TO: Interested Parties / Applicant

DATE: December 17, 2013

RE: Helmer Scientific, Inc./057-33691-00086

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
Dear Mr. Rector:

The application from Helmer Scientific, Inc., received on September 30, 2013, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following operation of a stationary fabricators of medical refrigerators at 14400 Bergen Blvd, Noblesville, IN is classified as exempt from air pollution permit requirements:

1. One (1) powder coating booth (EUBluPow), equipped with two (2) coating applicators and an integrated powder reclamation system based on reverse air flow and high efficiency filters, constructed in 2013, having maximum capacity of 11.43 lb/hr. The collection systems are considered integral to the process. [326 IAC 6-3-2]

2. One (1) powder coating booth (EUWhiPow), equipped with two (2) coating applicators and an integrated powder reclamation system based on reverse air flow and high efficiency filters, constructed in 2013, having maximum capacity of 11.43 lb/hr. The collection systems are considered integral to the process. [326 IAC 6-3-2]

3. One (1) powder coating booth (EUSpecial), equipped with one (1) coating applicator and dry particulate filters, constructed in 2013, having maximum capacity of 5.71 lb/hr. [326 IAC 6-3-2]

4. One (1) laser cutting operation (EU-Laser) constructed in January 2013, maximum rate 0.47 lb/hr [326 IAC 6-3-2]

5. One (1) welding process (EU-Weld) currently consisting of four (4) portable welding machines constructed in December 2012, maximum rate of 83 lbs/hr. [326 IAC 6-3-2]

6. One (1) portable blasting operation (EU-Bead) constructed in December 2012, maximum rate of 0.22 lbs/hr [326 IAC 6-3-2]

7. Natural Gas fired combustion sources consisting of the following:

   a. Thirteen (13) natural gas-fired space and one (1) building heaters constructed in 2012 with combined heat input of capacity 2.71 MMBtu/hr.

8. Methylene Diphenyl Diisocyanate (MDI) Foam application

9. Solvents containing methanol: VOC and HAPs

December 17, 2013

Re: Exempt Construction and Operation Status,
E 057-33691-00086
The following conditions shall be applicable:

(a) 326 IAC 5-1 (Opacity Limitations)
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 permit:

(1) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(2) 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.

(b) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.

Powder Spray Booths:
326 IAC 6-3-2 (e) (Particulate Emission Limitations for Manufacturing Processes)

(a) The blue and white booths have PM emissions after the integral device less than 0.551 lb/hr, therefore they are exempt from the requirements of 326 IAC 6-3-2

OAQ has determined the filtration system is integral to each of the powder spray booths, identified as EUBluPow and EUWhiPow, In order to ensure the booths are exempt from the requirements of 326 IAC 6-3-2, the respective filtration system, must be in operation at all times when the powder spray booth is in operation.

(b) The EUSpecial booth has PM emissions after the control device less than 0.551 lb/hr therefore it is exempt from the requirements of 326 IAC 6-3-2

The dry particulate filters must be in operation at all times when the powder spray booth, identified as EUSpecial is in operation.

The Permittee shall operate the control devices in accordance with manufacturer's specifications.

Miscellaneous Operations:
326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions rate of the bead blast, the welding operations, and laser cutting operations, shall not exceed 0.551 pound per hour each when operating at a process weight rate of less than 100 pounds per hour each.

This exemption is the first air approval issued to this source.

A copy of the Exemption 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

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. If you have any questions on this matter, please contact Anh Nguyen, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-233-5334 or at 1-800-451-6027 (ext 35334).
Sincerely,

Tripurari P. Sinha, Ph. D., Section Chief
Permits Branch
Office of Air Quality

cc: File - Hamilton County
Hamilton County Health Department
Compliance and Enforcement Branch
Billing, Licensing and Training Section
The Office of Air Quality (OAQ) has received an application from Helmer Scientific, Inc. related to the operation of a stationary fabricators of medical refrigerators.

### Existing Approvals

There have been no previous approvals issued to this source.

### County Attainment Status

The source is located in Hamilton County.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO(_2)</td>
<td>Better than national standards.</td>
</tr>
<tr>
<td>CO</td>
<td>Unclassifiable or attainment effective November 15, 1990.</td>
</tr>
<tr>
<td>O(_3)</td>
<td>Nonattainment Subpart 1 effective June 15, 2004, for the 8-hour ozone standard.(^1)</td>
</tr>
<tr>
<td>PM(_{10})</td>
<td>Unclassifiable effective November 15, 1990.</td>
</tr>
<tr>
<td>NO(_2)</td>
<td>Cannot be classified or better than national standards.</td>
</tr>
<tr>
<td>Pb</td>
<td>Not designated.</td>
</tr>
</tbody>
</table>

\(^1\)Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.

(a) **Ozone Standards**

Volatile organic compounds (VOC) and Nitrogen Oxides (NO\(_x\)) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO\(_x\) emissions are considered when evaluating the rule applicability relating to ozone. Hamilton County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO\(_x\) emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) **PM\(_{2.5}\)**

Hamilton County has been classified as attainment for PM\(_{2.5}\). On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for PM\(_{2.5}\) emissions. These rules became effective on July 15, 2008. On May 4, 2011, the air pollution control board issued an emergency rule establishing the direct PM\(_{2.5}\) significant level at ten (10) tons per year. This rule became effective June 28, 2011. Therefore, direct PM\(_{2.5}\), SO\(_2\), and NO\(_x\) emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) **Other Criteria Pollutants**

Hamilton County has been classified as attainment or unclassifiable in Indiana for all other criteria
pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

**Fugitive Emissions**

The fugitive emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-5.1-2 (Exemption) applicability.

