



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

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NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding a
Significant Modification to a
Part 70 Operating Permit

for Hammond Group, Inc. in Lake County

Significant Permit Modification No.: 089-36936-00219

The Indiana Department of Environmental Management (IDEM) has received an application from Hammond Group, Inc., located at 2308 - 15th Street, Hammond, Indiana 46320, for a significant modification of its Part 70 Operating Permit issued on April 4, 2014. If approved by IDEM's Office of Air Quality (OAQ), this proposed modification would allow Hammond Group, Inc. to make certain changes at its existing source. Hammond Group, Inc. has applied to add the following emission units:

(a) One (1), small, natural gas-fired, metal recovery unit, identified as Unit 56-14 (MZR - Metal Zinc Recovery); constructed in 2016; with a maximum heat input capacity of 0.305 MMBtu/hr and a maximum production rate of 0.1875 ton/hr; during operation, this unit is completely enclosed; will be drafted to an existing baghouse and HEPA System (Unit 56-17) and exhausting through existing Stack 16-S-56.

(b) Stack ID V-2

General Building Ventilation Control System, approved in 2016 for construction.

The General Building Ventilation Control System consists of a fan and three (3) HEPA filter units which are connected in parallel to the collection ductwork. The system captures the potential fugitive emissions which may escape from processing equipment in the lead chemical manufacturing areas. This control device is a redundant system for Stack ID V-1.

(c) One (1) HM Truck Loading Bay incorporated with the existing Bulk Truck Loading System (Unit 52-16); with two additional tanks for future storage of HM Litharge (lead pigment), identified as S-106 and S-107; each tank is drafted into a separate bin vent, which are followed by a common HEPA filtration unit which exhausts filtered air to Stack 1-S-52.

The applicant intends to construct and operate new equipment that will emit air pollutants; therefore, the permit contains new or different permit conditions. In addition, some conditions from previously issued permits/approvals have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes (e.g. changes that add or modify synthetic minor emission limits). IDEM has reviewed this application and has developed preliminary findings, consisting of a draft permit and several supporting documents, which would allow the applicant to make this change.

IDEM is aware that the two tanks, which are part of Truck Loading Bay (Unit 52-16) have been constructed and operated prior to receipt of the proper permit. IDEM is reviewing this matter and will take appropriate action. This draft Significant Permit Modification contains provisions to bring unpermitted equipment into compliance with construction and operation permit rules.

A copy of the permit application and IDEM's preliminary findings are available at:

Hammond Public Library
564 State Street
Hammond, IN 46320

and

IDEM Northwest Regional Office
330 W. US Highway 30, Suites E & F
Valparaiso, IN 46385

A copy of the preliminary findings is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

How can you participate in this process?

The date that this notice is published in a newspaper marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the **air pollution impact** of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM's mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number 089-36936-00219 in all correspondence.

Comments should be sent to:

Daniel W Pell
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for extension 4-8532
Or dial directly: (317) 234-8532
Fax: (317) 232-6749 attn: Daniel W Pell
E-mail: dpell@idem.IN.gov

All comments will be considered by IDEM when we make a decision to issue or deny the permit. Comments that are most likely to affect final permit decisions are those based on the rules and laws governing this permitting process (326 IAC 2), air quality issues, and technical issues. IDEM does not have legal authority to regulate zoning, odor, or noise. For such issues, please contact your local officials.

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

What will happen after IDEM makes a decision?

Following the end of the public comment period, IDEM will issue a Notice of Decision stating whether the permit has been issued or denied. If the permit is issued, it may be different than the draft permit because of comments that were received during the public comment period. If comments are received during the public notice period, the final decision will include a document that summarizes the comments and IDEM's response to those comments. If you have submitted comments or have asked to be added to the mailing list, you will receive a Notice of the Decision. The notice will provide details on how you may appeal IDEM's decision, if you disagree with that decision. The final decision will also be available on the Internet at the address indicated above, at the local library indicated above, at the IDEM Regional Office indicated above, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251.

If you have any questions, please contact Daniel W Pell of my staff at the above address.



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



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Jean Ziga, EHS Director
Hammond Group, Inc.
6544 Osborn Avenue
Hammond, Indiana 46320

Re: 089-36936-00219
Significant Permit Modification to
Part 70 No.: T089-33798-00219

Dear Ms. Ziga:

Hammond Group, Inc. was issued Part 70 Operating Permit No. T089-33798-00219 on April 4, 2014 for a stationary Industrial Inorganic Chemicals and Inorganic Pigments Manufacturing Plant located at 2308 - 165th Street, Hammond, Indiana. An application requesting changes to this permit was received on March 10, 2016. Pursuant to the provisions of 326 IAC 2-7-12, a Significant Permit Modification to this permit is hereby approved as described in the attached Technical Support Document.

Please find attached the entire Part 70 Operating Permit as modified. The permit references the below listed attachment. Since this attachment has been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of this attachment with this modification:

Attachment A: National Emission Standards for Hazardous Air Pollutants (NESHAP) for Chemical Manufacturing Area Sources [40 CFR Part 63, Subpart VVVVVV]

Previously issued approvals for this source containing this attachment are available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>.

Federal rules under Title 40 of United States Code of Federal Regulations may also be found on the U.S. Government Printing Office's Electronic Code of Federal Regulations (eCFR) website, located on the Internet at: http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40tab_02.tpl.

A copy of the permit 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 Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5.

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If you have any questions on this matter, please contact Daniel W Pell, of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251 at 317-234-8532 or 1-800-451-6027, and ask for extension 4-8532.

Sincerely,

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

Attachments: Modified Permit, Appendix A Calculations, and Technical Support Document

cc: File - Lake County
Lake County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch
IDEM Northwest Regional Office



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Part 70 Operating Permit

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OFFICE OF AIR QUALITY

**Hammond Group, Inc.
2308 - 165th Street
Hammond, Indiana 46320**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for enforcement action; permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. Noncompliance with any provision of this permit, except any provision specifically designated as not federally enforceable, constitutes a violation of the Clean Air Act. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in Section B, Emergency Provisions.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T089-33798-00219	
Original Signed/Issued by: Tripurari P. Sinha, Ph. D., Section Chief Permits Branch, Office of Air Quality	Issuance Date: April 4, 2014 Expiration Date: April 4, 2019

First Significant Source Modification No. 089-35686-00219, issued on June 15, 2015 (Revoked);
First Significant Permit Modification No. 089-35765-00219, issued on June 30, 2015 (Revoked);
First Administrative Amendment No. 089-35964-00219, issued on July 16, 2015 (Revoked);
Revocation No. 089-36783-00219, issued on March 2, 2016; and
Second Administrative Amendment No. 089-36838-00219, issued on March 2, 2016.

Second Significant Permit Modification No.: 089-36936-00219	
Issued by: Tripurari P. Sinha, Ph. D., Section Chief, Permits Branch Office of Air Quality	Issuance Date: Expiration Date: April 4, 2019

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SECTION A SOURCE SUMMARY

This permit 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 through A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee 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 Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-7-4(c)][326 IAC 2-7-5(14)][326 IAC 2-7-1(22)]

The Permittee owns and operates a stationary Industrial Inorganic Chemicals and Inorganic Pigments Manufacturing Plant.

Source Address:	2308 - 165th Street, Hammond, Indiana 46320
General Source Phone Number:	219-852-7272
SIC Code:	2819 and 2869
County Location:	Lake
Source Location Status:	Nonattainment for 8-hour ozone standard Attainment for all other criteria pollutants
Source Status:	Part 70 Operating Permit Program Minor Source, under PSD and Emission Offset Rules Minor Source, Section 112 of the Clean Air Act 1 of 28 Source Categories

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

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

Note: Bin vent filters and bag filters located at HGI are the same as or equivalent to baghouses. All of the baghouses are the reverse jet air pulse type and contain filter bags supported by wire cages.

Stack ID 1-S-52

1. Unit ID 52-1: No. 1 Barton System

The Barton System consists of a melt kettle, barton reactor, settling device, and interconnecting conveyors. Lead ingots are charged into an enclosed melt kettle which is indirectly heated by either natural gas or propane burners. The molten lead is continuously fed into the barton reactor where it is atomized and oxidized into lead oxide. The oxide is drawn through a settling device and then conveyed to further processing.

Emission units associated with Unit ID 52-1 were installed in 1930.

Unit 52-1 is not controlled by the Main Control System. It is controlled by one baghouse followed by a HEPA system which exhausts through stack 1-S-52.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

2. Unit IDs 52-3 through 52-10: Furnace Systems No. 2, 10, 3, 4, 5, 6, 8, & 9

Each Furnace System consists of feed hoppers, batch furnace, and interconnecting conveyors. Each furnace is an indirectly heated, natural gas or propane fired, batch furnace which completes

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the oxidation of the lead oxide.

Emission units associated with Unit IDs 52-3, 52-6, and 52-7 were installed in 1930.

Emission units associated with Unit ID 52-4 were installed in 1980.

Emission units associated with Unit IDs 52-5 were installed in 1971.

Emission units associated with Unit IDs 52-8 were installed in 1955.

Emission units associated with Unit IDs 52-9 were installed in 1957.

Emission units associated with Unit IDs 52-10 were installed in 1972.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

3. Unit IDs 52-11 through 52-13: Mills Systems

Each Mill System consists of a feed hopper, mill, cyclone (Unit IDs 52-11 and 52-12 only), and interconnecting conveyors. Lead Oxide is conveyed to the mill feed hopper from where it is metered into the mill. The air and product from the mill are conveyed to a cyclone. Air from the cyclone is returned to the mill. The oxide is conveyed to the packing station, bulk loading storage hoppers or for further processing.

Emission units associated with Unit IDs 52-11 and 52-12 were installed in 1930.

Emission units associated with Unit ID 52-13 were installed in 1957.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

4. Unit ID 52-14: Air Conveying System

The Air Conveying System consists of a hopper, pressure blowers, and pipes. For the blower 1 system, lead oxide is conveyed to a hopper from which the material is fed through an air lock rotary valve into the pipe. Pressurized air from the blower conveys the material to storage silos. Blower 2 is used to blow material from the 6 Barton mill to storage silos. Material can also be blown from the 4 Barton mill to storage silos.

Emission units associated with Unit ID 52-14 were installed in 1983.

Unit 52-14 is not controlled by the Main Control System. It is controlled by two baghouses followed by a HEPA system which exhausts through stack 1-S-52.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

5. Unit ID 52-15, 16 & 19: Lead Oxide Bulk Loading, Bulk Truck Loading System, & Lead Oxide Bulk Loading – North

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Each Bulk Loading System consists of a bulk storage silo, conveyors, and a loading spout. A pneumatic bulk trailer is spotted under the telescopic loading spout. The spout is lowered to the trailer hatch. Material is fed from a bulk storage silo through sealed conveyors into the trailer.

Emission units associated with Unit ID 52-15 were installed in 1960.

Emission units associated with Unit ID 52-16 were installed in 1983.

Emission units associated with Unit ID 52-19 were installed in September, 1995.

Unit ID 52-16 is not controlled by the Main Control System. It is controlled by two baghouses followed by a HEPA system which exhausts through stack 1-S-52.

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One (1) HM Truck Loading Bay incorporated with the existing Bulk Truck Loading System (Unit 52-16); with two additional tanks for future storage of HM Litharge (lead pigment), identified as S-106 and S-107; each tank is drafted into a separate bin vent, which are followed by a common HEPA filtration unit which exhausts filtered air to Stack 1-S-52.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 & 1-S-7

1. Unit IDs 8-1, 16-1, 2-1, 26-1 & 7-1: No. 2, 3, 4, 5 & 7 Barton Systems

Each Barton System consists of a melt kettle, barton reactor, settling device, and interconnecting conveyors. Lead ingots are charged into an enclosed melt kettle which is indirectly heated by either natural gas or propane burners. The molten lead is continuously fed into the barton reactor where it is atomized and oxidized into lead oxide. The oxide is drawn through a settling device and then conveyed to further processing.

Emission units associated with Unit ID 8-1 were installed in 1958.
Emission units associated with Unit ID 16-1 were installed in 1972.
Emission units associated with Unit ID 2-1 were installed in 1974.
Emission units associated with Unit ID 26-1 were installed in 1977.
Emission units associated with Unit ID 7-1 were permitted in 2013.

Each system is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

2. Unit ID 26-2: No. 6 Barton System

This Barton System consists of a melt kettle, barton reactor, cyclone, and interconnecting conveyors. Lead ingots are charged into an enclosed melt kettle which is indirectly heated by either natural gas or propane burners. The molten lead is continuously fed into the barton reactor where it is atomized and oxidized into lead oxide. The oxide is drawn through a sealed conductor into a cyclone and then mechanically conveyed to further processing.

Emission units associated with Unit ID 26-2 were installed in July 1995.

The No. 6 Barton system is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Stack ID 16-S-56

1. Unit ID 56-1: 400Y Furnace System

The 400Y Furnace System is a direct, natural gas or propane fired reverberatory type furnace. The lead oxide is melted in this furnace and then converted to pelletized lead oxide. After appropriate classification, the finished product is screw conveyed to the packing hopper and packed.

Emission units associated with Unit ID 56-1 were installed in 1971.

This unit is controlled by the 16-S-56 Control System which includes four (4) baghouse & HEPA

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systems.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

2. Unit ID 56-3: Lead Oxide Pneumatic Conveyor System

The Pneumatic Conveyor System consists of a hopper, pressure blower, and a pipe. Lead oxide is conveyed to a hopper from which the material is fed through an air lock rotary valve and into the pipe. Pressurized air from the blower conveys the material to a storage silo.

Emission units associated with Unit ID 56-3 were installed in 1977.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

3. Unit ID 56-4: Lead Oxide Bulk Loading System

The Bulk Loading System consists of a bulk storage silo, conveyors, and a loading spout. A pneumatic bulk trailer is spotted under the telescopic loading spout. The spout is lowered to the trailer hatch. Material is fed from a bulk storage silo through sealed conveyors into the trailer.

Emission units associated with Unit ID 56-4 were installed in 1977.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

4. Unit ID 56-7: Direct Car Loading System

The Direct Car Loading System consists of two storage silos, two weigh hoppers, a loading spout, a bin dump station, and interconnecting conveyors. Material is conveyed to one of two storage silos from where it can be loaded into a rail car, bulk truck, or tote bin.

Emission units associated with Unit 56-7 were installed in June, 1999 and approved for modification in 2012.

This unit is controlled by a baghouse & HEPA system. The two storage silos are equipped with a primary baghouse which discharges to existing baghouse & HEPA system for particulate control, exhausting outside.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

5. Unit ID 56-9: Flash Calciner System

The Flash Calciner system consists of a feed hopper, natural gas (propane alternative) calciner, process bag filter, Sweco separator, packer and interconnecting conveyors. Lead oxide from the bartons or tote bins is fed into a heated air stream. The material then passes through a process bag filter, a rotary valve and to either the 400Y furnace or through a Sweco separator. Following the Sweco, the material is either packed out or sent to storage tanks.

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Emission units associated with Unit ID 56-9 were installed in May, 2006.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

6. Unit ID 56-11: XS Furnace System

The XS Furnace System consists of a mixer, natural gas (propane alternative) fired furnace, wet ball mill, wet sweco, mixing tank, and interconnecting conveyors. Lead oxide and other raw materials are batch mixed in the mixer then charged into the furnace. As the raw materials melt, they react to form a material, which then flows to a fritting device. The glass frit is milled, separated, and sent to a mix tank. The mix tank feeds the glass product spray dryer.

Emissions units associated with Unit 56-11 were installed in May, 2006 and approved for modification in 2011.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

7. Unit ID 56-13: Blending System

The blender is a paddle type mixer. The material from the blender will be packed out.

Emission units associated with Unit ID 56-13 were installed in 2001.

This system is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

8. One (1), small, natural gas-fired, metal recovery unit, identified as Unit 56-14 (MZR - Metal Zinc Recovery); constructed in 2016; with a maximum heat input capacity of 0.305 MMBtu/hr and a maximum production rate of 0.1875 ton/hr; during operation, this unit is completely enclosed; will be drafted to an existing baghouse and HEPA System (Unit 56-17) and exhausting through existing Stack 16-S-56.

[Under 40 CFR 63, Subpart VVVVVV, this unit is considered an affected source.]

Stack ID 4-S-35

1. Unit ID 35-1: B-Furnace Drying System

The B-Furnace Drying System consists of a mixer, drying screw, sizing screen, oversize material crusher, and packing system. The mixer blends raw materials used for feedstock for the furnace. Material from the furnace is continuously conveyed from the fritting device through a natural gas or propane heated drying screw to remove excess moisture. The dried material is then conveyed to a classifying screen. The screened material is then conveyed to packing. The packing system uses a totally enclosed screw conveyor, constructed in 2015, to convey powdered material from the tote bin to a wet mixer via Packer No. 4. The material drop points are not open to the atmosphere.

Emission units associated with Unit ID 35-1 were installed in 1955.

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This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Stack ID 1-S-27

1. Unit ID 27-1: Lead Oxide Mill

The Lead Oxide Mill consists of a mill feed hopper, impact mill, cyclone, source bin, packing hopper, and packing station. Lead oxide is conveyed to the mill feed hopper from where it is metered into the mill for grinding. The mill is an impact, air swept type grinding mill. The air and product from the mill are conveyed to a cyclone. Air from the cyclone is returned to the mill.

Emission units associated with Unit ID 27-1 were installed in October, 1987.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Stack ID 6-S-33

1. Unit ID 33-1: B-Furnace System

The B-Furnace System consists of feed hoppers, rework system, furnace, fritting device, and interconnecting conveyors. Lead-oxide and other raw materials are batch-mixed in a mixer and conveyed to a stoker hopper. This mixture is then fed to the furnace. The furnace is a direct, natural gas or propane fired reverberatory type furnace. The raw materials are melted to form a molten material which then flows by gravity to the fritting device. The fritted material is conveyed to the drying system.

Emission units associated with Unit ID 33-1 were installed in 1988.

This system is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

2. Unit ID 33-2: S-Furnace Operation

The S-Furnace Operation consists of a mixer, furnace, fritting device, drying screw, sizing screen, packers, and interconnecting conveyors. Non-lead raw materials are batch-mixed and then charged into the furnace. The furnace is a direct, natural gas or propane fired reverberatory-type furnace. As the raw materials melt, they react to form a material which then flows to a fritting device. The fritted material is continuously conveyed through a natural gas heated drying screw that removes excess moisture. The dried material is conveyed to a classifying screen and then conveyed to packing.

Emission units associated with Unit ID 33-2 (formerly Unit ID 47-1) were installed in February, 1995 and approved for modification to exhaust to stack 6-S-33 in 2011.

The emissions from this operation are vented to a baghouse & HEPA system.

Stack ID 4B-S-34

1. Unit ID 34-1: B-Furnace Mill

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The mill feed hopper receives material produced by the B-Furnace. The hopper then charges the mill, which is an air impact air swept type that air conveys the milled material to a cyclone. The air leaving the cyclone is returned to the mill. The material from the cyclone discharges to a packing hopper.

Emission units associated with Unit ID 34-1 were installed in 1955.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

2. Unit ID 34-3: Glass Concepts Process

The Glass Concepts Process includes wet ball mills, a holding tank, spray dryers, process baghouses, and interconnecting conveyors. A slurry mixture is batch milled in ball mills and conveyed to a holding tank where it is continuously mixed to keep the material from separating out. This material and material from the wet mixer is then dried in one of two atomizing spray dryers which are natural gas fired with propane as an alternative fuel. The dried product is conveyed through a process baghouse and packed out into containers. This system is drafted to pollution control equipment.

Emission units associated with Unit ID 34-3 were installed in 2005, modified in May, 2006 and October, 2007.

This process is controlled by baghouses & HEPA systems.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Various Stack IDs associated with the Expander Operation

1. Expander Operation: Unit IDs 15-1, 15-2, and 15-3 – Alpha BM Line, Beta BM Line, and Mixer Line.

Stack IDs associated with each unit are as follows:

- a) Unit ID 15-1: Alpha BM Line – RB-1000, R-1000, DC-4001, T-1000, R-1002, and DC-4000 (Trivial Activities except for DC-4001 and DC-4000 which are classified as Insignificant Activities)
- b) Unit ID 15-2: Beta BM Line – RB-2000, R-2000, DC-3003, T-2000, R-2001, and DC-3002 (Trivial Activities except for DC-3003 and DC-3002 which are classified as Insignificant Activities)
- c) Unit ID 15-3: Mixer Line - DC-3000 and DC-2000 (Insignificant Activities)

The Expander Operation consists of three (3) lines. Lines 15-1 and 15-2 each consists of a blender, mill receiver, mill, silo, packing receiver, and a bag packer. Various raw materials are charged into the blender, fed to the ball mill, and milled. The blended material is then air conveyed to storage hoppers and/or packed into bags. Line 15-3 consists of a mixer and packer. Blended material from the mixer is mechanically conveyed into bulk containers to be packed out into bags.

Emission units associated with Unit IDs 15-1 and 15-2 were installed in June, 2002 and modified in October, 2006, June and September, 2007, and approved for modification in 2011.

Emission units associated with Unit ID 15-3 were installed in August, 2005 and modified in October, 2006, and September, 2007.

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The particulate emissions from these units are controlled by particulate filters.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

This stationary source does not currently have any insignificant activities, as defined in 326 IAC 2-7-1(21) that have applicable requirements.

- (a) Natural gas-fired combustion sources, excluding boilers, with heat input equal to or less than ten million (10,000,000) Btu per hour.
- (b) Propane or liquefied petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour.
- (c) Combustion source flame safety purging on startup.
- (d) Storage tanks with capacity less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.
- (e) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (f) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (g) Cleaners and solvents characterized as follows:
 - (1) having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 degrees C (100 °F) or;
 - (2) having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20 °C (68 °F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (h) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6.8-1-1]
- (i) Closed loop heating and cooling systems.
- (j) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1% by volume.
- (k) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs.
- (l) Water based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs.
- (m) Replacement or repair of bags or baghouses and filters in other air filtration equipment.
- (n) Heat exchanger cleaning and repair.
- (o) Process vessel degassing and cleaning to prepare for internal repairs.

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- (p) Paved and unpaved roads and parking lots with public access. [326 IAC 6.8-10-1]
[326 IAC 6-4]
- (q) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.
- (r) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.
- (s) Blowdown for any of the following: sight glass; boilers; compressors; pumps; and cooling tower.
- (t) On-site fire and emergency response training approved by the department.
- (u) Purge double block and bleed valves.
- (v) Filter or coalescer media changeout.
- (w) A laboratory as defined in 326 IAC 2-7-1(21)(G).
- (x) Research and development activities as defined in 326 IAC 2-7-1(21)(H).
- (y) A petroleum fuel, other than gasoline, dispensing facility, having a storage tank capacity less than or equal to ten thousand five hundred (10,500) gallons, and dispensing three thousand thousand five hundred (3,500) gallons per day or less.
- (z) Refractory storage not requiring air pollution control equipment.
- (aa) Non-contact cooling tower systems with natural draft cooling towers not regulated under a NESHAP.
- (bb) Underground conveyors.
- (cc) Paint Maintenance- repair of buildings

Trivial Activities

The source also consists of the following trivial activities, as defined in 326 IAC 2-7-1(40):

- (a) Stack ID V-1
- (b) Stack ID V-2

1. Unit ID 1-1: General Building Ventilation Control System

The General Building Ventilation Control System consists of a fan and three (3) HEPA filter units, venting to a stack ID V-1 and a fan and three (3) HEPA filters venting to a Stack ID V-2, which are connected in parallel to the collection ductwork. Both Stack systems capture potential fugitive emissions which may escape from processing equipment in the lead chemical manufacturing areas.

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Emission units associated with Unit ID 1-1 were installed in May, 1990. [326 IAC 6.8-2-13(a)]

(c) Stack V-11 for Unit ID: HLP #8 Roof Vent.

A.4 Part 70 Permit Applicability [326 IAC 2-7-2]

This stationary source is required to have a Part 70 permit by 40 CFR Part 63, Subpart VVVVVV: National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources.

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SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-7-1]

Terms in this permit 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 2-7) shall prevail.

B.2 Permit Term [326 IAC 2-7-5(2)][326 IAC 2-1.1-9.5][326 IAC 2-7-4(a)(1)(D)][IC 13-15-3-6(a)]

- (a) This permit, T089-33798-00219, is issued for a fixed term of five (5) years from the issuance date of this permit, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date of this permit.
- (b) If IDEM, OAQ, upon receiving a timely and complete renewal permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect, including any permit shield provided in 326 IAC 2-7-15, until the renewal permit has been issued or denied.

B.3 Term of Conditions [326 IAC 2-1.1-9.5]

Notwithstanding the permit term of a permit to construct, a permit to operate, or a permit modification, any condition established in a permit issued pursuant to a permitting program approved in the state implementation plan shall remain in effect until:

- (a) the condition is modified in a subsequent permit action pursuant to Title I of the Clean Air Act; or
- (b) the emission unit to which the condition pertains permanently ceases operation.

B.4 Enforceability [326 IAC 2-7-7] [IC 13-17-12]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM, the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Severability [326 IAC 2-7-5(5)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.6 Property Rights or Exclusive Privilege [326 IAC 2-7-5(6)(D)]

This permit does not convey any property rights of any sort or any exclusive privilege.

B.7 Duty to Provide Information [326 IAC 2-7-5(6)(E)]

- (a) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to IDEM, OAQ copies of records required to be kept by this permit.
- (b) For information furnished by the Permittee to IDEM, OAQ, the Permittee may include a claim of confidentiality in accordance with 326 IAC 17.1. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.8 Certification [326 IAC 2-7-4(f)][326 IAC 2-7-6(1)][326 IAC 2-7-5(3)(C)]

- (a) A certification required by this permit meets the requirements of 326 IAC 2-7-6(1) if:

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- (1) it contains a certification by a "responsible official" as defined by 326 IAC 2-7-1(35), and
- (2) the certification states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.
- (b) The Permittee may use the attached Certification Form, or its equivalent with each submittal requiring certification. One (1) certification may cover multiple forms in one (1) submittal.
- (c) A "responsible official" is defined at 326 IAC 2-7-1(35).

B.9 Annual Compliance Certification [326 IAC 2-7-6(5)]

- (a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. The initial certification shall cover the time period from the date of final permit issuance through December 31 of the same year. All subsequent certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted no later than April 15 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, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

- (b) The annual compliance certification report required by this permit 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.
- (c) The annual compliance certification report shall include the following:
 - (1) The appropriate identification of each term or condition of this permit that is the basis of the certification;
 - (2) The compliance status;
 - (3) Whether compliance was continuous or intermittent;
 - (4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-7-5(3); and
 - (5) Such other facts, as specified in Sections D of this permit, as IDEM, OAQ may require to determine the compliance status of the source.

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The submittal by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

B.10 Preventive Maintenance Plan [326 IAC 2-7-5(12)][326 IAC 1-6-3]

- (a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMPs) no later than ninety (90) days after issuance of this permit or ninety (90) days after initial start-up, whichever is later, including the following information on each facility:
- (1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;
 - (2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and
 - (3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

If, due to circumstances beyond the Permittee's control, the PMPs cannot be prepared and maintained within the above time frame, the Permittee may extend the date an additional ninety (90) days provided the Permittee notifies:

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

The PMP extension notification does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

The Permittee shall implement the PMPs.

- (b) A copy of the PMPs shall be submitted to IDEM, OAQ upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ. IDEM, OAQ may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or is the primary contributor to an exceedance of any limitation on emissions. The PMPs and their submittal do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (c) To the extent the Permittee is required by 40 CFR Part 60/63 to have an Operation Maintenance, and Monitoring (OMM) Plan for a unit, such Plan is deemed to satisfy the PMP requirements of 326 IAC 1-6-3 for that unit.

B.11 Emergency Provisions [326 IAC 2-7-16]

- (a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation.
- (b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

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- (1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;
- (2) The permitted facility was at the time being properly operated;
- (3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;
- (4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ or Northwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865
Northwest Regional Office phone: (219) 464-0233; fax: (219) 464-0553.

- (5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile 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

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-7-5(3)(C)(ii) and must contain the following:

- (A) A description of the emergency;
- (B) Any steps taken to mitigate the emissions; and
- (C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (6) The Permittee immediately took all reasonable steps to correct the emergency.
- (c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.
 - (d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

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- (e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.
- (f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.
- (g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

B.12 Permit Shield [326 IAC 2-7-15][326 IAC 2-7-20][326 IAC 2-7-12]

- (a) Pursuant to 326 IAC 2-7-15, the Permittee has been granted a permit shield. The permit shield provides that compliance with the conditions of this permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that either the applicable requirements are included and specifically identified in this permit or the permit contains an explicit determination or concise summary of a determination that other specifically identified requirements are not applicable. The Indiana statutes from IC 13 and rules from 326 IAC, referenced in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a Part 70 permit under 326 IAC 2-7 or for applicable requirements for which a permit shield has been granted.

This permit shield does not extend to applicable requirements which are promulgated after the date of issuance of this permit unless this permit has been modified to reflect such new requirements.

- (b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.
- (c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.
- (d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:
 - (1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;
 - (2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

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- (3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and
- (4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.
- (e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).
- (f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]
- (g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

B.13 Prior Permits Superseded [326 IAC 2-1.1-9.5][326 IAC 2-7-10.5]

- (a) All terms and conditions of permits established prior to T089-33798-00219 and issued pursuant to permitting programs approved into the state implementation plan have been either:
 - (1) incorporated as originally stated,
 - (2) revised under 326 IAC 2-7-10.5, or
 - (3) deleted under 326 IAC 2-7-10.5.
- (b) Provided that all terms and conditions are accurately reflected in this permit, all previous registrations and permits are superseded by this Part 70 operating permit.

B.14 Termination of Right to Operate [326 IAC 2-7-10][326 IAC 2-7-4(a)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-7-3 and 326 IAC 2-7-4(a).

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-7-5(6)(C)][326 IAC 2-7-8(a)][326 IAC 2-7-9]

- (a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Part 70 Operating Permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-7-5(6)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:
 - (1) That this permit contains a material mistake.
 - (2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.
 - (3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-7-9(a)(3)]

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- (c) Proceedings by IDEM, OAQ to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-7-9(b)]
- (d) The reopening and revision of this permit, under 326 IAC 2-7-9(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ may provide a shorter time period in the case of an emergency. [326 IAC 2-7-9(c)]

B.16 Permit Renewal [326 IAC 2-7-3][326 IAC 2-7-4][326 IAC 2-7-8(e)]

- (a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-7-4. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(42). The renewal application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

- (b) A timely renewal application is one that is:
 - (1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and
 - (2) 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.
- (c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-7 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified, pursuant to 326 IAC 2-7-4(a)(2)(D), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Modification [326 IAC 2-7-11][326 IAC 2-7-12]

- (a) Permit amendments and modifications are governed by the requirements of 326 IAC 2-7-11 or 326 IAC 2-7-12 whenever the Permittee seeks to amend or modify this permit.
- (b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality

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100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.18 Permit Revision Under Economic Incentives and Other Programs
[326 IAC 2-7-5(8)][326 IAC 2-7-12(b)(2)]

- (a) No Part 70 permit revision or notice shall be required under any approved economic incentives, marketable Part 70 permits, emissions trading, and other similar programs or processes for changes that are provided for in a Part 70 permit.
- (b) Notwithstanding 326 IAC 2-7-12(b)(1) and 326 IAC 2-7-12(c)(1), minor Part 70 permit modification procedures may be used for Part 70 modifications involving the use of economic incentives, marketable Part 70 permits, emissions trading, and other similar approaches to the extent that such minor Part 70 permit modification procedures are explicitly provided for in the applicable State Implementation Plan (SIP) or in applicable requirements promulgated or approved by the U.S. EPA.

B.19 Operational Flexibility [326 IAC 2-7-20][326 IAC 2-7-10.5]

- (a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-7-20(b) or (c) without a prior permit revision, if each of the following conditions is met:

- (1) The changes are not modifications under any provision of Title I of the Clean Air Act;
- (2) Any preconstruction approval required by 326 IAC 2-7-10.5 has been obtained;
- (3) The changes do not result in emissions which exceed the limitations provided in this permit (whether expressed herein as a rate of emissions or in terms of total emissions);
- (4) The Permittee notifies the:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

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in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

- (5) The Permittee maintains records on-site, on a rolling five (5) year basis, which document all such changes and emission trades that are subject to 326 IAC 2-7-20(b)(1) and (c)(1). The Permittee shall make such records available, upon reasonable request, for public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ in the notices specified in 326 IAC 2-7-20(b)(1) and (c)(1).

