits Branch
Office of Air Quality

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Suite N 501E, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot12/3/07



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Mr. Brett Goff
Valmont Coatings Gateway Galvanizing
1117 Brown Forman Road
Jeffersonville, IN 47130

December 12, 2012

Re: 019-32438-00100
First Administrative Amendment to
R019-10825-00100

Dear Mr. Goff:

Valmont Coatings Gateway Galvanizing was issued a Registration No. R019-10825-00100 on August 3, 1999 for stationary hot dip zinc galvanizing processing plant located at 1117 Brown Forman Road, Jeffersonville, Indiana. On October 22, 2012, the Office of Air Quality (OAQ) received an application from the source requesting to construct and operate a new zinc recovery system (MZR1). This system will be used to recover metallic zinc skims, which can then be re-melted in the existing zinc kettle (K1). The remaining zinc oxide will continue to be sold to U.S. Zinc in Houston, Texas. The equipment consists of a 0.31 MMBtu/hr natural gas-fired burner and a rotating drum that is filled with zinc skims. The drum is placed in the zinc recovery system and heated to 900-1000°F for three (3) hours. The molten zinc on the bottom of the drum is then tapped into a mold, allowed to solidify, and re-melted in the kettle. Pursuant to 326 IAC 2-5.5-6(d)(11), this change to the registration is considered administrative amendment because the registration is amended to incorporate a modification that consist of emission unit described under 326 IAC 2-1.1-3(e)(1) through 326 IAC 2-1.1-3(e)(31) (Exemptions). In addition, the source requested that all references to the two (2) sulfuric acid storage tanks and one (1) quench tank be removed from the registration because these emission units were never constructed. Pursuant to 326 IAC 2-5.5-6(d)(2)(B), this change to the registration is considered an administrative amendment because the registration is amended to indicate changes in descriptive information concerning the source or emission units.

The modification consists of the addition of the following emission unit:

- (a) One (1) zinc recovery system, identified as MZR1, approved for construction in 2012, with a maximum capacity of 1,650 pounds of zinc skims per cycle and 3.75 hours per cycle, equipped with one (1) natural gas-fired burner, with a maximum heat input capacity of 0.31 MMBtu per hour, uncontrolled, and exhausting to stack MZR1. This process does not use flux or melt post-consumer secondary zinc.

The modification consists of the removal of the following emission units:

- (a) Two (2) sulfuric acid storage tanks, known as Acid Storage 1 and Acid Storage 2, installed in February 1999, capacity: 10,000 gallons each.
- (b) One (1) quench tank, known as Q1, installed in February 1999, capacity: 12,850 gallons.

The PTE of the modification is as follows:

| Process/ Emission Unit | PTE of Proposed Modification (tons/year) | | | | | | | | | |
|--|--|------|-------|-----------------|-----------------|------|------|------------------------------|---------------|------------------------|
| | PM | PM10 | PM2.5 | SO ₂ | NO _x | VOC | CO | GHGs as CO ₂ e | Total HAPs | Worst Single HAP |
| Zinc Recovery System (MZR1) | 4.82 | 4.83 | 4.83 | 0.001 | 0.13 | 0.01 | 0.11 | 163 | 0.12 | 0.12 Lead |
| Total PTE of Proposed Modification | 4.82 | 4.83 | 4.83 | 0.001 | 0.13 | 0.01 | 0.11 | 163 | 0.12 | 0.12 Lead |

- (a) The uncontrolled/unlimited potential to emit of the entire source after the addition of this emission unit will continue to be within the threshold levels specified in 326 IAC 2-5.5-1(b)(1) (Registration). (See Appendix A for the calculations).
- (b) 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
 The requirements of 326 IAC 6-3-2 are not applicable to the zinc recovery system (MZR1) because it is subject to a more stringent particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).
- (c) 326 IAC 6.5 (PM Limitations Except Lake County)
 This source is located in Clark County, but is not specifically listed in 326 IAC 6.5-2.

 Pursuant to 326 IAC 6.5-1-1(a)(2), the requirements of 326 IAC 6.5-1-2 apply to sources or facilities with the potential to emit 100 tons or more or with actual emissions of 10 tons or more of particulate matter (PM) per year. This source has a potential to emit 20.82 tons of PM per year (which is less than 100 tons per year). Therefore, IDEM has determined that this source is now subject to the requirements of 326 IAC 6.5 because no limit for the actual PM emissions to be limited to less than 10 tons per year will be put in the registration.

 Pursuant to 326 IAC 6.5-1-2(a), particulate matter emissions from the zinc recovery system shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)).
- (d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Secondary Nonferrous Metals Processing, 40 CFR 63, Subpart TTTTTT, are not included in this administrative amendment, since the zinc recovery system (MZR1) does not melt post-consumer nonferrous (secondary brass, magnesium, or zinc) metal scrap.
- (e) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) or National Emission standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 20 and 40 CFR Part 61, 63) included in this administrative amendment.

PTE of the Entire Source After Issuance of the Registration Administrative Amendment

The table below summarizes the potential to emit of the entire source after the issuance of this administrative amendment, reflecting all limits, of the emission units, using **bold** and ~~strikeouts~~ to show the changes:

| Process/ Emission Unit | Potential To Emit of the Entire Source with the Revision (tons/year) | | | | | | | | | |
|------------------------------------|--|----------------------------------|--------------|-----------------|--------------------------------|--------------------------------|--------------------------------|-----------------------------|--------------------------------|--------------------|
| | PM | PM10* | PM2.5 | SO ₂ | NO _x | VOC | CO | GHGs as CO ₂ e** | Total HAPs | Worst Single HAP |
| Pickling Tanks | 0.79 | 0.79 | 0.79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Galvanizing Kettle | 11.70 | 11.70 | 11.70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Zinc Recovery System (MZR1) | 4.82 | 4.83 | 4.83 | 0.001 | 0.13 | 0.01 | 0.11 | 163 | 0.12 | 0.12 Lead |
| Welding and Flame Cutting | 0.70 | 0.70 | 0.70 | 0 | 0 | 0 | 0 | 0 | 0.01 | negl. |
| Natural Gas Combustion | 0.14 | 0.56 | 0.56 | 0.04 | 7.31 | 0.40 | 6.14 | 8,831 | 0.14 | 0.13 Hexane |
| Paved Roads | 2.67 | 0.53 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Total PTE of Entire Source | 16.0 20.82 | 14.28 19.11 | 18.71 | 0.04 | 7.31 7.45 | 0.40 0.41 | 6.14 6.26 | 8,994 | 0.15 0.27 | 0.13 Hexane |
| Registration Levels | 25 | 25 | 25 | 25 | 25 | 25 | 100 | 100,000 | 25 | 10 |

negl. = negligible

*Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".