**Background and Description of Emission Units and Pollution Control Equipment**

The Office of Air Quality (OAQ) has reviewed an application, submitted by Helmer Scientific, Inc. on September 30, 2013, relating to the stationary fabricators of medical refrigerators.

The source consists of the following existing emission units:

1. One (1) powder coating booth (EUBLuPow), equipped with two (2) coating applicators and an integrated powder reclamation system based on reverse air flow and high efficiency filters, constructed in 2013, having maximum capacity of 11.43 lb/hr. The collection systems are considered integral to the process. [326 IAC 6-3-2]

2. One (1) powder coating booth (EUWhiPow), equipped with two (2) coating applicators and an integrated powder reclamation system based on reverse air flow and high efficiency filters, constructed in 2013, having maximum capacity of 11.43 lb/hr. The collection systems are considered integral to the process. [326 IAC 6-3-2]

3. One (1) powder coating booth (EUSpecial), equipped with one (1) coating applicator and dry particulate filters, constructed in 2013, having maximum capacity of 5.71 lb/hr. [326 IAC 6-3-2]

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   a. Thirteen (13) natural gas-fired space and one (1) building heaters constructed in 2012 with combined heat input of capacity 2.71 MMBtu/hr.

8. Methylene Diphenyl Diisocyanate (MDI) Foam application

9. Solvents containing methanol: VOC and HAPs

**“Integral Part of the Process” Determination**

1. The source submitted information to justify why the filtration system is part of the paint booths at Helmer Scientific, Inc. in Noblesville, Indiana should be considered an integral part of the system.

   a. The process cannot operate without the filtration system. The filtration system (powder reclamation system and high efficiency filters)
is part of the paint booths physical and operational design; paint guns will not function if the filtration system is not active. The design utilizes direct wiring, not an interlock; employees cannot bypass the filtration system without completely rewiring the booth.

(b) The filtration system serves a primary purpose other than pollution control. The design is an engineering control to prevent atmospheric powder build-up, which could pose an explosion hazard. In addition, it can also be viewed as a tool to prevent color contamination. Only one color can be painted at a time because there is only one curing oven used. The powder coating booth would not be feasible to use without the filtration system because color changes would be impossible to conduct without color contamination and operators would not be able to see through the cloud of powder to effectively apply the powder coating. Finally the filtration system offers employees respiratory protection and minimizes employee exposure to overspray.

(c) The filtration systems have an overwhelming positive net economic effect as follows:

<table>
<thead>
<tr>
<th>Powder Coat cost and Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Cost of Powder Coating per pound</td>
</tr>
<tr>
<td>Pounds per hour of paint per two booths</td>
</tr>
<tr>
<td>Cost of Powder Coating per hour</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Savings from Recovered Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer efficiency</td>
</tr>
<tr>
<td>Pounds of Powder Coating per hour oversprayed (lb/hr)</td>
</tr>
<tr>
<td>Control efficiency of filter</td>
</tr>
<tr>
<td>Pounds of coating per hour saved (2.10 * 0.95)</td>
</tr>
<tr>
<td>Savings per hour of reclaimed powder coating (2.00 * 6.08)</td>
</tr>
<tr>
<td>Annual savings from reclaimed powder (12.13 * 40 * 52)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Filter Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Filter Annual Cost (Booth 1-2, 16 @ $224 per filter, replaced once a year)</td>
</tr>
<tr>
<td>Final Filter Annual Cost (Booth 1-2, 12 @ 134.15 per filter, replaced twice a year)</td>
</tr>
<tr>
<td>Total Annual Filter Cost</td>
</tr>
<tr>
<td>Total Savings (25,229.57 - 6,803.60)</td>
</tr>
</tbody>
</table>

The Permittee has a net economic advantage of $18,425.97 for the annual cost of the filtration system. The Permittee reclaims and reuses 95% of the recovered powder for a total annual savings of $18,425.97 versus a cost to operate the equipment of $6,803.60, thus providing an overwhelming cost savings to the company.

IDEM, OAQ has evaluated the information submitted and agrees that the filtration system should be considered an integral part of the powder booths. This determination is based on the fact that the process cannot operate without the filtration system, filtration system serves a primary purpose other than pollution control and filtration system has an overwhelming positive net economic effect. Therefore, the permitting level will be determined using the potential to emit after the filtration system. Operating conditions in the proposed permit will specify that the
filtration system shall operate at all times when the churns are in operation. This is an initial determination made under this permit.

**Enforcement Issues**

There are no pending enforcement actions related to this source.

**Emission Calculations**

See Appendix A of this TSD for detailed emission calculations.

**Permit Level Determination – Exemption**

The following table reflects the unlimited potential to emit (PTE) of the entire source before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

<table>
<thead>
<tr>
<th>Uncontrolled Emissions</th>
<th>After Integral Process</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>GHGs as CO2e</th>
<th>Total HAPs</th>
<th>Worst Single HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM</td>
<td>PM10*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specialty</td>
<td>0.44</td>
<td>0.44</td>
<td>0.44</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Powder Coating Total</td>
<td>2.19</td>
<td>2.19</td>
<td>2.19</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.00</td>
</tr>
<tr>
<td>Laser Cutting</td>
<td>0.02</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.00</td>
</tr>
<tr>
<td>Welding</td>
<td>1.89</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>1.17</td>
</tr>
<tr>
<td>Bead Blast</td>
<td>0.01</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.00</td>
</tr>
<tr>
<td>Foam (MDI)</td>
<td>0.00</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.00</td>
</tr>
<tr>
<td>Solvents</td>
<td>0.00</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>2.97</td>
<td>0.0</td>
<td>1.33</td>
</tr>
<tr>
<td>Natural gas combustion</td>
<td>0.02</td>
<td>0.09</td>
<td>0.09</td>
<td>0.01</td>
<td>1.16</td>
<td>0.06</td>
<td>0.98</td>
<td>1.407</td>
</tr>
<tr>
<td>Total PTE of Entire Source</td>
<td>4.13</td>
<td>2.28</td>
<td>2.28</td>
<td>0.01</td>
<td>1.16</td>
<td>3.03</td>
<td>0.98</td>
<td>1.407</td>
</tr>
</tbody>
</table>