- (b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(37)) without a permit revision, subject to the constraint of 326 IAC 2-7-20(a). For each such Section 502(b)(10) of the Clean Air Act change, the required written notification shall include the following:
 - (1) A brief description of the change within the source;
 - (2) The date on which the change will occur;
 - (3) Any change in emissions; and
 - (4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted is not considered an application form, report or compliance certification. Therefore, the notification by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (c) Emission Trades [326 IAC 2-7-20(c)]
The Permittee may trade emissions increases and decreases at the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-7-20(c).
- (d) Alternative Operating Scenarios [326 IAC 2-7-20(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-7-5(9). No prior notification of IDEM, OAQ or U.S. EPA is required.
- (e) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.20 Source Modification Requirement [326 IAC 2-7-10.5]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2.

B.21 Inspection and Entry [326 IAC 2-7-6][IC 13-14-2-2][IC 13-30-3-1][IC 13-17-3-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

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- (a) Enter upon the Permittee's premises where a Part 70 source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;
- (b) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, have access to and copy any records that must be kept under the conditions of this permit;
- (c) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, inspect any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;
- (d) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, sample or monitor substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and
- (e) As authorized by the Clean Air Act, IC 13-14-2-2, IC 13-17-3-2, and IC 13-30-3-1, utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-7-11]

- (a) The Permittee must comply with the requirements of 326 IAC 2-7-11 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.
- (b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permit Administration and Support Section, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251

Any such application does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-7-11(c)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-7-5(7)][326 IAC 2-1.1-7]

- (a) The Permittee shall pay annual fees to IDEM, OAQ within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.
- (b) Except as provided in 326 IAC 2-7-19(e), failure to pay may result in administrative enforcement action or revocation of this permit.
- (c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-4230 (ask for OAQ, Billing, Licensing, and Training Section), to determine the appropriate permit fee.

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B.24 Credible Evidence [326 IAC 2-7-5(3)][326 IAC 2-7-6][62 FR 8314] [326 IAC 1-1-6]

For the purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any condition of this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information relevant to whether the Permittee would have been in compliance with the condition of this permit if the appropriate performance or compliance test or procedure had been performed.

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SECTION C

SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-7-5(1)]

C.1 Opacity [326 IAC 5-1]

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

- (a) Opacity shall not exceed an average of twenty percent (20%) 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 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.3 Incineration [326 IAC 4-2] [326 IAC 9-1-2]

The Permittee shall not operate an incinerator except as provided in 326 IAC 4-2 or in this permit. The Permittee shall not operate a refuse incinerator or refuse burning equipment except as provided in 326 IAC 9-1-2 or in this permit.

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

The Permittee 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). 326 IAC 6-4-2(4) is not federally enforceable.

C.5 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

- (a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.
- (b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:
 - (1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or
 - (2) If there is a change in the following:
 - (A) Asbestos removal or demolition start date;

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- (B) Removal or demolition contractor; or
- (C) Waste disposal site.
- (c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).
- (d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications 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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (e) **Procedures for Asbestos Emission Control**
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-1, emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.
- (f) **Demolition and Renovation**
The Permittee shall thoroughly inspect the affected facility or part of the facility where the demolition or renovation will occur for the presence of asbestos pursuant to 40 CFR 61.145(a).
- (g) **Indiana Licensed Asbestos Inspector**
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Licensed Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement to use an Indiana Licensed Asbestos inspector is not federally enforceable.

Testing Requirements [326 IAC 2-7-6(1)]

C.6 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

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no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

- (b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).
- (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 Permittee 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.

Compliance Requirements [326 IAC 2-1.1-11]

C.7 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements by issuing an order under 326 IAC 2-1.1-11. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

C.8 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)]

- (a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.
- (b) For existing units:
Unless otherwise specified in this permit, for all monitoring requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance to begin such monitoring. If, due to circumstances beyond the Permittee's control, any monitoring equipment required by this permit cannot be installed and operated no later than ninety (90) days after permit issuance, the Permittee may extend the compliance schedule related to the equipment for an additional ninety (90) days provided the Permittee notifies:

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

in writing, prior to the end of the initial ninety (90) day compliance schedule, with full justification of the reasons for the inability to meet this date.

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

C.9 Continuous Compliance Plan [326 IAC 6.8-8-1] [326 IAC 6.8-8-8]

- (a) Pursuant to 326 IAC 326 IAC 6.8-8-1, the Permittee shall submit to IDEM and maintain at source a copy of the Continuous Compliance Plan (CCP). The Permittee shall perform

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the inspections, monitoring and record keeping in accordance with the information in 326 IAC 6.8-8-5 through 326 IAC 6.8-8-7 or applicable procedures in the CCP.

- (b) Pursuant to 326 IAC 6.8-8-8, the Permittee shall update the CCP, as needed, retain a copy of any changes and updates to the CCP at the source and make the updated CCP available for inspection by the department. The Permittee shall submit the updated CCP, if required to IDEM, OAQ within thirty (30) days of the update.
- (c) Pursuant to 326 IAC 6.8-8, failure to submit a CCP, maintain all information required by the CCP at the source, or submit update to a CCP is a violation of 326 IAC 6.8-8.

C.10 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-7-5(3)] [326 IAC 2-7-6(1)]

- (a) When required by any condition of this permit, an analog instrument used to measure a parameter related to the operation of an air pollution control device shall have a scale such that the expected maximum reading for the normal range shall be no less than twenty percent (20%) of full scale. The analog instrument shall be capable of measuring values outside of the normal range.
- (b) The Permittee may request that the IDEM, OAQ approve the use of an instrument that does not meet the above specifications provided the Permittee can demonstrate that an alternative instrument specification will adequately ensure compliance with permit conditions requiring the measurement of the parameters.

Corrective Actions and Response Steps [326 IAC 2-7-5][326 IAC 2-7-6]

C.11 Risk Management Plan [326 IAC 2-7-5(12)] [40 CFR 68]

If a regulated substance, as defined in 40 CFR 68, is present at a source in more than a threshold quantity, the Permittee must comply with the applicable requirements of 40 CFR 68.

C.12 Response to Excursions or Exceedances [326 IAC 2-7-5] [326 IAC 2-7-6]

Upon detecting an excursion where a response step is required by the D Section or an exceedance of a limitation in this permit:

- (a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.
- (b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:
 - (1) initial inspection and evaluation;
 - (2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system);
or
 - (3) any necessary follow-up actions to return operation to normal or usual manner of operation.
- (c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:
 - (1) monitoring results;

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- (2) review of operation and maintenance procedures and records; and/or
- (3) inspection of the control device, associated capture system, and the process.
- (d) Failure to take reasonable response steps shall be considered a deviation from the permit.
- (e) The Permittee shall record the reasonable response steps taken.

C.13 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-7-5][326 IAC 2-7-6]

- (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 Permittee 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 Permittee 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.

The response action documents submitted pursuant to this condition do require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

C.14 Emission Statement [326 IAC 2-7-5(3)(C)(iii)][326 IAC 2-7-5(7)][326 IAC 2-7-19(c)][326 IAC 2-6]
In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), starting in 2007 and every three (3) years thereafter, the Permittee shall submit by July 1 an emission statement covering the previous calendar year. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4(c) and shall meet the following requirements:

- (1) Indicate estimated actual emissions of all pollutants listed in 326 IAC 2-6-4(a);
- (2) Indicate estimated actual emissions of regulated pollutants as defined by 326 IAC 2-7-1(32) ("Regulated pollutant, which is used only for purposes of Section 19 of this rule") from the source, for purpose of fee assessment.

The statement must be submitted to:

Indiana Department of Environmental Management
Technical Support and Modeling Section, Office of Air Quality
100 North Senate Avenue
MC 61-50 IGCN 1003
Indianapolis, Indiana 46204-2251

The emission statement does require a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35).

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C.15 General Record Keeping Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-6]

- (a) Records of all required monitoring data, reports and support information required by this permit shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. Support information includes the following, where applicable:

- (AA) All calibration and maintenance records.
- (BB) All original strip chart recordings for continuous monitoring instrumentation.
- (CC) Copies of all reports required by the Part 70 permit.

Records of required monitoring information include the following, where applicable:

- (AA) The date, place, as defined in this permit, and time of sampling or measurements.
- (BB) The dates analyses were performed.
- (CC) The company or entity that performed the analyses.
- (DD) The analytical techniques or methods used.
- (EE) The results of such analyses.
- (FF) The operating conditions as existing at the time of sampling or measurement.

These records shall be physically present or electronically accessible at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

- (b) Unless otherwise specified in this permit, for all record keeping requirements not already legally required, the Permittee shall be allowed up to ninety (90) days from the date of permit issuance or the date of initial start-up, whichever is later, to begin such record keeping.

C.16 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]

- (a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-7-6(1) by a "responsible official" as defined by 326 IAC 2-7-1(35). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

- (b) The address for report submittal is:

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

- (c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit 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

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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.

- (d) The first report shall cover the period commencing on the date of issuance of this permit or the date of initial start-up, whichever is later, and ending on the last day of the reporting period. Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit, "calendar year" means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

C.17 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with applicable standards for recycling and emissions reduction.

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SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Stack ID 1-S-52

1. Unit ID 52-1: No. 1 Barton System

The Barton System consists of a melt kettle, barton reactor, settling device, and interconnecting conveyors. Lead ingots are charged into an enclosed melt kettle which is indirectly heated by either natural gas or propane burners. The molten lead is continuously fed into the barton reactor where it is atomized and oxidized into lead oxide. The oxide is drawn through a settling device and then conveyed to further processing.

Emission units associated with Unit ID 52-1 were installed in 1930.

Unit 52-1 is not controlled by the Main Control System. It is controlled by one baghouse followed by a HEPA system which exhausts through stack 1-S-52.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

2. Unit IDs 52-3 through 52-10: Furnace Systems No. 2, 10, 3, 4, 5, 6, 8, & 9

Each Furnace System consists of feed hoppers, batch furnace, and interconnecting conveyors. Each furnace is an indirectly heated, natural gas or propane fired, batch furnace which completes the oxidation of the lead oxide.

Emission units associated with Unit IDs 52-3, 52-6, and 52-7 were installed in 1930.

Emission units associated with Unit ID 52-4 were installed in 1980.

Emission units associated with Unit IDs 52-5 were installed in 1971.

Emission units associated with Unit IDs 52-8 were installed in 1955.

Emission units associated with Unit IDs 52-9 were installed in 1957.

Emission units associated with Unit IDs 52-10 were installed in 1972.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

3. Unit IDs 52-11 through 52-13: Mills Systems

Each Mill System consists of a feed hopper, mill, cyclone (Unit IDs 52-11 and 52-12 only), and interconnecting conveyors. Lead Oxide is conveyed to the mill feed hopper from where it is metered into the mill. The air and product from the mill are conveyed to a cyclone. Air from the cyclone is returned to the mill. The oxide is conveyed to the packing station, bulk loading storage hoppers or for further processing.

Emission units associated with Unit IDs 52-11 and 52-12 were installed in 1930.

Emission units associated with Unit ID 52-13 were installed in 1957.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

4. Unit ID 52-14: Air Conveying System

The Air Conveying System consists of a hopper, pressure blowers, and pipes. For the blower 1 system, lead oxide is conveyed to a hopper from which the material is fed through an air lock rotary valve into the pipe. Pressurized air from the blower conveys the material to storage silos. Blower 2 is used to blow material from the 6 Barton mill to storage silos. Material can

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also be blown from the 4 Barton mill to storage silos.

Emission units associated with Unit ID 52-14 were installed in 1983.

Unit 52-14 is not controlled by the Main Control System. It is controlled by two baghouses followed by a HEPA system which exhausts through stack 1-S-52.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

5. Unit ID 52-15, 16 & 19: Lead Oxide Bulk Loading, Bulk Truck Loading System, & Lead Oxide Bulk Loading – North

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Each Bulk Loading System consists of a bulk storage silo, conveyors, and a loading spout. A pneumatic bulk trailer is spotted under the telescopic loading spout. The spout is lowered to the trailer hatch. Material is fed from a bulk storage silo through sealed conveyors into the trailer.

Emission units associated with Unit ID 52-15 were installed in 1960.

Emission units associated with Unit ID 52-16 were installed in 1983.

Emission units associated with Unit ID 52-19 were installed in September, 1995.

Unit ID 52-16 is not controlled by the Main Control System. It is controlled by two baghouses followed by a HEPA system which exhausts through stack 1-S-52.

One (1) HM Truck Loading Bay incorporated with the existing Bulk Truck Loading System (Unit 52-16); with two additional tanks for future storage of HM Litharge (lead pigment), identified as S-106 and S-107; each tank is drafted into a separate bin vent, which are followed by a common HEPA filtration unit which exhausts filtered air to Stack 1-S-52.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

(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 2-7-5(1)]

D.1.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements) the PM10 emissions from Stack ID 1-S-52 shall be limited to 0.022 gr/dscf and 1.00 lbs/hr.

D.1.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), the Permittee will comply with the following limits for the Stack ID 1-S-52 as follows:

- (a) The PM_{2.5} emissions shall be limited to 1.0 lbs/hr.
- (b) The PM emissions shall be limited to 1.00 lbs/hr.
- (c) The PM₁₀ emissions shall be limited to 1.00 lbs/hr.
- (d) The Lead emissions shall be limited to 0.70 lbs/hr.

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Compliance with these limits, combined with the potential to emit PM_{2.5}, PM₁₀, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM₁₀, PM_{2.5}, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.1.3 Lead (Pb) [326 IAC 15-1-2]

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 1-S-52, as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.070 lbs/hr.

D.1.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.1.5 Testing Requirements [326 IAC 2-7-6] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.1.1 and D.1.3 the Permittee shall perform Lead testing on Stack ID 1-S-52 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.1.6 Particulate Matter

- (a) In order to comply with Condition D.1.1, and D.1.2 the baghouses and HEPA systems shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.7 Lead (Pb)

- (a) In order to comply with Conditions D.1.3, the baghouses and HEPA systems shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.8 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the

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emergency provisions of this permit (Section B – Emergency Provisions).

- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.1.9 Visible Emissions Notations

- (a) Visible emission notations of the Stack ID 1-S-52 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.1.10 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.9, the Permittee shall maintain daily records of the visible emission notations of the Stack ID 1-S-52 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

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SECTION D.2

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 & 1-S-7

1. Unit IDs 8-1, 16-1, 2-1, 26-1, and 7-1: No. 2, 3, 4, 5 & 7 Barton Systems

Each Barton System consists of a melt kettle, barton reactor, settling device, and interconnecting conveyors. Lead ingots are charged into an enclosed melt kettle which is indirectly heated by either natural gas or propane burners. The molten lead is continuously fed into the barton reactor where it is atomized and oxidized into lead oxide. The oxide is drawn through a settling device and then conveyed to further processing.

Emission units associated with Unit ID 8-1 were installed in 1958.
Emission units associated with Unit ID 16-1 were installed in 1972.
Emission units associated with Unit ID 2-1 were installed in 1974.
Emission units associated with Unit ID 26-1 were installed in 1977.
Emission units associated with Unit ID 7-1 were permitted in 2013.

Each system is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

2. Unit ID 26-2: No. 6 Barton System

This Barton System consists of a melt kettle, barton reactor, cyclone, and interconnecting conveyors. Lead ingots are charged into an enclosed melt kettle which is indirectly heated by either natural gas or propane burners. The molten lead is continuously fed into the barton reactor where it is atomized and oxidized into lead oxide. The oxide is drawn through a sealed conductor into a cyclone and then mechanically conveyed to further processing.

Emission units associated with Unit ID 26-2 were installed in July 1995.

The No. 6 Barton system is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.2.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 and 1-S-7 shall be limited to 0.022 gr/dscf and 0.25 lbs/hr per stack.

D.2.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), the Permittee will comply with the following limits for the Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 and 1-S-7, PM and PM2.5 as follows:

- (a) The PM2.5 emissions shall be limited to 0.25 lbs/hr per stack.

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- (b) The PM emissions shall be limited to 0.25 lbs/hr per stack.
- (c) The PM10 emissions shall be limited to 0.25 lbs/hr.
- (d) The Lead emissions shall be limited to 0.053 lbs/hr.

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.2.3 Lead (Pb) [326 IAC 15-1-2]

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26, and 1-S-7 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.053 lbs/hr, per stack.

D.2.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.2.5 Testing Requirements [326 IAC 2-7-6(1)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Conditions D.2.3, the Permittee shall perform lead testing on one of the five (5) stacks, Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26, and 1-S-7 testing a different stack each time until all five (5) have been tested, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.2.6 Particulate Matter

- (a) In order to comply with Conditions D.2.1, and D.2.2, the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.2.7 Lead (Pb)

- (a) In order to comply with Condition D.2.3, the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the

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expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.2.8 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.2.9 Visible Emissions Notations

- (a) Visible emission notations of the Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 and 1-S-7 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.2.10 Record Keeping Requirements

- (a) To document the compliance status with Condition D.2.9, the Permittee shall maintain daily records of the visible emission notations of the Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 and 1-S-7 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

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- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

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SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:	Stack ID 16-S-56
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1. Unit ID 56-1: 400Y Furnace System	
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The 400Y Furnace System is a direct, natural gas or propane fired reverberatory type furnace. The lead oxide is melted in this furnace and then converted to pelletized lead oxide. After appropriate classification, the finished product is screw conveyed to the packing hopper and packed.

Emission units associated with Unit ID 56-1 were installed in 1971.

This unit is controlled by the 16-S-56 Control System which includes four (4) baghouse & HEPA systems.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

2. Unit ID 56-3: Lead Oxide Pneumatic Conveyor System	
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The Pneumatic Conveyor System consists of a hopper, pressure blower, and a pipe. Lead oxide is conveyed to a hopper from which the material is fed through an air lock rotary valve and into the pipe. Pressurized air from the blower conveys the material to a storage silo.

Emission units associated with Unit ID 56-3 were installed in 1977.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

3. Unit ID 56-4: Lead Oxide Bulk Loading System	
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The Bulk Loading System consists of a bulk storage silo, conveyors, and a loading spout. A pneumatic bulk trailer is spotted under the telescopic loading spout. The spout is lowered to the trailer hatch. Material is fed from a bulk storage silo through sealed conveyors into the trailer.

Emission units associated with Unit ID 56-4 were installed in 1977.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

4. Unit ID 56-7: Direct Car Loading System	
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The Direct Car Loading System consists of two storage silos, two weigh hoppers, a loading spout, a bin dump station, and interconnecting conveyors. Material is conveyed to one of two storage silos from where it can be loaded into a rail car, bulk truck, or tote bin.

Emission units associated with Unit 56-7 were installed in June, 1999 and approved for modification in 2012.

This unit is controlled by a baghouse & HEPA system. The two storage silos are equipped with a primary baghouse which discharges to existing baghouse & HEPA system for particulate control, exhausting outside.

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[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

5. Unit ID 56-9: Flash Calciner System

The Flash Calciner System consists of a feed hopper, natural gas (propane alternative) calciner, process bag filter, Sweco separator, packer and interconnecting conveyors. Lead oxide from the bartons or tote bins is fed into a heated air stream. The material then passes through a process bag filter, a rotary valve and to either the 400Y furnace or through a Sweco separator. Following the Sweco, the material is either packed out or sent to storage tanks.

Emission units associated with Unit 56-9 were installed in May, 2006.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

6. Unit ID 56-11: XS Furnace System

The XS Furnace System consists of a mixer, natural gas (propane alternative) fired furnace, wet ball mill, wet sweco, mixing tank, and interconnecting conveyors. Lead oxide and other raw materials are batch mixed in the mixer then charged into the furnace. As the raw materials melt, they react to form a material, which then flows to a fritting device. The glass frit is milled, separated, and sent to a mix tank. The mix tank feeds the glass product spray dryer.

Emissions units associated with Unit 56-11 were installed in May, 2006 and approved for modification in 2011.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

7. Unit ID 56-13: Blending System

The blender is a paddle type mixer. The material from the blender will be packed out.

Emission units associated with Unit ID 56-13 were installed in 2001.

This system is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

8. One (1), small, natural gas-fired, metal recovery unit, identified as Unit 56-14 (MZR - Metal Zinc Recovery); constructed in 2016; with a maximum heat input capacity of 0.305 MMBtu/hr and a maximum production rate of 0.1875 ton/hr; during operation, this unit is completely enclosed; will be drafted to an existing baghouse and HEPA System (Unit 56-17) and exhausting through existing Stack 16-S-56.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

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

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Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.3.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 16-S-56 shall be limited to 0.022 gr/dscf and 1.00 lbs/hr.

D.3.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), the Permittee will comply with the following limits for the Stack ID16-S-56 as follows:

- (a) The PM2.5 emissions shall be limited to 1.00 lbs/hr.
- (b) The PM emissions shall be limited to 1.00 lbs/hr.
- (c) The PM10 emissions shall be limited to 1.00 lbs/hr.
- (d) The Lead emissions shall be limited to 0.2 lbs/hr.

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.3.3 Lead (Pb) [326 IAC 15-1-2]

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID16-S-56 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.2 lbs/hr.

D.3.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.3.5 Testing Requirements [326 IAC 2-7-6(1)] (4)] [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.3.3 the Permittee shall perform lead testing on Stack ID 16-S-56 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.3.6 Particulate Matter less than 10 microns in diameter (PM10)

- (a) In order to comply with Conditions D.3.1, and D.3.2 the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to

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normal, and the results of any response actions taken up to the time of notification.

D.3.7 Lead (Pb)

- (a) In order to comply with Condition D.3.3, the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.3.8 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.3.9 Visible Emissions Notations

- (a) Visible emission notations of the Stack ID 16-S-56 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.3.10 Record Keeping Requirements

- (a) To document the compliance status with Condition D.3.9, the Permittee shall maintain daily records of the visible emission notations of the Stack ID 16-S-56 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

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SECTION D.4

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

Stack ID 4-S-35

1. Unit ID 35-1: B-Furnace Drying System

The B-Furnace Drying System consists of a mixer, drying screw, sizing screen, oversize material crusher, and packing system. The mixer blends raw materials used for feedstock for the furnace. Material from the furnace is continuously conveyed from the fritting device through a natural gas or propane heated drying screw to remove excess moisture. The dried material is then conveyed to a classifying screen. The screened material is then conveyed to packing. The packing system uses a totally enclosed screw conveyor, constructed in 2015, to convey powdered material from the tote bin to a wet mixer via Packer No. 4. The material drop points are not open to the atmosphere.

Emission units associated with Unit ID 35-1 were installed in 1955.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.4.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 4-S-35 shall be limited to 0.022 gr/dscf and 0.57 lbs/hr.

D.4.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), the Permittee will comply with the following limits for the Stack ID 4-S-35 as follows:

- (a) The PM2.5 emissions shall be limited to 0.57 lbs/hr.
- (b) The PM emissions shall be limited to 0.57 lbs/hr.
- (c) The PM10 emissions shall be limited to 0.57 lbs/hr.
- (d) The Lead emissions shall be limited to 0.09 lbs/hr.

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.4.3 Lead (Pb) [326 IAC 15-1-2]

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 4-S-35 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.090 lbs/hr.

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D.4.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for this facility and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirement [326 IAC 2-7-5(1)]

D.4.5 Testing Requirements [326 IAC 2-7-6(1)] (4) [326 IAC 2-1.1-11]

In order to demonstrate compliance with Condition D.4.3, the Permittee shall perform lead testing on Stack ID 4-S-35 utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.4.6 Particulate Matter

- (a) In order to comply with Conditions D.4.1, and D.4.2, the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.4.7 Lead (Pb)

- (a) In order to comply with Condition D.4.3, the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.4.8 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with

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abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.4.9 Visible Emissions Notations

- (a) Visible emission notations of the Stack ID 4-S-35 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.4.10 Record Keeping Requirements

- (a) To document the compliance status with Condition D.4.9, the Permittee shall maintain daily records of the visible emission notations of the Stack ID 4-S-35 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

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SECTION D.5 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]: Stack ID 1-S-27

1. Unit ID 27-1: Lead Oxide Mill

The Lead Oxide Mill consists of a mill feed hopper, impact mill, cyclone, source bin, packing hopper, and packing station. Lead oxide is conveyed to the mill feed hopper from where it is metered into the mill for grinding. The mill is an impact, air swept type grinding mill. The air and product from the mill are conveyed to a cyclone. Air from the cyclone is returned to the mill.

Emission units associated with Unit ID 27-1 were installed in October, 1987.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.5.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 1-S-27 shall be limited to 0.022 gr/dscf and 0.290 lbs/hr.

D.5.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), the Permittee will comply with the following limits for the Stack ID 1-S-27 as follows:

- (a) The PM2.5 emissions shall be limited to 0.29 lbs/hr.
- (b) The PM emissions shall be limited to 0.29 lbs/hr.
- (c) The PM10 emissions shall be limited to 0.29 lbs/hr.
- (d) The Lead emissions shall be limited to 0.02 lbs/hr.

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.5.3 Lead (Pb) [326 IAC 15-1-2]

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 1-S-27 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.020 lbs/hr.

D.5.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for this facility and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.5.5 Particulate Matter

- (a) In order to comply with Condition D.5.1, and D.5.2, the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.5.6 Lead (Pb)

- (a) In order to comply with Condition D.5.3, the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.5.7 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.5.8 Visible Emissions Notations

- (a) Visible emission notations of the Stack ID 1-S-27 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part

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of the operation that would normally be expected to cause the greatest emissions.

- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.5.9 Record Keeping Requirements

- (a) To document the compliance status with Condition D.5.8, the Permittee shall maintain daily records of the visible emission notations of the Stack ID 1-S-27 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

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SECTION D.6

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

Stack ID 6-S-33

1. Unit ID 33-1: B-Furnace System

The B-Furnace System consists of feed hoppers, rework system, furnace, fritting device, and interconnecting conveyors. Lead-oxide and other raw materials are batch-mixed in a mixer and conveyed to a stoker hopper. This mixture is then fed to the furnace. The furnace is a direct, natural gas or propane fired reverberatory type furnace. The raw materials are melted to form a molten material which then flows by gravity to the fritting device. The fritted material is conveyed to the drying system.

Emission units associated with Unit ID 33-1 were installed in 1988.

This system is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

2. Unit ID 33-2: S-Furnace Operation

The S-Furnace Operation consists of a mixer, furnace, fritting device, drying screw, sizing screen, packers, and interconnecting conveyors. Non-lead raw materials are batch-mixed and then charged into the furnace. The furnace is a direct, natural gas or propane fired reverberatory-type furnace. As the raw materials melt, they react to form a material which then flows to a fritting device. The fritted material is continuously conveyed through a natural gas heated drying screw that removes excess moisture. The dried material is conveyed to a classifying screen and then conveyed to packing.

Emission units associated with Unit ID 33-2 (formerly Unit ID 47-1) were installed in February, 1995 and approved for modification to exhaust to stack 6-S-33 in 2011.

The emissions from this operation are vented to a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.6.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 6-S-33 shall be limited to 0.022 gr/dscf and 0.900 lbs/hr.

D.6.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), the Permittee will comply with the following limits for the Stack ID 6-S-33 as follows:

- (a) The PM2.5 emissions shall be limited to 0.900 lbs/hr.
- (b) The PM emissions shall be limited to 0.900 lbs/hr.

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- (c) The PM10 emissions shall be limited to 0.900 lbs/hr.
- (d) The Lead emissions shall be limited to 0.07 lbs/hr.

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.6.3 Lead (Pb) [326 IAC 15-1-2]

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 6-S-33 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.070 lbs/hr.

D.6.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for this facility and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

D.6.5 Furnace Operation [326 IAC 2-2]

In order to render 326 IAC 2-2 not applicable, the B-Furnace System (Unit ID 33-1) and S-Furnace System (Unit ID 33-2) shall not be in operation at the same time.

Compliance with this limit renders the requirements of 326 IAC 2-7 (Part 70) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.6.6 Testing Requirements [326 IAC 2-7-6] [326 IAC 2-1.1-11]

- (a) In order to demonstrate compliance with Conditions D.6.1, and D.6.2, the Permittee shall perform PM, PM10, and PM2.5 testing on Stack ID 6-S-33, when the S-Furnace System (Unit ID 33-2) is in operation utilizing methods as approved by the commissioner, and shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition. PM10 and PM2.5 includes filterable and condensable PM.
- (b) In order to demonstrate compliance with Condition D.6.3, the Permittee shall perform lead testing on Stack ID 6-S-33, when the B-Furnace System (Unit ID 33-1) is in operation, utilizing methods as approved by the Commissioner. This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration. Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.6.7 Particulate Matter

- (a) In order to comply with Conditions D.6.1, and D.6.2, the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also

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include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.6.8 Lead (Pb)

- (a) In order to comply with Condition D.6.3, the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.6.9 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.6.10 Visible Emissions Notations

- (a) Visible emission notations of the Stack ID 6-S-33 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.6.11 Record Keeping Requirements

- (a) To document the compliance status with Condition D.6.5, the Permittee shall maintain daily records that demonstrate the B-Furnace System and S-Furnace System were not in operation at the same time. The Permittee shall include in its daily record when each Furnace System started and commenced operation.
- (b) To document the compliance status with Condition D.6.10, the Permittee shall maintain daily records of the visible emission notations of the Stack ID 6-S-33 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (c) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

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SECTION D.7

FACILITY OPERATION CONDITIONS

Facility Description

Stack ID 4B-S-34

1. Unit ID 34-1: B-Furnace Mill

The mill feed hopper receives material produced by the B-Furnace. The hopper then charges the mill, which is an air impact air swept type that air conveys the milled material to a cyclone. The air leaving the cyclone is returned to the mill. The material from the cyclone discharges to a packing hopper.

Emission units associated with Unit ID 34-1 were installed in 1955.

This unit is controlled by a baghouse & HEPA system.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

2. Unit ID 34-3: Glass Concepts Process

The Glass Concepts Process includes wet ball mills, a holding tank, spray dryers, process baghouses, and interconnecting conveyors. A slurry mixture is batch milled in ball mills and conveyed to a holding tank where it is continuously mixed to keep the material from separating out. This material and material from the wet mixer is then dried in one of two atomizing spray dryers which are natural gas fired with propane as an alternative fuel. The dried product is conveyed through a process baghouse and packed out into containers. This system is drafted to pollution control equipment.

Emission units associated with Unit ID 34-3 were installed in 2005, modified in May, 2006 and October, 2007.

This process is controlled by baghouses & HEPA systems.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.7.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 4B-S-34 shall be limited to 0.022 gr/dscf and 0.400 lbs/hr.

D.7.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), the Permittee will comply with the following limits for the Stack ID 4B-S-34 as follows:

- (a) The PM2.5 emissions shall be limited to 0.400 lbs/hr.
- (b) The PM emissions shall be limited to 0.400 lbs/hr.
- (c) The PM10 emissions shall be limited to 0.400 lbs/hr.

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- (d) The Lead emissions shall be limited to 0.080 lbs/hr.

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.7.3 Lead (Pb) [326 IAC 15-1-2]

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 4B-S-34 as specifically listed in 326 IAC 15-1-2(a)(6), shall be limited to 0.080 lbs/hr.

D.7.4 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

D.7.5 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

Bag failure can be indicated by abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.7.6 Testing Requirements [326 IAC 2-7-6(a)], [326 IAC 2-1.1-11]

In order to demonstrate compliance with D.7.3, the Permittee shall perform lead testing on Stack ID 4B-S-34 utilizing methods as approved by the Commissioner. The test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

Testing shall be conducted in accordance with the provisions of 326 IAC 3-6 (Source Sampling Procedures). Section C – Performance Testing contains the Permittee's obligation with regard to the performance testing required by this condition.

D.7.7 Particulate Matter

- (a) In order to comply with Condition D.7.1, and D.7.2 the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

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D.7.8 Lead (Pb)

- (a) In order to comply with Condition D.7.3, the baghouse and HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.7.9 Visible Emissions Notations

- (a) Visible emission notations of the Stack ID 4B-S-34 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.7.10 Record Keeping Requirements

- (a) To document the compliance status with Condition D.7.9, the Permittee shall maintain daily records of the visible emission notations of the Stack ID 4B-S-34 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

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SECTION D.8

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

Stack ID 6-S-47

No processes currently vent through this stack.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.8.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 6-S-47 shall be limited to 0.022 gr/dscf and 0.400 lbs/hr.

D.8.2 Lead (Pb) [326 IAC 15-1-2]

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 6-S-47 as specifically listed in 326 IAC 15-1-2(a)(6), shall be limited to 0.021 lbs/hr.