**The 100,000 CO₂e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

The table below summarizes the potential to emit of the entire source after issuance of this administrative amendment, reflecting all limits, of the emission units. (Note: the table below was generated from the above table, with bold text un-bolded and strikethrough text deleted).

| Process/ Emission Unit | Potential To Emit of the Entire Source with the Revision (tons/year) | | | | | | | | | |
|-----------------------------------|--|--------------|--------------|-----------------|-----------------|-------------|-------------|-----------------------------|-------------|--------------------|
| | PM | PM10* | PM2.5 | SO ₂ | NO _x | VOC | CO | GHGs as CO ₂ e** | Total HAPs | Worst Single HAP |
| Pickling Tanks | 0.79 | 0.79 | 0.79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Galvanizing Kettle | 11.70 | 11.70 | 11.70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Zinc Recovery System (MZR1) | 4.82 | 4.83 | 4.83 | 0.001 | 0.13 | 0.01 | 0.11 | 163 | 0.12 | 0.12 Lead |
| Welding and Flame Cutting | 0.70 | 0.70 | 0.70 | 0 | 0 | 0 | 0 | 0 | 0.01 | negl. |
| Natural Gas Combustion | 0.14 | 0.56 | 0.56 | 0.04 | 7.31 | 0.40 | 6.14 | 8,831 | 0.14 | 0.13 Hexane |
| Paved Roads | 2.67 | 0.53 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Total PTE of Entire Source | 20.82 | 19.11 | 18.71 | 0.04 | 7.45 | 0.41 | 6.26 | 8,994 | 0.27 | 0.13 Hexane |
| Registration Levels | 25 | 25 | 25 | 25 | 25 | 25 | 100 | 100,000 | 25 | 10 |

negl. = negligible
 *Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM10), not particulate matter (PM), is considered as a "regulated air pollutant".
 **The 100,000 CO₂e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

Compliance Testing Requirements

(a) The testing requirements applicable to this source are as follows:

| Testing Requirements | | | | |
|-----------------------------|----------------|---------------------|---|----------------------|
| Emission Unit | Control Device | Pollutant | Timeframe for Testing | Frequency of Testing |
| Zinc Recovery System (MZR1) | N/A | PM, PM10, and PM2.5 | No later than 60 days after achieving maximum capacity, but not later than 180 days after initial startup | One-time |

Pursuant to Air-014-NPD and in order to verify compliance with 326 IAC 2-5.1-2, the source shall perform a one-time performance test to verify the uncontrolled PM, PM10, and PM2.5 emission factor from the zinc recovery system (MZR1) no later than sixty (60) days after achieving maximum capacity, but not later than one hundred eighty (180) days after initial startup utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.

Pursuant to 326 IAC 2-5.5-6, the registration is hereby amended as follows, with deleted language as ~~strikeouts~~ and new language **bolded**:

...
A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

- ...
- ~~(h) Two (2) sulfuric acid storage tanks, known as Acid Storage 1 and Acid Storage 2, installed in February 1999, capacity: 10,000 gallons each.~~
 - ~~(i) One (1) quench tank, known as Q1, installed in February 1999, capacity: 12,850 gallons.~~
 - ~~(jh) One (1) metal inert gas welder, known as MIG1, installed in February 1999, capacity: 1.0 pound of wire per hour.~~
 - ~~(ki) One (1) stick welder, known as SW1, installed in February 1999, capacity: 1.8 pounds of wire per hour.~~
 - ~~(lj) One (1) oxyacetylene flame cutter, known as OA1, installed in February 1999, capacity: 20.0 inches per minute.~~
 - ~~(mk) One (1) natural gas boiler, identified as B3, with a maximum heat input rate of 6.7 MMBtu per hour, exhausting to Stack #3, approved for the installation in 2010.~~
 - (l) One (1) zinc recovery system, identified as MZR1, approved for construction in 2012, with a maximum capacity of 1,650 pounds of zinc skims per cycle and 3.75 hours per cycle, equipped with one (1) natural gas-fired burner, with a maximum heat input capacity of 0.31 MMBtu per hour, uncontrolled, and exhausting to stack MZR1. This process does not use flux or melt post-consumer secondary zinc.**

...
Testing Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.3 Performance Testing [326 IAC 3-6]

- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:
- Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251**
- no later than thirty-five (35) days prior to the intended test date.**
- (b) The Registrant shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Registrant submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Corrective Actions and Response Steps

C.4 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Registrant shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Registrant demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

SECTION D.1

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- ~~(h)~~ Two (2) sulfuric acid storage tanks, known as Acid Storage 1 and Acid Storage 2, installed in February 1999, capacity: 10,000 gallons each.
- ~~(i)~~ One (1) quench tank, known as Q1, installed in February 1999, capacity: 12,850 gallons.
- (j) One (1) metal inert gas welder, known as MIG1, installed in February 1999, capacity: 1.0 pound of wire per hour.
- (k) One (1) stick welder, known as SW1, installed in February 1999, capacity: 1.8 pounds of wire per hour.
- (l) One (1) oxyacetylene flame cutter, known as OA1, installed in February 1999, capacity: 20.0 inches per minute.
- ~~(m)~~ One (1) natural gas boiler, identified as B3, with a maximum heat input rate of 6.7 MMBtu per hour, exhausting to Stack #3, approved for the installation in 2010.
- (n) **One (1) zinc recovery system, identified as MZR1, approved for construction in 2012, with a maximum capacity of 1,650 pounds of zinc skims per cycle and 3.75 hours per cycle, equipped with one (1) natural gas-fired burner, with a maximum heat input capacity of 0.31 MMBtu per hour, uncontrolled, and exhausting to stack MZR1. This process does not use flux or melt post-consumer secondary zinc.**

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate Emission Limitations for Manufacturing Processes [326 IAC 6-3-2]

- ~~(a)~~ Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.
- (b) Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the welding process and zinc galvanizing process shall be limited by using the following equation:

~~Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:~~

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour and
P = process weight rate in tons per hour