Exemptions Levels** < 5 < 5 < 10 < 10 < 25 < 25 < 100000 < 25 < 10

Registration Levels** < 25 < 25 < 25 < 25 < 25 < 25 < 25 < 25 < 10

negl. = negligible
MDI = Methylene Diphenyl Diisocyanate (MDI) Foam
*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each 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.

**Justification For the Approval Level**

(a) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of all regulated pollutants are less than the levels listed in 326 IAC 2-1.1-3(e)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3 (Exemptions).

(b) These emissions are based on Appendix A
Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR 63, Subpart MMMM (Surface Coating of Miscellaneous Metal Parts and Products) are not included in this permit because this is an area source of HAPs and not a major source.

(c) The source is not subject to the requirements of 40 CFR Part 63, Subpart HHHHHH (National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources) because the source is using spray application of coatings that does not contain compounds of chromium (Cr), lead (Pb), manganese (Mn), nickel (Ni), or cadmium (Cd).

(d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Plastic Parts and Products 40 CFR 63.4480, Subpart PPPP (326 IAC 20-81) are not included for this proposed revision, since this source does not coat plastic parts and is not a major source of HAPs.

(e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Surface Coating of Large Appliances 40 CFR 63.4080, Subpart NNNN (326 IAC 20-63) are not included for this proposed Exemption, since this source does coat large appliances, however it is not a major source of HAPs.

(f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Surface Coating of Automobiles and Light-Duty Trucks, 40 CFR 63.3080, Subpart IIII (326 IAC 20-85) are not included for this proposed revision, since this source does not coat automobiles, light trucks or other motor vehicles and is not a major source for HAPs.

(g) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in the permit.

(h) 40 CFR Part 82 Stratospheric Ozone Protection Regulations
The requirements originating from Title VI of the Clean Air Act, entitled Protection of Stratospheric Ozone, are contained in 40 CFR 82. Subparts A through E and Subparts G through I of 40 CFR 82 are not applicable to Helmer Scientific, Inc. 40 CFR 82, Subpart F, Recycling and Emissions Reduction, potentially applies if the facility operates, maintains, repairs, services, or disposes of appliances that utilize Class I or Class II ozone depleting substances. Subpart F generally requires persons completing the repairs, service, or disposal to be properly certified. All repairs, service, and disposal of ozone depleting substances from such equipment (air conditioners, refrigerators, etc.) at SJEC will be completed by a certified technician. Helmer Scientific, Inc. only uses for initial charging.

(i) 40 CFR Part 98 (Mandatory Greenhouse gas)
Requirement for refrigerant charging does not emit GHG because there is no combustion source.
Compliance Assurance Monitoring (CAM)

(j) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the unlimited potential to emit of the source is less than the Title V major source thresholds and the source is not required to obtain a Part 70 or Part 71 permit.

State Rule Applicability Determination

The following state rules are applicable to the source:

(a) 326 IAC 2-1.1-3 (Exemptions)
Exemption applicability is discussed under the Permit Level Determination – Exemption section above.

(b) 326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-4.1.

(c) 326 IAC 2-6 (Emission Reporting)
Pursuant to 326 IAC 2-6-1, this source is not subject to this rule, because it is not required to have an operating permit under 326 IAC 2-7 (Part 70), it is not located in Lake, Porter, or LaPorte County, and it does not emit lead into the ambient air at levels equal to or greater than 5 tons per year. Therefore, 326 IAC 2-6 does not apply.

(d) 326 IAC 5-1 (Opacity Limitations)
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 permit:

1. Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

2. 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.

(e) 326 IAC 6-4 (Fugitive Dust Emissions Limitations)
Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions Limitations), the source 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.

(f) 326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
The source is not subject to the requirements of 326 IAC 6-5, because the source does not have potential fugitive particulate emissions greater than 25 tons per year. Therefore, 326 IAC 6-5 does not apply.

(g) 326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of the emission units at this source is not subject to the requirements of 326 IAC 8-1-6, since the unlimited VOC potential emissions from each emission unit is less than twenty-five (25) tons per year.

Powder Spray Booths:
326 IAC 6-3-2 (e) (Particulate Emission Limitations for Manufacturing Processes)
(a) The blue and white booths have PM emissions after the integral device less than 0.551 lb/hr, therefore they are exempt from the requirements of 326 IAC 6-3-2.

OAQ has determined the filtration system is integral to each of the powder spray booths, identified as EUBluPow and EUWhiPow. In order to ensure the booths are exempt from the requirements of 326 IAC 6-3-2, the respective filtration system, must be in operation at all times when the powder spray booth is in operation.

(b) The EUSpecial booth has PM emissions after the control device less than 0.551 lb/hr, therefore it is exempt from the requirements of 326 IAC 6-3-2.

The dry particulate filters must be in operation at all times when the powder spray booth, identified as EUSpecial is in operation.

The Permittee shall operate the control devices in accordance with manufacturer’s specifications.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Each of these facilities emits less than 25 tons per year of VOC. Therefore 326 IAC 8-1-6 does not apply.