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SECTION D.9

FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

Various Stack IDs associated with the Expander Operation

1. Expander Operation: Unit IDs 15-1, 15-2, and 15-3 – Alpha BM Line, Beta BM Line, and Mixer Line Stack IDs associated with each unit are as follows:
 - a) Unit ID 15-1: Alpha BM Line – RB-1000, R-1000, DC-4001, T-1000, R-1002, and DC-4000 (Trivial Activities except for DC-4001 and DC-4000 which are classified as Insignificant Activities)
 - b) Unit ID 15-2: Beta BM Line – RB-2000, R-2000, DC-3003, T-2000, R-2001, and DC-3002 (Trivial Activities except for DC-3003 and DC 3002 which are classified as Insignificant Activities)
 - c) Unit ID 15-3: Mixer Line - DC-3000 and DC-2000 (Insignificant Activities)

The Expander Operation consists of three (3) lines. Lines 15-1 and 15-2 each consists of a blender, mill receiver, mill, silo, packing receiver, and a bag packer. Various raw materials are charged into the blender, fed to the ball mill, and milled. The blended material is then air conveyed to storage hoppers and/or packed into bags. Line 15-3 consists of a mixer and packer. Blended material from the mixer is mechanically conveyed into bulk containers to be packed out into bags.

Emission units associated with Unit IDs 15-1 and 15-2 were installed in June, 2002 and modified in October, 2006, June and September, 2007, and approved for modification in 2011.

Emission units associated with Unit ID 15-3 were installed in August, 2005 and modified in October, 2006 and September, 2007.

The particulate emissions from these units are controlled by particulate filters.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.9.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 14-S-15 shall be limited to 0.022 gr/dscf and 0.320 lbs/hr.

D.9.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), the Permittee will comply with the following limits for the Stack ID 14-S-15 as follows:

- (a) The PM2.5 emissions shall be limited to 0.320 lbs/hr.
- (b) The PM emissions shall be limited to 0.320 lbs/hr.

Compliance with these limits, combined with the potential to emit PM2.5, PM10, and PM, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, and PM2.5, to less than 100, 100, and 100 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

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D.9.3 Preventive Maintenance Plan

A Preventive Maintenance Plan is required for these facilities and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.9.4 Particulate Matter

- (a) In order to comply with Conditions D.9.1, and D.9.2, the dust collectors shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.9.5 Broken or Failed Bag Detection

- (a) For a single compartment baghouse controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).
- (b) For a single compartment baghouse controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

Bag failure can be indicated by abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.9.6 Visible Emissions Notations

- (a) Visible emission notations of each stack exhaust associated with T-1000 and T-2000 shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation

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with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.9.7 Record Keeping Requirements

- (a) To document the compliance status with Condition D.9.6, the Permittee shall maintain daily records of the visible emission notations of each stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

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SECTION D.10 FACILITY OPERATION CONDITIONS – TRIVIAL ACTIVITY

Facility Description :

- (a) Stack ID V-1
- (b) Stack ID V-2

1. Unit ID 1-1: General Building Ventilation Control System

The General Building Ventilation Control System consists of a fan and three (3) HEPA filter units, venting to a stack ID V-1 and a fan and three (3) HEPA filters venting to a Stack ID V-2, which are connected in parallel to the collection ductwork. Both Stack systems capture potential fugitive emissions which may escape from processing equipment in the lead chemical manufacturing areas.

Emission units associated with Unit ID 1-1 were installed in May, 1990. [326 IAC 6.8-2-13(a)]

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.10.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID V-1 and the Stack ID V-2 shall be limited to 0.022 gr/dscf and 1.00 lbs/hr.

D.10.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to 326 IAC 2-2 (PSD), the Permittee will comply with the following limits as follows:

- (a) The combined PM2.5 emissions from Stack ID V-1, and the Stack ID V-2 shall be limited to 1.00 lbs/hr.
- (b) The combined PM emissions from Stack ID V-1, and the Stack ID V-2 shall be limited to 1.00 lbs/hr.
- (c) The combined PM10 emissions from Stack ID V-1, and the Stack ID V-2 shall be limited to 1.00 lbs/hr.
- (d) The combined Lead emissions from Stack ID V-1, and the Stack ID V-2 shall be limited to 0.09 lbs/hr.

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.10.3 Lead (Pb) [326 IAC 15-1-2]

Pursuant to 326 IAC 15 (Lead Emission Limitations), the combined lead emissions from Stack ID V-1 and the Stack ID V-2 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.090 lbs/hr.

D.10.4 Preventive Maintenance Plan

A Preventive Maintenance Plan is required for the Stack ID V-1 and the Stack ID V-2, and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

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Compliance Determination Requirements [326 IAC 2-7-5(1)]

D.10.5 Particulate Matter

- (a) In order to comply with Conditions D.10.1, and D.10.2, the HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-HEPA filter unit, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.10.6 Lead (Pb)

- (a) In order to comply with Condition D.10.3, the HEPA system shall be operated at all times when the associated facility is in operation.
- (b) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.10.7 Failed HEPA Filter Detection

- (a) For single HEPA filter units controlling emissions from a process operated continuously, a failed unit and the associated process shall be shut down immediately until the failed unit has been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).
- (b) For a single HEPA filter unit controlling emissions from a batch process, the feed to the process shall be shut down immediately until the failed unit has been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emissions unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B – Emergency Provisions).

HEPA failure can be indicated by abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

Compliance Monitoring Requirements [326 IAC 2-7-5(1)][326 IAC 2-7-6(1)]

D.10.8 Visible Emissions Notations

- (a) Visible emission notations of the Stack ID V-1 and the Stack ID V-2 exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, “normal” means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.
- (c) In the case of batch or discontinuous operations, readings shall be taken during that part

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of the operation that would normally be expected to cause the greatest emissions.

- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) If abnormal emissions are observed, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. An abnormal visible emission notation is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]

D.10.9 Record Keeping Requirements

- (a) To document the compliance status with Condition D.10.8, the Permittee shall maintain daily records of the visible emission notations of the Stack ID V-1 and Stack ID V-2 exhausts. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- (b) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

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SECTION D.11 FACILITY OPERATION CONDITIONS: Degreasing Operation

Facility Description Insignificant Activities:

- (g) Cleaners and solvents characterized as follows:
 - (1) having a vapor pressure equal to or less than 2 kPa; 15 mm Hg; or 0.3 psi measured at 38 degrees C (100 °F) or;
 - (2) having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg; or 0.1 psi measured at 20 °C (68 °F); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.

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

Emission Limitations and Standards [326 IAC 2-7-5(1)]

D.11.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Operations), for cold cleaning operations constructed after January 1, 1980, the Permittee shall:

- (1) Equip the degreaser with a cover.
- (2) Equip the degreaser with a device for draining cleaned parts.
- (3) Close the degreaser cover whenever parts are not being handled in the degreaser.
- (4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.
- (5) Provide a permanent, conspicuous label that lists the operating requirements in (a)(3), (a)(4), (a)(6), and (a)(7) of this condition.
- (6) Store waste solvent only in closed containers.
- (7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

D.11.2 Material requirements for cold cleaner degreasers [326 IAC 8-3-8]

- (a) Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), on and after January 1, 2015, the Permittee shall not operate a cold cleaner degreaser with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).
- (b) Pursuant to 326 IAC 8-3-8(c)(2), on and after January 1, 2015, the following records shall be maintained for each purchase of cold cleaner degreaser solvent:
 - (1) The name and address of the solvent supplier.
 - (2) The date of purchase (or invoice/bill dates of contract servicer indicating service date).

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- (3) The type of solvent purchased.
 - (4) The total volume of the solvent purchased.
 - (5) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).
- (c) All records required by 326 IAC 8-3-8(c)(2) shall be:
- (1) retained on-site or accessible electronically from the site for the most recent three (3) year period; and
 - (2) reasonably accessible for an additional two (2) year period.

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SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description :

Stack ID 1-S-52

This stack is identified as the Main Control System. This control system is comprised of nine (9) units in parallel. Each unit includes a baghouse and a HEPA. Each unit is rated at 99.9998% control efficiency according to the company. The following units are controlled by the Main Control System control equipment, except when otherwise specified.

Stack 1-S-52 is used to vent the control device exhausts from various processes.

1. Unit ID 52-1: No. 1 Barton System

The Barton System consists of a melt kettle, barton reactor, settling device, and interconnecting conveyors. Lead ingots are charged into an enclosed melt kettle which is indirectly heated by either natural gas or propane burners. The molten lead is continuously fed into the barton reactor where it is atomized and oxidized into lead oxide. The oxide is drawn through a settling device and then conveyed to further processing.

Emission units associated with Unit ID 52-1 were installed in 1930.

Unit 52-1 is not controlled by the Main Control System. It is controlled by one baghouse followed by a HEPA system which exhausts through stack 1-S-52.

One (1) HM Truck Loading Bay incorporated with the existing Bulk Truck Loading System (Unit 52-16); with two additional tanks for future storage of HM Litharge (lead pigment), identified as S-106 and S-107; each tank is drafted into a separate bin vent, which are followed by a common HEPA filtration unit which exhausts filtered air to Stack 1-S-52.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

2. Unit IDs 52-3 through 52-10: Furnace Systems No. 2, 10, 3, 4, 5, 6, 8, & 9

Each Furnace System consists of feed hoppers, batch furnace, and interconnecting conveyors. Each furnace is an indirectly heated, natural gas or propane fired, batch furnace which completes the oxidation of the lead oxide.

Emission units associated with Unit IDs 52-3, 52-6, and 52-7 were installed in 1930.

Emission units associated with Unit ID 52-4 were installed in 1980.

Emission units associated with Unit IDs 52-5 were installed in 1971.

Emission units associated with Unit IDs 52-8 were installed in 1955.

Emission units associated with Unit IDs 52-9 were installed in 1957.

Emission units associated with Unit IDs 52-10 were installed in 1972.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

3. Unit IDs 52-11 through 52-13: Mills Systems

Each Mill System consists of a feed hopper, mill, cyclone (Unit IDs 52-11 and 52-12 only), and interconnecting conveyors. Lead Oxide is conveyed to the mill feed hopper from where it is

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metered into the mill. The air and product from the mill are conveyed to a cyclone. Air from the cyclone is returned to the mill. The oxide is conveyed to the packing station, bulk loading storage hoppers or for further processing.

Emission units associated with Unit IDs 52-11 and 52-12 were installed in 1930.
Emission units associated with Unit ID 52-13 were installed in 1957.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

4. Unit ID 52-14: Air Conveying System

The Air Conveying System consists of a hopper, pressure blowers, and pipes. For the blower 1 system, lead oxide is conveyed to a hopper from which the material is fed through an air lock rotary valve into the pipe. Pressurized air from the blower conveys the material to storage silos. Blower 2 is used to blow material from the 6 Barton mill to storage silos. Material can also be blown from the 4 Barton mill to storage silos.

Emission units associated with Unit ID 52-14 were installed in 1983.

Unit 52-14 is not controlled by the Main Control System. It is controlled by two baghouses followed by a HEPA system which exhausts through stack 1-S-52.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

5. Unit ID 52-15, 16 & 19: Lead Oxide Bulk Loading, Bulk Truck Loading System, & Lead Oxide Bulk Loading – North

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

Each Bulk Loading System consists of a bulk storage silo, conveyors, and a loading spout. A pneumatic bulk trailer is spotted under the telescopic loading spout. The spout is lowered to the trailer hatch. Material is fed from a bulk storage silo through sealed conveyors into the trailer.

Emission units associated with Unit ID 52-15 were installed in 1960.
Emission units associated with Unit ID 52-16 were installed in 1983.
Emission units associated with Unit ID 52-19 were installed in September, 1995.

Unit ID 52-16 is not controlled by the Main Control System. It is controlled by two baghouses followed by a HEPA system which exhausts through stack 1-S-52.

One (1) HM Truck Loading Bay incorporated with the existing Bulk Truck Loading System (Unit 52-16); with two additional tanks for future storage of HM Litharge (lead pigment), identified as S-106 and S-107; each tank is drafted into a separate bin vent, which are followed by a common HEPA filtration unit which exhausts filtered air to Stack 1-S-52.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

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Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 & 1-S-7

1. Unit IDs 8-1, 16-1, 2-1, 26-1 & 7-1: No. 2, 3, 4, 5 & 7 Barton Systems

Each Barton System consists of a melt kettle, barton reactor, settling device, and interconnecting conveyors. Lead ingots are charged into an enclosed melt kettle which is indirectly heated by either natural gas or propane burners. The molten lead is continuously fed into the barton reactor where it is atomized and oxidized into lead oxide. The oxide is drawn through a settling device and then conveyed to further processing.

Emission units associated with Unit ID 8-1 were installed in 1958.
Emission units associated with Unit ID 16-1 were installed in 1972.
Emission units associated with Unit ID 2-1 were installed in 1974.
Emission units associated with Unit ID 26-1 were installed in 1977.

Emission units associated with Unit ID 7-1 were permitted in 2013.
Each system is controlled by a baghouse & HEPA system.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

2. Unit ID 26-2: No. 6 Barton System

This Barton System consists of a melt kettle, barton reactor, cyclone, and interconnecting conveyors. Lead ingots are charged into an enclosed melt kettle which is indirectly heated by either natural gas or propane burners. The molten lead is continuously fed into the barton reactor where it is atomized and oxidized into lead oxide. The oxide is drawn through a sealed conductor into a cyclone and then mechanically conveyed to further processing.

Emission units associated with Unit ID 26-2 were installed in July 1995.

The No. 6 Barton system is controlled by a baghouse & HEPA system.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

Stack ID 16-S-56

1. Unit ID 56-1: 400Y Furnace System

The 400Y Furnace System is a direct, natural gas or propane fired reverberatory type furnace. The lead oxide is melted in this furnace and then converted to pelletized lead oxide. After appropriate classification, the finished product is screw conveyed to the packing hopper and packed.

Emission units associated with Unit ID 56-1 were installed in 1971.

This unit is controlled by the 16-S-56 Control System which includes six (6) baghouse & HEPA systems.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

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2. Unit ID 56-3: Lead Oxide Pneumatic Conveyor System

The Pneumatic Conveyor System consists of a hopper, pressure blower, and a pipe. Lead oxide is conveyed to a hopper from which the material is fed through an air lock rotary valve and into the pipe. Pressurized air from the blower conveys the material to a storage silo.

Emission units associated with Unit ID 56-3 were installed in 1977.

This unit is controlled by a baghouse & HEPA system.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

3. Unit ID 56-4: Lead Oxide Bulk Loading System

The Bulk Loading System consists of a bulk storage silo, conveyors, and a loading spout. A pneumatic bulk trailer is spotted under the telescopic loading spout. The spout is lowered to the trailer hatch. Material is fed from a bulk storage silo through sealed conveyors into the trailer.

Emission units associated with Unit ID 56-4 were installed in 1977.

This unit is controlled by a baghouse & HEPA system.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

4. Unit ID 56-7: Direct Car Loading System

The Direct Car Loading System consists of two storage silos, two weigh hoppers, a loading spout, a bin dump station, and interconnecting conveyors. Material is conveyed to one of two storage silos from where it can be loaded into a rail car, bulk truck, or tote bin.

Emission units associated with Unit 56-7 were installed in June, 1999 and approved for modification in 2012.

This unit is controlled by a baghouse & HEPA system. The two storage silos are equipped with a primary baghouse which discharges to existing baghouse & HEPA system for particulate control, exhausting outside.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

5. Unit ID 56-9: Flash Calciner System

The Flash Calciner system consists of a feed hopper, natural gas (propane alternative) calciner, process bag filter, Sweco separator, packer and interconnecting conveyors. Lead oxide from the bartons or tote bins is fed into a heated air stream. The material then passes through a process bag filter, a rotary valve and to either the 400Y furnace or through a Sweco separator. Following the Sweco, the material is either packed out or sent to storage tanks.

Emission units associated with Unit ID 56-9 were installed in May, 2006.

This unit is controlled by a baghouse & HEPA system.

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Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

6. Unit ID 56-11: XS Furnace System

The XS Furnace System consists of a mixer, natural gas (propane alternative) fired furnace, wet ball mill, wet sweco, mixing tank, and interconnecting conveyors. Lead oxide and other raw materials are batch mixed in the mixer then charged into the furnace. As the raw materials melt, they react to form a material, which then flows to a fritting device. The glass frit is milled, separated, and sent to a mix tank. The mix tank feeds the glass product spray dryer.

Emissions units associated with Unit 56-11 were installed in May, 2006 and approved for modification in 2011.

This unit is controlled by a baghouse & HEPA system.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

7. Unit ID 56-13: Blending System

The blender is a paddle type mixer. The material from the blender will be packed out.

Emission units associated with Unit ID 56-13 were installed in 2001.

This system is controlled by a baghouse & HEPA system.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

8. One (1), small, natural gas-fired, metal recovery unit, identified as Unit 56-14 (MZR - Metal Zinc Recovery); constructed in 2016; with a maximum heat input capacity of 0.305 MMBtu/hr and a maximum production rate of 0.1875 ton/hr; during operation, this unit is completely enclosed; will be drafted to an existing baghouse and HEPA System (Unit 56-17) and exhausting through existing Stack 16-S-56.

Under 40 CFR 63, Subpart VVVVVV this unit is considered a chemical manufacturing process unit.

Stack ID 4-S-35

1. Unit ID 35-1: B-Furnace Drying System

The B-Furnace Drying System consists of a mixer, drying screw, sizing screen, oversize material crusher, and packing system. The mixer blends raw materials used for feedstock for the furnace. Material from the furnace is continuously conveyed from the fritting device through a natural gas or propane heated drying screw to remove excess moisture. The dried material is then conveyed to a classifying screen. The screened material is then conveyed to packing. The packing system uses a totally enclosed screw conveyor, constructed in 2015, to convey powdered material from the tote bin to a wet mixer via Packer No. 4. The material drop points are not open to the atmosphere.

Emission units associated with Unit ID 35-1 were installed in 1955.

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This unit is controlled by a baghouse & HEPA system.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

Stack ID 1-S-27

1. Unit ID 27-1: Lead Oxide Mill

The Lead Oxide Mill consists of a mill feed hopper, impact mill, cyclone, source bin, packing hopper, and packing station. Lead oxide is conveyed to the mill feed hopper from where it is metered into the mill for grinding. The mill is an impact, air swept type grinding mill. The air and product from the mill are conveyed to a cyclone. Air from the cyclone is returned to the mill.

Emission units associated with Unit ID 27-1 were installed in October, 1987.

This unit is controlled by a baghouse & HEPA system.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

Stack ID 6-S-33

1. Unit ID 33-1: B-Furnace System

The B-Furnace System consists of feed hoppers, rework system, furnace, fritting device, and interconnecting conveyors. Lead-oxide and other raw materials are batch-mixed in a mixer and conveyed to a stoker hopper. This mixture is then fed to the furnace. The furnace is a direct, natural gas or propane fired reverberatory type furnace. The raw materials are melted to form a molten material which then flows by gravity to the fritting device. The fritted material is conveyed to the drying system.

Emission units associated with Unit ID 33-1 were installed in 1988.

This system is controlled by a baghouse & HEPA system.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

Stack ID 4B-S-34

1. Unit ID 34-1: B-Furnace Mill

The mill feed hopper receives material produced by the B-Furnace. The hopper then charges the mill, which is an air impact air swept type that air conveys the milled material to a cyclone. The air leaving the cyclone is returned to the mill. The material from the cyclone discharges to a packing hopper.

Emission units associated with Unit ID 34-1 were installed in 1955.

This unit is controlled by a baghouse & HEPA system.

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Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

2. Unit ID 34-3: Glass Concepts Process

The Glass Concepts Process includes wet ball mills, a holding tank, spray dryers, process baghouses, and interconnecting conveyors. A slurry mixture is batch milled in ball mills and conveyed to a holding tank where it is continuously mixed to keep the material from separating out. This material and material from the wet mixer is then dried in one of two atomizing spray dryers which are natural gas fired with propane as an alternative fuel. The dried product is conveyed through a process baghouse and packed out into containers. This system is drafted to pollution control equipment.

Emission units associated with Unit ID 34-3 were installed in 2005, modified in May, 2006 and October, 2007.

This process is controlled by baghouses & HEPA systems.

Under 40 CFR 63, Subpart VVVVVV these units are considered chemical manufacturing process units.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements

E.1.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]

- (a) Pursuant to 40 CFR 63, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, except as otherwise specified in 40 CFR 63, Subpart VVVVVV.
- (b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports 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

E.1.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Chemical Manufacturing Area Sources [40 CFR Part 63, Subpart VVVVVV]

The Permittee, which engages in chemical manufacturing, shall comply with the following provisions of 40 CFR 63, Subpart VVVVVV (included as Attachment A of this permit):

- (1) 40 CFR 63.11494(a), (b), (d), (e), and (f)
- (2) 40 CFR 63.11495(a)(1), a(3), a(4) & a(5) and (d)
- (3) 40 CFR 63.11496(f)(1), (f)(2), and (f)(3)
- (4) 40 CFR 63.11501(a), (b)(1), (c)(1)(i), (c)(1)(v), and (d)
- (5) 40 CFR 63.11502
- (6) 40 CFR 63.11503
- (7) Tables 1
- (8) Tables 4

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(9) Tables 9

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
CERTIFICATION**

Source Name: Hammond Group, Inc.
Source Address: 2308- 165th Street, Hammond, Indiana 46320
Part 70 Permit No.: T089-33798-00219

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

- Annual Compliance Certification Letter
- Test Result (specify)
- Report (specify)
- Notification (specify)
- Affidavit (specify)
- Other (specify)

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
Phone: (317) 233-0178
Fax: (317) 233-6865**

**PART 70 OPERATING PERMIT
EMERGENCY OCCURRENCE REPORT**

Source Name: Hammond Group, Inc.
Source Address: 2308- 165th Street, Hammond, Indiana 46320
Part 70 Permit No.: T089-33798-00219

This form consists of 2 pages

Page 1 of 2

- | |
|---|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) business hours (1-800-451-6027 or 317-233-0178, ask for Compliance Section); and• The Permittee must submit notice in writing or by facsimile within two (2) working days (Facsimile Number: 317-233-6865), and follow the other requirements of 326 IAC 2-7-16. |
|---|

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

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If any of the following are not applicable, mark N/A

Page 2 of 2

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO ₂ , VOC, NO _x , CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

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**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
PART 70 OPERATING PERMIT
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT**

Source Name: Hammond Group, Inc.
Source Address: 2308- 165th Street, Hammond, Indiana 46320
Part 70 Permit No.: T089-33798-00219

Months: _____ to _____ Year: _____

Page 1 of 2

<p>This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B -Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C- General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".</p>	
<p><input type="checkbox"/> NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.</p>	
<p><input type="checkbox"/> THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	
<p>Permit Requirement (specify permit condition #)</p>	
<p>Date of Deviation:</p>	<p>Duration of Deviation:</p>
<p>Number of Deviations:</p>	
<p>Probable Cause of Deviation:</p>	
<p>Response Steps Taken:</p>	

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Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	Duration of Deviation:
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed by: _____

Title / Position: _____

Date: _____

Phone: _____

**Indiana Department of Environmental Management
Office of Air Quality**

**Technical Support Document (TSD) for a Part 70
Minor Source Modification and a Significant Permit Modification**

Source Description and Location

Source Name:	Hammond Group, Inc.
Source Location:	2308 - 165th Street, Hammond, Indiana 46320
County:	Lake
SIC Code:	2819 and 2869
Operation Permit No.:	T089-33798-00219
Operation Permit Issuance Date:	April 4, 2014
Minor Source Modification No.:	089-36934-00219
Significant Permit Modification No.:	089-36936-00219
Permit Reviewer:	Daniel W Pell

Existing Approvals

The source was issued Part 70 Operating Permit No. T089-33798-00219 on April 4, 2014. The source has since received the following approvals:

- (a) First Significant Source Modification No. 089-35686-00219, issued June 15, 2015 (Revoked);
- (b) First Significant Permit Modification No. 089-35765-00219, issued June 30, 2015 (Revoked);
- (c) First Administrative Amendment No. 089-35964-00219, issued July 16, 2015 (Revoked); and
- (d) Second Administrative Amendment No. 089-36838-00219, issued March 2, 2016.

County Attainment Status

The source is located in Lake County.

Pollutant	Designation
SO ₂	Better than national standards.
CO	Attainment effective February 18, 2000, for the part of the city of East Chicago bounded by Columbus Drive on the north; the Indiana Harbor Canal on the west; 148 th Street, if extended, on the south; and Euclid Avenue on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of East Chicago and Lake County.
O ₃	On June 11, 2012, the U.S. EPA designated Lake County nonattainment, for the 8-hour ozone standard. ^{1,2}
PM _{2.5}	Unclassifiable or attainment effective February 6, 2012, for the annual PM _{2.5} standard.
PM _{2.5}	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM _{2.5} standard.
PM ₁₀	Attainment effective March 11, 2003, for the cities of East Chicago, Hammond, Whiting, and Gary. Unclassifiable effective November 15, 1990, for the remainder of Lake County.
NO ₂	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.

¹The U. S. EPA has acknowledged in both the proposed and final rulemaking for this redesignation that the anti-backsliding provisions for the 1-hour ozone standard no longer apply as a result of the redesignation under the 8-hour ozone standard. Therefore, permits in Lake County are no longer subject to review pursuant to Emission Offset, 326 IAC 2-3 for the 1-hour standard. ²The department has filed a legal challenge to U.S. EPA's designation in 77 FR 34228.

(a) **Ozone Standards**

U.S. EPA, in the Federal Register Notice 77 FR 112 dated June 11, 2012, has designated Lake County as nonattainment for ozone. On August 1, 2012, the air pollution control board issued an emergency rule adopting the U.S. EPA's designation. This rule became effective August 9, 2012. IDEM does not agree with U.S. EPA's designation of nonattainment. IDEM filed a suit against U.S. EPA in the U.S. Court of Appeals for the DC Circuit on July 19, 2012. However, in order to ensure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's designation. 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. Therefore, VOC and NO_x emissions were evaluated pursuant to the requirements of Emission Offset, 326 IAC 2-3.

(b) **PM_{2.5}**

Lake County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) **Other Criteria Pollutants**

Lake County has been classified as attainment or unclassifiable in Indiana for SO₂, CO, PM₁₀, NO₂, and Pb. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

Fugitive Emissions

Since this source is classified as a stationary Industrial Inorganic Chemicals and Inorganic Pigments Manufacturing Plant, it is considered one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7. Therefore, fugitive emissions are counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Source Status - Existing Source

The table below summarizes the potential to emit of the entire source, prior to the proposed modification, after consideration of all enforceable limits established in the effective permits:

Pollutant	Emissions (ton/yr)
PM	31.3
PM ₁₀	31.3
PM _{2.5}	31.3
SO ₂	negligible
NO _x	17.3
VOC	6.7
CO	14.4
HAPs	4.0 (Lead)
Total	4.0

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits

for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule, or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHGs emissions to determine operating permit applicability or PSD applicability to a source or modification.

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant is emitted at a rate of one hundred (100) tons per year or more and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).
- (b) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because Lead (Pb), a PSD regulated pollutant, is not emitted at a rate of twenty five (25) tons per year or more and it is one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).
- (c) This existing source is not a major stationary source under Emission Offset (326 IAC 2-3) because no nonattainment regulated pollutants, VOC or NOx, are emitted at a rate of 100 tons per year or more.
- (d) These emissions are based upon Appendix A of TSD No. 089-33798-00219, issued April 4, 2014.
- (e) This existing source is not a major source of HAPs, as defined in 40 CFR 63.2, because HAPs emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed an application, submitted by Hammond Group, Inc. on February 9, 2016, relating to the following changes:

The following is a list of the proposed emission units and pollution control devices:

- (a) One (1), small, natural gas-fired, metal recovery unit, identified as Unit 56-14 (MZR - Metal Zinc Recovery); constructed in 2016; with a maximum heat input capacity of 0.305 MMBtu/hr and a maximum production rate of 0.1875 ton/hr; during operation, this unit is completely enclosed; will be drafted to an existing baghouse and HEPA System (Unit 56-17) and exhausting through existing Stack 16-S-56.
- (b) Stack ID V-2

General Building Ventilation Control System, approved in 2016 for construction.

The General Building Ventilation Control System consists of a fan and three (3) HEPA filter units which are connected in parallel to the collection ductwork. The system captures the potential fugitive emissions which may escape from processing equipment in the lead chemical manufacturing areas. This control device is a redundant system for Stack ID V-1.
- (c) One (1) HM Truck Loading Bay incorporated with the existing Bulk Truck Loading System (Unit 52-16); with two additional tanks for future storage of HM Litharge (lead pigment), identified as S-106 and S-107; each tank is drafted into a separate bin vent, which are followed by a common HEPA filtration unit which exhausts filtered air to Stack 1-S-52.

Also, the source has revised the emissions factors for the Bulk Truck Loading System (Unit ID 52-16). The revised emissions factors for PM, PM10, and Lead, are derived from a 2014 compliance stack test.

In addition, existing Unit ID: HLP #8 Roof Vent (Stack V-11) was added to the list of emission units. Its PTE was included in the Appendix A Calculations and was noted as a trivial activity; however, its description was not shown in Section A.3 of the permit.

Enforcement Issues

IDEM is aware that the two tanks, which are part of Truck Loading Bay (Unit 52-16) have been constructed prior to receipt of the proper permit. IDEM is reviewing this matter and will take the appropriate action. This proposed approval is intended to satisfy the requirements of the construction permit rules.

Emission Calculations

See Appendix A of this Technical Support Document for detailed emission calculations.

Permit Level Determination – Part 70 Modification to an Existing Source

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5. This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit. If the control equipment has been determined to be integral, the table reflects the PTE after consideration of the integral control device.

PTE Before Controls of the New Emission Units	
Pollutant	Potential To Emit (ton/yr)
PM	0.3
PM ₁₀	1.0
PM _{2.5}	1.0
SO ₂	0.0
VOC	0.01
CO	0.1
NO _x	0.1
Single HAPs	0.24 (Lead)
Total HAPs	0.24 (Lead)

Appendix A of this TSD reflects the unrestricted potential emissions of the modification.

This Minor Source Modification is subject to 326 IAC 2-7-10.5(e)(1)(E), because the potential to emit Lead (Pb) is less than one (1) ton per year and equal to or greater than two-tenths (0.2) ton per year. Additionally, the Minor Source Modification will be incorporated into the Part 70 Operating Permit through a Significant Permit Modification issued pursuant to 326 IAC 2-7-12(d)(1), because the modification requires a revision in the FESOP and PSD Minor limits.

Permit Level Determination – PSD or Emission Offset

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of this Part 70 Minor Source Modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process / Emission Unit	Project Emissions (ton/yr)							
	PM	PM ₁₀	PM _{2.5} *	SO ₂	NO _x	VOC	CO	Lead
Unit 56-14 (MZR)	0.04	0.72	0.72	0.00	0.13	0.01	0.11	0.01
HM Truck Loading Bay	0.23	0.23	0.23	-	-	-	-	0.23
Total for Modification	0.3	1.0	1.0	0.0	0.1	0.01	0.1	0.24
PSD Major Source Thresholds	100	100	100	100	100	100	100	25
Emission Offset/ Nonattainment NSR Major Source Thresholds	---	---	---	---	100	100	---	---

*PM_{2.5} listed is direct PM_{2.5}.

On June 23, 2014, in the case of *Utility Air Regulatory Group v. EPA*, cause no. 12-1146, (available at http://www.supremecourt.gov/opinions/13pdf/12-1146_4g18.pdf) the United States Supreme Court ruled that the U.S. EPA does not have the authority to treat greenhouse gases (GHGs) as an air pollutant for the purpose of determining operating permit applicability or PSD Major source status. On July 24, 2014, the U.S. EPA issued a memorandum to the Regional Administrators outlining next steps in permitting decisions in light of the Supreme Court's decision. U.S. EPA's guidance states that U.S. EPA will no longer require PSD or Title V permits for sources "previously classified as 'Major' based solely on greenhouse gas emissions."

The Indiana Environmental Rules Board adopted the GHG regulations required by U.S. EPA at 326 IAC 2-2-1(zz), pursuant to Ind. Code § 13-14-9-8(h) (Section 8 rulemaking). A rule or part of a rule, adopted under Section 8 is automatically invalidated when the corresponding federal rule, or part of the rule, is invalidated. Due to the United States Supreme Court Ruling, IDEM, OAQ cannot consider GHGs emissions to determine operating permit applicability or PSD applicability to a source or modification.

This modification to an existing minor PSD stationary source is not major because the emissions increase of each PSD regulated pollutant are less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

This modification to an existing minor Emission Offset stationary source is not major because the emissions increase of NO_x and VOC is less than the Emission Offset major source thresholds. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Federal Rule Applicability Determination

The following federal rules are applicable to the source due to this amendment:

NSPS:

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed amendment.