~~D.1.2 Particulate Emission Limitations for Indirect Heating [326 IAC 6-2-4]~~

~~Pursuant to 326 IAC 6-2-4(a), the particulate matter from the boiler identified as B3 shall not exceed 0.6 pounds per MMBTU.~~

D.1.1 Particulate [326 IAC 6.5-1-2]

- (a) Pursuant to 326 IAC 6.5-1-2(a), particulate matter emissions from each pickling tank (A1 through A4), shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)).
- (b) Pursuant to 326 IAC 6.5-1-2(a), particulate matter emissions from the galvanizing kettle and burner (K1 and F1), shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)).
- (c) Pursuant to 326 IAC 6.5-1-2(a), particulate matter emissions from the metal inert gas welder (MIG1), stick welder (SW1), and oxyacetylene flame cutter (OA1), shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)), each.
- (d) Pursuant to 326 IAC 6.5-1-2(b)(3), particulate matter emissions from the natural gas-fired boiler (B3) shall not exceed one-hundredth (0.01) grain per dry standard cubic foot (dscf).
- (e) Pursuant to 326 IAC 6.5-1-2(a), particulate matter emissions from the zinc recovery system (MZR1), shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)).

Compliance Determination Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

D.1.2 Testing Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)] [326 IAC 2-1.1-11]

Pursuant to Air-014-NPD and in order to verify compliance with 326 IAC 2-5.1-2, the Registrant shall perform a one-time performance test to verify the uncontrolled PM, PM10, and PM2.5 emission factor from the zinc recovery system (MZR1) no later than sixty (60) days after achieving maximum capacity, but not later than one hundred eighty (180) days after initial startup utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.

Additional Changes

Upon further review, IDEM, OAQ has decided to make additional amendments to the registration as described below. The registration has been amended as follows with deleted language as ~~strikeouts~~ and new language **bolded**:

1. IDEM, OAQ has decided to remove all references to the source mailing address. IDEM, OAQ will continue to maintain records of the mailing address. Section A.1 of the registration and the reporting forms has been revised as follows:

Mailing Address: ~~1117 Brown Foreman Road, Jeffersonville, Indiana 47130~~

2. IDEM has corrected a typographical error in the source address. Section A.1 of the registration and the reporting forms has been revised as follows:

Source Address: 1117 Brown Foreman Road, Jeffersonville, Indiana 47130

3. Several of IDEM's branches and sections have been renamed. Therefore, IDEM has updated the addresses listed in the registration. References to "Compliance Branch" have been changed to "Compliance and Enforcement Branch". The registration has been revised as follows:

~~Compliance Branch~~ **Compliance and Enforcement Branch**

4. Section A.1 has been revised to indicate that Clark County is now nonattainment for the PM_{2.5} standard. Section A.1 is updated as follows:

Source Location Status: **Nonattainment area for PM_{2.5}**
Attainment area for all **other** criteria pollutants

5. 326 IAC 6.5 (PM Limitations Except Lake County)
This source is located in Clark County, but is not specifically listed in 326 IAC 6.5-2. Pursuant to 326 IAC 6.5-1-1(a)(2), the requirements of 326 IAC 6.5-1-2 apply to sources or facilities with the potential to emit 100 tons or more or with actual emissions of 10 tons or more of particulate matter (PM) per year. This source has a potential to emit 20.82 tons of PM per year and actual PM emissions less than 10 tons per year. Therefore, IDEM has determined that this source is now subject to the requirements of 326 IAC 6.5 instead of 326 IAC 6-2-4 and 326 IAC 6-3-2. Section D.1 has been revised to reflect the following:

Pursuant to 326 IAC 6.5-1-2(a), particulate matter emissions from the four (4) pickling tanks (A1 through A4), one (1) galvanizing kettle and burner (K1 and F1), one (1) metal inert gas welder (MIG1), one (1) stick welder (SW1), and one (1) oxyacetylene flame cutter (OA1) shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)), each.

Pursuant to 326 IAC 6.5-1-2(b)(3), particulate matter emissions from the one (1) natural gas-fired boiler (B3) shall not exceed one-hundredth (0.01) grain per dry standard cubic foot (dscf).

Pursuant to 326 IAC 2-5.5-6(d)(5), these changes to the permit are considered an administrative amendment because the permit is amended to incorporate or delete applicable requirements as a result of a change in applicability (see previous section for changes).

Greenhouse Gases

Pursuant to 326 IAC 2-7-1(39), starting July 1, 2011, greenhouse gases (GHGs) emissions are subject to regulation at a source with a potential to emit (PTE) 100,000 tons per year or more of CO₂ equivalent emissions (CO₂e). Therefore, CO₂e emissions have been calculated for this source. Based on the calculations, the unlimited PTE GHGs from the entire source is less than 100,000 tons of CO₂e per year (see Appendix A for the calculations). This did not require any changes to the registration.

The source shall continue to operate according to 326 IAC 2-5.5 (Registrations). Please find enclosed the amended registration and Appendix A. A copy of the registration is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Brian Williams, at (800) 451-6027, press 0 and ask for Brian Williams or extension 4-5375, or dial (317) 234-5375.

Sincerely,



Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

IC/BMW

Attachment: Revised Registration

cc: File - Clark County
Clark County Health Department
Compliance and Enforcement Branch
Billing, Licensing and Training Section



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

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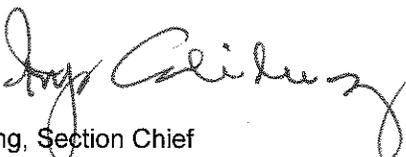
REGISTRATION OFFICE OF AIR QUALITY

**Valmont Coatings Gateway Galvanizing
1117 Brown Forman Road
Jeffersonville, Indiana 47130**

Pursuant to 326 IAC 2-5.1 (Construction of New Sources: Registrations) and 326 IAC 2-5.5 (Registrations), (herein known as the Registrant) is hereby authorized to construct and operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this registration.

| | |
|--|-------------------------------|
| Registration No. 019-10825-00100 | |
| Original Signed by: Paul Dubenetzky, Chief Permits Branch Office of Air Quality | Issuance Date: August 3, 1999 |

First Registration Notice-Only Change No. 019-27224-00100 issued on January 6, 2009
Second Registration Notice-Only Change No. 019-29940-00100 issued on December 14, 2010

| | |
|--|---|
| First Administrative Amendment No.:019-32438-00100 | |
| Issued by:  Iryn Calilung, Section Chief Permits Branch Office of Air Quality | Issuance Date: December 12, 2012 |

SECTION A

SOURCE SUMMARY

This registration is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 and A.2 is descriptive information and does not constitute enforceable conditions. However, the Registrant should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Registrant to obtain additional permits pursuant to 326 IAC 2.