326 IAC 8-2-9 (Miscellaneous Metal Coating)
The powder coating booths are not subject to 326 IAC 8-2-9 since the powder coating booths have no potential to emit VOC. No other article 8 rules apply.

326 IAC 7 (Sulfur Dioxide Emission Limitations)
No units at the source have potential SOx emissions greater than twenty-five (25) tons per year or actual emissions of ten (10) pounds per hour. Therefore, none of the combustion units are subject to this rule.

Miscellaneous Operations:
326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-2(e)(2), the allowable particulate emissions rate of the bead blast, the welding operations, and laser cutting operations, shall not exceed 0.551 pound per hour each when operating at a process weight rate of less than 100 pounds per hour each.

326 IAC 6-2-2 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-2, the particulate matter (PM) from the Natural Gas fired combustion units which were all constructed after September 21, 1983, are not subject to 326 IAC 6-2 (Particulate Emission Limitations for Sources of Indirect Heating) because these units are direct fired heaters and not indirect fired heaters.

(h) 326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

(i) 326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

<table>
<thead>
<tr>
<th>Conclusion and Recommendation</th>
</tr>
</thead>
</table>

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on September 30, 2013.

The operation of this source shall be subject to the conditions of the attached proposed Exemption No. E 057-33691-00086. The staff recommends to the Commissioner that this Exemption be approved.
(a) Questions regarding this proposed permit can be directed to Anh Nguyen at the Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251 or by telephone at (317) 233-5334 or toll free at 1-800-451-6027 extension (3-5334).

(b) A copy of the findings is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/

(c) 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.in.gov/idem
### Emissions Calculations

**Source-Wide Potential Emissions (Tons/Year)**

- **Company Name:** Helmer Scientific, Inc.
- **Address City IN Zip:** 14400 Bergen Blvd., Noblesville, IN 46060
- **Permit Number:** E 057-33691-00086
- **Permit Reviewer:** Anh Nguyen
- **Date:** 10/8/2013

#### Uncontrolled Emissions

<table>
<thead>
<tr>
<th>(Uncontrolled Emissions)</th>
<th>PM</th>
<th>PM10*</th>
<th>PM2.5*</th>
<th>SO2</th>
<th>VOC</th>
<th>NOx</th>
<th>CO</th>
<th>CO2</th>
<th>Worst Single HAP</th>
<th>Total HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUBluPow</td>
<td>17.52</td>
<td>17.52</td>
<td>17.52</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<td>0.00</td>
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<tr>
<td>EUWhiPow</td>
<td>17.52</td>
<td>17.52</td>
<td>17.52</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
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<td>8.76</td>
<td>8.76</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
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<td>43.79</td>
<td>43.79</td>
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<td>0.00</td>
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<td>0.00</td>
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</tr>
<tr>
<td>MDI Foam</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<tr>
<td>Solvents</td>
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<td>Natural gas combustion</td>
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<td>0.09</td>
<td>0.01</td>
<td>0.06</td>
<td>1.16</td>
<td>0.98</td>
<td>1407</td>
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<td>43.88</td>
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<td>1407</td>
<td>1.10</td>
<td>2.52</td>
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#### Controlled Emissions

For purpose of integral:

<table>
<thead>
<tr>
<th>(Controlled Emissions)</th>
<th>PM</th>
<th>PM10*</th>
<th>PM2.5*</th>
<th>SO2</th>
<th>VOC</th>
<th>NOx</th>
<th>CO</th>
<th>CO2</th>
<th>Worst Single HAP</th>
<th>Total HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUBluPow</td>
<td>0.88</td>
<td>0.88</td>
<td>0.88</td>
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<tr>
<td>EUWhiPow</td>
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<td>0.00</td>
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<td>0.44</td>
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<td>0.00</td>
<td>0.00</td>
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<tr>
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<td>0.00</td>
<td>0.00</td>
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<tr>
<td>EU-Laser</td>
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<td>0.00</td>
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<td>Eu-Weld</td>
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<td>0.00</td>
<td>0.00</td>
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<td>MDI Foam</td>
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<tr>
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<td>2.97</td>
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<tr>
<td>Natural gas combustion</td>
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<td>0.09</td>
<td>0.01</td>
<td>0.06</td>
<td>1.16</td>
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<td>2.52</td>
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</table>
## Emissions Calculations
### Powder Coating Booths

**Company Name:** Helmer Scientific, Inc.  
**Address City IN Zip:** 14400 Bergen Blvd., Noblesville, IN 46060  
**Permit Number:** E 057-33691-00086  
**Reviewer:** Anh Nguyen  
**Date:** 10/8/2013

<table>
<thead>
<tr>
<th>Booth</th>
<th>No. of Coating Applicators</th>
<th>Max. Usage (lbs/hr)</th>
<th>Maximum Usage (hrs/yr)</th>
<th>Transfer Efficiency</th>
<th>Overspray (lbs/hr)</th>
<th>Overspray (tons/year)</th>
<th>PM10/PM10/PM2.5 Emissions (lb/hr)</th>
<th>PM10/PM10/PM2.5 Emissions (tons/year)</th>
<th>PM10/PM10/PM2.5 Emissions (lb/hr)</th>
<th>PM10/PM10/PM2.5 Emissions (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUBluPow</td>
<td>2</td>
<td>11.43</td>
<td>8760</td>
<td>65%</td>
<td>4.00</td>
<td>17.52</td>
<td>0.20</td>
<td>0.88</td>
<td>0.20</td>
<td>0.88</td>
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<tr>
<td>EUWhitePow</td>
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<td>11.43</td>
<td>8760</td>
<td>65%</td>
<td>4.00</td>
<td>17.52</td>
<td>0.20</td>
<td>0.88</td>
<td>0.20</td>
<td>0.88</td>
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<tr>
<td>EUSpecial</td>
<td>1</td>
<td>5.71</td>
<td>8760</td>
<td>65%</td>
<td>2.00</td>
<td>8.76</td>
<td>0.10</td>
<td>0.44</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.40</td>
<td>10.51</td>
<td>0.50</td>
<td>2.19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Overspray usage = hourly usage x 8760 hours/year x (1 - transfer efficiency) x one ton/2,000 pounds

For Blue and White booths, particulate (PM) emissions = Overspray x (1 - 95%).