NESHAP:

(b) This source is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources (40 CFR 63, Subpart VVVVVV), which is incorporated by reference as 326 IAC 20. The units subject to this rule include the following:

- (1) the natural gas-fired, metal recovery unit, identified as Unit 56-14 (MZR - Metal Zinc Recovery), and
- (2) the HM Truck Loading Bay incorporated with the existing Bulk Truck Loading System (Unit 52-16).

The metal recovery Unit 56-14 (MZR), and the HM Truck Loading Bay are subject to the following portions of Subpart VVVVVV:

- (1) 40 CFR 63.11494(a), (b), (d), (e), and (f)
- (2) 40 CFR 63.11495(a)(1), a(3), a(4) & a(5) and (d)
- (3) 40 CFR 63.11496(f)(1), (f)(2), and (f)(3)
- (4) 40 CFR 63.11501(a), (b)(1), (c)(1)(i), (c)(1)(v), and (d)
- (5) 40 CFR 63.11502
- (6) 40 CFR 63.11503
- (7) Tables 1
- (8) Tables 4
- (9) Tables 9

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart VVVVVV.

- (c) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) applicable to this proposed amendment.
- (d) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to new or modified emission units that involve a pollutant-specific emission unit and meet the following criteria:
 - (1) has a potential to emit before controls equal to or greater than the Part 70 major source threshold for the pollutant involved;
 - (2) is subject to an emission limitation or standard for that pollutant; and
 - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.

The requirements of 40 CFR Part 64, CAM are not applicable to any of the new emission units because the uncontrolled PTE of each emission unit is less than the TV major source thresholds..

State Rule Applicability Determination

The following state rules are applicable to the source due to the modification:

326 IAC 2-2 and 2-3 (PSD and Emission Offset)

PSD and Emission Offset applicability is discussed under the Permit Level Determination – PSD and Emission Offset section.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of Unit 56-14 (MZR) and the HM Truck Loading Bay will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply to Unit 56-14 (MZR) and the HM Truck Loading Bay.

326 IAC 2-6 (Emission Reporting)

Since this source is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, this source is subject to 326 IAC 2-6 (Emission Reporting). In accordance with the compliance schedule in 326 IAC 2-6-3(b)(1), an emission statement must be submitted triennially because this source is located in Lake County, and the source does not have the potential to emit greater than or equal to two hundred fifty (250) tons per year of PM10 or VOC. The reports are due every three (3) years. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 2-7-6(5) (Annual Compliance Certification)

The U.S. EPA Federal Register 79 FR 54978 notice does not exempt Title V Permittees from the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D), but the submittal of the Title V annual compliance certification to IDEM satisfies the requirement to submit the Title V annual compliance certifications to EPA. IDEM does not intend to revise any permits since the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D) still apply, but Permittees can note on their Title V annual compliance certification that submission to IDEM has satisfied reporting to EPA per Federal Register 79 FR 54978. This only applies to Title V Permittees and Title V compliance certifications.

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.

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)

This source is not subject to 326 IAC 6-5 because it does not have potential fugitive particulate matter emissions of twenty-five (25) tons per year or more. Therefore, 326 IAC 6-5 does not apply.

326 IAC 6.8-2-13(a) (Lake County: PM10 and total suspended particulates (TSP) emissions – Hammond Group, Inc. (HGI) Halox Division, Lead Products Division, and Hammond Expander Division)

Pursuant to 326 IAC 6.8-2-1(a), Unit 2-1V (Stack ID V-2) is not subject to the provisions of 326 IAC 6.8-2-13, since it is not specifically listed in 326 IAC 6.8-2, 326 IAC 6.8-4, or 326 IAC 6.8-8.

326 IAC 7-4-1.1 (Lake County sulfur dioxide emission limitations)

This rule does not apply to new units because the new emission units do not have the potential to emit twenty-five (25) tons per year or ten (10) pounds per hour of sulfur dioxide.

326 IAC 8-1-6 (New facilities; general reduction requirements)

Pursuant to 326 IAC 8-1-6, the Unit 56-14 (MZR), is not subject to the provisions of 326 IAC 8-1-6, since the potential to emit VOC is less than twenty-five (25) tons per year for each unit.

326 IAC 15-1-2 (Source-Specific Lead Provisions)

Pursuant to 326 IAC 15-1-2, this rule limits lead (Pb) emission from stacks noted in 326 IAC 15-1-2(a)(2). New Stack ID V-2, (for the Plant Ventilation Unit 2-1V), is not specifically listed under this rule; therefore, 326 IAC 15-1-2(a) (2) does not apply to New Stack ID V-2.

The metal recovery unit, identified as Unit 56-14 (MZR - Metal Zinc Recovery) exhausts through existing Stack 16-S-56. Stack 16-S-56 is specifically listed in 326 IAC 15-1-2 as an emission unit. Pursuant to 326 IAC 15-1-2(a) (2), Lead (Pb) emissions from Stack 16-S-56 are limited to 0.200 lbs/hr.

The HM Truck Loading Bay, which is being incorporated with the existing Bulk Truck Loading System (Unit 52-16), exhausts through existing Stack 1-S-52. Stack 1-S-52 is specifically listed in 326 IAC 15-1-2 as an emission unit. Pursuant to 326 IAC 15-1-2(a) (2), Lead (Pb) emissions from Stack 1-S-52 are limited to 0.070 lbs/hr.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions; however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The existing compliance requirements will not change as a result of this amendment. The source shall continue to comply with the applicable requirements and permit conditions as contained in Title V No: T089-33798-00219, issued on April 4, 2014 with its most recent revisions and amendments.

Proposed Changes

The changes listed below have been made to Part 70 Operating Permit No. 089-33798-00219. Deleted language appears as ~~strike throughs~~ and new language appears in **bold**:

Modification No. 1:

The Unit 56-14 (MZR - Metal Zinc Recovery) and the HM Truck Loading Bay have been added to the unit descriptions in Section A.2.

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)][326 IAC 2-7-5(14)]

Stack ID 1-S-52

1. *****

5. Unit ID 52-15, 16 & 19: Lead Oxide Bulk Loading, Bulk Truck Loading System, & Lead Oxide Bulk Loading – North

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Each Bulk Loading System consists of a bulk storage silo, conveyors, and a loading spout. A pneumatic bulk trailer is spotted under the telescopic loading spout. The spout is lowered to the trailer hatch. Material is fed from a bulk storage silo through sealed conveyors into the trailer.

Emission units associated with Unit ID 52-15 were installed in 1960.
Emission units associated with Unit ID 52-16 were installed in 1983.
Emission units associated with Unit ID 52-19 were installed in September, 1995.

Unit ID 52-16 is not controlled by the Main Control System. It is controlled by two baghouses followed by a HEPA system which exhausts through stack 1-S-52.

One (1) HM Truck Loading Bay incorporated with the existing Bulk Truck Loading System (Unit 52-16); with two additional tanks for future storage of HM Litharge (lead pigment), identified as S-106 and S-107; each tank is drafted into a separate bin vent, which are followed by a common HEPA filtration unit which exhausts filtered air to Stack 1-S-52.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Stack ID 16-S-56

1. *****

7. *****

8. **One (1), small, natural gas-fired, metal recovery unit, identified as Unit 56-14 (MZR - Metal Zinc Recovery); constructed in 2016; with a maximum heat input capacity of 0.305 MMBtu/hr and a maximum production rate of 0.1875 ton/hr; during operation, this unit is completely enclosed; will be drafted to an existing baghouse and HEPA System (Unit 56-17) and exhausting through existing Stack 16-S-56.**

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Modification No. 2:

The Unit ID 2-1V: General Building Ventilation Control System (Stack ID V-2), and the existing Stack V-11 for existing Unit ID: HLP #8 Roof Vent, were added to the list of emission units in Section A.3.

A.3 Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-7-4(c)][326 IAC 2-7-5(14)]

Trivial Activities

(a) *****

(b) **Stack ID V-2**

1. **General Building Ventilation Control System, approved in 2016 for construction.**

The General Building Ventilation Control System consists of a fan and three (3) HEPA filter units, venting to a stack ID V-1 and a fan and three (3) HEPA filters venting to a Stack ID V-2, which are connected in parallel to the collection ductwork. Both Stack systems capture potential fugitive emissions which may escape from processing equipment in the lead chemical manufacturing areas.

(c) **Stack V-11 for Unit ID: HLP #8 Roof Vent.**

Modification No. 3:

The HM Truck Loading Bay has been added to the unit descriptions in Section D.1. Language in Section D.1, Sub-Sections 1, 2, and 3, was modified for added clarification of the Lake County PM10 Emission Requirements and the PSD Minor Limit. The Baghouse and HEPA filter pressure drop monitoring parameter has been removed, and the sub-sections have been renumbered because visible emissions notation is sufficient for permit conditions compliance.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Stack ID1-S-52

1. *****

5. Unit ID 52-15, 16 & 19: Lead Oxide Bulk Loading, Bulk Truck Loading System, & Lead Oxide Bulk Loading – North

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Emission units associated with Unit ID 52-15 were installed in 1960.

Emission units associated with Unit ID 52-16 were installed in 1983.

Emission units associated with Unit ID 52-19 were installed in September, 1995.

Unit ID 52-16 is not controlled by the Main Control System. It is controlled by two baghouses followed by a HEPA system which exhausts through stack 1-S-52.

One (1) HM Truck Loading Bay incorporated with the existing Bulk Truck Loading System (Unit 52-16); with two additional tanks for future storage of HM Litharge (lead pigment), identified as S-106 and S-107; each tank is drafted into a separate bin vent, which are followed by a common HEPA filtration unit which exhausts filtered air to Stack 1-S-52.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

D.1.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements) the PM10 emissions from Stack ID 1-S-52 shall be limited to 0.022 gr/dscf and 1.00 lbs/hr.

~~Compliance with these limits, combined with the potential to emit PM10 from all other emission units, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.1.2 PSD Minor Limit [326 IAC 2-2]

~~In order to comply with 326 IAC 2-2 PSD Minor limits~~ **Pursuant to 326 IAC 2-2 (PSD), the Permittee will comply with the following limits for the Stack ID 1-S-52 PM and PM2.5 emissions shall be as follows:**

(a) ~~The PM2.5 emissions from Stack ID 1-S-52 shall be limited to 1.0 lbs/hr.~~

(b) ~~The PM emissions from Stack ID 1-S-52 shall be limited to 1.00 lbs/hr.~~

(c) The PM10 emissions shall be limited to 1.00 lbs/hr.

(d) The Lead emissions shall be limited to 0.70 lbs/hr.

Compliance with these limits, combined with the potential to emit PM2.5, **PM10**, and PM, and **Lead**, from all other emission units, shall limit the source-wide total potential to emit of PM, **PM10**, **PM2.5**, and **Lead**, to less than 100, **100**, **100**, and **25** tons per 12 consecutive month period,

respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.
 Therefore, this is a minor source under 326 IAC 2-2.

D.1.3 Lead (Pb) [326 IAC 15-1-2] {326 IAC 2-2}

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 1-S-52, as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.070 lbs/hr.

Compliance with these limits, combined with the potential to emit Lead from all other emission units, shall limit the source-wide total potential to emit Lead to less than four (4) tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.

D.1.6 Particulate Matter less than 10 microns in diameter (PM10)

(a) *****

D.1.10 Baghouse and HEPA Parametric Monitoring

(a) The Permittee shall record the pressure drop across each baghouse and HEPA filter used in conjunction with the processes associated with Stack ID 1-S-52, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse or HEPA filter is outside the following normal range of the or a range established during the latest stack test, the Permittee shall take reasonable response.

(Stack ID 1-S-52)

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 52-1)	
52-10 F (Baghouse)	1.0 - 9.0
52-10 H (HEPA)	0.1 - 4.5
(Main Control System) (Unit IDs 52-2 through 52-13, 52-15, 52-17, 52-19 through 52-20)	
52-1 F (Micro-Pul Baghouse)	1.0 - 9.0
52-1 H (HEPA)	0.1 - 4.5
52-2 F (Micro-Pul Baghouse)	1.0 - 9.0
52-2 H (HEPA)	0.1 - 4.5
52-3 F (Micro-Pul Baghouse)	1.0 - 9.0
52-3 H (HEPA)	0.1 - 4.5
52-4 F (Micro-Pul Baghouse)	1.0 - 9.0
52-4 H (HEPA)	0.1 - 4.5
52-5 H (Unit IDs 52-5, 6, 7, & 9 HEPA)	0.1 - 4.5
(Unit ID 52-14)	
52-7 F (Baghouse)	0.1 - 8.0
52-9 F (Baghouse)	0.1 - 8.0
52-5 H (HEPA)	0.1 - 4.5
(HM Truck Loading Bay and Unit ID 52-16)	
52-5 F (Baghouse)	0.1 - 8.0
52-6 F (Baghouse)	0.1 - 8.0
52-5 H (HEPA)	0.1 - 4.5

Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- ~~(b) The instrument used for determining the pressure shall comply with Section C – Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.~~

D.1.1014 Record Keeping Requirements

- (a) To document the compliance status with Condition D.1.9, the Permittee shall maintain daily records of the visible emission notations of the Stack ID 1-S-52 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- ~~(b) To document the compliance status with Condition D.1.10, the Permittee shall maintain daily records of the pressure drop across each baghouse and HEPA. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).~~
- (be) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

Modification No. 4:

Language in Section D.2, Sub-Sections 1, 2, and 3, was modified for added clarification of the Lake County PM10 Emission Requirements and the PSD Minor Limit. The Baghouse and HEPA filter pressure drop monitoring parameter has been removed, and the sub-sections have been renumbered because visible emissions notation is sufficient for permit conditions compliance.

D.2.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 and 1-S-7 shall be limited to 0.022 gr/dscf and 0.25 lbs/hr per stack.

D.2.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to In order to comply with 326 IAC 2-2 (PSD) PSD Minor limits, the Permittee will comply with the following limits for the Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 and 1-S-7, PM and PM2.5 emissions shall be limited as follows:

- (a) The PM2.5 emissions ~~from~~ shall be limited to 0.25 lbs/hr per stack.
- (b) The PM emissions ~~from~~ shall be limited to 0.25 lbs/hr per stack.
- (c) The PM10 emissions shall be limited to 0.25 lbs/hr.**
- (d) The Lead emissions shall be limited to 0.053 lbs/hr.**

~~Compliance with these limits, combined with the potential to emit PM2.5 and PM from all other emission units, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.2.3 Lead (Pb) [326 IAC 15-1-2] ~~[326 IAC 2-2]~~

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack IDs 4A-S-8,

14-S-16, 1-S-2, 1-S-26, and 1-S-7 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.053 lbs/hr, per stack.

~~Compliance with these limits, combined with the potential to emit Lead from all other emission units, shall limit the source-wide total potential to emit Lead to less than four (4) tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.2.6 Particulate Matter less than 10 microns in diameter (PM10)

(a) *****

D.2.10 Baghouse and HEPA Parametric Monitoring

(a) ~~The Permittee shall record the pressure drop across the baghouse and HEPA filter used in conjunction with the process associated with Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26, and 1-S-7 at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse or HEPA filter is outside the normal range of the following:~~

~~(Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 and 1-S-7)~~

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 8-1)	
8-7-F (Baghouse)	0.1 - 8.5
8-7-H (HEPA)	0.1 - 4.5
(Unit ID 16-1)	
16-8-F (Baghouse)	0.1 - 8.5
16-8-H (HEPA)	0.1 - 4.5
(Unit ID 2-1)	
2-9-F (Baghouse)	0.1 - 5.0
2-9-H (HEPA)	0.1 - 2.0
(Unit ID 7-1)	
7-1-F (Baghouse)	0.1 - 5.0
7-1-H (HEPA)	0.1 - 2.0
(Unit IDs 26-1 & 2)	
26-10-F & 26-11-F (Baghouse)	0.5 - 8.5
26-10-H & 26-11-H (HEPA)	0.1 - 4.5

~~or a range established during the latest stack test, the Permittee shall take reasonable response. Section C- Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

~~(b) The instrument used for determining the pressure shall comply with Section C- Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.~~

D.2.1014 Record Keeping Requirements

(a) *****

~~(b) To document the compliance status with Condition D.2.10, the Permittee shall maintain daily records of the pressure drop across each baghouse and HEPA. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason~~

~~for the lack of a pressure drop reading, (e.g. the process did not operate that day).~~

- (be) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

Modification No. 5:

The Unit 56-14 (MZR - Metal Zinc Recovery) has been added to the unit descriptions in Section D.3. Language in Section D.3, Sub-Sections 1, 2, and 3, was modified for added clarification of the Lake County PM10 Emission Requirements and the PSD Minor Limit. The Baghouse and HEPA filter pressure drop monitoring parameter has been removed, and the sub-sections have been renumbered because visible emissions notation is sufficient for permit conditions compliance.

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:	Stack ID 16-S-56
1. ***** *****	
7. *****	
8. One (1), small, natural gas-fired, metal recovery unit, identified as Unit 56-14 (MZR - Metal Zinc Recovery); constructed in 2016; with a maximum heat input capacity of 0.305 MMBtu/hr and a maximum production rate of 0.1875 ton/hr; during operation, this unit is completely enclosed; will be drafted to an existing baghouse and HEPA System (Unit 56-17) and exhausting through existing Stack 16-S-56.	
[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]	

D.3.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 16-S-56 shall be limited to 0.022 gr/dscf and 1.00 lbs/hr ~~per stack~~.

~~Compliance with these limits, combined with the potential to emit PM10 from all other emission units, shall limit the source-wide total potential to emit of PM10 to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.3.2 PSD Minor Limit [326 IAC 2-2]

~~Pursuant to In order to comply with 326 IAC 2-2 (PSD) PSD Minor limits, the Permittee will comply with the following limits for the Stack ID16-S-56, PM and PM2.5 emissions shall be limited as follows:~~

- (a) The PM2.5 emissions ~~from~~ shall be limited to 1.00 lbs/hr.
- (b) The PM emissions ~~from~~ shall be limited to 1.00 lbs/hr.
- (c) **The PM10 emissions shall be limited to 1.00 lbs/hr.**
- (d) **The Lead emissions shall be limited to 0.2 lbs/hr.**

~~Compliance with these limits, combined with the potential to emit PM2.5 and PM from all other emission units, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.3.3 Lead (Pb) [326 IAC 15-1-2]

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID16-S-56 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.2 lbs/hr.

Compliance with these limits, combined with the potential to emit Lead from all other emission units, shall limit the source-wide total potential to emit Lead to less than four (4) tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.

D.3.10 Baghouse and HEPA Parametric Monitoring

(a) The Permittee shall record the pressure drop across each baghouse and HEPA filter used in conjunction with the processes associated with Stack ID 16-S-56, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse or HEPA filter is outside the normal range of the following:

(Stack ID 16-S-56)

Control Unit ID	Pressure Drop (inches of water)
(Unit IDs 56-1, 56-11, 56-12, and 56-13)	
56-18-F & 56-18-H (100-Bag Filter / 100-Bag HEPA)	1.0 - 9.0 / 0.1 - 4.5
56-19-F & 56-19-H (80-Bag Filter / 80-Bag HEPA)	1.0 - 10 / 0.1 - 4.5
56-20-F & 56-20-H (72-Bag Filter / 72-Bag HEPA)	0.5 - 8.5 / 0.1 - 4.5
56-25-F & 56-25-H (130-Bag Filter / 130-Bag HEPA)	1.0 - 9.0 / 0.1 - 4.5
(Unit ID 56-3)	
56-21-F (Baghouse)	0.1 - 10
56-21-H (HEPA)	0.1 - 4.5
(Unit ID 56-4)	
56-22-F (Baghouse)	0.1 - 8.0
56-22-H (HEPA)	0.1 - 8.0
(Unit ID 56-7)	
56-25-F (130-Bag Baghouse)	1.0 - 9.0
56-25-H (130-Bag HEPA)	0.1 - 4.5
(Unit 56-14 (MZR) and Unit ID 56-9)	
56-17-F (144-Bag Filter)	0.1 - 8.5
56-17-H (144-Bag HEPA)	0.1 - 4.5
(Unit ID 56-10)	
56-26-F (Cartridge Filter)	0.1 - 8.0

or a range established during the latest stack test, the Permittee shall take reasonable response. Section C-Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- ~~(b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.~~

D.3.1014 Record Keeping Requirements

- (a) To document the compliance status with Condition D.3.9, the Permittee shall maintain daily records of the visible emission notations of the Stack ID 16-S-56 exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- ~~(b) To document the compliance status with Condition D.3.10, the Permittee shall maintain daily records of the pressure drop across each baghouse and HEPA. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).~~
- (be) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

Modification No. 6:

Language in Section D.4, Sub-Sections 1, 2, and 3, was modified for added clarification of the Lake County PM10 Emission Requirements and the PSD Minor Limit. The Baghouse and HEPA filter pressure drop monitoring parameter has been removed, and the sub-sections have been renumbered because visible emissions notation is sufficient for permit conditions compliance.

D.4.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 4-S-35 shall be limited to 0.022 gr/dscf and 0.57 lbs/hr.

~~Compliance with these limits, combined with the potential to emit PM10 from all other emission units, shall limit the source-wide total potential to emit of PM10 to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.4.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to In order to comply with 326 IAC 2-2 (PSD) PSD Minor limits, the Permittee will comply with the following limits for the Stack ID 4-S-35, PM and PM2.5 emissions shall be limited as follows:

- (a) The PM2.5 emissions ~~from~~ shall be limited to 0.57 lbs/hr.
- (b) The PM emissions ~~from~~ shall be limited to 0.57 lbs/hr.
- (c) The PM10 emissions shall be limited to 0.57 lbs/hr.**
- (d) The Lead emissions shall be limited to 0.09 lbs/hr.**

~~Compliance with these limits, combined with the potential to emit PM2.5 and PM from all other emission units, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive

month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.4.3 Lead (Pb) [326 IAC 15-1-2] ~~[326 IAC 2-2]~~

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 4-S-35 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.090 lbs/hr.

~~Compliance with these limits, combined with the potential to emit Lead from all other emission units, shall limit the source-wide total potential to emit Lead to less than four (4) tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.4.6 Particulate Matter less than 10 microns in diameter (PM10)

(a) *****

~~D.4.10 Baghouse and HEPA Parametric Monitoring~~

~~(a) The Permittee shall record the pressure drop across the baghouse and HEPA filter used in conjunction with the process associated with Stack ID 4-S-35, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse or HEPA filter is outside the normal range of the following:~~

~~(Stack ID 4-S-35)~~

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 35-1)	
35-15-F (Baghouse)	0.1 - 8.5
35-15-H (HEPA)	0.1 - 4.5

~~or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

~~(b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.~~

D.4.1014 Record Keeping Requirements

(a) *****

~~(b) To document the compliance status with Condition D.4.10, the Permittee shall maintain daily records of the pressure drop across the baghouse and HEPA. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).~~

~~(be) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.~~

Modification No. 7:

Language in Section D.5, Sub-Sections 1, 2, and 3, was modified for added clarification of the Lake County PM10 Emission Requirements and the PSD Minor Limit. The Baghouse and HEPA filter pressure drop monitoring parameter has been

removed, and the sub-sections have been renumbered because visible emissions notation is sufficient for permit conditions compliance.

D.5.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 1-S-27 shall be limited to 0.022 gr/dscf and 0.290 lbs/hr.

~~Compliance with these limits, combined with the potential to emit PM10 from all other emission units, shall limit the source-wide total potential to emit of PM10 to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.5.2 PSD Minor Limit [326 IAC 2-2]

~~Pursuant to In order to comply with 326 IAC 2-2 (PSD) PSD Minor limits, the Permittee will comply with the following limits for the Stack ID 1-S-27, PM and PM2.5 emissions shall be limited as follows:~~

- (a) ~~The PM2.5 emissions from shall be limited to 0.29 lbs/hr.~~
- (b) ~~The PM emissions from shall be limited to 0.29 lbs/hr.~~
- (c) **The PM10 emissions shall be limited to 0.29 lbs/hr.**
- (d) **The Lead emissions shall be limited to 0.02 lbs/hr.**

~~Compliance with these limits, combined with the potential to emit PM2.5 and PM from all other emission units, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.5.3 Lead (Pb) [326 IAC 15-1-2] ~~[326 IAC 2-2]~~

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 1-S-27 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.020 lbs/hr.

~~Compliance with these limits, combined with the potential to emit Lead from all other emission units, shall limit the source-wide total potential to emit Lead to less than four (4) tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.5.5 Particulate Matter less than 10 microns in diameter (PM10)

- (a) *****

D.5.9 Baghouse and HEPA Parametric Monitoring

- (a) ~~The Permittee shall record the pressure drop across the baghouse and HEPA filter used in conjunction with the process associated with Stack ID 1-S-27, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse or HEPA filter is outside the normal range of the following:~~

~~(Stack ID 1-S-27)~~

Control Unit ID	Pressure Drop (inches of water)
------------------------	--

(Unit ID 27-1)	
27-12-F (Baghouse)	0.5 - 8.5
27-12-H (HEPA)	0.1 - 4.5

~~or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

- ~~(b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.~~

D.5.910 Record Keeping Requirements

- (a) *****
- (b) ~~To document the compliance status with Condition D.5.9, the Permittee shall maintain daily records of the pressure drop across the baghouse and HEPA. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).~~
- (be) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

Modification No. 8:

Language in Section D.6, Sub-Sections 1, 2, and 3, was modified for added clarification of the Lake County PM10 Emission Requirements and the PSD Minor Limit. The Baghouse and HEPA filter pressure drop monitoring parameter has been removed, and the sub-sections have been renumbered because visible emissions notation is sufficient for permit conditions compliance.

D.6.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 6-S-33 shall be limited to 0.022 gr/dscf and 0.900 lbs/hr.

~~Compliance with these limits, combined with the potential to emit PM10 from all other emission units, shall limit the source-wide total potential to emit of PM10 to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.6.2 PSD Minor Limit [326 IAC 2-2]

Pursuant to ~~In order to comply with 326 IAC 2-2 (PSD) PSD Minor limits,~~ **the Permittee will comply with the following limits** for the Stack ID 6-S-33, PM and PM2.5 emissions shall be limited as follows:

- (a) The PM2.5 emissions ~~from~~ shall be limited to 0.900 lbs/hr.
- (b) The PM emissions ~~from~~ shall be limited to 0.900 lbs/hr.
- (c) **The PM10 emissions shall be limited to 0.900 lbs/hr.**
- (d) **The Lead emissions shall be limited to 0.07 lbs/hr.**

~~Compliance with these limits, combined with the potential to emit PM2.5 and PM from all other emission units, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.6.3 Lead (Pb) [326 IAC 15-1-2] ~~[326 IAC 2-2]~~

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 6-S-33 as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.070 lbs/hr.

~~Compliance with these limits, combined with the potential to emit Lead from all other emission units, shall limit the source-wide total potential to emit Lead to less than four (4) tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.6.11 Baghouse and HEPA Parametric Monitoring

~~(a) The Permittee shall record the pressure drop across the baghouse and HEPA filter used in conjunction with the process associated with Stack ID 6-S-33, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse or HEPA filter is outside the normal range of the following:~~

~~(Stack ID 6-S-33)~~

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 33-1)	
33-14-F (Baghouse)	0.1 - 8.5
33-14-H (HEPA)	0.1 - 4.5

~~or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

~~(b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.~~

D.6.1142 Record Keeping Requirements

(a) *****

(b) *****

~~(c) To document the compliance status with Condition D.6.11, the Permittee shall maintain daily records of the pressure drop across the baghouse and HEPA. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).~~

~~(cd) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.~~

Modification No. 9:

Language in Section D.7, Sub-Sections 1, 2, and 3, was modified for added clarification of the Lake County PM10 Emission Requirements and the PSD Minor Limit. The Baghouse and HEPA filter pressure drop monitoring parameter has been removed, and the sub-sections have been renumbered because visible emissions notation is sufficient for permit conditions compliance.

D.7.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 4B-S-34 shall be limited to 0.022 gr/dscf and 0.400 lbs/hr.

~~Compliance with these limits, combined with the potential to emit PM10 from all other emission units, shall limit the source-wide total potential to emit of PM10 to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.7.2 PSD Minor Limit [326 IAC 2-2]

~~Pursuant to In order to comply with 326 IAC 2-2 (PSD) PSD Minor limits, the Permittee will comply with the following limits for the Stack ID 4B-S-34, PM and PM2.5 emissions shall be limited as follows:~~

- (a) The PM2.5 emissions ~~from~~ shall be limited to 0.400 lbs/hr.
- (b) The PM emissions ~~from~~ shall be limited to 0.400 lbs/hr.
- (c) The PM10 emissions shall be limited to 0.400 lbs/hr.**
- (d) The Lead emissions shall be limited to 0.080 lbs/hr.**

~~Compliance with these limits, combined with the potential to emit PM2.5 and PM from all other emission units, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.7.3 Lead (Pb) [326 IAC 15-1-2] ~~[326 IAC 2-2]~~

Pursuant to 326 IAC 15 (Lead Emission Limitations), the lead emissions from Stack ID 4B-S-34 as specifically listed in 326 IAC 15-1-2(a)(6), shall be limited to 0.080 lbs/hr.

~~Compliance with these limits, combined with the potential to emit Lead from all other emission units, shall limit the source-wide total potential to emit Lead to less than four (4) tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.7.5 Broken or Failed Bag Detection

- (a) *****
- (b) *****

Bag failure can be indicated ~~by a significant drop in the baghouse's pressure reading with~~ abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.7.7 Particulate Matter less than 10 microns in diameter (PM10)

(a) *****

D.7.10 Baghouse and HEPA Parametric Monitoring

(a) ~~The Permittee shall record the pressure drop across each baghouse and HEPA filter used in conjunction with the processes associated with Stack ID 4B-S-34, at least once per day when the process is in operation. When for any one reading, the pressure drop across the baghouse or HEPA filter is outside the normal range of the following:~~

~~(Stack ID 4B-S-34)~~

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 34-1)	
34-16 F (Baghouse)	0.1 - 8.5
34-16 H (HEPA)	0.1 - 4.5
(Unit ID 34-3)	
34-15 F (Baghouse)	0.1 - 8.0
34-15 H (HEPA)	0.1 - 4.5
34-17 F (Baghouse)	0.1 - 8.0
34-17 H (HEPA)	0.1 - 4.5

~~or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

~~(b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.~~

D.7.1014 Record Keeping Requirements

(a) *****

~~(b) To document the compliance status with Condition D.7.10, the Permittee shall maintain daily records of the pressure drop across each baghouse and HEPA. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).~~

~~(be) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.~~

Modification No. 10:

Language in Section D.9, Sub-Sections 1 and 2, was modified for added clarification of the Lake County PM10 Emission Requirements and the PSD Minor Limit.

D.9.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID 14-S-15 shall be limited to 0.022 gr/dscf and 0.320 lbs/hr.

~~Compliance with these limits, combined with the potential to emit PM10 from all other emission units, shall limit the source-wide total potential to emit of PM10 to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.9.2 PSD Minor Limit [326 IAC 2-2]

~~Pursuant to In order to comply with 326 IAC 2-2 (PSD) PSD Minor limits, the Permittee will comply with the following limits for the Stack ID 14-S-15, PM and PM2.5 emissions shall be limited as follows:~~

- (a) ~~The PM2.5 emissions from shall be limited to 0.320 lbs/hr.~~
- (b) ~~The PM emissions from shall be limited to 0.320 lbs/hr.~~

~~Compliance with these limits, combined with the potential to emit PM2.5 and PM from all other emission units, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

Compliance with these limits, combined with the potential to emit PM2.5, PM10, and PM, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, and PM2.5, to less than 100, 100, and 100 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.9.4 Particulate Matter less than 10 microns in diameter (PM10)

- (a) In order to comply with Conditions D.9.1, and D.9.2, the dust collectors shall be operated at all times when the associated facility is in operation.

D.9.5 Broken or Failed Bag Detection

- (a) *****
- (b) *****

Bag failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.9.7 Dust Collector Parametric Monitoring

- (a) ~~The Permittee shall record the pressure drop across each dust collector used in conjunction with the process associated with Stack ID 14-S-15, at least once per day when the process is in operation. When for any one reading, the pressure drop across any dust collector is outside the normal range of the following:~~

~~(Previously Stack ID 14-S-15)~~

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 15-1)	
Alpha Blender (RB-1000)	0.1 - 7.0
Alpha BM Receiver (R-1000)	0.1 - 8.0
Alpha Ball Mill (DC 4001)	0.1 - 8.0
Alpha Silo (T-1000)	0.5 - 10.0
Alpha Packer Receiver (R-1002)	0.5 - 8.5
Alpha Packing (DC-4000)	0.1 - 8.0
(Unit ID 15-2)	

Beta Blender (RB-2000)	0.1 – 8.0
Beta BM Receiver (R-2000)	0.1 – 8.0
Beta Ball Mill (DC-3003)	0.1 – 8.0
Beta Silo (T-2000)	0.5 – 10.0
Beta Packer Receiver (R-2001)	0.5 – 8.5
Beta Packing (DC-3002)	0.1 – 8.0
(Unit ID 15-3)	
Mixer (DC-3000)	2.0 – 10.0
Mixer Packer (DC-2000)	0.5 – 8.5

or a range established during the latest stack test, the Permittee shall take reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above-mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

- (b) The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

D.9.78 Record Keeping Requirements

- (a) To document the compliance status with Condition D.9.6, the Permittee shall maintain daily records of the visible emission notations of each stack exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).
- ~~(b) To document the compliance status with Condition D.9.7, the Permittee shall maintain daily records of the pressure drop across each baghouse. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).~~
- (be) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

Modification No. 11:

The Unit ID 2-1V (General Building Ventilation Control System through Stack ID V-2) has been added to the unit descriptions in Section D.10. Language in Section D.10, Sub-Sections 1, 2, and 3, was modified for added clarification of the Lake County PM10 Emission Requirements and the PSD Minor Limit. The Baghouse and HEPA filter monitoring parameters have been removed, and the sub-sections have been renumbered.