A.1 General Information

The Registrant owns and operates stationary hot dip zinc galvanizing processing plant.

| | |
|------------------------------|--|
| Source Address: | 1117 Brown Forman Road, Jeffersonville, Indiana 47130 |
| General Source Phone Number: | (812) 284-5241 |
| SIC Code: | 3479 (Coating, Engraving, and Allied Services, Not Elsewhere Classified) |
| County Location: | Clark County |
| Source Location Status: | Nonattainment area for PM _{2.5} Attainment for all other criteria pollutants |
| Source Status: | Registration |

A.2 Emission Units and Pollution Control Equipment Summary

This stationary source consists of the following emission units and pollution control devices:

- (a) Two (2) caustic strip tanks, known as C1 and C2, containing sodium hydroxide solution, installed in February 1999, capacity: 16,000 gallons each.
- (b) One (1) caustic rinse tank, known as CR1, containing water, installed in February 1999, capacity: 16,000 gallons.
- (c) Four (4) pickling tanks, known as A1, A2, A3 and A4, containing sulfuric acid and water, installed in February 1999, capacity: 16,000 gallons each.
- (d) Two (2) acid rinse tanks, known as AR1 and AR2, containing water, installed in February 1999, capacity: 16,000 gallons each.
- (e) One (1) Pre Flux tank, known as P1, containing ammonium chloride solution with zinc, installed in February 1999, capacity: 16,000 gallons.
- (f) One (1) zinc kettle, known as K1, installed in February 1999, capacity: 900,000 pounds of molten zinc.
- (g) One (1) natural gas kettle combustion unit, known as F1, installed in February 1999, exhausted to Stack #2, rated at 10.0 million British thermal units per hour.
- (h) One (1) metal inert gas welder, known as MIG1, installed in February 1999, capacity: 1.0 pound of wire per hour.
- (i) One (1) stick welder, known as SW1, installed in February 1999, capacity: 1.8 pounds of wire per hour.
- (j) One (1) oxyacetylene flame cutter, known as OA1, installed in February 1999, capacity: 20.0 inches per minute.

- (k) One (1) natural gas boiler, identified as B3, with a maximum heat input rate of 6.7 MMBtu per hour, exhausting to Stack #3, approved for the installation in 2010.

- (l) One (1) zinc recovery system, identified as MZR1, approved for construction in 2012, with a maximum capacity of 1,650 pounds of zinc skims per cycle and 3.75 hours per cycle, equipped with one (1) natural gas-fired burner, with a maximum heat input capacity of 0.31 MMBtu per hour, uncontrolled, and exhausting to stack MZR1. This process does not use flux or melt post-consumer secondary zinc.

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-1.1-1]

Terms in this registration shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2 and 326 IAC 2-1.1-1) shall prevail.

B.2 Effective Date of Registration [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this registration is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

B.3 Registration Revocation [326 IAC 2-1.1-9]

Pursuant to 326 IAC 2-1.1-9 (Revocation), this registration to operate may be revoked for any of the following causes:

- (a) Violation of any conditions of this registration.
- (b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this registration.
- (c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this registration shall not require revocation of this registration.
- (d) For any cause which establishes in the judgment of IDEM, the fact that continuance of this registration is not consistent with purposes of this article.

B.4 Prior Permits Superseded [326 IAC 2-1.1-9.5]

- (a) All terms and conditions of permits established prior to Registration No. 019-10825-00100 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised, or
 - (3) deleted.
- (b) All previous registrations and permits are superseded by this registration.

B.5 Annual Notification [326 IAC 2-5.1-2(f)(3)] [326 IAC 2-5.5-4(a)(3)]

Pursuant to 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3):

- (a) An annual notification shall be submitted by an authorized individual to the Office of Air Quality stating whether or not the source is in operation and in compliance with the terms and conditions contained in this registration.
- (b) The annual notice shall be submitted in the format attached no later than March 1 of each year to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue

MC 61-53 IGCN 1003
Indianapolis, IN 46204-2251

- (c) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

B.6 Source Modification Requirement [326 IAC 2-5.5-6(a)]

Pursuant to 326 IAC 2-5.5-6(a), an application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

B.7 Registrations [326 IAC 2-5.1-2(i)]

Pursuant to 326 IAC 2-5.1-2(i), this registration does not limit the source's potential to emit.

SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.1 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this registration:

- (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.2 Fugitive Dust Emissions [326 IAC 6-4]

The Registrant shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

Testing Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

C.3 Performance Testing [326 IAC 3-6]

- (a) For performance testing required by this permit, a test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance and Enforcement Branch, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

no later than thirty-five (35) days prior to the intended test date.

- (b) The Registrant shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date.
- (c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ if the Registrant submits to IDEM, OAQ a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Corrective Actions and Response Steps

C.4 Actions Related to Noncompliance Demonstrated by a Stack Test

- (a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Registrant shall submit a description of its response actions to IDEM, OAQ, no later than seventy-five (75) days after the date of the test.
- (b) A retest to demonstrate compliance shall be performed no later than one hundred eighty (180) days after the date of the test. Should the Registrant demonstrate to IDEM, OAQ that retesting in one hundred eighty (180) days is not practicable, IDEM, OAQ may extend the retesting deadline.
- (c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

SECTION D.1

OPERATION CONDITIONS

Facility Description [326 IAC 2-5.1-2(f)(2)] [326 IAC 2-5.5-4(a)(2)]:

- (a) Two (2) caustic strip tanks, known as C1 and C2, containing sodium hydroxide solution, installed in February 1999, capacity: 16,000 gallons each.
- (b) One (1) caustic rinse tank, known as CR1, containing water, installed in February 1999, capacity: 16,000 gallons.
- (c) Four (4) pickling tanks, known as A1, A2, A3 and A4, containing sulfuric acid and water, installed in February 1999, capacity: 16,000 gallons each.
- (d) Two (2) acid rinse tanks, known as AR1 and AR2, containing water, installed in February 1999, capacity: 16,000 gallons each.
- (e) One (1) Pre Flux tank, known as P1, containing ammonium chloride solution with zinc, installed in February 1999, capacity: 16,000 gallons.
- (f) One (1) zinc kettle, known as K1, installed in February 1999, capacity: 900,000 pounds of molten zinc.
- (g) One (1) natural gas kettle combustion unit, known as F1, installed in February 1999, exhausted to Stack #2, rated at 10.0 million British thermal units per hour.
- (h) One (1) metal inert gas welder, known as MIG1, installed in February 1999, capacity: 1.0 pound of wire per hour.
- (i) One (1) stick welder, known as SW1, installed in February 1999, capacity: 1.8 pounds of wire per hour.
- (j) One (1) oxyacetylene flame cutter, known as OA1, installed in February 1999, capacity: 20.0 inches per minute.
- (k) One (1) natural gas boiler, identified as B3, with a maximum heat input rate of 6.7 MMBtu per hour, exhausting to Stack #3, approved for the installation in 2010.
- (l) One (1) zinc recovery system, identified as MZR1, approved for construction in 2012, with a maximum capacity of 1,650 pounds of zinc skims per cycle and 3.75 hours per cycle, equipped with one (1) natural gas-fired burner, with a maximum heat input capacity of 0.31 MMBtu per hour, uncontrolled, and exhausting to stack MZR1. This process does not use flux or melt post-consumer secondary zinc.

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-5.1-2(f)(1)] [326 IAC 2-5.5-4(a)(1)]

D.1.1 Particulate [326 IAC 6.5-1-2]

- (a) Pursuant to 326 IAC 6.5-1-2(a), particulate matter emissions from each pickling tank (A1 through A4), shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)).
- (b) Pursuant to 326 IAC 6.5-1-2(a), particulate matter emissions from the galvanizing kettle and burner (K1 and F1), shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)).
- (c) Pursuant to 326 IAC 6.5-1-2(a), particulate matter emissions from the metal inert gas welder (MIG1), stick welder (SW1), and oxyacetylene flame cutter (OA1), shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)), each.
- (d) Pursuant to 326 IAC 6.5-1-2(b)(3), particulate matter emissions from the natural gas-fired boiler (B3) shall not exceed one-hundredth (0.01) grain per dry standard cubic foot (dscf)).
- (e) Pursuant to 326 IAC 6.5-1-2(a), particulate matter emissions from the zinc recovery system (MZR1), shall not exceed seven-hundredths (0.07) gram per dry standard cubic meter (g/dscm) (three-hundredths (0.03) grain per dry standard cubic foot (dscf)).

Compliance Determination Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)]

D.1.2 Testing Requirements [326 IAC 2-5.1-2(g)] [326 IAC 2-5.5-4(b)] [326 IAC 2-1.1-11]

Pursuant to Air-014-NPD and in order to verify compliance with 326 IAC 2-5.1-2, the Registrant shall perform a one-time performance test to verify the uncontrolled PM, PM10, and PM2.5 emission factor from the zinc recovery system (MZR1) no later than sixty (60) days after achieving maximum capacity, but not later than one hundred eighty (180) days after initial startup utilizing methods as approved by the Commissioner. Testing shall be conducted in accordance with Section C - Performance Testing.

**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH**

**REGISTRATION
ANNUAL NOTIFICATION**

This form should be used to comply with the notification requirements under 326 IAC 2-5.1-2(f)(3) and 326 IAC 2-5.5-4(a)(3).

| | |
|--------------------------|--------------------------------------|
| Company Name: | Valmont Coatings Gateway Galvanizing |
| Address: | 1117 Brown Forman Road |
| City: | Jeffersonville, Indiana 47130 |
| Phone Number: | (812) 284-5241 |
| Registration No.: | 019-10825-00100 |

| | |
|---|---|
| I hereby certify that Valmont Coatings Gateway Galvanizing is : | <input type="checkbox"/> still in operation. |
| | <input type="checkbox"/> no longer in operation. |
| I hereby certify that Valmont Coatings Gateway Galvanizing is : | <input type="checkbox"/> in compliance with the requirements of Registration No. 019-10825-00100. |
| | <input type="checkbox"/> not in compliance with the requirements of Registration No. 019-10825-00100. |

| |
|---------------------------------------|
| Authorized Individual (typed): |
| Title: |
| Signature: |
| Phone Number: |
| Date: |

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

| |
|-----------------------|
| Noncompliance: |
| |
| |
| |
| |

**Appendix A: Emission Calculations
Particulate Matter Emissions
Zinc Pickling Tanks**

Company Name: Valmont Coatings Gateway Galvanizing
Address City IN Zip: 177 Brown Forman Road, Jeffersonville, IN 47130
Permit Number: 019-32438-00100
Reviewer: Brian Williams

| Process | Number of Tanks | Surface Area (ft ²) | Particulate Emission Factor (lbs/yr/ft ²)* | Potential Emissions (lb/hr) | Potential Emissions (tons/yr) |
|-------------------------|-----------------|---------------------------------|--|-----------------------------|-------------------------------|
| Four (4) Pickling Tanks | 4 | 305.50 | 1.30 | 0.18 | 0.79 |

Methodology

*Pickling tank emission factor developed by source from sister facility.

Potential Emissions (lb/hr) = Number of Tanks x Surface Area (ft²) x Emission Factor (lbs/yr/ft²) x 1/8,760 (yr/hr)

Potential Emissions (tons/yr) = Potential Emissions (lb/hr) x 8,760 (hr/yr) x 1/2,000 (ton/lb)

**Appendix A: Emission Calculations
Particulate Matter Emissions
Zinc Galvanizing Kettle**

Company Name: Valmont Coatings Gateway Galvanizing
Address City IN Zip: 177 Brown Forman Road, Jeffersonville, IN 47130
Permit Number: 019-32438-00100
Reviewer: Brian Williams

| Process | Number of Kettles | Potential Zinc (tons/yr) | Particulate Emission Factor (lb/ton) | Potential Emissions (lb/hr) | Potential Emissions (ton/yr) |
|--------------------|-------------------|--------------------------|--------------------------------------|-----------------------------|------------------------------|
| Galvanizing Kettle | 1.00 | 4,680 | 5.00 | 2.67 | 11.70 |

Methodology

Emission Factor from AP-42, Chapter 12.14, Table 12.14-2, SCC #3-04-008-05 (Zinc Galvanizing)

Potential Emissions (lb/hr) = Number of Kettles x Potential Zinc (tons/yr) x Emission Factor (lb/ton) x 1/8,760 (yr/hr)