Blue and White booths contain an integrated powder recovery system based on reverse air flow and air filters to allow 95% of overspray to be recovered.

The Specialty booth is not designed with a powder recovery system, but is equipped with dry filters for 95% particulate removal.

Powder coating formulations do not contain VOC.
**DETERMINATION OF MAXIMUM USAGE RATES**

Actual 2012 normal operating hours: 2000 (8 hrs/day, 5 days/wk, 50 wks/yr)
Actual 2012 overtime hours: 300 (6 hrs/day, 1 day/wk, 50 wks/yr)
Total 2012 operating hours: 2300

Assume the rationale for having overtime is that maximum production has been achieved during normal operating hours.

Maximum possible operating hours: 8760 hrs/yr
Ratio of max. operating hours to 2012 actuals: 3.809

Assume the max. possible material usage to 2012 actual ratio is the same as the ratio of max. operating hours to 2012 actuals.

**REFRIGERANT CHARGING**

The refrigerators produced are charged with either R-134a or R-404a.
Each refrigerator is tested to ensure that it holds its pressure and does not leak.
Each refrigerator is then charged using a programmable charging machine.

Emissions from charging can be considered negligible for the following reasons:
- The focus of 40 CFR Part 82 (Protection of Stratospheric Ozone) is on recovery and recycling, not initial charging.
- 40 CFR Part 98 (Mandatory Greenhouse Gas Reporting) does not requiring reporting from refrigerant charging.
### Emissions Calculations

**Methylene Diphenyl Diisocyanate (MDI) Foam Processes**

**Company Name:** Helmer Scientific, Inc.  
**Address City IN Zip:** 14400 Bergen Blvd., Noblesville, IN 46060  
**Permit Number:** E 057-33691-00086  
**Permit Reviewer:** Anh Nguyen  
**Date:** 10/8/2013

<table>
<thead>
<tr>
<th>Raw Material</th>
<th>usage (lbs)</th>
<th>Maximum annual usage (lbs)</th>
<th>Maximum annual usage (tons)</th>
<th>Emission Factor, lbs/ton</th>
<th>Pounds VOC/MDI emitted</th>
<th>Tons VOC/MDI emitted</th>
</tr>
</thead>
<tbody>
<tr>
<td>SP5PUF1 MDI with Polyurethane Base Foam</td>
<td>95023.4</td>
<td>361915.2</td>
<td>181.0</td>
<td>0.00035%</td>
<td>1.267</td>
<td>0.001</td>
</tr>
<tr>
<td>Instapak part A and B mixed</td>
<td>6612.0</td>
<td>25183.1</td>
<td>12.6</td>
<td>0.00035%</td>
<td>0.088</td>
<td>0.000</td>
</tr>
<tr>
<td>Bag adhesive foam (Aquaseal and Cotol 240)</td>
<td>540</td>
<td>0.27</td>
<td>0.00035%</td>
<td>0.002</td>
<td>0.000</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>387638.3</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>0.001</strong></td>
<td></td>
</tr>
</tbody>
</table>

SP5PUF1 MDI with Polyurethane Base Foam usage based on 95,023 lbs used in 2012  
Instapak (parts A and B mixed) usage based on 6,612 lbs used in 2012  
Bag adhesive foam operation is planned for early 2014. Therefore, no actual usages have been quantified  
All VOC emitted is assumed to be MDI

\[
\frac{3.80869565}{193.8} = 0.00035\% \text{ E.F.} \\
387638.306 \text{ lbs} (2,000\text{ lbs per ton}) \\
0.00035\% \text{ E.F.} = \text{ worst case emission factor (from Table 5 of Isocyanate Emissions Toolbox - http://www.isopa.org/toolbox/frame-part-4-2b.htm)}
\]

1.36 lbs of MDI released (3.5 E^{-04} x 388,000 lbs)  
0.001 tons of MDI released
### Solvent-Containing Materials - Volatile Organic Compounds (VOC)

**Company Name:** Helmer Scientific, Inc.  
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**Date:** 10/8/2013

<table>
<thead>
<tr>
<th>Raw Material</th>
<th>Density (lbs/gal)</th>
<th>VOC weight %</th>
<th>usage (Gal)</th>
<th>Maximum annual usage (Gal)</th>
<th>VOC PTE (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toluene</td>
<td>7.1724</td>
<td>100.00%</td>
<td>6.0</td>
<td>22.7093</td>
<td>0.0814</td>
</tr>
<tr>
<td>Denatured alcohol</td>
<td>6.7621</td>
<td>100.00%</td>
<td>156.0000</td>
<td>594.1565</td>
<td>2.0089 from source</td>
</tr>
<tr>
<td>440 Stainless Cleaner</td>
<td>7.5000</td>
<td>50.00%</td>
<td>93.7500</td>
<td>357.0652</td>
<td>0.6695</td>
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<tr>
<td>Touch up paint blue aerosol</td>
<td>6.297</td>
<td>77.70%</td>
<td>18.1875</td>
<td>69.2707</td>
<td>0.1695</td>
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<tr>
<td>Touch up paint white bottle</td>
<td>6.4218</td>
<td>53.80%</td>
<td>1.5938</td>
<td>6.0701</td>
<td>0.0105</td>
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<tr>
<td>Aquaseal</td>
<td>8.340</td>
<td>25.00%</td>
<td>1.5938</td>
<td>6.0701</td>
<td>0.0063</td>
</tr>
<tr>
<td>Cotol 240</td>
<td>7.2224</td>
<td>99.25%</td>
<td>1.5938</td>
<td>6.0701</td>
<td>0.0218</td>
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</tbody>
</table>