SECTION D.10

FACILITY OPERATION CONDITIONS – TRIVIAL ACTIVITY

Facility Description :	
(a)	Stack ID V-1
(b)	Stack ID V-2
1.	Unit ID 1-1: General Building Ventilation Control System
<p>The General Building Ventilation Control System consists of a fan and three (3) HEPA filter units, venting to a stack ID V-1 and a fan and three (3) HEPA filters venting to a Stack ID V-2, which are connected in parallel to the collection ductwork. Both Stack systems capture potential fugitive emissions which may escape from processing equipment in the lead chemical manufacturing areas.</p>	

D.10.1 Particulate Matter less than 10 microns in diameter (PM10) [326 IAC 6.8-2-13(a)]

Pursuant to 326 IAC 6.8-2-13(a) (Lake County PM10 emission requirements), the PM10 emissions from Stack ID V-1 **and the Stack ID V-2** shall be limited to 0.022 gr/dscf and 1.00 lbs/hr.

~~Compliance with these limits, combined with the potential to emit PM10 from all other emission units, shall limit the source-wide total potential to emit of PM10 to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.10.2 PSD Minor Limit [326 IAC 2-2]

~~Pursuant to In order to comply with 326 IAC 2-2 (PSD) PSD Minor limits, the Permittee will comply with the following limits~~ **PM and PM2.5 emissions shall be limited as follows:**

- (a) The **combined** PM2.5 emissions from **Stack ID V-1, and the Stack ID V-2** shall be limited to 1.000 lbs/hr.
- (b) The **combined** PM emissions from **Stack ID V-1, and the Stack ID V-2** shall be limited to 1.000 lbs/hr.
- (c) **The combined PM10 emissions from Stack ID V-1, and the Stack ID V-2 shall be limited to 1.00 lbs/hr.**
- (d) **The combined Lead emissions from Stack ID V-1, and the Stack ID V-2 shall be limited to 0.09 lbs/hr.**

~~Compliance with these limits, combined with the potential to emit PM2.5 and PM from all other emission units, shall limit the source-wide total potential to emit of PM to less than 100 tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

Compliance with these limits, combined with the potential to emit PM2.5, PM10, PM, and Lead, from all other emission units, shall limit the source-wide total potential to emit of PM, PM10, PM2.5, and Lead, to less than 100, 100, 100, and 25 tons per 12 consecutive month period, respectively, and shall render the requirements of 326 IAC 2-2 (PSD) not applicable.

D.10.3 Lead (Pb) [326 IAC 15-1-2] ~~[326 IAC 2-2]~~

Pursuant to 326 IAC 15 (Lead Emission Limitations), the **combined** lead emissions from Stack ID V-1 **and the Stack ID V-2** as specifically listed in 326 IAC 15-1-2(a)(2), shall be limited to 0.090 lbs/hr.

~~Compliance with these limits, combined with the potential to emit Lead from all other emission units, shall limit the source-wide total potential to emit Lead to less than four (4) tons per 12 consecutive month period. Therefore, this is a minor source under 326 IAC 2-2.~~

D.10.4 Preventive Maintenance Plan

A Preventive Maintenance Plan is required for **the Stack ID V-1 and the Stack ID V-2, this facility** and any control devices. Section B - Preventive Maintenance Plan contains the Permittee's obligation with regard to the preventive maintenance plan required by this condition.

D.10.5 Particulate Matter less than 10 microns in diameter (PM10)

- (a) *****

D.10.7 Failed HEPA Filter Detection

- (a) *****

(b) *****

HEPA failure can be indicated by ~~a significant drop in the HEPA's pressure reading~~ with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.10.8 Visible Emissions Notations

(a) Visible emission notations of the Stack ID V-1 **and the Stack ID V-2** exhaust shall be performed once per day during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.

D.10.9 HEPA Parametric Monitoring

(a) ~~The Permittee shall record the pressure drop across the HEPA filter used in conjunction with the process associated with Stack ID V-1 at least once per day when the process is in operation. When for any one reading, the pressure drop across the HEPA filter is outside the normal range of the following:~~

~~(Stack ID V-1 and Stack V-2)~~

Control Unit ID	Pressure Drop (inches of water)
(Unit ID 1-1)	
V-1 West	0.5 - 8.5
V-1 Mid	0.5 - 8.5
V-1 East	0.5 - 8.5

(b) ~~The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.~~

D.10.940 Record Keeping Requirements

(a) To document the compliance status with Condition D.10.8, the Permittee shall maintain daily records of the visible emission notations of the Stack ID V-1 **and Stack ID V-2 exhausts** exhaust. The Permittee shall include in its daily record when a visible emission notation is not taken and the reason for the lack of visible emission notation, (e.g. the process did not operate that day).

(b) ~~To document the compliance status with Condition D.10.9, the Permittee shall maintain daily records of the pressure drop across each HEPA. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading, (e.g. the process did not operate that day).~~

(be) Section C - General Record Keeping Requirements, of this permit contains the Permittee's obligations with regard to the records required by this condition.

Modification No. 12:

The Unit 56-14 (MZR - Metal Zinc Recovery) and the HM Truck Loading Bay have been added to the unit descriptions in Section E.1. The address for the Indiana Department of Environmental Management was added to Section E.1.1.

SECTION E.1 EMISSIONS UNIT OPERATION CONDITIONS

Facility Description :
Stack ID 1-S-52

This stack is identified as the Main Control System. This control system is comprised of nine (9) units in parallel. Each unit includes a baghouse and a HEPA. Each unit is rated at 99.9998% control efficiency according to the company. The following units are controlled by the Main Control System control equipment, except when otherwise specified.

Stack I-S-52 is used to vent the control device exhausts from various processes.

1. *****

5. Unit ID 52-15, 16 & 19: Lead Oxide Bulk Truck Loading, Bulk Loading System, & Lead Oxide Bulk Loading - North.

Emission units associated with Unit ID 52-15 were installed in 1960.
Emission units associated with Unit ID 52-16 were installed in 1983.
Emission units associated with Unit ID 52-19 were installed in September, 1995.

Unit ID 52-16 is not controlled by the Main Control System. It is controlled by two baghouses followed by a HEPA system which exhausts through stack 1-S-52.

One (1) HM Truck Loading Bay incorporated with the existing Bulk Truck Loading System (Unit 52-16); with two additional tanks for future storage of HM Litharge (lead pigment), identified as S-106 and S-107; each tank is drafted into a separate bin vent, which are followed by a common HEPA filtration unit which exhausts filtered air to Stack 1-S-52.

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

Stack ID 16-S-56

1. *****

8. **One (1), small, natural gas-fired, metal recovery unit, identified as Unit 56-14 (MZR - Metal Zinc Recovery); constructed in 2016; with a maximum heat input capacity of 0.305 MMBtu/hr and a maximum production rate of 0.1875 ton/hr; during operation, this unit is completely enclosed; will be drafted to an existing baghouse and HEPA System (Unit 56-17) and exhausting through existing Stack 16-S-56.**

[Under 40 CFR 63, Subpart VVVVVV, these units are considered affected sources.]

E.1.1 General Provisions Relating to NESHAP [40 CFR Part 63, Subpart A] [326 IAC 20-1]

- (a) Pursuant to 40 CFR 63, the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, except as otherwise specified in 40 CFR 63, Subpart VVVVVV.
- (b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports 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**

Modification No. 13: Throughout the permit, the unit description language has been modified for a particular unit, which references the applicability of the NESHAP Rule, 40 CFR Part 63, VVVVVV.

Modification No. 14: The rule citation, [326 IAC 2-7-5(1)], for the Compliance Determination Requirements, was added in Sections D.1-D.7, and D.9-D.10.

Conclusion and Recommendation

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Minor Source Modification No. 089-36934-00219. The staff recommend to the Commissioner that this Part 70 Minor Source Modification be approved.

IDEM Contact

- (a) Questions regarding this proposed permit can be directed to Daniel W Pell 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) 234-8532 or toll free at 1-800-451-6027 extension 48532.
- (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 Permit Guide on the Internet at: <http://www.in.gov/idem/5881.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

**Appendix A: Emission Calculations
Unlimited Emission Summary**

Company Name: Hammond Group, Inc.
Source Address: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Appendix A : Potential to Emit (Unlimited) Emission Summary

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)							
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total HAPs
Stack ID 1-S-52	437.1	437.1	437.1	0.0	6.50	0.44	4.5	403.9
Stack ID 4A-S-8	12.31	12.36	12.36	0.00	0.74	0.04	0.63	11.62
Stack ID 14-S-16	12.31	12.36	12.36	negl.	0.74	0.04	0.41	11.62
Stack ID 1-S-2	27.58	27.62	27.62	negl.	0.74	0.04	0.63	26.04
Stack ID 1-S-26	18.41	18.50	18.50	negl.	1.49	0.08	1.25	17.37
Stack ID 16-S-56	416.32	417.45	417.45	negl.	3.94	0.21	3.31	391.22
Stack ID 4-S-35	49.84	49.91	49.91	negl.	1.07	0.06	0.90	42.35
Stack ID 1-S-27	5.70	5.70	5.70	-	-	-	-	5.26
Stack ID 6-S-33	38.33	38.55	38.55	negl.	3.87	0.21	3.25	29.52
Stack ID 4B-S-34	139.44	139.51	139.51	negl.	1.31	0.07	1.10	69.55
Stack ID 6-S-47	0.00	0.00	0.00	-	-	-	-	0.00
Stack ID V-1	0.11	0.11	0.11	-	-	-	-	0.09
Stack ID 1-S-7	5.70	5.70	5.70	negl.	0.74	0.00	0.63	5.26
Expander operation	17.73	17.73	17.73	-	-	-	-	-
Miscellaneous insignificant activities	-	-	-	-	-	5.8	-	3.39 (Cadmium)
Stack V-11	negl.	negl.	negl.	negl.	negl.	negl.	negl.	negl.
HM Loading Bay *	0.002	0.002	0.002	0.000	0.000	0.000	0.000	0.002
MZR (Unit 56-14) *	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total PTE of Entire Source	1180.9	1182.6	1182.6	negl.	21.1	7.00	16.6	1013.78

* PTE values represent the after-control PTE value since enforceable PTE limits are in permit.

**Appendix A: Emission Calculations
Limited Emission Calculations Summary**

Company Name: Hammond Group, Inc.
Source Address: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Appendix A: Limited Emission Calculations Summary

Process/ Emission Unit	Potential To Emit Limits of the Entire Source After the Permit Issuance (tons/year)								
	PM	(1) PM10	PM2.5	SO ₂	(3) NOx	(3) VOC	(3) CO	Total LEAD	(2) LEAD
Stack ID 1-S-52	4.38	4.38	4.38	negl.	2.68	0.14	2.25	0.31	0.31 (Lead)
Stack ID 4A-S-8	1.1	1.1	1.1	negl.	0.74	0.04	0.63	0.23	0.23 (Lead)
Stack ID 14-S-16	1.1	1.1	1.1	negl.	0.74	0.04	0.41	0.23	0.23 (Lead)
Stack ID 1-S-2	1.1	1.1	1.1	negl.	0.74	0.04	0.63	0.23	0.23 (Lead)
Stack ID 1-S-26	1.1	1.1	1.1	negl.	1.49	0.08	1.25	0.23	0.23 (Lead)
Stack ID 16-S-56	4.38	4.38	4.38	negl.	3.94	0.21	3.31	0.88	0.88 (Lead)
Stack ID 4-S-35	2.5	2.5	2.5	negl.	1.07	0.059	0.9	0.39	0.39 (Lead)
Stack ID 1-S-27	1.27	1.27	1.27	-	-	-	-	0.09	0.09 (Lead)
Stack ID 6-S-33	3.94	3.94	3.94	negl.	3.87	0.21	3.25	0.31	0.31 (Lead)
Stack ID 4B-S-34	1.75	1.75	1.75	negl.	1.31	0.07	1.1	0.35	0.35 (Lead)
Stack ID 6-S-47	1.75	1.75	1.75	-	-	-	-	0.09	0.09 (Lead)
Stack ID V-1	4.38	4.38	4.38	-	-	-	-	0.39	0.39 (Lead)
Stack ID 1-S-7	1.1	1.1	1.1	negl.	0.74	0.04	0.63	0.23	0.23 (Lead)
Expander operation	1.4	1.4	1.4	-	-	-	-	-	-
Miscellaneous insignificant activities	-	-	-	-	-	5.8	-	-	3.39 (Cadmium)
Stack V-11	-	-	-	-	-	-	-	-	-
HM Loading Bay	-	-	-	-	-	-	-	-	-
MZR (Unit 56-14)	-	-	-	-	-	-	-	-	-
Total PTE of Entire Source	31.3	31.3	31.3	negl.	17.3	6.7	14.4	4.0	3.93 (Lead)

1 PM10 emissions are limited in accordance with 326 IAC 6.8-2-13(a).

PM2.5 and PM emissions are set equal to the PM10 emissions limits.

2 Lead emissions are limited in accordance with 326 IAC 15-1-2(a)(6). The lead emissions are less than 25 tons/yr.

3 VOC, CO, and NOx emissions are not limited by any applicable regulations and do not exceed the major source thresholds and therefore are based on unrestricted emissions.

**Appendix A: Emission Calculations
36934 - PTE Summary from New Units**

**Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell**

Process/ Emission Unit	Uncontrolled Potential To Emit of the New Emissions Units from Minor Source Modification, 36815 (ton/yr)							
	PM	PM10	PM2.5	SO ₂	NO _x	VOC	CO	Total LEAD
HM Loading Bay	0.23	0.23	0.23	-	-	-	-	0.23
MZR (Unit 56-14)	0.04	0.72	0.72	0.00	0.13	0.01	0.11	0.01
Total PTE of the modification	0.3	1.0	1.0	0.0	0.1	0.01	0.1	0.24

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

****NOTES****

Appendix A: Limited Emission Calculations Summary MDR: MAXIMUM DESIGN RATE
 CE: CONTROL EFFICIENCY MDC: MAXIMUM DESIGN CAPACITY Ts: STACK DISCHARGE TEMPERATURE
 Control Efficiencies: Baghouse - 95%; Baghouse w/ Laminated Bags - 99%; HEPA - 99.2% (rated at 99.97 @0.3 um but reduced due to small particle size as determined by IES).

***** **STACK ID 1-S-52** *****

Unit ID: 52-1 (No. 1 Barton) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): (3: 82)
 CNTRL DEV: Baghouse and HEPA (52-10F & H) YEARLY PROD (T/yr): 10,540.80 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

SCC NO. 3-01-035-06			PERMITTED OPERATING HRS: 8760 hr/yr					
			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.123	0.9999	2.8081	67.3936	12.2993	0.0003	0.0012	0.0000
PM10	1.123	0.9999	2.8081	67.3936	12.2993	0.0003	0.0012	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	1.061	0.9999	2.6525	63.6600	11.6180	0.0003	0.0012	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
5.919854	0.000592
5.919854	0.000592
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
5.591894	0.000559

Compliance Test performed on No. 4 Barton on 6/24/09: Pb Results = 0.0003 lbs/hr; Production = 2.827 Tons/hr; EF (before controls) = 1.06119561 lbs/ton.
 Pb is 94.46% of PT.

Potential fugiives captured by building ventilation system (V-1).

Unit ID: 52-1 (No. 1 Barton) MDC (mmBtu/hr): 1.669 HEAT CONTENT (Btu/cft): 1,000
 1 MDR 0.0017 QTY BURNED (mmcft/yr): 2.83 STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

3 C No. 3-01-900-03			PERMITTED OPERATING HRS: 8760 hr/yr					
			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0032	0.0761	0.0139	0.0032	0.0139	0.0000
PM10	7.6	0	0.0127	0.3044	0.0556	0.0127	0.0556	0.0001
SOx	0.6	0	0.0010	0.0240	0.0044	0.0010	0.0044	N/A
NOx	100	0	0.1669	4.0056	0.7310	0.1669	0.7310	N/A
VOC	5.5	0	0.0092	0.2203	0.0402	0.0092	0.0402	N/A
CO	84	0	0.1402	3.3647	0.6141	0.1402	0.6141	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.002691	0.002691
0.010763	0.010763
0.000850	0.000850
0.141617	0.141617
0.007789	0.007789
0.118958	0.118958
0.000001	0.000001

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-1 (No. 1 Barton)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 1.669 HEAT CONTENT (Btu/gal): 91,500
MDR (mgal/hr): 0.018240 ASH CONTENT (%): N/A
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (3: 82)
FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0036	0.0876	0.0160	0.0036	0.0160	0.0000
PM10	0.7	0	0.0128	0.3064	0.0559	0.0128	0.0559	0.0001
SOx	0.1	0	0.0018	0.0438	0.0080	0.0018	0.0080	N/A
NOx	13	0	0.2371	5.6910	1.0386	0.2371	1.0386	N/A
VOC	1	0	0.0182	0.4378	0.0799	0.0182	0.0799	N/A
CO	7.5	0	0.1368	3.2833	0.5992	0.1368	0.5992	N/A
LEAD	---	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 52-1 (No. 1 Barton)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	2.8149	67.5573	12.3292	0.0035	0.0151	0.0000
PM10	2.8335	68.0045	12.4108	0.0130	0.0568	0.0001
SOx	0.0028	0.0678	0.0124	0.0010	0.0044	#VALUE!
NOx	0.4040	9.6966	1.7696	0.1669	0.7310	#VALUE!
VOC	0.0274	0.6581	0.1201	0.0092	0.0402	#VALUE!
CO	0.2770	6.6480	1.2133	0.1402	0.6141	#VALUE!
LEAD	2.6525	63.6600	11.6180	0.0003	0.0012	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
5.922545	0.003283
5.930617	0.011355
0.000850	0.000850
0.141617	0.141617
0.007789	0.007789
0.118958	0.118958
5.591895	0.000560

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-3 (No.2 Calcining Furnace) MDR (T produced/hr): 1.05 STACK ID (DIAM:HEIGHT): (3: 82)
CNTRL DEV: Main Control System (52-1 thru 4-F & H) YEARLY PROD (T/yr): 1,462.92 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS						
			BEFORE CONTROLS			AFTER CONTROLS			
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	
PM	0.012	0.9999	0.0124	0.2964	0.0541	0.0000	0.0000	0.0000	
PM10	0.012	0.9999	0.0124	0.2964	0.0541	0.0000	0.0000	0.0000	
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
LEAD	0.011	0.9999	0.0114	0.2738	0.0500	0.0000	0.0000	N/A	

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.008603	0.000001
0.008603	0.000001
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.007946	0.000001

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-3 (No.2 Calcining Furnace) MDC (mmBtu/hr): 0.65 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (3: 82)
(Natural Gas Combustion) MDR (mmcf/hr): 0.0007 QTY BURNED (mmcf/yr): 0.87 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						
			BEFORE CONTROLS			AFTER CONTROLS			
POLLUTANT	EF(lbs/mmcf)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	
PM	1.9	0	0.0012	0.0296	0.0054	0.0012	0.0054	0.0000	
PM10	7.6	0	0.0049	0.1186	0.0216	0.0049	0.0216	0.0000	
SOx	0.6	0	0.0004	0.0094	0.0017	0.0004	0.0017	N/A	
NOx	100	0	0.0650	1.5600	0.2847	0.0650	0.2847	N/A	
VOC	5.5	0	0.0036	0.0858	0.0157	0.0036	0.0157	N/A	
CO	84	0	0.0546	1.3104	0.2391	0.0546	0.2391	N/A	
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000823	0.000823
0.003290	0.003290
0.000260	0.000260
0.043295	0.043295
0.002381	0.002381
0.036367	0.036367
0.000000	0.000000

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-3 (No.2 Calcining Furnace)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 0.65 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
MDR (mgal/hr): 0.007104 ASH CONTENT (%): N/A FLOWRATE (ACFM): 25,848
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0014	0.0341	0.0062	0.0014	0.0062	0.0000
PM10	0.7	0	0.0050	0.1193	0.0218	0.0050	0.0218	0.0000
SOx	0.1	0	0.0007	0.0170	0.0031	0.0007	0.0031	N/A
NOx	13	0	0.0923	2.2164	0.4045	0.0923	0.4045	N/A
VOC	1	0	0.0071	0.1705	0.0311	0.0071	0.0311	N/A
CO	7.5	0	0.0533	1.2787	0.2334	0.0533	0.2334	N/A
LEAD	---	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 52-3 (No. 2 Calcining Furnace) (Insignificant)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0150	0.3601	0.0657	0.0012	0.0054	0.0000
PM10	0.0223	0.5343	0.0975	0.0049	0.0216	0.0000
SOx	0.0011	0.0264	0.0048	0.0004	0.0017	#VALUE!
NOx	0.1573	3.7764	0.6892	0.0650	0.2847	#VALUE!
VOC	0.0107	0.2563	0.0468	0.0036	0.0157	#VALUE!
CO	0.1079	2.5891	0.4725	0.0546	0.2391	#VALUE!
LEAD	0.0114	0.2738	0.0500	0.0000	0.0000	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.009426	0.000823
0.011894	0.003291
0.000260	0.000260
0.043295	0.043295
0.002381	0.002381
0.036367	0.036367
0.007946	0.000001

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-4 (No.10 Calcining Furnace) MDR (T produced/hr): 1.05 STACK ID (DIAM:HEIGHT): (3: 82)
CNTRL DEV: Main Control System (52-1 thru 4-F & H) YEARLY PROD (T/yr): 508.84 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.026	0.9999	0.0278	0.6673	0.1218	0.0000	0.0000	0.0000
PM10	0.026	0.9999	0.0278	0.6673	0.1218	0.0000	0.0000	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.024	0.9999	0.0257	0.6163	0.1125	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.006737	0.000001
0.006737	0.000001
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.006222	0.000001

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-4 (No.10 Calcining Furnace) MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (3: 82)
(Natural Gas Combustion) MDR (mmcf/hr): 0.0005 QTY BURNED (mmcf/yr): 0.79 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/mmcf)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0009	0.0213	0.0039	0.0009	0.0039	0.0000
PM10	7.6	0	0.0036	0.0854	0.0156	0.0036	0.0156	0.0000
SOx	0.6	0	0.0003	0.0067	0.0012	0.0003	0.0012	N/A
NOx	100	0	0.0468	1.1232	0.2050	0.0468	0.2050	N/A
VOC	5.5	0	0.0026	0.0618	0.0113	0.0026	0.0113	N/A
CO	84	0	0.0393	0.9435	0.1722	0.0393	0.1722	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000755	0.000755
0.003019	0.003019
0.000238	0.000238
0.039729	0.039729
0.002185	0.002185
0.033372	0.033372
0.000000	0.000000

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-4 (No.10 Calcining Furnace)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
MDR (mgal/hr): 0.005115 ASH CONTENT (%): N/A FLOWRATE (ACFM): 25,848
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0010	0.0246	0.0045	0.0010	0.0045	0.0000
PM10	0.7	0	0.0036	0.0859	0.0157	0.0036	0.0157	0.0000
SOx	0.1	0	0.0005	0.0123	0.0022	0.0005	0.0022	N/A
NOx	13	0	0.0665	1.5958	0.2912	0.0665	0.2912	N/A
VOC	1	0	0.0051	0.1228	0.0224	0.0051	0.0224	N/A
CO	7.5	0	0.0384	0.9207	0.1680	0.0384	0.1680	N/A
LEAD	---	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 52-4 (No. 10 Calcining Furnace) (Insignificant)

			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.0297	0.7132	0.1302	0.0009	0.0039	0.0000		
PM10	0.0349	0.8386	0.1530	0.0036	0.0156	0.0000		
SOx	0.0008	0.0190	0.0035	0.0003	0.0012	#VALUE!		
NOx	0.1133	2.7190	0.4962	0.0468	0.2050	#VALUE!		
VOC	0.0077	0.1845	0.0337	0.0026	0.0113	#VALUE!		
CO	0.0777	1.8641	0.3402	0.0393	0.1722	#VALUE!		
LEAD	0.0257	0.6163	0.1125	0.0000	0.0000	#VALUE!		

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.007492	0.000756
0.009756	0.003020
0.000238	0.000238
0.039729	0.039729
0.002185	0.002185
0.033372	0.033372
0.006222	0.000001

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-5 (No.3 Calcining Furnace)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 0.369 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
MDR (mgal/hr): 0.004033 ASH CONTENT (%): N/A FLOWRATE (ACFM): 25,848
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0008	0.0194	0.0035	0.0008	0.0035	0.0000
PM10	0.7	0	0.0028	0.0678	0.0124	0.0028	0.0124	0.0000
SOx	0.1	0	0.0004	0.0097	0.0018	0.0004	0.0018	N/A
NOx	13	0	0.0524	1.2582	0.2296	0.0524	0.2296	N/A
VOC	1	0	0.0040	0.0968	0.0177	0.0040	0.0177	N/A
CO	7.5	0	0.0302	0.7259	0.1325	0.0302	0.1325	N/A
LEAD	---	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 52-5 (No. 3 Calcining Furnace) (Insignificant)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0200	0.4810	0.0878	0.0007	0.0031	0.0000
PM10	0.0242	0.5799	0.1058	0.0028	0.0123	0.0000
SOx	0.0006	0.0150	0.0027	0.0002	0.0010	#VALUE!
NOx	0.0893	2.1438	0.3912	0.0369	0.1616	#VALUE!
VOC	0.0061	0.1455	0.0266	0.0020	0.0089	#VALUE!
CO	0.0612	1.4698	0.2682	0.0310	0.1358	#VALUE!
LEAD	0.0171	0.4109	0.0750	0.0000	0.0000	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.013508	0.000596
0.015293	0.002382
0.000188	0.000188
0.031325	0.031325
0.001723	0.001723
0.026313	0.026313
0.011926	0.000001

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-6 (No.4 Calcining Furnace)

MDR (T produced/hr): 1.05

STACK ID (DIAM:HEIGHT): (3: 82)

CNTRL DEV: Main Control System (52-1 thru 4-F & H)

YEARLY PROD (T/yr): 1,462.92

FLOWRATE (ACFM): 25,848

Ts(°F): 183

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.018	0.9999	0.0185	0.4449	0.0812	0.0000	0.0000	0.0000
PM10	0.018	0.9999	0.0185	0.4449	0.0812	0.0000	0.0000	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.016	0.9999	0.0171	0.4109	0.0750	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.012912	0.0000013
0.012912	0.0000013
0.000000	0.0000000
0.000000	0.0000000
0.000000	0.0000000
0.000000	0.0000000
0.011926	0.0000012

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-6 (No.4 Calcining Furnace)

MDC (mmBtu/hr): 0.468

HEAT CONTENT (Btu/cft): 1,000

STACK ID (DIAM:HEIGHT): (3: 82)

(Natural Gas Combustion)

MDR (mmcf/hr): 0.0005

QTY BURNED (mmcf/yr): 0.79

FLOWRATE (ACFM): 25,848

Ts(°F): 183

PERMITTED OPERATING HRS: 8760 hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcf)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0009	0.0213	0.0039	0.0009	0.0039	0.0000
PM10	7.6	0	0.0036	0.0854	0.0156	0.0036	0.0156	0.0000
SOx	0.6	0	0.0003	0.0067	0.0012	0.0003	0.0012	N/A
NOx	100	0	0.0468	1.1232	0.2050	0.0468	0.2050	N/A
VOC	5.5	0	0.0026	0.0618	0.0113	0.0026	0.0113	N/A
CO	84	0	0.0393	0.9435	0.1722	0.0393	0.1722	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000755	0.000755
0.003019	0.003019
0.000238	0.000238
0.039729	0.039729
0.002185	0.002185
0.033372	0.033372
0.000000	0.000000

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-6 (No.4 Calcining Furnace)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/gal): 91,500
MDR (mgal/hr): 0.005115 ASH CONTENT (%): N/A
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (3: 82)
FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0010	0.0246	0.0045	0.0010	0.0045	0.0000
PM10	0.7	0	0.0036	0.0859	0.0157	0.0036	0.0157	0.0000
SOx	0.1	0	0.0005	0.0123	0.0022	0.0005	0.0022	N/A
NOx	13	0	0.0665	1.5958	0.2912	0.0665	0.2912	N/A
VOC	1	0	0.0051	0.1228	0.0224	0.0051	0.0224	N/A
CO	7.5	0	0.0384	0.9207	0.1680	0.0384	0.1680	N/A
LEAD	---	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 52-6 (No. 4 Calcining Furnace) (Insignificant)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0204	0.4907	0.0896	0.0009	0.0039	0.0000
PM10	0.0257	0.6161	0.1124	0.0036	0.0156	0.0000
SOx	0.0008	0.0190	0.0035	0.0003	0.0012	#VALUE!
NOx	0.1133	2.7190	0.4962	0.0468	0.2050	#VALUE!
VOC	0.0077	0.1845	0.0337	0.0026	0.0113	#VALUE!
CO	0.0777	1.8641	0.3402	0.0393	0.1722	#VALUE!
LEAD	0.0171	0.4109	0.0750	0.0000	0.0000	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.013667	0.000756
0.015932	0.003021
0.000238	0.000238
0.039729	0.039729
0.002185	0.002185
0.033372	0.033372
0.011926	0.000001

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-7 (No.5 Calcining Furnace) MDR (T produced/hr): 1.05 STACK ID (DIAM:HEIGHT): (3: 82)
CNTRL DEV: Main Control System (52-1 thru 4-F & H) YEARLY PROD (T/yr): 1,462.92 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.018	0.9999	0.0185	0.4449	0.0812	0.0000	0.0000	0.0000
PM10	0.018	0.9999	0.0185	0.4449	0.0812	0.0000	0.0000	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.016	0.9999	0.0171	0.4109	0.0750	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.012912	0.0000013
0.012912	0.0000013
0.000000	0.0000000
0.000000	0.0000000
0.000000	0.0000000
0.000000	0.0000000
0.011926	0.0000012

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-7 (No.5 Calcining Furnace) MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (3: 82)
(Natural Gas Combustion) MDR (mmcf/hr): 0.0005 QTY BURNED (mmcf/yr): 0.79 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

SCC No. 3-90-006-89			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcf)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0009	0.0213	0.0039	0.0009	0.0039	0.0000
PM10	7.6	0	0.0036	0.0854	0.0156	0.0036	0.0156	0.0000
SOx	0.6	0	0.0003	0.0067	0.0012	0.0003	0.0012	N/A
NOx	100	0	0.0468	1.1232	0.2050	0.0468	0.2050	N/A
VOC	5.5	0	0.0026	0.0618	0.0113	0.0026	0.0113	N/A
CO	84	0	0.0393	0.9435	0.1722	0.0393	0.1722	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000755	0.000755
0.003019	0.003019
0.000238	0.000238
0.039729	0.039729
0.002185	0.002185
0.033372	0.033372
0.000000	0.000000

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-7 (No.5 Calcining Furnace)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/gal): 91,500
MDR (mgal/hr): 0.005115 ASH CONTENT (%): N/A
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (3: 82)
FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0010	0.0246	0.0045	0.0010	0.0045	0.0000
PM10	0.7	0	0.0036	0.0859	0.0157	0.0036	0.0157	0.0000
SOx	0.1	0	0.0005	0.0123	0.0022	0.0005	0.0022	N/A
NOx	13	0	0.0665	1.5958	0.2912	0.0665	0.2912	N/A
VOC	1	0	0.0051	0.1228	0.0224	0.0051	0.0224	N/A
CO	7.5	0	0.0384	0.9207	0.1680	0.0384	0.1680	N/A
LEAD	---	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 52-7 (No. 5 Calcining Furnace) (Insignificant)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0204	0.4907	0.0896	0.0009	0.0039	0.0000
PM10	0.0257	0.6161	0.1124	0.0036	0.0156	0.0000
SOx	0.0008	0.0190	0.0035	0.0003	0.0012	#VALUE!
NOx	0.1133	2.7190	0.4962	0.0468	0.2050	#VALUE!
VOC	0.0077	0.1845	0.0337	0.0026	0.0113	#VALUE!
CO	0.0777	1.8641	0.3402	0.0393	0.1722	#VALUE!
LEAD	0.0171	0.4109	0.0750	0.0000	0.0000	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.013667	0.000756
0.015932	0.003021
0.000238	0.000238
0.039729	0.039729
0.002185	0.002185
0.033372	0.033372
0.011926	0.000001