Potential Emissions (tons/yr) = Potential Emissions (lb/hr) x 8,760 (hr/yr) x 1/2,000 (ton/lb)

**Appendix A: Emission Calculations
Particulate Matter Emissions
Zinc Recovery System (MZR1)**

**Company Name: Valmont Coatings Gateway Galvanizing
Address City IN Zip: 177 Brown Forman Road, Jeffersonville, IN 47130
Permit Number: 019-32438-00100
Reviewer: Brian Williams**

| Process | Potential Zinc (ton/yr) | PM Emission Factor (lb/ton)** | PM10/PM2.5 Emission Factor (lb/ton) | Potential PM Emissions (lb/hr) | Potential PM Emissions (ton/yr) | Potential PM10/PM2.5 Emissions (lb/hr) | Potential PM10/PM2.5 Emissions (ton/yr) | Percent Lead (%)*** | Potential Lead Emissions (ton/yr) |
|-----------------------------|-------------------------|-------------------------------|-------------------------------------|--------------------------------|---------------------------------|--|---|---------------------|-----------------------------------|
| Zinc Recovery System (MZR1) | 1,927 | 5 | 5.00 | 1.10 | 4.82 | 1.10 | 4.82 | 2.50% | 0.12 |

* The potential zinc throughput was provided by the manufacturer and determined as follows:

Potential Zinc (ton/yr) = 1,650 (lbs of metal skim/cycle) x 1/2,000 (ton/lb) x 8,760 (hr/yr) / 3.75 (hr/cycle)

** There are no emission factors for this type of process. Therefore the source has proposed IDEM use the emission factor from AP-42, Chapter 12.14, Table 12.14-2, SCC #3-04-008-05 (Zinc Galvanizing). This emission factor was used for a MZR unit installed in a sister facility located in Tampa, FL.

*** Per the MSDS the zink kettle skimmings contain 2.5% lead by weight.

No flux is used in this process.

Potential Emissions (lb/hr) = Potential Zinc (tons/yr) x Emission Factor (lb/ton) x 1/8,760 (yr/hr)

Potential Emissions (ton/yr) = Potential Emissions (lb/hr) x 8,760 (hr/yr) x 1/2,000 (ton/lb)

Potential Lead Emissions (ton/yr) = Potential PM Emissions (ton/yr) x Percent Lead (%)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Valmont Coatings Gateway Galvanizing
Address City IN Zip: 177 Brown Forman Road, Jeffersonville, IN 47130
Permit Number: 019-32438-00100
Reviewer: Brian Williams

| Unit Description | Heat Input (MMBtu) |
|-----------------------------|--------------------|
| Zinc Recovery System (MZR1) | 0.31 |

| Heat Input Capacity | Potential Throughput |
|---------------------|----------------------|
| 0.31 MMBtu/hr | 2.7 MMCF/yr |

| Pollutant | PM** | PM10** | direct PM2.5* | SO2 | NOx*** | VOC | CO |
|-------------------------------|-------|--------|---------------|-------|--------|------|------|
| Emission Factor in lb/MMCF | 1.9 | 7.6 | 7.6 | 0.6 | 100.0 | 5.5 | 84.0 |
| Potential Emission in tons/yr | 0.003 | 0.01 | 0.01 | 0.001 | 0.13 | 0.01 | 0.11 |

**PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined, respectively.

***Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

| HAPs - Organics | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
|-------------------------------|----------|-----------------|--------------|----------|----------|
| Emission Factor in lb/MMCF | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 2.83E-06 | 1.62E-06 | 1.01E-04 | 2.43E-03 | 4.59E-06 |

| HAPs- Metals | Lead | Cadmium | Chromium | Manganese | Nickel |
|-------------------------------|----------|----------|----------|-----------|----------|
| Emission Factor in lb/MMCF | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 6.75E-07 | 1.48E-06 | 1.89E-06 | 5.13E-07 | 2.83E-06 |

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

| | |
|--|--------------|
| Total HAPs tons/yr: | 0.003 |
| Worst case single HAP tons/yr (Hexane): | 0.002 |

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

| | Greenhouse Gas | | |
|---------------------------------------|----------------|-------|-------|
| | CO2 | CH4 | N2O |
| Emission Factor in lb/MMcf | 120,000 | 2.3 | 2.2 |
| Potential Emission in tons/yr | 162 | 0.003 | 0.003 |
| Summed Potential Emissions in tons/yr | 161.9 | | |
| CO2e Total in tons/yr | 162.9 | | |

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.

Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

**Appendix A: Emissions Calculations
Welding and Thermal Cutting**

**Company Name: Valmont Coatings Gateway Galvanizing
Address City IN Zip: 177 Brown Forman Road, Jeffersonville, IN 47130
Permit Number: 019-32438-00100
Reviewer: Brian Williams**

| PROCESS | Number of Stations | Max. electrode consumption per station (lbs/hr) | | EMISSION FACTORS* (lb pollutant/lb electrode) | | | | EMISSIONS (lbs/hr) | | | | HAPS (lbs/hr) |
|-------------------------------|--------------------|---|--------------------------------------|---|---------|--------|---------|-----------------------|----------|----------|----------|------------------|
| | | | | PM = PM10 | Mn | Ni | Cr | PM = PM10 | Mn | Ni | Cr | |
| WELDING | | | | | | | | | | | | |
| Metal Inert Gas (MIG)(ER5154) | 1 | 1 | | 0.0241 | 0.00003 | 0 | 0.00001 | 0.024 | 3.00E-05 | 0 | 1.00E-05 | 4.00E-05 |
| Stick (E7018 electrode) | 1 | 1.8 | | 0.0211 | 0.0009 | 0 | 0 | 0.038 | 1.62E-03 | 0 | 0 | 1.62E-03 |
| | | | | | | | | | | | | |
| FLAME CUTTING | Number of Stations | Max. Metal Thickness Cut (in.) | Max. Metal Cutting Rate (in./minute) | EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)** | | | | EMISSIONS (lbs/hr) | | | | HAPS (lbs/hr) |
| | | | | PM = PM10 | Mn | Ni | Cr | PM = PM10 | Mn | Ni | Cr | |
| Oxyacetylene | 1 | 0.5 | 20 | 0.1622 | 0.0005 | 0.0001 | 0.0003 | 0.097 | 3.00E-04 | 6.00E-05 | 1.80E-04 | 5.40E-04 |
| | | | | | | | | | | | | |
| EMISSION TOTALS | | | | | | | | | | | | |
| Potential Emissions lbs/hr | | | | | | | | 0.16 | 1.95E-03 | 6.00E-05 | 1.90E-04 | 2.20E-03 |
| Potential Emissions lbs/day | | | | | | | | 3.83 | 4.68E-02 | 1.44E-03 | 4.56E-03 | 5.28E-02 |
| Potential Emissions tons/year | | | | | | | | 0.70 | 8.54E-03 | 2.63E-04 | 8.32E-04 | 9.64E-03 |

Methodology:

*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.