**TOTAL VOC**  

<table>
<thead>
<tr>
<th>Density (lbs/gal)</th>
<th>VOC weight %</th>
<th>usage (Gal)</th>
<th>Maximum annual usage (Gal)</th>
<th>VOC PTE (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.9678</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*47.7 lbs of toluene used in 2012*  
*12 20oz cans of 440 stainless cleaner used in one 40 hour week*  
*194 12oz of blue aerosol touch up paint used in 2012*  
*17 White touch up bottle used in 2012: 12 oz bottle size*  

SP5PUF1 MDI with Polyurethane Base Foam usage based on 95,023 lbs used in 2012 (8 hour days, 5 days per week)

*128 oz = 1 GAL  
* 453.59 grams = 1 LB  
* 3.785 L = 1 GAL  
* 2000 LB = 1 ton

**Methodology**  
usage (gal/yr) = 47.7 (lbs) of raw material * 16 (oz/lb) / 128 (gal/oz)  
Max annual usage (gal/yr) = Ratio of max. operating hours * 2012 usage (gal)  
VOC PTE (tons/yr) = Density (lb/gal) * VOC weight % * Max annual usage (gal)

**Ratio of max. operating hours = 3.8087** (see worksheet 3. Usages)
<table>
<thead>
<tr>
<th>Solvent HAP Potential to Emit (PTE) calculations</th>
<th>HAP content in weight percent</th>
<th>HAPS PTE Calculations (tons/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density (lbs/gal)</td>
<td>usage (Gal)</td>
<td>Maximum annual usage (Gal)</td>
</tr>
<tr>
<td>Toluene</td>
<td>7.1724</td>
<td>6.0000</td>
</tr>
<tr>
<td>Denatured alcohol</td>
<td>6.7621</td>
<td>156.0000</td>
</tr>
<tr>
<td>440 Stainless Cleaner</td>
<td>7.5000</td>
<td>93.7500</td>
</tr>
<tr>
<td>Touch up paint blue aerosol</td>
<td>6.297</td>
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<td>Touch up paint white bottle</td>
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<td>1.5938</td>
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<td>8.340</td>
<td>1.5938</td>
</tr>
<tr>
<td>Cotol 240</td>
<td>7.2224</td>
<td>1.5938</td>
</tr>
</tbody>
</table>

Methodology

HAPS PTE (tons/yr) = density (lbs/gal) * Max. annual usage (gal) * HAP content wgt % / 2000 (lb/ton)

*440 Stainless Cleaner contains no HAPS
Company Name: Helmer Scientific, Inc.
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Permit Number: E 057-33691-00086
Permit Reviewer: Anh Nguyen
Date: 10/8/2013

<table>
<thead>
<tr>
<th>Amount of Dust Collected</th>
<th>1072 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Hours for amount of dust collected</td>
<td>2300 hr</td>
</tr>
<tr>
<td>Capacity</td>
<td>0.466087 lbs/hr</td>
</tr>
<tr>
<td>Estimated Baghouse Capture Efficiency</td>
<td>100%</td>
</tr>
<tr>
<td>Estimated Baghouse Control Efficiency</td>
<td>99%</td>
</tr>
</tbody>
</table>

PM/PM10/PM2.5 Emissions before control: 2.0414609 tons/y
PM/PM10/PM2.5 Emissions after control: 0.0204146 tons/y

*1072 is the known weight of dust collected in 2012

Methodology
PM/PM10/PM2.5 Emissions
before control (ton/yr) = Amt Dust collected (lb) * Op. hrs for dust collected (hrs) * 8760 (hr/yr) / 2000 (lb/ton)

PM/PM10/PM2.5 Emissions
after control (ton/yr) = before control (ton/yr) * 1%
## Emissions Calculations
### Welding Operations (EU-Weld)

**Company Name:** Helmer Scientific, Inc.  
**Address City IN Zip:** 14400 Bergen Blvd., Noblesville, IN 46060  
** Permit Number:** E 057-33691-00086  
** Permit Reviewer:** Anh Nguyen  
**Date:** 10/8/2013

### Welding Operations (EU-Weld)

#### EMISSIONS

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>Number of Stations</th>
<th>Max. electrode consumption per station (lbs/hr)</th>
<th>EMISSION FACTORS* (lb pollutant/lb electrode)</th>
<th>POTENTIAL EMISSIONS (lbs/hr)</th>
<th>HAPS (lbs/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WELDING</strong></td>
<td></td>
<td></td>
<td>PM = PM10+ PM2.5 Mn Ni Cr</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Submerged Arc</td>
<td>0</td>
<td>0</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>Metal Inert Gas (MIG)(Steel)(ER70S)</td>
<td>3</td>
<td>20.73</td>
<td>0.0052 0.0032 0.00001 0.00001</td>
<td>0.000 0.000 0.000 0.000</td>
<td>0.000 0.000</td>
</tr>
<tr>
<td>Stick (E7018 electrode)</td>
<td>0</td>
<td>0</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
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<tr>
<td>Tungsten Inert Gas (TIG)(Steel)(E70S)</td>
<td>1</td>
<td>20.73</td>
<td>0.0052 0.0032 0.00001 0.00001</td>
<td>0.108 0.066 0.000 0.000</td>
<td>0.000 0.067</td>
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<tr>
<td>Oxyacetylene(carbon steel)</td>
<td>0</td>
<td>0</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
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</tbody>
</table>