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-8 (No.6 Calcining Furnace) MDR (T produced/hr): 1.05 STACK ID (DIAM:HEIGHT): (3: 82)
CNTRL DEV: Main Control System (52-1 thru 4-F & H) YEARLY PROD (T/yr): 1,269.45 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.026	0.9999	0.0278	0.6673	0.1218	0.0000	0.0000	0.0000
PM10	0.026	0.9999	0.0278	0.6673	0.1218	0.0000	0.0000	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.024	0.9999	0.0257	0.6163	0.1125	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.016807	0.000002
0.016807	0.000002
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.015523	0.000002

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-8 (No.6 Calcining Furnace) MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (3: 82)
(Natural Gas Combustion) MDR (mmcf/hr): 0.0005 QTY BURNED (mmcf/yr): 0.79 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

SCC No. 3-90-006-89			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcf)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0009	0.0213	0.0039	0.0009	0.0039	0.0000
PM10	7.6	0	0.0036	0.0854	0.0156	0.0036	0.0156	0.0000
SOx	0.6	0	0.0003	0.0067	0.0012	0.0003	0.0012	N/A
NOx	100	0	0.0468	1.1232	0.2050	0.0468	0.2050	N/A
VOC	5.5	0	0.0026	0.0618	0.0113	0.0026	0.0113	N/A
CO	84	0	0.0393	0.9435	0.1722	0.0393	0.1722	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000755	0.000755
0.003019	0.003019
0.000238	0.000238
0.039729	0.039729
0.002185	0.002185
0.033372	0.033372
0.000000	0.000000

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-8 (No.6 Calcining Furnace)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/gal): 91,500
MDR (mgal/hr): 0.005115 ASH CONTENT (%): N/A
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (3: 82)
FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0010	0.0246	0.0045	0.0010	0.0045	0.0000
PM10	0.7	0	0.0036	0.0859	0.0157	0.0036	0.0157	0.0000
SOx	0.1	0	0.0005	0.0123	0.0022	0.0005	0.0022	N/A
NOx	13	0	0.0665	1.5958	0.2912	0.0665	0.2912	N/A
VOC	1	0	0.0051	0.1228	0.0224	0.0051	0.0224	N/A
CO	7.5	0	0.0384	0.9207	0.1680	0.0384	0.1680	N/A
LEAD	---	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 52-8 (No. 6 Calcining Furnace) (Insignificant)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0297	0.7132	0.1302	0.0009	0.0039	0.0000
PM10	0.0349	0.8386	0.1530	0.0036	0.0156	0.0000
SOx	0.0008	0.0190	0.0035	0.0003	0.0012	#VALUE!
NOx	0.1133	2.7190	0.4962	0.0468	0.2050	#VALUE!
VOC	0.0077	0.1845	0.0337	0.0026	0.0113	#VALUE!
CO	0.0777	1.8641	0.3402	0.0393	0.1722	#VALUE!
LEAD	0.0257	0.6163	0.1125	0.0000	0.0000	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.017562	0.000757
0.019827	0.003021
0.000238	0.000238
0.039729	0.039729
0.002185	0.002185
0.033372	0.033372
0.015523	0.000002

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-9 (No.8 Calcining Furnace)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 0.792 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
MDR (mgal/hr): 0.008656 ASH CONTENT (%): N/A FLOWRATE (ACFM): 25,848
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0017	0.0415	0.0076	0.0017	0.0076	0.0000
PM10	0.7	0	0.0061	0.1454	0.0265	0.0061	0.0265	0.0000
SOx	0.1	0	0.0009	0.0208	0.0038	0.0009	0.0038	N/A
NOx	13	0	0.1125	2.7006	0.4929	0.1125	0.4929	N/A
VOC	1	0	0.0087	0.2077	0.0379	0.0087	0.0379	N/A
CO	7.5	0	0.0649	1.5580	0.2843	0.0649	0.2843	N/A
LEAD	---	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 52-9 (No. 8 Calcining Furnace) (Insignificant)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0389	0.9345	0.1705	0.0015	0.0066	0.0000
PM10	0.0478	1.1467	0.2093	0.0060	0.0264	0.0000
SOx	0.0013	0.0322	0.0059	0.0005	0.0021	#VALUE!
NOx	0.1917	4.6014	0.8398	0.0792	0.3469	#VALUE!
VOC	0.0130	0.3123	0.0570	0.0044	0.0191	#VALUE!
CO	0.1314	3.1547	0.5757	0.0665	0.2914	#VALUE!
LEAD	0.0336	0.8064	0.1472	0.0000	0.0000	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-10 (No.9 Calcining Furnace) MDR (T produced/hr): 1.05 STACK ID (DIAM:HEIGHT): (3: 82)
CNTRL DEV: Main Control System (52-1 thru 4-F & H) YEARLY PROD (T/yr): 1,269.45 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.023	0.9999	0.0238	0.5720	0.1044	0.0000	0.0000	0.0000
PM10	0.023	0.9999	0.0238	0.5720	0.1044	0.0000	0.0000	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.021	0.9999	0.0220	0.5283	0.0964	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.014406	0.000001
0.014406	0.000001
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.013306	0.000001

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-10 (No.9 Calcining Furnace) MDC (mmBtu/hr): 0.779 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (3: 82)
(Natural Gas Combustion) MDR (mmcf/hr): 0.0008 QTY BURNED (mmcf/yr): 1.32 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

SCC No. 3-90-006-89			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcf)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0015	0.0355	0.0065	0.0015	0.0065	0.0000
PM10	7.6	0	0.0059	0.1421	0.0259	0.0059	0.0259	0.0000
SOx	0.6	0	0.0005	0.0112	0.0020	0.0005	0.0020	N/A
NOx	100	0	0.0779	1.8696	0.3412	0.0779	0.3412	N/A
VOC	5.5	0	0.0043	0.1028	0.0188	0.0043	0.0188	N/A
CO	84	0	0.0654	1.5705	0.2866	0.0654	0.2866	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.001256	0.001256
0.005026	0.005026
0.000397	0.000397
0.066130	0.066130
0.003637	0.003637
0.055549	0.055549
0.000000	0.000000

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-10 (No.9 Calcining Furnace)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 0.779 HEAT CONTENT (Btu/gal): 91,500
 MDR (mgal/hr): 0.008514 ASH CONTENT (%): N/A
 QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0017	0.0409	0.0075	0.0017	0.0075	0.0000
PM10	0.7	0	0.0060	0.1430	0.0261	0.0060	0.0261	0.0000
SOx	0.1	0	0.0009	0.0204	0.0037	0.0009	0.0037	N/A
NOx	13	0	0.1107	2.6563	0.4848	0.1107	0.4848	N/A
VOC	1	0	0.0085	0.2043	0.0373	0.0085	0.0373	N/A
CO	7.5	0	0.0639	1.5325	0.2797	0.0639	0.2797	N/A
LEAD	---	0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 52-10 (No. 9 Calcining Furnace) (Insignificant)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0270	0.6483	0.1183	0.0015	0.0065	0.0000
PM10	0.0357	0.8571	0.1564	0.0059	0.0259	0.0000
SOx	0.0013	0.0317	0.0058	0.0005	0.0020	#VALUE!
NOx	0.1886	4.5259	0.8260	0.0779	0.3412	#VALUE!
VOC	0.0128	0.3072	0.0561	0.0043	0.0188	#VALUE!
CO	0.1293	3.1029	0.5663	0.0654	0.2866	#VALUE!
LEAD	0.0220	0.5283	0.0964	0.0000	0.0000	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.015663	0.001258
0.019432	0.005027
0.000397	0.000397
0.066130	0.066130
0.003637	0.003637
0.055549	0.055549
0.013306	0.000002

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-11 (Lead Oxide Grinding Mill) (Litharge Mill)
 CNTRL DEV: Main Control System (52-1 thru 4-F & H)

MDR (T produced/hr): 3.9285
 YEARLY PROD (T/yr): 10,540.80

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-52			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	6.603	0.9999	25.9400	622.5601	113.6172	0.0026	0.0114	0.0000
PM10	6.603	0.9999	25.9400	622.5601	113.6172	0.0026	0.0114	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	6.099	0.9999	23.9582	574.9965	104.9369	0.0024	0.0105	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
34.800610	0.003480
34.800610	0.003480
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
32.141844	0.003214

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-11 (Packing) (Front End Packing)
 CNTRL DEV: Main Control System (52-1 thru 4-F & H)

MDR (T produced/hr): 3.9285
 YEARLY PROD (T/yr): 145.51

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	6.603	0.9999	25.9400	622.5601	113.6172	0.0026	0.0114	0.0000
PM10	6.603	0.9999	25.9400	622.5601	113.6172	0.0026	0.0114	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	6.099	0.9999	23.9582	574.9965	104.9369	0.0024	0.0105	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.480387	0.000048
0.480387	0.000048
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.443685	0.000044

Packing station used also for 52-12. Throughput is the total of 52-11 & 52-12.

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-11 (Litharge Conveying)

MDR (T produced/hr): 3.9285

STACK ID (DIAM:HEIGHT): (3: 82)

CNTRL DEV: Main Control System (52-1 thru 4-F & H)

YEARLY PROD (T/yr): 10,540.80

FLOWRATE (ACFM): 25,848

Ts(°F): 183

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	2.794	0.9999	10.9746	263.3908	48.0688	0.0011	0.0048	0.0000
PM10	2.794	0.9999	10.9746	263.3908	48.0688	0.0011	0.0048	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	2.580	0.9999	10.1362	243.2678	44.3964	0.0010	0.0044	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
14.723335	0.001472
14.723335	0.001472
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
13.598472	0.001360

This unit is shown on the flow diagram for 56-3. Material transfer into one of two weigh hoppers.

Total: Unit 52-11

POTENTIAL EMISSIONS								
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	62.8546	1,508.5110	275.3033	0.0063	0.0275	0.0000		
PM10	62.8546	1,508.5110	275.3033	0.0063	0.0275	0.0000		
SOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!		
NOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!		
VOC	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!		
CO	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!		
LEAD	58.0525	1,393.2608	254.2701	0.0058	0.0254	#VALUE!		

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
50.004332	0.005000
50.004332	0.005000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
46.184001	0.004618

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-12 (Lead Oxide Grinding Mill (25% Red Lead Mill)) MDR (T produced/hr): 4.5 STACK ID (DIAM:HEIGHT): (3: 82)
 YEARLY PROD (T/yr): 8,548.56 FLOWRATE (ACFM): 25,848
 CNTRL DEV: Main Control System (52-1 thru 4-F & H) Ts(°F): 183

SCC NO. 3-01-035-52			PERMITTED OPERATING HRS: 8760 hr/yr					
			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.176	0.9999	5.29	127.01	23.18	0.0005	0.0023	0.0000
PM10/PM2.5	1.176	0.9999	5.29	127.01	23.18	0.0005	0.0023	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	1.086	0.9999	4.89	117.29	21.41	0.0005	0.0021	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
10.016155	0.001002
10.016155	0.001002
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
9.250921	0.000925

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-13 (Lead Oxide Grinding Mill) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): (3: 82)
 YEARLY PROD (T/yr): 2,285.01 FLOWRATE (ACFM): 25,848
 CNTRL DEV: Main Control System (52-1 thru 4-F & H) Ts(°F): 183

SCC NO. 3-01-035-52			PERMITTED OPERATING HRS: 8760 hr/yr					
			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.159	0.9999	0.3983	9.5582	1.7444	0.0000	0.0002	0.0000
PM10	0.159	0.9999	0.3983	9.5582	1.7444	0.0000	0.0002	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.147	0.9999	0.3678	8.8279	1.6111	0.0000	0.0002	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.182005	0.000018
0.182005	0.000018
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.168100	0.000017

Potential fugitives captured by building ventilation system (V-1).

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-13 (Packing)

MDR (T produced/hr): 2.5

STACK ID (DIAM:HEIGHT): (3: 82)

YEARLY PROD (T/yr): 145.51

FLOWRATE (ACFM): 25,848

CNTRL DEV: Main Control System (52-1 thru 4-F & H)

Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.159	0.9999	0.3983	9.5582	1.7444	0.0000	0.0002	0.0000
PM10	0.159	0.9999	0.3983	9.5582	1.7444	0.0000	0.0002	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.147	0.9999	0.3678	8.8279	1.6111	0.0000	0.0002	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.011590	0.000001
0.011590	0.000001
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.010704	0.000001

Total: Unit 52-13

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.7965	19.1164	3.4887	0.0001	0.0003	0.0000
PM10	0.7965	19.1164	3.4887	0.0001	0.0003	0.0000
SOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!
NOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!
VOC	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!
CO	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!
LEAD	0.7357	17.6559	3.2222	0.0001	0.0003	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.193594	0.000019
0.193594	0.000019
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.178804	0.000018

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-14 (Air Conveying System) (Insignificant)
 (HM Conveyor)
 CNTRL DEV: Filters (52-7 and 9-F & H)

MDR (T produced/hr): 5
 YEARLY PROD (T/yr): 1.10

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.02607	0.9999	0.1304	3.1286	0.5710	0.000013	0.000057	0.000000
PM10	0.02607	0.9999	0.1304	3.1286	0.5710	0.000013	0.000057	0.000000
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
LEAD	0.02408	0.9999	0.1204	2.8896	0.5273	0.000012	0.000053	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000014	0.000000
0.000014	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000013	0.000000

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-15 (Lead Oxide Bulk Loading)

MDR (T produced/hr): 13.38
 YEARLY PROD (T/yr): 8,155.22

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

CNTRL DEV: Main Control System (52-1 thru 4-F & H)

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.487	0.9999	6.5153	156.3676	28.5371	0.0007	0.0029	0.0000
PM10	0.487	0.9999	6.5153	156.3676	28.5371	0.0007	0.0029	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.450	0.9999	6.0175	144.4211	26.3569	0.0006	0.0026	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
1.985569	0.000199
1.985569	0.000199
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
1.833872	0.000183

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 52-16 (Bulk Truck Loading System)
 (HM Bulk Load)
 CNTRL DEV: Filters (52-5 and 6-F & H)

MDR (T produced/hr): 79,965
 YEARLY PROD (T/yr): 48,439.16

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 28,167
 Ts(°F): 145

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54 (See NOTE below)			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.0329	0.9999	2.63	63.14	11.52	0.0003	0.0012	0.0000
PM10	0.0329	0.9999	2.63	63.14	11.52	0.0003	0.0012	0.0000
SOx	0	0	0.00	0.0000	0.00	0.0000	0.0000	N/A
NOx	0	0	0.00	0.0000	0.00	0.0000	0.0000	N/A
VOC	0	0	0.00	0.0000	0.00	0.0000	0.0000	N/A
CO	0	0	0.00	0.0000	0.00	0.0000	0.0000	N/A
LEAD	0.0304	0.9999	2.43	58.34	10.65	0.0002	0.0011	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
3.870983	0.000387
3.870983	0.000387
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
3.575240	0.000358

NOTE: Emissions factors from 2014 stack compliance tests results.

Unit ID: 52-19 (Lead Oxide Bulk Loading North)

MDR (T produced/hr): 50
 YEARLY PROD (T/yr): 2,285.01

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 25,848
 Ts(°F): 183

CNTRL DEV: Main Control System (52-1 thru 4-F & H)

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.371	0.9999	18.5643	445.5437	81.3117	0.0019	0.0081	0.0000
PM10	0.371	0.9999	18.5643	445.5437	81.3117	0.0019	0.0081	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.343	0.9999	17.1460	411.5042	75.0995	0.0017	0.0075	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.424197	0.000042
0.424197	0.000042
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.391789	0.000039

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Total: Stack 1-S-52

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)				
PM	99.8002	2,395.2048	437.1249	0.0216	0.0947	0.0001	1.000	4.380	72.5084	0.0156
PM10/PM2.5	99.8686	2,396.8475	437.4247	0.0566	0.2478	0.0003	1.000	4.380	72.5335	0.0408
SOx	0.0104	0.2491	0.0455	0.0037	0.0161	#VALUE!	N/A	N/A	0.0026	0.0026
NOx	1.4842	35.6201	6.5007	0.6131	2.6854	#VALUE!	N/A	N/A	0.4413	0.4413
VOC	0.1007	2.4174	0.4412	0.0337	0.1477	#VALUE!	N/A	N/A	0.0243	0.0243
CO	1.0175	24.4211	4.4568	0.5150	2.2557	#VALUE!	N/A	N/A	0.3707	0.3707
LEAD	92.2123	2,213.0957	403.8900	0.0092	0.0404	#VALUE!	0.070	0.31	67.0853	0.0067

* Under Natural Gas Combustion.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf

PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr

Pb: 326 IAC 15-1-2(a)(6)

Main Control System Controls consist of:

Four identical (4) Micro-Pul, Reverse Jet Air Pulse Cleaning Units (52-1 through 4 F and H)

Each unit consists of a baghouse (144, eight (8) foot long membrane type filter bags on wire support cages) and HEPA filter unit (nine (9) HEPA filters).

Appendix A: Emission Calculations
PTE from Units Exhausting Through Stack ID 1S-52

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Explanation of Emission Factor Calculations:

Compliance Test Performed on 6/24/09: Pb Emission Rate 0.0100 lbs/hr. (92.36% Pb Content)

Unit	Avg. Hourly Process Rate (lbs/hr)	Previous Dust Load Factor Used	(1) Equivalent Dust Load (lbs/hr)	Percentage of Total Dust Load (%)	Control Efficiency (%)	Throughput During ST (lbs)	Uncontrolled	
							(2) New Pb EF (lbs/ton)	(3) New PM EF (lbs/ton)
52-1 (No. 1 Barton)	3,582		31	3.000	99.99	5,463	1.061	1.123
52-2 (No. 1 Calcining)	1,458	0.2 lbs per 100 lbs	3	0.285	99.99	0	#DIV/0!	#DIV/0!
52-3 (No. 2 Calcining)	583	0.2 lbs per 100 lbs	1	0.114	99.99	21,000	0.011	0.012
52-4 (No. 10 Calcining)	1,750	0.2 lbs per 100 lbs	4	0.342	99.99	28,000	0.024	0.026
52-5 (No. 3 Calcining)	750	0.2 lbs per 100 lbs	2	0.147	99.99	18,000	0.016	0.018
52-6 (No. 4 Calcining)	1,000	0.2 lbs per 100 lbs	2	0.196	99.99	24,000	0.016	0.018
52-7 (No. 5 Calcining)	1,000	0.2 lbs per 100 lbs	2	0.196	99.99	24,000	0.016	0.018
52-8 (No. 6 Calcining)	750	0.2 lbs per 100 lbs	2	0.147	99.99	12,000	0.024	0.026
52-9 (No. 8 Calcining)	292	0.2 lbs per 100 lbs	1	0.057	99.99	0	#DIV/0!	#DIV/0!
52-10 (No. 9 Calcining)	750	0.2 lbs per 100 lbs	2	0.147	99.99	14,000	0.021	0.023
52-11 (Lead Oxide Mill)	9,109	2.6 lbs per 100 lbs	237	23.168	99.99	7,598	6.099	6.603
52-11 (Packing)	9,109	2.6 lbs per 100 lbs	237	23.168	99.99	7,598	6.099	6.603
52-11 (Litharge Convey)	9,109	1.1 lb per 100 lbs	100	9.802	99.99	7,598	2.580	2.794
52-12 (Lead Oxide Mill)	10,232	0.95 lbs per 100 lbs	97	9.509	99.99	6,538	2.909	3.149
52-13 (Lead Oxide Mill)	467	1 lb per 100 lbs	5	0.457	99.99	6,210	0.147	0.159
52-13 (Packing)	467	1 lb per 100 lbs	5	0.457	99.99	6,210	0.147	0.159
52-14 (Air Conveying System)	7,643	0.01 lbs per 100 lbs	1	0.075	99.99	6,210	0.024080	0.026072
52-15 (Lead Oxide Bulk Load)	32,956	0.19 lbs per 100 lbs	63	6.125	99.99	27,240	0.450	0.487
52-16 (Bulk Truck Load)	221,985	0.047 lbs per 100 lbs	104	10.206	99.99	150,420	0.1357	0.1469
52-17 (Mykro Mill)	4,193	1.6% of avg. ho	67	6.563	99.99	7,236	1.814	1.964
52-19 (PbO Bulk Load - North)	31,380	0.19 lbs per 100 lbs	60	5.833	99.99	34,017	0.343	0.371
52-20 (Rail Car Loading)	0	1 lb per 100 lbs	0	0.000	99.99	0	#DIV/0!	#DIV/0!
52-21 (Glass Additive Drying)	150	2% of 1 lb per 100 lbs	0.03	0.003	99.99	150	0.039	1.957
52-21 (Packing)	150	2% of 1 lb per 100 lbs	0.03	0.003	99.99	150	0.039	1.957
		Total:	992	100		413,638	0.484	0.524

4 Barton Test 6/24/09

- (1) Equivalent Dust Load was calculated by: Previous Dust Load Factor x Avg. Hourly Process Rate.
- (2) New Pb EF calculated by: Percentage of Total Dust Loading x Measured emission rate / Avg. Production Rate.
- (3) New PM EF calculated using Pb) EF and % Pb content.

Appendix A: Emission Calculations

PTE from Units Exhausting Through STACK ID 4A-S-8

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 8-1 (No. 2 Barton System)
 CNTRL DEV: Baghouse & HEPA (8-7-F & H)

MDR (T produced/hr): 2.5
 YEARLY PROD (T/yr): 4,926.96

STACK ID (DIAM:HEIGHT): (1.25: 60)
 FLOWRATE (ACFM): 2758
 Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.123	0.9999	2.8081	67.3936	12.2993	0.0003	0.0012	0.0000
PM10	1.123	0.9999	2.8081	67.3936	12.2993	0.0003	0.0012	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	1.061	0.9999	2.6525	63.6600	11.6180	0.0003	0.0012	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
2.767047	0.000277
2.767047	0.000277
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
2.613752	0.000261

Compliance Test performed on 4 Barton on 6/24/09: Pb Results = 0.0003 lbs/hr; Production = 2.827 Tons/hr; 1.061196 lbs/ton.

Pb is 94.46% of PT.

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 8-1 (No. 2 Barton System)
(Natural Gas Combustion)

MDC (mmBtu/hr): 1.7
 MDR (mmcft/hr): 0.0017
 HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmcft/yr): 1.97

STACK ID (DIAM:HEIGHT): (1.25: 60)
 FLOWRATE (ACFM): 2758
 Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS					
POLLUTAN	F(lbs/mmcf)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0032	0.0775	0.0141	0.0032	0.0141	0.0002
PM10	7.6	0	0.0129	0.3101	0.0566	0.0129	0.0566	0.0007
SOx	0.6	0	0.0010	0.0245	0.0045	0.0010	0.0045	N/A
NOx	100	0	0.1700	4.0800	0.7446	0.1700	0.7446	N/A
VOC	5.5	0	0.0094	0.2244	0.0410	0.0094	0.0410	N/A
CO	84	0	0.1428	3.4272	0.6255	0.1428	0.6255	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.001869	0.001869
0.007478	0.007478
0.000590	0.000590
0.098389	0.098389
0.005411	0.005411
0.082647	0.082647
0.000000	0.000000

Appendix A: Emission Calculations

PTE from Units Exhausting Through STACK ID 4A-S-8

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 8-1 (No. 2 Barton System)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 1.7 T CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.25: 60)
MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A FLOWRATE (ACFM): 2758
QTY BURNED (mgal/yr): 0 LFUR CONTENT (%): N/A Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS							2012 Actual (TPY)	
POLLUTANT	EF (lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS			BEFORE CONTROLS	AFTER CONTROLS	
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)			
PM	0.2	0	0.0037	0.0892	0.0163	0.0037	0.0163	0.0002	0.000000	0.000000	
PM10	0.7	0	0.0130	0.3121	0.0570	0.0130	0.0570	0.0007	0.000000	0.000000	
SOx	0.1	0	0.0019	0.0446	0.0081	0.0019	0.0081	N/A	0.000000	0.000000	
NOx	13	0	0.2415	5.7967	1.0579	0.2415	1.0579	N/A	0.000000	0.000000	
VOC	1	0	0.0186	0.4459	0.0814	0.0186	0.0814	N/A	0.000000	0.000000	
CO	7.5	0	0.1393	3.3443	0.6103	0.1393	0.6103	N/A	0.000000	0.000000	
LEAD	---	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Total: Stack 4A-S-8 (No. 2 Bartc

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)				
PM	2.8113	67.4711	12.3135	0.0035	0.0154	0.0002	0.250	1.10	2.768916	0.002146
PM10/PM2.5	2.8210	67.7037	12.3559	0.0132	0.0578	0.0007	0.250	1.10	2.774524	0.007754
SOx	0.0010	0.0245	0.0045	0.0010	0.0045	#VALUE!	N/A	N/A	0.000590	0.000590
NOx	0.1700	4.0800	0.7446	0.1700	0.7446	#VALUE!	N/A	N/A	0.098389	0.098389
VOC	0.0094	0.2244	0.0410	0.0094	0.0410	#VALUE!	N/A	N/A	0.005411	0.005411
CO	0.1428	3.4272	0.6255	0.1428	0.6255	#VALUE!	N/A	N/A	0.082647	0.082647
LEAD	2.6525	63.6600	11.6180	0.0003	0.0012	#VALUE!	0.053	0.23	2.613753	0.000262

* Under Natural Gas Combustion.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf

PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr

Pb: 326 IAC 15-1-2(a)(6)

Control Equipment comprised of baghouse & HEPA.

Baghouse is a Micro-Pul Reverse Jet Air Pulse Cleaning unit with 144, eight (8) foot long membrane type bag filter on wire support cages.

HEPA includes (9) HEPA filters.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 14-S-16

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 16-1 (No. 3 Barton System)
 CNTRL DEV: Baghouse & HEPA (16-8-F & H)

MDR (T produced/hr): 2.5
 YEARLY PROD (T/yr): 13,973.04

STACK ID (DIAM:HEIGHT): (1.25: 60)
 FLOWRATE (ACFM): 2758
 Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06	POTENTIAL EMISSIONS								
				BEFORE CONTROLS			AFTER CONTROLS		
	POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.123	0.9999	2.8081	67.3936	12.2993	0.0003	0.0012	0.0000	
PM10	1.123	0.9999	2.8081	67.3936	12.2993	0.0003	0.0012	0.0000	
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
LEAD	1.061	0.9999	2.6525	63.6600	11.6180	0.0003	0.0012	N/A	

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
7.847446	0.000785	
7.847446	0.000785	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
7.412698	0.000741	

Compliance Test performed on 4 Barton on 6/24/09: Pb Results = 0.0003 lbs/hr; Production = 2.827 Tons/hr 1.061196 lbs/ton.
 Pb is 94.46% of PT.

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 16-1 (No. 3 Barton System)
(Natural Gas Combustion)

MDC (mmBtu/hr): 1.7
 MDR (mmcf/hr): 0.0017
 HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmcf/yr): 1.88

STACK ID (DIAM:HEIGHT): (1.25: 60)
 FLOWRATE (ACFM): 2758
 Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89	POTENTIAL EMISSIONS								
				BEFORE CONTROLS			AFTER CONTROLS		
	POLLUTANT	EF(lbs/mmcf)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0032	0.0775	0.0141	0.0032	0.0141	0.0002	
PM10	7.6	0	0.0129	0.3101	0.0566	0.0129	0.0566	0.0007	
SOx	0.6	0	0.0010	0.0245	0.0045	0.0010	0.0045	N/A	
NOx	100	0	0.1700	4.0800	0.7446	0.1700	0.7446	N/A	
VOC	5.5	0	0.0094	0.2244	0.0410	0.0094	0.0410	N/A	
CO	84	0	0.1428	3.4272	0.6255	0.1428	0.6255	N/A	
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.001789	0.001789	
0.007155	0.007155	
0.000565	0.000565	
0.094144	0.094144	
0.005178	0.005178	
0.079081	0.079081	
0.000000	0.000000	

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 14-S-16

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 16-1 (No. 3 Barton System)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 1.7 T CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.25: 60)
MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A FLOWRATE (ACFM): 2758
QTY BURNED (mgal/yr): 0 JLFUR CONTENT (%): N/A Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF (lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0037	0.0892	0.0163	0.0037	0.0163	0.0002
PM10	0.7	0	0.0130	0.3121	0.0570	0.0130	0.0570	0.0007
SOx	0.1	0	0.0019	0.0446	0.0081	0.0019	0.0081	N/A
NOx	13	0	0.2415	5.7967	1.0579	0.2415	1.0579	N/A
VOC	1	0	0.0186	0.4459	0.0814	0.0186	0.0814	N/A
CO	7.5	0	0.1393	3.3443	0.6103	0.1393	0.6103	N/A
LEAD	---	0	N/A	N/A	N/A	N/A	N/A	N/A

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
N/A	N/A	

Total: Stack 14-S-16 (No. 3 Bart)

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)				
PM	2.8113	67.4711	12.3135	0.0035	0.0154	0.0002	0.250	1.10	7.849235	0.002573
PM10/PM2.5	2.8210	67.7037	12.3559	0.0132	0.0578	0.0007	0.250	1.10	7.854601	0.007940
SOx	0.0010	0.0245	0.0045	0.0010	0.0045	#VALUE!	N/A	N/A	0.000565	0.000565
NOx	0.1700	4.0800	0.7446	0.1700	0.7446	#VALUE!	N/A	N/A	0.094144	0.094144
VOC	0.0094	0.2244	0.0410	0.0094	0.0410	#VALUE!	N/A	N/A	0.005178	0.005178
CO	0.1428	3.4272	0.6255	0.1428	0.6255	#VALUE!	N/A	N/A	0.079081	0.079081
LEAD	2.6525	63.6600	11.6180	0.0003	0.0012	#VALUE!	0.053	0.23	7.412698	0.000742

* Under Natural Gas Combustion.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf

PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 0.250 lbs/hr

Pb: 326 IAC 15-1-2(a)(6)

Control Equipment comprised of baghouse & HEPA.

Baghouse is a Micro-Pul Reverse Jet Air Pulse Cleaning unit with 81, eight (8) foot long membrane type bag filter on wire support cages.

HEPA includes (4) HEPA filters.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 1-S-2

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 2-1 (No. 4 Barton System)
 CNTRL DEV: Baghouse & HEPA (2-9-F & H)

MDR (T produced/hr): 2.5
 YEARLY PROD (T/yr): 9,168.12

STACK ID (DIAM:HEIGHT): (1.25: 60)
 FLOWRATE (ACFM): 2843
 Ts(°F): 193

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.876	0.9999	2.1888	52.5302	9.5868	0.0002	0.0010	0.00001
PM10	0.876	0.9999	2.1888	52.5302	9.5868	0.0002	0.0010	0.00001
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.827	0.9999	2.0675	49.6200	9.0557	0.0002	0.0009	N/A

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
4.013358	0.000401	
4.013358	0.000401	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
3.791018	0.000379	

Compliance Test performed on 4/18/12: Pb Results = 0.0002 lbs/hr; Production = 2.417 Tons/ 0.827472 lbs/ton.
 Pb is 94.46% of PT. (Goretex bags used during this compliance test).