**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission factor for plasma cutting is for 8 mm thick rather than 1 inch, and the maximum metal thickness is not used in calculating the emissions.

Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick

Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)

Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)

Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day

Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

**Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100**

Company Name: Valmont Coatings Gateway Galvanizing
Address City IN Zip: 177 Brown Forman Road, Jeffersonville, IN 47130
Permit Number: 019-32438-00100
Reviewer: Brian Williams

| Unit Description | Heat Input (MMBtu) |
|------------------|--------------------|
| Kettle | 10.00 |
| Boiler | 6.70 |

| | |
|---------------------|----------------------|
| Heat Input Capacity | Potential Throughput |
| 16.70 MMBtu/hr | 146.3 MMCF/yr |

| Pollutant | PM** | PM10** | direct PM2.5* | SO2 | NOx*** | VOC | CO |
|-------------------------------|------|--------|---------------|------|--------|------|------|
| Emission Factor in lb/MMCF | 1.9 | 7.6 | 7.6 | 0.6 | 100.0 | 5.5 | 84.0 |
| Potential Emission in tons/yr | 0.14 | 0.56 | 0.56 | 0.04 | 7.31 | 0.40 | 6.14 |

**PM emission factor is filterable PM only. PM10 and PM2.5 emission factors are filterable and condensable PM10 and PM2.5 combined, respectively.

***Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

| HAPs - Organics | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
|-------------------------------|----------|-----------------|--------------|----------|----------|
| Emission Factor in lb/MMCF | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 1.54E-04 | 8.78E-05 | 5.49E-03 | 1.32E-01 | 2.49E-04 |

| HAPs- Metals | Lead | Cadmium | Chromium | Manganese | Nickel |
|-------------------------------|----------|----------|----------|-----------|----------|
| Emission Factor in lb/MMCF | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 3.66E-05 | 8.05E-05 | 1.02E-04 | 2.78E-05 | 1.54E-04 |

The five highest organic and metal HAPs emission factors are provided above.

Additional HAPs emission factors are available in AP-42, Chapter 1.4.

| | |
|--|------|
| Total HAPs tons/yr: | 0.14 |
| Worst case single HAP tons/yr (Hexane): | 0.13 |

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

| Emission Factor in lb/MMcf | Greenhouse Gas | | |
|---------------------------------------|----------------|-----|-----|
| | CO2 | CH4 | N2O |
| | 120,000 | 2.3 | 2.2 |
| Potential Emission in tons/yr | 8,778 | 0.2 | 0.2 |
| Summed Potential Emissions in tons/yr | 8,778 | | |
| CO2e Total in tons/yr | 8,831 | | |

Methodology

The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.

Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.

Greenhouse Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

**Appendix A: Emission Calculations
Fugitive Dust Emissions - Paved Roads**

**Company Name: Valmont Coatings Gateway Galvanizing
Source Address: 177 Brown Forman Road, Jeffersonville, IN 47130
Permit Number: 019-32438-00100
Reviewer: Brian Williams**

Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

Vehicle Information (provided by source)

| Type | Maximum number of vehicles per day | Number of one-way trips per day per vehicle | Maximum trips per day (trip/day) | Maximum Weight Loaded (tons/trip) | Total Weight driven per day (ton/day) | Maximum one-way distance (feet/trip) | Maximum one-way distance (mi/trip) | Maximum one-way miles (miles/day) | Maximum one-way miles (miles/yr) |
|--|------------------------------------|---|----------------------------------|-----------------------------------|---------------------------------------|--------------------------------------|------------------------------------|-----------------------------------|----------------------------------|
| Employee Vehicle Entering Plant (one-way trip) | 180.0 | 1.0 | 180.0 | 3.0 | 540.0 | 53 | 0.010 | 1.8 | 657.0 |
| Employee Vehicle Leaving Plant (one-way trip) | 180.0 | 1.0 | 180.0 | 3.0 | 540.0 | 53 | 0.010 | 1.8 | 657.0 |
| Flatbed Trucks Entering Plant (one-way trip) | 36.0 | 1.0 | 36.0 | 40.0 | 1440.0 | 1056 | 0.200 | 7.2 | 2628.0 |
| Flatbed Trucks Leaving Plant (one-way trip) | 36.0 | 1.0 | 36.0 | 40.0 | 1440.0 | 1056 | 0.200 | 7.2 | 2628.0 |
| Fork Lifts (one-way trip) | 120.0 | 1.0 | 120.0 | 12.0 | 1440.0 | 53 | 0.010 | 1.2 | 439.7 |
| Totals | | | 432.0 | | 3960.0 | | | 18.0 | 6570.0 |

Average Vehicle Weight Per Trip =

| | |
|-----|-----------|
| 9.2 | tons/trip |
|-----|-----------|

 Average Miles Per Trip =

| | |
|------|------------|
| 0.04 | miles/trip |
|------|------------|

Unmitigated Emission Factor, Ef = $[k * (sL)^{0.91} * (W)^{1.02}]$ (Equation 1 from AP-42 13.2.1)

| | PM | PM10 | PM2.5 | |
|-----------|-------|--------|---------|--|
| where k = | 0.011 | 0.0022 | 0.00054 | lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1) |
| W = | 9.2 | 9.2 | 9.2 | tons = average vehicle weight (provided by source) |
| sL = | 9.7 | 9.7 | 9.7 | g/m ² = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3 |

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = $E * [1 - (p/4N)]$ (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = $Ef * [1 - (p/4N)]$
 where p =

| | |
|-----|---|
| 125 | days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2) |
|-----|---|