#### FLAME CUTTING

<table>
<thead>
<tr>
<th>PROCESS</th>
<th>Number of Stations</th>
<th>Max. Metal Thickness Cut (in.)</th>
<th>Max. Metal Cutting Rate (in./minute)</th>
<th>EMISSION FACTORS* (lb pollutant/1,000 inches cut, 1&quot; thick)**</th>
<th>POTENTIAL EMISSIONS (lbs/hr)</th>
<th>HAPS (lbs/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxyacetylene</td>
<td>0</td>
<td>2</td>
<td>15</td>
<td>0.1622 0.0005 0.0001 0.0003</td>
<td>0.000 0.000 0.000 0.000</td>
<td>0.000 0.000</td>
</tr>
<tr>
<td>Oxymethane</td>
<td>0</td>
<td>0.375</td>
<td>150</td>
<td>0.0815 0.0002 0.0002</td>
<td>0.000 0.000 0.000 0.000</td>
<td>0.000 0.000</td>
</tr>
<tr>
<td>Plasma** (see separate calculation sheet)</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>0.000 0.000 0.000 0.000</td>
<td>0.000 0.000</td>
</tr>
</tbody>
</table>

#### EMISSION TOTALS

| Potential Emissions lbs/hr | 0.43 | 0.27 |
| Potential Emissions lbs/day | 10.35 | 6.41 |
| Potential Emissions tons/year | 1.89 | 1.17 |

### 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:  
\[(0.25 \text{ g/min})/(3.6 \text{ m/min}) \times (0.0022 \text{ lb/g})/(39.37 \text{ in./m}) \times (1,000 \text{ in.}) = 0.0039 \text{ lb/1,000 in. cut, 8 mm thick}\]

Plasma 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, 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/lb. of electrode used)

Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr)(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 8760 hrs/yr x 1 ton/2,000 lbs.
Emissions Calculations
Bead Blasting (EU-Bead)

Company Name: Helmer Scientific, Inc.
Address City IN Zip: 14400 Bergen Blvd., Noblesville, IN 46060
Permit Number: E 057-33691-00086
Permit Reviewer: Anh Nguyen
Date: 10/8/2013

<table>
<thead>
<tr>
<th>Amount of Dust Collected</th>
<th>10 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Hours for amount of dust collected</td>
<td>46 hr</td>
</tr>
<tr>
<td>Capacity</td>
<td>0.2173913 lbs/hr</td>
</tr>
<tr>
<td>Estimated Baghouse Capture Efficiency</td>
<td>100%</td>
</tr>
<tr>
<td>Estimated Baghouse Control Efficiency</td>
<td>99%</td>
</tr>
<tr>
<td>PM/PM10/PM2.5 Emissions before control</td>
<td>0.952 tons/y</td>
</tr>
<tr>
<td>PM/PM10/PM2.5 Emissions after control</td>
<td>0.010 tons/y</td>
</tr>
</tbody>
</table>

*10 lbs is the known weight of dust collected in during one week

Methodology

PM/PM10/PM2.5 Emissions

before control (Ton/yr) = Amt Dust collected (lb) * Op. hrs for dust collected (hrs) * 8760 (hr/yr) / 2000 (lb/ton)

PM/PM10/PM2.5 Emissions

after control (Ton/yr) = before control (ton/yr) * 1%
Emissions Calculations
Natural Gas Combustion

Company Name: Helmer Scientific, Inc.
Address City IN Zip: 14400 Bergen Blvd., Noblesville, IN 46060
Permit Number: E 057-33691-00086
Permit Reviewer: Anh Nguyen
Date: 10/8/2013

Plant heater: 0.080
Rooftop Unit #2: 0.058
Rooftop Unit #3: 0.120
Rooftop Unit #4: 0.375
Rooftop Unit #5: 0.036
Rooftop Unit #6: 0.270
Rooftop Unit #7: 0.270
Rooftop Unit #10: 0.203
Rooftop Unit #11: 0.174
Rooftop Unit #12: 0.203
Rooftop Unit #13: 0.174
Rooftop Unit #14: 0.250
Rooftop Unit #15: 0.250
Rooftop Unit #16: 0.250

Total: 2.71

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

**Emission factor for NOx (uncontrolled) = 100 lb/MMSCF.

Emission factors are from AP-42, Chapter 1.4, Tables 1.4-1, and 1.4-2, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (July, 1998)

All Emission factors are based on normal firing.

Potential To Emit (tons/year)

<table>
<thead>
<tr>
<th>Emission Factor (lb/MMscf)</th>
<th>* PM</th>
<th>*PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>**NOx</th>
<th>VOC</th>
<th>CO</th>
<th>CO2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential To Emit (tons/year)</td>
<td>0.02</td>
<td>0.09</td>
<td>0.09</td>
<td>0.01</td>
<td>1.16</td>
<td>0.06</td>
<td>0.98</td>
<td>1,407</td>
</tr>
</tbody>
</table>

HAPS - Organics

<table>
<thead>
<tr>
<th>Emission Factor (lb/MMscf)</th>
<th>Benzene</th>
<th>Dichlorobenzene</th>
<th>Formaldehyde</th>
<th>Hexane</th>
<th>Toluene</th>
<th>Naphthalene</th>
<th>PAH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential To Emit (tons/year)</td>
<td>2.45E-05</td>
<td>1.40E-05</td>
<td>8.74E-04</td>
<td>2.30E-02</td>
<td>3.96E-05</td>
<td>7.11E-06</td>
<td>1.03E-06</td>
</tr>
</tbody>
</table>