Unit ID: 2-1 (No. 4 Barton System)
(Natural Gas Combustion)

MDC (mmBtu/hr): 1.7
 MDR (mmcf/hr): 0.0017
 HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmcf/yr): 2.86

STACK ID (DIAM:HEIGHT): (1.25: 60)
 FLOWRATE (ACFM): 2843
 Ts(°F): 193

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS					
POLLUTAN	F(lbs/mmcf)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0032	0.0775	0.0141	0.0032	0.0141	0.0002
PM10	7.6	0	0.0129	0.3101	0.0566	0.0129	0.0566	0.0007
SOx	0.6	0	0.0010	0.0245	0.0045	0.0010	0.0045	N/A
NOx	100	0	0.1700	4.0800	0.7446	0.1700	0.7446	N/A
VOC	5.5	0	0.0094	0.2244	0.0410	0.0094	0.0410	N/A
CO	84	0	0.1428	3.4272	0.6255	0.1428	0.6255	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.002713	0.002713	
0.010852	0.010852	
0.000857	0.000857	
0.142787	0.142787	
0.007853	0.007853	
0.119941	0.119941	
0.000001	0.000001	

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 1-S-2

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 2-1 (No. 4 Barton System)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 1.7 T CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.25: 60)
 MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A FLOWRATE (ACFM): 2843
 QTY BURNED (mgal/yr): 0 ILFUR CONTENT (%): N/A Ts(°F): 193

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
POLLUTANT	EF (lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS			BEFORE CONTROLS	AFTER CONTROLS
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.2	0	0.0037	0.0892	0.0163	0.0037	0.0163	0.0002	0.000000	0.000000
PM10	0.7	0	0.0130	0.3121	0.0570	0.0130	0.0570	0.0007	0.000000	0.000000
SOx	0.1	0	0.0019	0.0446	0.0081	0.0019	0.0081	N/A	0.000000	0.000000
NOx	13	0	0.2415	5.7967	1.0579	0.2415	1.0579	N/A	0.000000	0.000000
VOC	1	0	0.0186	0.4459	0.0814	0.0186	0.0814	N/A	0.000000	0.000000
CO	7.5	0	0.1393	3.3443	0.6103	0.1393	0.6103	N/A	0.000000	0.000000
LEAD	---	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Unit ID: 2-1 (Inverta Bin Rework Station)
 CNTRL DEV: Baghouse & HEPA (2-9-F & H)

MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): (1.25: 60)
 YEARLY PROD (T/yr): 15.00 FLOWRATE (ACFM): 2843
 Ts(°F): 193

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
POLLUTANT	EF (LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS			BEFORE CONTROLS	AFTER CONTROLS
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	1.642	0.9999	4.1049	98.5179	17.9795	0.0004	0.0018	0.0000	0.012315	0.000001
PM10	1.642	0.9999	4.1049	98.5179	17.9795	0.0004	0.0018	0.0000	0.012315	0.000001
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.000000
LEAD	1.551	0.9999	3.8775	93.0600	16.9835	0.0004	0.0017	N/A	0.011633	0.000001

Total: Stack 1-S-2 (No. 4 Barton System)

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
PM	6.2969	151.1256	27.5804	0.0039	0.0169	0.0002	0.250	1.10	4.028385	0.003116
PM10/PM2.5	6.3066	151.3581	27.6229	0.0135	0.0593	0.0007	0.250	1.10	4.036524	0.011254
SOx	0.0010	0.0245	0.0045	0.0010	0.0045	#VALUE!	N/A	N/A	0.000857	0.000857
NOx	0.1700	4.0800	0.7446	0.1700	0.7446	#VALUE!	N/A	N/A	0.142787	0.142787
VOC	0.0094	0.2244	0.0410	0.0094	0.0410	#VALUE!	N/A	N/A	0.007853	0.007853
CO	0.1428	3.4272	0.6255	0.1428	0.6255	#VALUE!	N/A	N/A	0.119941	0.119941
LEAD	5.9450	142.6800	26.0391	0.0006	0.0026	#VALUE!	0.053	0.23	3.802651	0.000381

* Under Natural Gas Combustion.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf

PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr

Pb: 326 IAC 15-1-2(a)(6)

Control Equipment comprised of baghouse & HEPA.

Baghouse is a Micro-Pul Reverse Jet Air Pulse Cleaning unit with 80, eight (8) foot long membrane type bag filter on wire support cages.

HEPA includes (4) HEPA filters.

Appendix A: Emission Calculations

PTE from Units Exhausting Through STACK ID 1-S-26

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 26-1 (No. 5 Barton System)
 CNTRL DEV: Baghouse & HEPA (26-10-F & H)

MDR (T produced/hr): 2.5
 YEARLY PROD (T/yr): 11,854.08

STACK ID (DIAM:HEIGHT): (17 3/4": 60)
 FLOWRATE (ACFM): 4331
 Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.839	0.9999	2.0987	50.3681	9.1922	0.0002	0.0009	0.0000
PM10	0.839	0.9999	2.0987	50.3681	9.1922	0.0002	0.0009	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.793	0.9999	1.9824	47.5777	8.6829	0.0002	0.0009	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
4.975567	0.000498
4.975567	0.000498
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
4.699920	0.000470

Compliance Test performed on 11/6/01: Pb Results = 0.00032 lbs/hr; Production = 3,880 lbs/hr at #5 and 4,1 0.792962 lbs/ton.

Pb is 94.46% of PT.

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 26-1 (No. 5 Barton System)
(Natural Gas Combustion)

MDC (mmBtu/hr): 1.7
 MDR (mmcf/hr): 0.0017
 HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmcf/yr): 2.56

STACK ID (DIAM:HEIGHT): (17 3/4": 60)
 FLOWRATE (ACFM): 4331
 Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS					
POLLUTAN	F(lbs/mmcf)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0032	0.0775	0.0141	0.0032	0.0141	0.0001
PM10	7.6	0	0.0129	0.3101	0.0566	0.0129	0.0566	0.0005
SOx	0.6	0	0.0010	0.0245	0.0045	0.0010	0.0045	N/A
NOx	100	0	0.1700	4.0800	0.7446	0.1700	0.7446	N/A
VOC	5.5	0	0.0094	0.2244	0.0410	0.0094	0.0410	N/A
CO	84	0	0.1428	3.4272	0.6255	0.1428	0.6255	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.002431	0.002431
0.009723	0.009723
0.000768	0.000768
0.127931	0.127931
0.007036	0.007036
0.107462	0.107462
0.000001	0.000001

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 1-S-26

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 26-1 (No. 5 Barton System)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 1.7 T CONTENT (Btu/gal): 91,500
MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A
QTY BURNED (mgal/yr): 0 ILFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (17 3/4": 60)
FLOWRATE (ACFM): 4331
Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF (lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0037	0.0892	0.0163	0.0037	0.0163	0.0001
PM10	0.7	0	0.0130	0.3121	0.0570	0.0130	0.0570	0.0005
SOx	0.1	0	0.0019	0.0446	0.0081	0.0019	0.0081	N/A
NOx	13	0	0.2415	5.7967	1.0579	0.2415	1.0579	N/A
VOC	1	0	0.0186	0.4459	0.0814	0.0186	0.0814	N/A
CO	7.5	0	0.1393	3.3443	0.6103	0.1393	0.6103	N/A
LEAD	---	0	N/A	N/A	N/A	N/A	N/A	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 26-1 (No. 5 Barton System)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	2.1019	50.4457	9.2063	0.0034	0.0151	0.0001
PM10	2.1116	50.6782	9.2488	0.0131	0.0575	0.0005
SOx	0.0010	0.0245	0.0045	0.0010	0.0045	#VALUE!
NOx	0.1700	4.0800	0.7446	0.1700	0.7446	#VALUE!
VOC	0.0094	0.2244	0.0410	0.0094	0.0410	#VALUE!
CO	0.1428	3.4272	0.6255	0.1428	0.6255	#VALUE!
LEAD	1.9824	47.5778	8.6829	0.0002	0.0009	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
4.977997	0.002928
4.985289	0.010220
0.000768	0.000768
0.127931	0.127931
0.007036	0.007036
0.107462	0.107462
4.699921	0.000471

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 1-S-26

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 26-2 (No. 6 Barton System)
 CNTRL DEV: Baghouse & HEPA (26-11-F & H)

MDR (T produced/hr): 2.5
 YEARLY PROD (T/yr): 11,820.60

STACK ID (DIAM:HEIGHT): (17 3/4": 60)
 FLOWRATE (ACFM): 4331
 Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.839	0.9999	2.0987	50.3681	9.1922	0.0002	0.0009	0.0000
PM10	0.839	0.9999	2.0987	50.3681	9.1922	0.0002	0.0009	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.793	0.9999	1.9824	47.5777	8.6829	0.0002	0.0009	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
4.961514	0.000496
4.961514	0.000496
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
4.686646	0.000469

Compliance Test performed on 11/6/01: Pb Results = 0.00032 lbs/hr; Production = 3,880 lbs/hr at #5 and 4,1 0.792962 lbs/ton.
 Pb is 94.46% of PT.

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 26-2 (No. 6 Barton System)
(Natural Gas Combustion)

MDC (mmBtu/hr): 1.7
 MDR (mmcf/hr): 0.0017
 HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmcf/yr): 1.95

STACK ID (DIAM:HEIGHT): (17 3/4": 60)
 FLOWRATE (ACFM): 4331
 Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS					
POLLUTAN	F(lbs/mmcf)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0032	0.0775	0.0141	0.0032	0.0141	0.0001
PM10	7.6	0	0.0129	0.3101	0.0566	0.0129	0.0566	0.0005
SOx	0.6	0	0.0010	0.0245	0.0045	0.0010	0.0045	N/A
NOx	100	0	0.1700	4.0800	0.7446	0.1700	0.7446	N/A
VOC	5.5	0	0.0094	0.2244	0.0410	0.0094	0.0410	N/A
CO	84	0	0.1428	3.4272	0.6255	0.1428	0.6255	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.001856	0.001856
0.007426	0.007426
0.000586	0.000586
0.097710	0.097710
0.005374	0.005374
0.082076	0.082076
0.000000	0.000000

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 1-S-26

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 26-2 (No. 6 Barton System)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 1.7 T CONTENT (Btu/gal): 91,500
MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A
QTY BURNED (mgal/yr): 0 ILFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (17 3/4": 60)
FLOWRATE (ACFM): 4331
Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF (lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0037	0.0892	0.0163	0.0037	0.0163	0.0001
PM10	0.7	0	0.0130	0.3121	0.0570	0.0130	0.0570	0.0005
SOx	0.1	0	0.0019	0.0446	0.0081	0.0019	0.0081	N/A
NOx	13	0	0.2415	5.7967	1.0579	0.2415	1.0579	N/A
VOC	1	0	0.0186	0.4459	0.0814	0.0186	0.0814	N/A
CO	7.5	0	0.1393	3.3443	0.6103	0.1393	0.6103	N/A
LEAD	---	0	N/A	N/A	N/A	N/A	N/A	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 26-2 (No. 6 Barton System)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	2.1019	50.4457	9.2063	0.0034	0.0151	0.0001
PM10	2.1116	50.6782	9.2488	0.0131	0.0575	0.0005
SOx	0.0010	0.0245	0.0045	0.0010	0.0045	#VALUE!
NOx	0.1700	4.0800	0.7446	0.1700	0.7446	#VALUE!
VOC	0.0094	0.2244	0.0410	0.0094	0.0410	#VALUE!
CO	0.1428	3.4272	0.6255	0.1428	0.6255	#VALUE!
LEAD	1.9824	47.5778	8.6829	0.0002	0.0009	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
4.963370	0.002353
4.968940	0.007922
0.000586	0.000586
0.097710	0.097710
0.005374	0.005374
0.082076	0.082076
4.686647	0.000469

* Under Natural Gas Combustion.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 1-S-26

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Total: Stack 1-S-26										
POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE	AFTER
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)			CONTROLS	CONTROLS
PM	4.2038	100.8913	18.4127	0.0069	0.0301	0.0002	0.250	1.10	9.941368	0.005281
PM10/PM2.5	4.2232	101.3564	18.4976	0.0263	0.1150	0.0009	0.250	1.10	9.954229	0.018142
SOx	0.0020	0.0490	0.0089	0.0020	0.0089	#VALUE!	N/A	N/A	0.001354	0.001354
NOx	0.3400	8.1600	1.4892	0.3400	1.4892	#VALUE!	N/A	N/A	0.225641	0.225641
VOC	0.0187	0.4488	0.0819	0.0187	0.0819	#VALUE!	N/A	N/A	0.012410	0.012410
CO	0.2856	6.8544	1.2509	0.2856	1.2509	#VALUE!	N/A	N/A	0.189539	0.189539
LEAD	3.9648	95.1555	17.3659	0.0004	0.0017	#VALUE!	0.053	0.23	9.386567	0.000940

* Under Natural Gas Combustion.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf

PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-1-5 0.022 gr/dscf & 1.000 lbs/hr

Pb: 326 IAC 15-1-2(a)(6)

Control Equipment comprised of baghouse & HEPA.

Baghouse is a Micro-Pul Reverse Jet Air Pulse Cleaning unit with 100, eight (8) foot long membrane type bag filter on wire support cages.

HEPA includes (4) HEPA filters.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 1-S-7

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 7-1 (No. 7 Barton System)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 1.7 T CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.25: 60)
 MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A FLOWRATE (ACFM): 2758
 QTY BURNED (mgal/yr): 0 ILFUR CONTENT (%): N/A Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
POLLUTANT	EF (lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS			BEFORE CONTROLS	AFTER CONTROLS
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.2	0	0.0037	0.0892	0.0163	0.0037	0.0163	0.0002	0.000000	0.000000
PM10	0.7	0	0.0130	0.3121	0.0570	0.0130	0.0570	0.0007	0.000000	0.000000
SOx	0.1	0	0.0019	0.0446	0.0081	0.0019	0.0081	N/A	0.000000	0.000000
NOx	13	0	0.2415	5.7967	1.0579	0.2415	1.0579	N/A	0.000000	0.000000
VOC	1	0	0.0186	0.4459	0.0814	0.0186	0.0814	N/A	0.000000	0.000000
CO	7.5	0	0.1393	3.3443	0.6103	0.1393	0.6103	N/A	0.000000	0.000000
LEAD	---	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Total: Stack 1-S-7 (No. 7 Bartor)

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)				
PM	2.8113	67.4711	12.3135	0.0035	0.0154	0.0002	0.250	1.10	0.000000	0.000000
PM10/PM2.5	2.8210	67.7037	12.3559	0.0132	0.0578	0.0007	0.250	1.10	0.000000	0.000000
SOx	0.0010	0.0245	0.0045	0.0010	0.0045	#VALUE!	N/A	N/A	0.000000	0.000000
NOx	0.1700	4.0800	0.7446	0.1700	0.7446	#VALUE!	N/A	N/A	0.000000	0.000000
VOC	0.0094	0.2244	0.0410	0.0094	0.0410	#VALUE!	N/A	N/A	0.000000	0.000000
CO	0.1428	3.4272	0.6255	0.1428	0.6255	#VALUE!	N/A	N/A	0.000000	0.000000
LEAD	2.6525	63.6600	11.6180	0.0003	0.0012	#VALUE!	0.053	0.23	0.000000	0.000000

* Under Natural Gas Combustion.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf

PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr

Pb: 326 IAC 15-1-2(a)(6)

Control Equipment comprised of baghouse & HEPA.

Baghouse is a Micro-Pul Reverse Jet Air Pulse Cleaning unit with 144, eight (8) foot long membrane type bag filter on wire support cages.

HEPA includes (9) HEPA filters.

Appendix A: Emission Calculations

PTE from Units at Expander Plant

Company Name: Hammond Group, Inc.
 Address City IN Zip: 2308 165th Street, Hammond, IN 46320
 Permit Number: 089-36936-00219
 Reviewer: Daniel W Pell

Lignin, carbon black, barium sulfate, and other fillers are mixed.

Alpha Line (North): Ball Mill BM-1000 Line (6x10)

Unit ID: Blender w/ bin vent (RB-1000) (Trivial)

MDR (T produced/hr): 3.5

STACK ID (DIAM:HEIGHT): Vent within building

CNTRL DEV: None

YEARLY PROD (T/yr): 2,399

FLOWRATE (ACFM): 700

Process Controls: Cartridge Bin Vent Filter (RB-1000)

Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

(Ambient)

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.01125	0	0.0394	0.9450	0.1725	0.039375	0.172463	0.0066
PM10	0.01125	0	0.0394	0.9450	0.1725	0.039375	0.172463	0.0066
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
LEAD	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.013495	0.013495
0.013495	0.013495
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

EF: 11/26/02 Compliance Test for Hammond Expanders result 0.225 lbs/ton before control then with process control efficiency of 95%.

Unit ID: Ball Mill Receiver w/ bin vent (R-1000) (Trivial)

MDR (T produced/hr): 3.5

STACK ID (DIAM:HEIGHT): Vent within building

CNTRL DEV: None

YEARLY PROD (T/yr): 2,399

FLOWRATE (ACFM): 700

Process Controls: Cartridge Bin Vent Filter (R-1000)

Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

(Ambient)

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.000003	0	0.000011	0.000269	0.000049	0.000011	0.000049	0.000002
PM10	0.000003	0	0.000011	0.000269	0.000049	0.000011	0.000049	0.000002
SOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
NOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
VOC	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
CO	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
LEAD	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000004	0.000004
0.000004	0.000004
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

EF: Halstab S-11 (Product Handling System No. 3) ST 9/22/99 result 0.0032 lbs/ton before control then with process control efficiency of 99.9%.

**Appendix A: Emission Calculations
PTE from Units at Expander Plant**

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: Alpha Ball Mill (DC-4001) (Insignificant)
 CNTRL DEV: Cartridge Filter

MDR (T produced/hr): 3.5
 YEARLY PROD (T/yr): 2,399

STACK ID (DIAM:HEIGHT): Vent within building
 FLOWRATE (ACFM): 1,000
 Ts(°F): 70
 (Ambient)

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2255	0.999	0.7891	18.9387	3.4563	0.000789	0.003456	0.0001
PM10	0.2255	0.999	0.7891	18.9387	3.4563	0.000789	0.003456	0.0001
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
LEAD	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.270454	0.000270
0.270454	0.000270
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

Compliance Test performed on 11/26/02: PM Results = 0.082 lbs/hr; Production = 7.274 Tons/hr; EF (before controls) 0.225461 lbs/ton

Unit ID: Silo w/ bin vent (T-1000) (Trivial)
 CNTRL DEV: None
 Process Controls: Cartridge Bin Vent Filter

MDR (T produced/hr): 3.5
 YEARLY PROD (T/yr): 2,399

STACK ID (DIAM:HEIGHT): Side Louvered Vents
 FLOWRATE (ACFM): 1,100
 Ts(°F): 70
 (Ambient)

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.000003	0	0.000011	0.000269	0.000049	0.000011	0.000049	0.00000
PM10	0.000003	0	0.000011	0.000269	0.000049	0.000011	0.000049	0.00000
SOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
NOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
VOC	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
CO	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
LEAD	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000004	0.000004
0.000004	0.000004
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

EF: Halstab S-11 (Product Handling System No. 3) ST 9/22/99 result 0.0032 lbs/ton before control then with process control efficiency of 99.9%.

**Appendix A: Emission Calculations
PTE from Units at Expander Plant**

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Total: Alpha BM Line

POLLUTANT	POTENTIAL EMISSIONS					
	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.789134	18.939223	3.456408	0.000812	0.003554	0.000095
PM10/PM2.5	0.789134	18.939223	3.456408	0.000812	0.003554	0.000095
SOx	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!
NOx	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!
VOC	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!
CO	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!
LEAD	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.270461	0.000278
0.270461	0.000278
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

Beta Line (South): Ball Mill BM-2000 Line (6x10)

Unit ID: Blender w/ bin vent (RB-2000) (Trivial)

MDR (T produced/hr): 3.5

STACK ID (DIAM:HEIGHT): Vent within building

CNTRL DEV: None

YEARLY PROD (T/yr): 2,806

FLOWRATE (ACFM): 1,200

Process Controls: Cartridge Bin Vent Filter (RB-2000)

Ts(°F): 70

PERMITTED OPERATING HRS: 8760 hr/yr

(Ambient)

POLLUTANT	EF(LB/T)	CE (%)	POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.01125	0	0.0394	0.9450	0.1725	0.039375	0.172463	0.0038
PM10	0.01125	0	0.0394	0.9450	0.1725	0.039375	0.172463	0.0038
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
LEAD	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.015783	0.015783
0.015783	0.015783
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

EF: 11/26/02 Compliance Test for Hammond Expanders result 0.225 lbs/ton before control then with process control efficiency of 95%.

**Appendix A: Emission Calculations
PTE from Units at Expander Plant**

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: Ball Mill Receiver w/ bin vent (R-2000) (Trivial)

MDR (T produced/hr): 3.5
 YEARLY PROD (T/yr): 2,806

STACK ID (DIAM:HEIGHT): Vent within building

CNTRL DEV: None

FLOWRATE (ACFM): 700

Process Controls: Cartridge Bin Vent Filter

Ts(°F): 70
 (Ambient)

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.000003	0	0.000011	0.000269	0.000049	0.000011	0.000049	0.000002
PM10	0.000003	0	0.000011	0.000269	0.000049	0.000011	0.000049	0.000002
SOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
NOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
VOC	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
CO	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
LEAD	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000004	0.000004
0.000004	0.000004
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

EF: Halstab S-11 (Product Handling System No. 3) ST 9/22/99 result 0.0032 lbs/ton before control then with process control efficiency of 99.9%.

Unit ID: Ball Mill (DC-3003) (Insignificant)

MDR (T produced/hr): 3.5
 YEARLY PROD (T/yr): 2,806

STACK ID (DIAM:HEIGHT): Vent within building

CNTRL DEV: Cartridge Filter

FLOWRATE (ACFM): 1,000

Ts(°F): 70
 (Ambient)

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2255	0.999	0.7891	18.9387	3.4563	0.000789	0.003456	0.0001
PM10	0.2255	0.999	0.7891	18.9387	3.4563	0.000789	0.003456	0.0001
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
LEAD	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.316306	0.000316
0.316306	0.000316
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

Compliance Test performed on 11/26/02: PM Results = 0.082 lbs/hr; Production = 7.274 Tons/hr; EF (before controls) 0.225461 lbs/ton

**Appendix A: Emission Calculations
PTE from Units at Expander Plant**

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: Bin/Silo w/ bin vent (T-2000) (Trivial)

MDR (T produced/hr): 3.5
 YEARLY PROD (T/yr): 2,806

STACK ID (DIAM:HEIGHT): Side Louvered Vents
 FLOWRATE (ACFM): 1,100
 Ts(°F): 70
 (Ambient)

CNTRL DEV: None

Process Controls: Cartridge Bin Vent Filter

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.000003	0	0.000011	0.000269	0.000049	0.000011	0.000049	0.00000
PM10	0.000003	0	0.000011	0.000269	0.000049	0.000011	0.000049	0.00000
SOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
NOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
VOC	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
CO	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
LEAD	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.000004	0.000004	0.000004
0.000004	0.000004	0.000004
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000

EF: Halstab S-11 (Product Handling System No. 3) ST 9/22/99 result 0.0032 lbs/ton before control then with process control efficiency of 99.9%.

Total: Beta BM Line

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.789134	18.939223	3.456408	0.000812	0.003554	0.000095
PM10/PM2.5	0.789134	18.939223	3.456408	0.000812	0.003554	0.000095
SOx	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!
NOx	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!
VOC	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!
CO	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!
LEAD	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.316315	0.000325	0.000325
0.316315	0.000325	0.000325
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000

**Appendix A: Emission Calculations
PTE from Units at Expander Plant**

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

BM Packing

Unit ID: Alpha Packer Receiver w/ bin vent (R-1002) (Trivial) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): Vent within building
 CNTRL DEV: None YEARLY PROD (T/yr): **2,399** FLOWRATE (ACFM): 400
 Process Controls: Cartridge Bin Vent Filter Ts(°F): 70
 PERMITTED OPERATING HRS: **8760** hr/yr (Ambient)

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.000003	0	0.000008	0.000192	0.000035	0.000008	0.000035	0.000002
PM10	0.000003	0	0.000008	0.000192	0.000035	0.000008	0.000035	0.000002
SOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
NOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
VOC	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
CO	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
LEAD	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000004	0.000004
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

EF: Halstab S-11 (Product Handling System No. 3) ST 9/22/99 result 0.0032 lbs/ton before control then with process control efficiency of 99.9%.

Unit ID: Alpha Bag Packing (Insignificant) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): Vent within building
 CNTRL DEV: Torit Cartridge Filter (DC-4000) YEARLY PROD (T/yr): **2,399** FLOWRATE (ACFM): 2,050
 PERMITTED OPERATING HRS: **8760** hr/yr Ts(°F): 70
 (Ambient)

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.291	0.999	0.727500	17.460000	3.186450	0.000728	0.003186	0.000041
PM10	0.291	0.999	0.727500	17.460000	3.186450	0.000728	0.003186	0.000041
SOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
NOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
VOC	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
CO	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
LEAD	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.349072	0.000349
0.349072	0.000349
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

Halstab S-17 (Bulk/Bag Packing System) stack test 10/6/98.

**Appendix A: Emission Calculations
PTE from Units at Expander Plant**

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: Beta Packer Receiver w/ bin vent (R-2001) (Trivial)

MDR (T produced/hr): 2.5
 YEARLY PROD (T/yr): 2,806

STACK ID (DIAM:HEIGHT): Vent within building

CNTRL DEV: None

FLOWRATE (ACFM): 400

Process Controls: Cartridge Bin Vent Filter

Ts(°F): 70
 (Ambient)

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.000003	0	0.000008	0.000192	0.000035	0.000008	0.000035	0.000002
PM10	0.000003	0	0.000008	0.000192	0.000035	0.000008	0.000035	0.000002
SOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
NOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
VOC	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
CO	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
LEAD	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000004	0.000004
0.000004	0.000004
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

EF: Halstab S-11 (Product Handling System No. 3) ST 9/22/99 result 0.0032 lbs/ton before control then with process control efficiency of 99.9%.

Unit ID: Beta Bag Packing (Insignificant)

MDR (T produced/hr): 2.5
 YEARLY PROD (T/yr): 2,806

STACK ID (DIAM:HEIGHT): Vent within building

CNTRL DEV: Torit Cartridge Filter (DC-3002)

FLOWRATE (ACFM): 2,050

Ts(°F): 70
 (Ambient)

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.291	0.999	0.727500	17.460000	3.186450	0.000728	0.003186	0.000041
PM10	0.291	0.999	0.727500	17.460000	3.186450	0.000728	0.003186	0.000041
SOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
NOx	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
VOC	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
CO	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A
LEAD	0	0	0.000000	0.000000	0.000000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.408253	0.000408
0.408253	0.000408
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

Halstab S-17 (Bulk/Bag Packing System) stack test 10/6/98.

**Appendix A: Emission Calculations
PTE from Units at Expander Plant**

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Total: Alph & Beta BM Lines

POLLUTANT	POTENTIAL EMISSIONS					
	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	3.0333	72.7988	13.2858	0.0031	0.0136	0.0003
PM10/PM2.5	3.0333	72.7988	13.2858	0.0031	0.0136	0.0003
SOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!
NOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!
VOC	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!
CO	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!
LEAD	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
1.3441	0.0014
1.3441	0.0014
0.0000	0.0000
0.0000	0.0000
0.0000	0.0000
0.0000	0.0000
0.0000	0.0000

Mixer Line

Unit ID: Mixer (DC-3000) and Mixer Packer (DC-2000)
 CNTRL DEV: Torit Cartridge Filters

MDR (T produced/hr): 4.5
 YEARLY PROD (T/yr): 146

STACK ID (DIAM:HEIGHT): Vent within building
 FLOWRATE (ACFM): 3250
 Ts(°F): 75.1

PERMITTED OPERATING HRS: **8760** hr/yr

POLLUTANT	EF(LB/T)	CE (%)	POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.225	0.95	1.0146	24.3497	4.4438	0.050729	0.222191	0.0018
PM10	0.225	0.95	1.0146	24.3497	4.4438	0.050729	0.222191	0.0018
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
LEAD	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.016478	0.000824
0.016478	0.000824
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

Compliance Test performed on 11/26/02: PM Results = 0.082 lbs/hr; Production = 7.274 Tons/hr; EF (before controls) 0.225461 lbs/ton

**Appendix A: Emission Calculations
PTE from Units at Expander Plant**

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Total - Expanders Plant

Total: Expander Operation

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE	AFTER
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)			CONTROLS	CONTROLS
PM	4.0479	97.1486	17.7296	0.0538	0.2357	0.0021	0.320	1.40	1.3606	0.0022
PM10	4.0479	97.1486	17.7296	0.0538	0.2357	0.0021	0.320	1.40	1.3606	0.0022
SOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	N/A	N/A	0.0000	0.0000
NOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	N/A	N/A	0.0000	0.0000
VOC	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	N/A	N/A	0.0000	0.0000
CO	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	N/A	N/A	0.0000	0.0000
LEAD	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	N/A	N/A	0.0000	0.0000

PM10: 326 IAC 6.8-2-13(a): 0.022 gr/dscf

PM: 326 IAC 2-2: 0.022 gr/dscf

PM2.5: 326 IAC 2-1.1-5: 0.022 gr/dscf; 0.320 lbs/hr

**** SOURCE TOTALS: HAMMOND GROUP, INC. (HGI) ****

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE	AFTER
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)			CONTROLS	CONTROLS
PM	289.1103	6,938.6472	1,266.3031	0.3231	1.4152	0.0095	7.1300	31.2294	114.0999	0.0884
PM10	289.5416	6,948.9979	1,268.1921	0.5491	2.4052	0.0146	7.1300	31.2294	114.2528	0.2414
SOx	0.0238	0.5708	0.1042	0.0238	0.1042	#VALUE!	#VALUE!	#VALUE!	0.0161	0.0161
NOx	3.9638	95.1312	17.3614	3.9638	17.3614	#VALUE!	#VALUE!	#VALUE!	2.6837	2.6837
VOC	0.2180	5.2322	0.9549	0.2180	0.9549	#VALUE!	#VALUE!	#VALUE!	0.1476	0.1476
CO	3.3296	79.9102	14.5836	3.3296	14.5836	#VALUE!	#VALUE!	#VALUE!	2.2543	2.2543
LEAD	249.5324	5,988.7767	1,092.9517	0.0796	0.3485	#VALUE!	0.9060	3.9683	103.8871	0.0234

* Under Natural Gas Combustion.

46.74 lbs/yr

5.45 All pollutants Total, TPY

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 16-S-56

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 56-1 (400Y Furnace)

CNTRL DEV: (4) Baghouse (56-18, 19, 20, & 25-F)
 & HEPA (56-18, 19, 20, & 25-H) Systems

MDR (T produced/hr): 4.985
 YEARLY PROD (T/yr): 0.00

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 23.151
 Ts(°F): 236.2

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.716	0.9999	8.5566	205.3587	37.4780	0.0009	0.0037	0.00001
PM10	1.716	0.9999	8.5566	205.3587	37.4780	0.0009	0.0037	0.00001
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	1.628	0.9999	8.1151	194.7622	35.5441	0.0008	0.0036	N/A

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	

Unit ID: 56-1 (400Y Furnace)
(Natural Gas Combustic)

MDC (mmBtu/hr): 5
 MDR (mmcft/hr): 0.0050

HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmcft/yr): 8.49

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 23.151
 Ts(°F): 236.2

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS					
POLLUTAN	EF(lbs/mmcf)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0095	0.2280	0.0416	0.0095	0.0416	0.0001
PM10	7.6	0	0.0380	0.9120	0.1664	0.0380	0.1664	0.0003
SOx	0.6	0	0.0030	0.0720	0.0131	0.0030	0.0131	N/A
NOx	100	0	0.5000	12.0000	2.1900	0.5000	2.1900	N/A
VOC	5.5	0	0.0275	0.6600	0.1205	0.0275	0.1205	N/A
CO	84	0	0.4200	10.0800	1.8396	0.4200	1.8396	N/A
LEAD	0.0005	0	0.0000	0.0001	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.008065	0.008065	
0.032259	0.032259	
0.002547	0.002547	
0.424457	0.424457	
0.023345	0.023345	
0.356543	0.356543	
0.000002	0.000002	

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 16-S-56

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 56-1 (400Y Furnace)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 5 WAT CONTENT (Btu/gal): 91,500
MDR (mgal/hr): 0.054645 ASH CONTENT (%): N/A
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (3: 82)
FLOWRATE (ACFM): 23,151
Ts(°F): 236.2

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0109	0.2623	0.0479	0.0109	0.0479	0.0001
PM10	0.7	0	0.0383	0.9180	0.1675	0.0383	0.1675	0.0003
SOx	0.1	0	0.0055	0.1311	0.0239	0.0055	0.0239	N/A
NOx	13	0	0.7104	17.0492	3.1115	0.7104	3.1115	N/A
VOC	1	0	0.0546	1.3115	0.2393	0.0546	0.2393	N/A
CO	7.5	0	0.4098	9.8361	1.7951	0.4098	1.7951	N/A
LEAD	---	0	N/A	N/A	N/A	N/A	N/A	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Total: Unit 56-1

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	8.5661	205.5867	37.5196	0.0104	0.0454	0.0001
PM10	8.5946	206.2707	37.6444	0.0389	0.1702	0.0003
SOx	0.0030	0.0720	0.0131	0.0030	0.0131	#VALUE!
NOx	0.5000	12.0000	2.1900	0.5000	2.1900	#VALUE!
VOC	0.0275	0.6600	0.1205	0.0275	0.1205	#VALUE!
CO	0.4200	10.0800	1.8396	0.4200	1.8396	#VALUE!
LEAD	8.1151	194.7623	35.5441	0.0008	0.0036	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.0081	0.0081
0.0323	0.0323
0.0025	0.0025
0.4245	0.4245
0.0233	0.0233
0.3565	0.3565
0.0000	0.0000

* Under Natural Gas Combustion.