 N =

| | |
|-----|---------------|
| 365 | days per year |
|-----|---------------|

| | PM | PM10 | PM2.5 | |
|-----------------------------------|-------|-------|--------|---------|
| Unmitigated Emission Factor, Ef = | 0.833 | 0.167 | 0.0409 | lb/mile |
| Mitigated Emission Factor, Eext = | 0.762 | 0.152 | 0.0374 | lb/mile |

| Process | Unmitigated PTE of PM (tons/yr) | Unmitigated PTE of PM10 (tons/yr) | Unmitigated PTE of PM2.5 (tons/yr) | Mitigated PTE of PM (tons/yr) | Mitigated PTE of PM10 (tons/yr) | Mitigated PTE of PM2.5 (tons/yr) |
|--|---------------------------------|-----------------------------------|------------------------------------|-------------------------------|---------------------------------|----------------------------------|
| Employee Vehicle Entering Plant (one-way trip) | 0.27 | 0.05 | 0.01 | 0.25 | 0.05 | 0.01 |
| Employee Vehicle Leaving Plant (one-way trip) | 0.27 | 0.05 | 0.01 | 0.25 | 0.05 | 0.01 |
| Flatbed Trucks Entering Plant (one-way trip) | 1.09 | 0.22 | 0.05 | 1.00 | 0.20 | 0.05 |
| Flatbed Trucks Leaving Plant (one-way trip) | 1.09 | 0.22 | 0.05 | 1.00 | 0.20 | 0.05 |
| Fork Lifts (one-way trip) | 0.18 | 0.04 | 0.01 | 0.17 | 0.03 | 0.01 |
| Totals | 2.92 | 0.58 | 0.14 | 2.67 | 0.53 | 0.13 |

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
 Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip)] / [5280 ft/mile]
 Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
 Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
 Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
 Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
 Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)

Abbreviations

PM = Particulate Matter
 PM10 = Particulate Matter (<10 um)
 PM2.5 = Particle Matter (<2.5 um)
 PTE = Potential to Emit

**Appendix A: Emission Calculations
Summary of Emissions**

Company Name: Valmont Coatings Gateway Galvanizing
Source Address: 177 Brown Forman Road, Jeffersonville, IN 47130
Permit Number: 019-32438-00100
Reviewer: Brian Williams

| Unlimited Potential to Emit (tons/yr) | | | | | | | | | | |
|---------------------------------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-----------------|-------------|-----------------------|
| Process | PM | PM10 | PM2.5 | SO2 | NOx | VOC | CO | GHGs as CO2e | Total HAPs | Single HAP |
| Pickling Tanks | 0.79 | 0.79 | 0.79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Galvanizing Kettle | 11.70 | 11.70 | 11.70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Zinc Recovery System (MZR1) | 4.82 | 4.83 | 4.83 | 0.001 | 0.13 | 0.01 | 0.11 | 163 | 0.12 | 0.12 Lead |
| Welding and Flame Cutting | 0.70 | 0.70 | 0.70 | 0 | 0 | 0 | 0 | 0 | 0.01 | negl. |
| Natural Gas Combustion | 0.14 | 0.56 | 0.56 | 0.04 | 7.31 | 0.40 | 6.14 | 8,831 | 0.14 | 0.13 Hexane |
| Paved Roads | 2.67 | 0.53 | 0.13 | 0.00 | 0.00 | 0.00 | 0.00 | 0 | 0.00 | 0.00 |
| Total | 20.82 | 19.11 | 18.71 | 0.04 | 7.45 | 0.41 | 6.26 | 8,994 | 0.27 | 0.13 Hexane |



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

Mitchell E. Daniels Jr.
Governor

Thomas W. Easterly
Commissioner

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

SENT VIA U.S. MAIL: CONFIRMED DELIVERY AND SIGNATURE REQUESTED

TO: Brett R. Goff
Valmont Coatings Gateway Galvanizing
1117 Brown Forman Rd
Jeffersonville, IN 47130-8418

DATE: December 12, 2012

FROM: Matt Stuckey, Branch Chief
Permits Branch
Office of Air Quality

SUBJECT: Final Decision
Registration - Administrative Amendment
019 - 32438 - 00100

Enclosed is the final decision and supporting materials for the air permit application referenced above. Please note that this packet contains the original, signed, permit documents.

The final decision is being sent to you because our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person.

A copy of the final decision and supporting materials has also been sent via standard mail to:
OAQ Permits Branch Interested Parties List

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit. If you think you have received this document in error, please contact Joanne Smiddie-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.

Final Applicant Cover letter.dot 11/30/07

Mail Code 61-53

| | | | | |
|----------------------------|--|---|--|--|
| IDEM Staff | LPOGOST 12/12/2012 Valmont Coatings Gateway Galvanizing 019 - 32438 - 00100 /final) | | AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING | |
| Name and address of Sender |  | Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204 | Type of Mail: CERTIFICATE OF MAILING ONLY | |

| Line | Article Number | Name, Address, Street and Post Office Address | Postage | Handing Charges | Act. Value (If Registered) | Insured Value | Due Send if COD | R.R. Fee | S.D. Fee | S.H. Fee | Rest. Del. Fee | Remarks |
|------|----------------|---|---------|-----------------|----------------------------|---------------|-----------------|----------|----------|----------|----------------|---------|
| 1 | | Brett R. Goff Valmont Coatings Gateway Galvanizing 1117 Brown Forman Rd Jeffersonville 47130-8418 (Source CAATS) Via confirmed delivery | | | | | | | | | | |
| 2 | | Ms. Rhonda England 17213 Persimmon Run Rd Borden IN 47106-8604 (Affected Party) | | | | | | | | | | |
| 3 | | Ms. Betty Hislip 602 Dartmouth Drive, Apt 8 Clarksville IN 47129 (Affected Party) | | | | | | | | | | |
| 4 | | Mrs. Sandy Banet 514 Haddox Rd Henryville IN 47126 (Affected Party) | | | | | | | | | | |
| 5 | | Jeffersonville City Council and Mayors Office 500 Quarter Master Jeffersonville IN 47130 (Local Official) | | | | | | | | | | |
| 6 | | Mr. Robert Bottom Paddlewheel Alliance P.O. Box 35531 Louisville KY 40232-5531 (Affected Party) | | | | | | | | | | |
| 7 | | Clark County Board of Commissioners 501 E. Court Avenue Jeffersonville IN 47130 (Local Official) | | | | | | | | | | |
| 8 | | Clark County Health Department 1320 Duncan Avenue Jeffersonville IN 47130-3723 (Health Department) | | | | | | | | | | |
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