HAPS - Metals

<table>
<thead>
<tr>
<th>Emission Factor (lb/MMscf)</th>
<th>Lead</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Manganese</th>
<th>Nickel</th>
<th>Arsenic</th>
<th>Mercury</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential To Emit (tons/year)</td>
<td>5.82E-06</td>
<td>1.28E-05</td>
<td>1.63E-05</td>
<td>4.43E-06</td>
<td>2.45E-05</td>
<td>2.38E-06</td>
<td>3.03E-06</td>
</tr>
</tbody>
</table>

TOTAL HAP: 2.20E-02

The five highest organic and metal HAPs emission factors provided above are from AP-42, Chapter 1.4, Table 1.4-3 and 1.4-4 (July, 1998).

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

Methodology

Potential throughput (MMscf/year) = Heat input capacity (MMBtu/hour) * 8760 hours/year * 1 MMscf/1020 MMBtu

PTE (tons/year) = Potential throughput (MMscf/year) * Emission factor (lb/MMscf) * 1 ton/2000 lbs

Greenhouse Gas Emissions

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMscf</th>
<th>CO2</th>
<th>CH4</th>
<th>N2O</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential Emission in tons/yr</td>
<td>1.398</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Summed Potential Emissions in tons/yr</td>
<td>1.398</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CO2e Total in tons/yr</td>
<td>1,407</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

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

Potential Emission (tons/yr) = Throughput (MMscf/year) x Emission Factor (lb/MMscf) x 1 ton/2000 lbs

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).
### Powder Coat cost and Use

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Cost of Powder Coating per pound</td>
<td>6.08</td>
</tr>
<tr>
<td>Pounds per hour of paint per two booths</td>
<td>6.00</td>
</tr>
<tr>
<td>Cost of Powder Coating per hour</td>
<td>36.48</td>
</tr>
</tbody>
</table>

### Savings from Recovered Material

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer efficiency</td>
<td>0.65</td>
</tr>
<tr>
<td>Pounds of Powder Coating per hour oversprayed (lb/hr)</td>
<td>2.10</td>
</tr>
<tr>
<td>Reclalm efficiency</td>
<td>0.95</td>
</tr>
<tr>
<td>Pounds of coating per hour reclaimed (2.10 * 0.95)</td>
<td>2.00</td>
</tr>
<tr>
<td>Savings per hour of reclaimed powder coating (2.00 * 6.08)</td>
<td>12.13</td>
</tr>
<tr>
<td>Annual savings from reclaimed powder (12.13 * 40 * 52)</td>
<td>25,229.57</td>
</tr>
</tbody>
</table>

### Filter Cost

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Primary Filter Annual Cost (Booth 1-2, 16 @ $224 per filter, replaced once a year)</td>
<td>3,584.00</td>
</tr>
<tr>
<td>Final Filter Annual Cost (Booth 1-2, 12 @ 134.15 per filter, replaced twice a year)</td>
<td>3,219.60</td>
</tr>
<tr>
<td><strong>Total Annual Filter Cost</strong></td>
<td><strong>6,803.60</strong></td>
</tr>
</tbody>
</table>

**Total Savings** | **18,425.97**
TO:          Troy Rector  
            Helmer Scientific, Inc.  
            14400 Bergen Blvd.  
            Noblesville, IN 46060

DATE:  December 17, 2013

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

SUBJECT:  Final Decision  
            Exempt Construction and Operation Status  
            057-33691-00086

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:  
Qaiser Baig, Cornerstone Environmental  
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 Smiddle-Brush of my staff at 1-800-451-6027 (ext 3-0185), or via e-mail at jbrush@idem.IN.gov.
## Mail Code 61-53

### IDEM Staff
PWAY 12/17/2013
Helmer Scientific, Inc  057-33691-00086 (final)

### Type of Mail:
CERTIFICATE OF MAILING ONLY

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<th>Due Send if COD</th>
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<th>S.H. Fee</th>
<th>Rest. Del. Fee</th>
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<tr>
<td>Noblesville City Council and Mayors Office 16 S. 10th St. Noblesville IN 46060 (Local Official)</td>
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<td>Hamilton County Health Department 18030 Foundation Dr. #A Noblesville IN 46060-5405 (Health Department)</td>
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<td>Hamilton County Board of Commissioners One Hamilton County Square Noblesville IN 46064 (Local Official)</td>
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<tr>
<td>Glidden Fence Co. 17804 Spring Mill Rd Westfield IN 46074 (Affected Party)</td>
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<td>Environmental Field Services, Inc. 40 SR 32 W Westfield IN 46074 (Affected Party)</td>
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<tr>
<td>Qaiser Baig Cornerstone Environmental 880 Lennox Ct. Zionsville IN 46077 (Consultant)</td>
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<tr>
<td>Saxony Lot T1 c/o Verus Partners, LLC 100 South Wacker, Suite 850 Chicago IL 60606 (Affected Party)</td>
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<tr>
<td>Interstate Holdings, LLC c/o Saxony Mgmt Company 13578 East 131st Street, Suite 200 Fishers IN 46037 (Affected Party)</td>
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<tr>
<td>Randall R. Stehlik Hillsdale College 33 E College Street Hillsdale IN 49242 (Affected Party)</td>
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<td>The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is $50,000 per piece subject to a limit of $50,000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on insured and COD mail. See International Mail Manual for limitations on coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.</td>
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