Potential fugitives captured by building ventilation system (V-1).

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 16-S-56

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 56-3 (Lead Oxide Pneumatic Conveyor System)

MDR (T produced/hr): 4.985 YEARLY PROD (T/yr): 4,926.96 STACK ID (DIAM:HEIGHT): (3: 82)
 CNTRL DEV: Baghouse (56-21-F) & HEPA (56-21-H) FLOWRATE (ACFM): 23,151
 PERMITTED OPERATING HRS: **8760** hr/yr Ts(°F): 236.2

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.296	0.9999	6.4604	155.0493	28.2965	0.0006	0.0028	0.0000
PM10	1.296	0.9999	6.4604	155.0493	28.2965	0.0006	0.0028	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	1.229	0.9999	6.1270	147.0488	26.8364	0.0006	0.0027	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
3.192586	0.000319
3.192586	0.000319
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
3.027848	0.000303

Potential fugitives captured by building ventilation system (V-1).
 Control Equipment comprised of baghouse & HEPA:
 Baghouse: Micro-Pul Reverse Jet Air Pulse Cleaning Units with 25, eight (8) foot long membrane type filters on wire support cages.
 HEPA includes (1) HEPA filter

Unit ID: 56-4 (Lead Oxide Bulk Loading / Conveying)

MDR (T produced/hr): 29.0745 YEARLY PROD (T/yr): 10,540.80 STACK ID (DIAM:HEIGHT): (3: 82)
 CNTRL DEV: Baghouse (56-22-F) & HEPA (56-22-H) FLOWRATE (ACFM): 23,151
 PERMITTED OPERATING HRS: **8760** hr/yr Ts(°F): 236.2

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.716	0.9999	49.9056	1,197.7337	218.5864	0.0050	0.0219	0.0000
PM10	1.716	0.9999	49.9056	1,197.7337	218.5864	0.0050	0.0219	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	1.628	0.9999	47.3304	1,135.9307	207.3073	0.0047	0.0207	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
9.046495	0.000905
9.046495	0.000905
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
8.579696	0.000858

Control Equipment comprised of baghouse & HEPA:
 Baghouse: Micro-Pul Reverse Jet Air Pulse Cleaning Units with 45, eight (8) foot long membrane type filters on wire support cages.
 HEPA includes (1) HEPA filter

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 16-S-56

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 56-7 (Direct Car Loading System)

CNTRL DEV: Baghouse w/ laminated bags & HEPA (56-25-F & H)

MDR (T produced/hr): 13.5

YEARLY PROD (T/yr): 1.10

STACK ID (DIAM:HEIGHT): (3: 82)

FLOWRATE (ACFM): 23,151

Ts(°F): 236.2

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL TO EMIT (PTE)					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.716	0.9999	23.1724	556.1370	101.4950	0.0023	0.0101	0.0000
PM10	1.716	0.9999	23.1724	556.1370	101.4950	0.0023	0.0101	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	1.628	0.9999	21.9767	527.4403	96.2579	0.0022	0.0096	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000947	0.000000
0.000947	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000898	0.000000

Baghouse: Micro-Pul Reverse Jet Air Pulse Cleaning Unit with 130, eight (8) foot long membrane type filters on wire support cages.
 HEPA includes (6) HEPA filters.

Unit ID: 56-9 Flash Calciner

CNTRL DEV: HEPA (56-17-H)

Process Controls: Baghouse (56-17-H) PERMITTED OPERATING HRS: **8760** hr/yr

MDR (T produced/hr): 1.25

YEARLY PROD (T/yr): 2.28

STACK ID (DIAM:HEIGHT): (3: 82)

FLOWRATE (ACFM): 28,227

Ts(°F): 241.1

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.143	0.992	0.1784	4.2810	0.7813	0.0014	0.0063	0.0000
PM10	0.150	0.992	0.1875	4.5000	0.8213	0.0015	0.0066	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.140	0.992	0.1750	4.2000	0.7665	0.0014	0.0061	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000163	0.000001
0.000171	0.000001
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000160	0.000001

Efs from AP-42 and adjusted for baghouse process unit:
 Potential fugitives captured by building ventilation system (V-1).

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 16-S-56

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 56-9 Flash Calciner
(Natural Gas Combustion)

MDC (mmBtu/hr): 1.5 HEAT CONTENT (Btu/cft): 1,000
MDR (mmcft/hr): 0.0015 QTY BURNED (mmcft/yr): 2.55

STACK ID (DIAM:HEIGHT): (3: 82)
FLOWRATE (ACFM): 28,227
Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						
POLLUTANT	EF(lbs/mmcf)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS			
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	
PM	1.9	0	0.0029	0.0684	0.0125	0.0029	0.0125	0.0000	
PM10	7.6	0	0.0114	0.2736	0.0499	0.0114	0.0499	0.0001	
SOx	0.6	0	0.0009	0.0216	0.0039	0.0009	0.0039	N/A	
NOx	100	0	0.1500	3.6000	0.6570	0.1500	0.6570	N/A	
VOC	5.5	0	0.0083	0.1980	0.0361	0.0083	0.0361	N/A	
CO	84	0	0.1260	3.0240	0.5519	0.1260	0.5519	N/A	
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.002419	0.002419	
0.009678	0.009678	
0.000764	0.000764	
0.127337	0.127337	
0.007004	0.007004	
0.106963	0.106963	
0.000001	0.000001	

Unit ID: 56-9 Flash Calciner
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 1.5 HEAT CONTENT (Btu/gal): 91,500
MDR (mgal/hr): 0.016393 ASH CONTENT (%): N/A
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (3: 82)
FLOWRATE (ACFM): 28,227
Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS			
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	
PM	0.2	0	0.0033	0.0787	0.0144	0.0033	0.0144	0.0000	
PM10	0.7	0	0.0115	0.2754	0.0503	0.0115	0.0503	0.0001	
SOx	0.1	0	0.0016	0.0393	0.0072	0.0016	0.0072	N/A	
NOx	13	0	0.2131	5.1148	0.9334	0.2131	0.9334	N/A	
VOC	1	0	0.0164	0.3934	0.0718	0.0164	0.0718	N/A	
CO	7.5	0	0.1230	2.9508	0.5385	0.1230	0.5385	N/A	
LEAD	---	0	N/A	N/A	N/A	N/A	N/A	N/A	

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
N/A	N/A	

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 16-S-56

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 56-9 Flash Calciner - Packing
CNTRL DEV: Baghouse 56-17 & HEPA

MDR (T produced/hr): 1.25
 YEARLY PROD (T/yr): 2.28

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 28,227
 Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.970	0.9999	1.2125	29.1000	5.3108	0.0001	0.0005	0.0000
PM10	0.970	0.9999	1.2125	29.1000	5.3108	0.0001	0.0005	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.920	0.9999	1.1500	27.6000	5.0370	0.0001	0.0005	N/A

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.001106	0.001106	0.000000
0.001106	0.001106	0.000000
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000
0.000000	0.000000	0.000000
0.001049	0.001049	0.000000

Efs from 56-1 Packing used.

Total: Unit 56-9 Flash Calciner

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.3937	33.4494	6.1045	0.0044	0.0193	0.0000
PM10	1.4114	33.8736	6.1819	0.0130	0.0570	0.0001
SOx	0.0009	0.0216	0.0039	0.0009	0.0039	#VALUE!
NOx	0.1500	3.6000	0.6570	0.1500	0.6570	#VALUE!
VOC	0.0083	0.1980	0.0361	0.0083	0.0361	#VALUE!
CO	0.1260	3.0240	0.5519	0.1260	0.5519	#VALUE!
LEAD	1.3250	31.8000	5.8035	0.0015	0.0066	#VALUE!

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.0037	0.0037	0.0024
0.0110	0.0110	0.0097
0.0008	0.0008	0.0008
0.1273	0.1273	0.1273
0.0070	0.0070	0.0070
0.1070	0.1070	0.1070
0.0012	0.0012	0.0000

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 16-S-56

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 56-11 (XS-Furnace System)
 CNTRL DEV: 56-19F (80-bag filter) and 56-19H

MDR (T produced/hr): 0.25
 YEARLY PROD (T/yr): 0

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 28,227
 Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-99			POTENTIAL EMISSIONS					
POLLUTAN	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	4.448	0.9999	1.1119	26.6856	4.8701	0.0001	0.0005	0.0000
PM10	5.232	0.9999	1.3081	31.3948	5.7296	0.0001	0.0006	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	3.780	0.9999	0.9451	22.6827	4.1396	0.0001	0.0004	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

S-furnace Efs used. This unit is identical to the S-Furnace, just smaller.

Unit ID: 56-11 (XS-Furnace System)
(Natural Gas Combustion)

MDC (mmBtu/hr): 2.5
 MDR (mmcft/hr): 0.0025

HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmcft/yr): 4.24

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 28,227
 Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-90-006-89			POTENTIAL EMISSIONS					
POLLUTAN	EF(lbs/mmcf)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0048	0.1140	0.0208	0.0048	0.0208	0.0000
PM10	7.6	0	0.0190	0.4560	0.0832	0.0190	0.0832	0.0001
SOx	0.6	0	0.0015	0.0360	0.0066	0.0015	0.0066	N/A
NOx	100	0	0.2500	6.0000	1.0950	0.2500	1.0950	N/A
VOC	5.5	0	0.0138	0.3300	0.0602	0.0138	0.0602	N/A
CO	84	0	0.2100	5.0400	0.9198	0.2100	0.9198	N/A
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.004032	0.004032
0.016129	0.016129
0.001273	0.001273
0.212228	0.212228
0.011673	0.011673
0.178272	0.178272
0.000001	0.000001

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 16-S-56

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 56-11 (XS-Furnace System)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 2.5 AT CONTENT (Btu/gal): 91,500
MDR (mgal/hr): 0.027322 ASH CONTENT (%): N/A
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (3: 82)
FLOWRATE (ACFM): 28,227
Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0055	0.1311	0.0239	0.0055	0.0239	0.0000
PM10	0.7	0	0.0191	0.4590	0.0838	0.0191	0.0838	0.0001
SOx	0.1	0	0.0027	0.0656	0.0120	0.0027	0.0120	N/A
NOx	13	0	0.3552	8.5246	1.5557	0.3552	1.5557	N/A
VOC	1	0	0.0273	0.6557	0.1197	0.0273	0.1197	N/A
CO	7.5	0	0.2049	4.9180	0.8975	0.2049	0.8975	N/A
LEAD	---	0	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
#VALUE!	#VALUE!

Totals: Unit ID: 56-11 (XS-Furnace System)

POTENTIAL EMISSIONS						
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.1166	26.7996	4.8909	0.0049	0.0213	0.0000
PM10	1.3271	31.8508	5.8128	0.0191	0.0838	0.0001
SOx	0.0015	0.0360	0.0066	0.0015	0.0066	#VALUE!
NOx	0.2500	6.0000	1.0950	0.2500	1.0950	#VALUE!
VOC	0.0138	0.3300	0.0602	0.0138	0.0602	#VALUE!
CO	0.2100	5.0400	0.9198	0.2100	0.9198	#VALUE!
Lead	0.9451	22.6828	4.1396	0.0001	0.0004	#VALUE!

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.0040	0.0040
0.0161	0.0161
0.0013	0.0013
0.2122	0.2122
0.0117	0.0117
0.1783	0.1783
0.0000	0.0000

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 16-S-56

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 56-13 Blending System

CNTRL DEV: Baghouse & HEPA (56-25-F & H)
 Process Controls: Torit 56-26 on top of mixer.

MDR (T produced/hr): 1.7995
 YEARLY PROD (T/yr): 75

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 28,227
 Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-52			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	2.465	0.9999	4.4358	106.4584	19.4287	0.000444	0.001943	0.0000
PM10	2.465	0.9999	4.4358	106.4584	19.4287	0.000444	0.001943	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
LEAD	1.945	0.9999	3.5000	84.0007	15.3301	0.000350	0.001533	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.092502	0.000009
0.092502	0.000009
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.072989	0.000007

EF: Used same as mill.

Total: Stack 16-S-56

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
PM	95.0506	2,281.2142	416.3216	0.0280	0.1227	0.0002	1.000	4.380	12.3483	0.0158
PM10/PM2.5	95.3072	2,287.3736	417.4457	0.0794	0.3478	0.0005	1.000	4.380	12.3919	0.0593
SOx	0.0054	0.1296	0.0237	0.0054	0.0237	#VALUE!	N/A	N/A	0.0046	0.0046
NOx	0.9000	21.6000	3.9420	0.9000	3.9420	#VALUE!	N/A	N/A	0.7640	0.7640
VOC	0.0495	1.1880	0.2168	0.0495	0.2168	#VALUE!	N/A	N/A	0.0420	0.0420
CO	0.7560	18.1440	3.3113	0.7560	3.3113	#VALUE!	N/A	N/A	0.6418	0.6418
LEAD	89.3194	2,143.6655	391.2189	0.0103	0.0452	#VALUE!	0.200	0.876	11.6826	0.0012

* Under Natural Gas Combustion.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf
 PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr
 Pb: 326 IAC 15-1-2(a)(6)

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 16-S-56

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Explanation of Emission Factor Calculations:

Compliance Test Performed on 4/21/10: Pb Emission Rate 0.008 lbs/hr. (94.84% Pb Content)

Unit ID	Avg. Hourly Process Rate (lbs/hr)	Previous Dust Load Factor Used	(1) Equivalent Dust Load (lbs/hr)	Percentage of Total Dust Load (%)	Control Efficiency (%)	Throughput During ST (lbs)	Uncontrolled	
							(2) New Pb EF (lbs/ton)	(3) New PM EF (lbs/ton)
56-1	7,050	1 lbs per 100	78	7.173	99.99	7,050	1.628	1.716
56-1 (Pack)	7,050	1 lbs per 100	78	7.173	99.99	7,050	1.628	1.716
56-3	9,970	1 lbs per 100	110	10.144	99.99	13,205	1.229	1.296
56-4	53,455	1 lbs per 100	588	54.387	99.99	53,455	1.628	1.716
56-7	18,980	1 lbs per 100	209	19.311	99.99	18,980	1.628	1.716
56-9	1,781	1 lbs per 100	20	1.812	99.2	1,781	0.020	0.021
		Total:	1081	100		101,521	1.576	1.662

(1) Equivalent Dust Load was calculated by: Previous Dust Load Factor x Avg. Hourly Process Rate.

(2) New Pb EF calculated by: Percentage of Total Dust Loading x Measured emission rate / Avg. Production Rate.

(3) New PM EF calculated using Pb\ EF and % Pb content.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 6-S-33

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: B-Furnace (Unit 33-1)

MDR (T produced/hr): 1.7845

STACK ID (DIAM:HEIGHT): (2: 60)

CNTRL DEV: Baghouse (33-14-F) & HEPA (33-14-H)

YEARLY PROD (T/yr): 89

FLOWRATE (ACFM): 8914

Ts(°F): 234.8

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-99	POTENTIAL EMISSIONS								
	BEFORE CONTROLS			AFTER CONTROLS					
	POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	4.444	0.9999	7.9295	190.3075	34.7311	0.0008	0.0035	0.0000	
PM10	4.444	0.9999	7.9295	190.3075	34.7311	0.0008	0.0035	0.0000	
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
LEAD	3.777	0.9999	6.7401	161.7614	29.5214	0.0007	0.0030	N/A	

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.198070	0.000020
0.198070	0.000020
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.168360	0.000017

Compliance Test performed on 4/6/11: Pb Results = 0.0006 lbs/hr; Production = 3177 lbs/hr; EF (before controls) = 3.777 lbs/ton.

Pb is 85% of PT.

Potential fugitives captured by building ventilation system (V-1).

Unit ID: B-Furnace (Unit 33-1)
(Natural Gas Combustion)

MDC (mmBtu/hr): 3.85

HEAT CONTENT (Btu/cft): 1,000

MDR (mmcft/hr): 0.0039

QTY BURNED (mmcft/yr): 7

STACK ID (DIAM:HEIGHT): (2: 60)

FLOWRATE (ACFM): 8914

Ts(°F): 235

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-90-006-89	POTENTIAL EMISSIONS								
	BEFORE CONTROLS			AFTER CONTROLS					
	POLLUTANT	EF(lbs/mmcf)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0073	0.1756	0.0320	0.0073	0.0320	0.0001	
PM10	7.6	0	0.0293	0.7022	0.1282	0.0293	0.1282	0.0005	
SOx	0.6	0	0.0023	0.0554	0.0101	0.0023	0.0101	N/A	
NOx	100	0	0.3850	9.2400	1.6863	0.3850	1.6863	N/A	
VOC	5.5	0	0.0212	0.5082	0.0927	0.0212	0.0927	N/A	
CO	84	0	0.3234	7.7616	1.4165	0.3234	1.4165	N/A	
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.006210	0.006210
0.024839	0.024839
0.001961	0.001961
0.326832	0.326832
0.017976	0.017976
0.274538	0.274538
0.000002	0.000002

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 6-S-33

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: B-Furnace (Unit 33-1)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 3.85 HEAT CONTENT (Btu/gal): 91,500
 MDR (mgal/hr): 0.042077 ASH CONTENT (%): N/A
 QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (2: 60)
 FLOWRATE (ACFM): 8914
 Ts(°F): 235

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF (lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0084	0.2020	0.0369	0.0084	0.0369	0.0001
PM10	0.7	0	0.0295	0.7069	0.1290	0.0295	0.1290	0.0005
SOx	0.1	0	0.0042	0.1010	0.0184	0.0042	0.0184	N/A
NOx	13	0	0.5470	13.1279	2.3958	0.5470	2.3958	N/A
VOC	1	0	0.0421	1.0098	0.1843	0.0421	0.1843	N/A
CO	7.5	0	0.3156	7.5738	1.3822	0.3156	1.3822	N/A
LEAD	---	0	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
#VALUE!	#VALUE!

Baghouse: Bottom loading 264 bag MikroPul reverse jet air pulse cleaning unit w/ laminated bags.

Totals: Unit ID: 33-1 (B-Furnace)										
POLLUTANT	BEFORE CONTROLS			AFTER CONTROLS			PERMIT LIMIT		2012 Actual (TPY)	
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
PM	7.9368	190.4830	34.7632	0.0081	0.0355	0.0001	0.900	3.94	0.2043	0.0062
PM10	7.9587	191.0097	34.8593	0.0301	0.1316	0.0005	0.900	3.94	0.2229	0.0249
SOx	0.0023	0.0554	0.0101	0.0023	0.0101	#VALUE!	N/A	N/A	0.0020	0.0020
NOx	0.3850	9.2400	1.6863	0.3850	1.6863	#VALUE!	N/A	N/A	0.3268	0.3268
VOC	0.0212	0.5082	0.0927	0.0212	0.0927	#VALUE!	N/A	N/A	0.0180	0.0180
CO	0.3234	7.7616	1.4165	0.3234	1.4165	#VALUE!	N/A	N/A	0.2745	0.2745
Lead	6.7401	161.7614	29.5215	0.0007	0.0030	#VALUE!	0.070	0.31	0.1684	0.0000

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf
 PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr
 Pb: 326 IAC 15-1-2(a)(6)

Control Equipment comprised of baghouse & HEPA:

Baghouse: Micro-Pul Reverse Jet Air Pulse Cleaning Units with 264, eight (8) foot long membrane type filters on wire support cages.
 HEPA includes (9) HEPA filters

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 6-S-33

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: S-Furnace Operation (Unit 33-2)

MDR (T produced/hr): 0.1205
 YEARLY PROD (T/yr): 33

STACK ID (DIAM:HEIGHT): (2: 60)
 FLOWRATE (ACFM): 12234
 Ts(°F): 172

CNTRL DEV: Using Baghouse & HEPA for B-Furnace (33-14-F & H) not (47-13-F & H) because boric acid controls are ε
 PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-99			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	4.448	0.9999	0.5359	12.8624	2.3474	0.0001	0.0002	0.0000
PM10	4.448	0.9999	0.5359	12.8624	2.3474	0.0001	0.0002	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0	0.9999	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.073385	0.000007
0.073385	0.000007
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

Potential fugitives captured by building ventilation system (V-1).

Unit ID: S-Furnace
(Natural Gas Combustion)

MDC (mmBtu/hr): 5
 MDR (mmctf/hr): 0.0050

HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmctf/yr): 3

STACK ID (DIAM:HEIGHT): (2: 60)
 FLOWRATE (ACFM): 12234
 Ts(°F): 172

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-90-006-89			POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
POLLUTANT	EF(lbs/mmcf)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0095	0.2280	0.0416	0.0095	0.0416	0.0001
PM10	7.6	0	0.0380	0.9120	0.1664	0.0380	0.1664	0.0004
SOx	0.6	0	0.0030	0.0720	0.0131	0.0030	0.0131	N/A
NOx	100	0	0.5000	12.0000	2.1900	0.5000	2.1900	N/A
VOC	5.5	0	0.0275	0.6600	0.1205	0.0275	0.1205	N/A
CO	84	0	0.4200	10.0800	1.8396	0.4200	1.8396	N/A
LEAD	0.0005	0	0.0000	0.0001	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.002419	0.002419
0.009678	0.009678
0.000764	0.000764
0.127337	0.127337
0.007004	0.007004
0.106963	0.106963
0.000001	0.000001

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 6-S-33

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: S-Furnace
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 5
MDR (mgal/hr): 0.054645
QTY BURNED (mgal/yr): 0

HEAT CONTENT (Btu/gal): 91,500
ASH CONTENT (%): N/A
SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (2: 60)
FLOWRATE (ACFM): 12234
Ts(°F): 172

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0109	0.2623	0.0479	0.0109	0.0479	0.0001
PM10	0.7	0	0.0383	0.9180	0.1675	0.0383	0.1675	0.0004
SOx	0.1	0	0.0055	0.1311	0.0239	0.0055	0.0239	N/A
NOx	13	0	0.7104	17.0492	3.1115	0.7104	3.1115	N/A
VOC	1	0	0.0546	1.3115	0.2393	0.0546	0.2393	N/A
CO	7.5	0	0.4098	9.8361	1.7951	0.4098	1.7951	N/A
LEAD	---	0	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	N/A

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
#VALUE!	#VALUE!	

Unit ID: S-Furnace (Packing)
CNTRL DEV: Baghouse & HEPA (33-14-F & H)

MDR (T produced/hr): 0.1205
YEARLY PROD (T/yr): 33

STACK ID (DIAM:HEIGHT): (2: 60)
FLOWRATE (ACFM): 12234
Ts(°F): 172

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	2.224	0.9999	0.2680	6.4312	1.1737	0.0000	0.0001	0.0000
PM10	2.224	0.9999	0.2680	6.4312	1.1737	0.0000	0.0001	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.000	0.9999	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.036693	0.000004	
0.036693	0.000004	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 6-S-33

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Totals: Unit ID: 33-2 (S-Furnace)

POLLUTANT	POTENTIAL EMISSIONS					
	BEFORE CONTROLS			AFTER CONTROLS		
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.8134	19.5217	3.5627	0.0096	0.0420	0.0001
PM10	0.8419	20.2057	3.6875	0.0381	0.1668	0.0004
SOx	0.0030	0.0720	0.0131	0.0030	0.0131	#VALUE!
NOx	0.5000	12.0000	2.1900	0.5000	2.1900	#VALUE!
VOC	0.0275	0.6600	0.1205	0.0275	0.1205	#VALUE!
CO	0.4200	10.0800	1.8396	0.4200	1.8396	#VALUE!
LEAD	0.0000	0.0001	0.0000	0.0000	0.0000	#VALUE!

* Under Natural Gas Combustion.

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.112497	0.002430
0.119756	0.009689
0.000764	0.000764
0.127337	0.127337
0.007004	0.007004
0.106963	0.106963
0.000001	0.000001

Explanation of Emission Factor Calculations:

Compliance Test Performed on 4/18/12: Pb Emis 0.763 lbs/hr. (Non-Lead)

Unit ID	Avg. Hourly Process Rate (lbs/hr)	Previous Dust Load Factor Used	(1) Equivalent Dust Load (lbs/hr)	Percentage of Total Dust Load (%)	Control Efficiency (%)	Throughput During ST (Tons)	Uncontrolled	
							(2) New Pb EF (lbs/ton)	(3) New PM EF (lbs/ton)
Furnace	229	7.6 lbs per	17	66.667	99.99	0.1145	0.000	4.448
Packing	229	3.8 lbs per	9	33.333	99.99	0.1145	0.000	2.224
Total:			26	100		0.2290		

(1) Equivalent Dust Load was calculated by: Previous Dust Load Factor x Avg. Hourly Process Rate.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 6-S-33

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Total: Stack 6-S-33

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE	AFTER
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)			CONTROLS	CONTROLS
PM	8.7502	210.0047	38.3259	0.0177	0.0775	0.0002	0.900	3.94	0.3168	0.0087
PM10/PM2.5	8.8006	211.2154	38.5468	0.0681	0.2984	0.0009	0.900	3.94	0.3427	0.0345
SOx	0.0053	0.1274	0.0233	0.0053	0.0233	#VALUE!	N/A	N/A	0.0027	0.0027
NOx	0.8850	21.2400	3.8763	0.8850	3.8763	#VALUE!	N/A	N/A	0.4542	0.4542
VOC	0.0487	1.1682	0.2132	0.0487	0.2132	#VALUE!	N/A	N/A	0.0250	0.0250
CO	0.7434	17.8416	3.2561	0.7434	3.2561	#VALUE!	N/A	N/A	0.3815	0.3815
LEAD	6.7401	161.7615	29.5215	0.0007	0.0030	#VALUE!	0.070	0.31	0.1684	0.0000

* Under Natural Gas Combustion.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf

PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr

Pb: 326 IAC 15-1-2(a)(6)

Control Equipment comprised of baghouse & HEPA:

Baghouse: Micro-Pul Reverse Jet Air Pulse Cleaning Units with 264, eight (8) foot long membrane type filters on wire support cages.

HEPA includes (9) HEPA filters

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 4-S-35

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: B-Furnace Drying System (Unit 35-1)
 CNTRL DEV: Baghouse & HEPA (35-15-F & H)

MDR (T produced/hr): 1.7845
 YEARLY PROD (T/yr): 0

STACK ID (DIAM:HEIGHT): (1.25: 61)
 FLOWRATE (ACFM): 3792
 Ts(°F): 148.8

SCC NO. 3-01-035-54			PERMITTED OPERATING HRS: 8760 hr/yr						
			POTENTIAL EMISSIONS						
			BEFORE CONTROLS			AFTER CONTROLS			
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	
PM	3.333	0.9999	5.9473	142.7362	26.0494	0.0006	0.0026	0.0000	
PM10	3.333	0.9999	5.9473	142.7362	26.0494	0.0006	0.0026	0.0000	
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
LEAD	2.833	0.9999	5.0552	121.3258	22.1420	0.0005	0.0022	N/A	

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	
0.000000	0.000000	

MDR = 3,569 lbs/hr as determined during 9/22/98 Stack Test.

Unit ID: B-Furnace Drying System (Unit 35-1)
(Natural Gas Combustion)

MDC (mmBtu/hr): 2.457
 MDR (mmctf/hr): 0.0025

HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmctf/yr): 4

STACK ID (DIAM:HEIGHT): (1.25: 61)
 FLOWRATE (ACFM): 3792
 Ts(°F): 148.8

SCC NO. 3-90-006-89			PERMITTED OPERATING HRS: 8760 hr/yr						
			POTENTIAL EMISSIONS						
			BEFORE CONTROLS			AFTER CONTROLS			
POLLUTANT	EF(lbs/mmcf)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	
PM	1.9	0	0.0047	0.1120	0.0204	0.0047	0.0204	0.0002	
PM10	7.6	0	0.0187	0.4482	0.0818	0.0187	0.0818	0.0007	
SOx	0.6	0	0.0015	0.0354	0.0065	0.0015	0.0065	N/A	
NOx	100	0	0.2457	5.8968	1.0762	0.2457	1.0762	N/A	
VOC	5.5	0	0.0135	0.3243	0.0592	0.0135	0.0592	N/A	
CO	84	0	0.2064	4.9533	0.9040	0.2064	0.9040	N/A	
LEAD	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	

2012 Actual (TPY)		
BEFORE CONTROLS	AFTER CONTROLS	
0.003963	0.003963	
0.015852	0.015852	
0.001251	0.001251	
0.208578	0.208578	
0.011472	0.011472	
0.175205	0.175205	
0.000001	0.000001	

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 4-S-35

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: B-Furnace Drying System (Unit 35-1)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 2.457 HEAT CONTENT (Btu/gal): 91,500
MDR (mgal/hr): 0.026852 ASH CONTENT (%): N/A
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (1.25: 61)
FLOWRATE (ACFM): 3792
Ts(°F): 148.8

PERMITTED OPERATING HRS: **8760** hr/yr

POLLUTANT	EF(lbs/kgal)	CE (%)	POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0054	0.1289	0.0235	0.0054	0.0235	0.0002
PM10	0.7	0	0.0188	0.4511	0.0823	0.0188	0.0823	0.0007
SOx	0.1	0	0.0027	0.0644	0.0118	0.0027	0.0118	N/A
NOx	13	0	0.3491	8.3780	1.5290	0.3491	1.5290	N/A
VOC	1	0	0.0269	0.6445	0.1176	0.0269	0.1176	N/A
CO	7.5	0	0.2014	4.8334	0.8821	0.2014	0.8821	N/A
LEAD	---	0	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
#VALUE!	#VALUE!

Unit ID: Packing Stations 3 and 4

MDR (T produced/hr): 7.5
YEARLY PROD (T/yr): 0

STACK ID (DIAM:HEIGHT): (1.25: 61)
FLOWRATE (ACFM): 3792
Ts(°F): 148.8

CNTRL DEV: Baghouse & HEPA (35-15-F & H)

PERMITTED OPERATING HRS: **8760** hr/yr

POLLUTANT	EF(LB/T)	CE (%)	POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.724	0.9999	5.4280	130.2722	23.7747	0.000543	0.002377	0.0000
PM10	0.724	0.9999	5.4280	130.2722	23.7747	0.000543	0.002377	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
LEAD	0.615	0.9999	4.6138	110.7314	20.2085	0.000461	0.002021	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000

Baghouse: bottom loading 100 bag MikroPul reverse jet air pulse cleaning unit with laminated bags on wire support cages.
HEPA: (4) HEPA filters.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 4-S-35

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Total: Stack 4-S-35

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)			CONROLS	CONROLS
PM	11.3800	273.1205	49.8445	0.0058	0.0254	0.0002	0.570	2.50	0.003963	0.003963
PM10/PM2.5	11.3940	273.4566	49.9058	0.0198	0.0868	0.0007	0.570	2.50	0.015852	0.015852
SOx	0.0015	0.0354	0.0065	0.0015	0.0065	#VALUE!	N/A	N/A	0.001251	0.001251
NOx	0.2457	5.8968	1.0762	0.2457	1.0762	#VALUE!	N/A	N/A	0.208578	0.208578
VOC	0.0135	0.3243	0.0592	0.0135	0.0592	#VALUE!	N/A	N/A	0.011472	0.011472
CO	0.2064	4.9533	0.9040	0.2064	0.9040	#VALUE!	N/A	N/A	0.175205	0.175205
LEAD	9.6690	232.0572	42.3504	0.0010	0.0042	#VALUE!	0.090	0.39	0.000001	0.000001

* Under Natural Gas Combustion.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf

PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr

Pb: 326 IAC 15-1-2(a)(6)

Explanation of Emission Factor Calculations:

Compliance Test Performed on 4/6/11: Pb Emission Rate 0.0009 lbs/hr. (85% Pb Content)

Unit ID	Percentage of Total Dust Load (%)	Control Efficiency (%)	Throughput During ST (Tons)	Uncontrolled	
				(2) New Pb EF (lbs/ton)	(3) New PM EF (lbs/ton)
Drying	50.000	99.99	1.5885	2.833	3.333
Packing	50.000	99.99	7.3150	0.615	0.724
	100		8.9035	1.011	1.066

(1) Equivalent Dust Load was calculated by: Previous Dust Load Factor x Avg. Hourly Process Rate.

(2) New Pb EF calculated by: Percentage of Total Dust Loading x Measured emission rate / Avg. Production Rate.

(3) New PM EF calculated using Pb\ EF and % Pb content.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 4B-S-34

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 34-3 (Glass Concepts Process - Lead Side - Dryer)
 Process Controls: Baghouse
 CNTRL DEV: HEPA

MDR (T produced/hr): 0.250
 YEARLY PROD (T/yr): 45.75

STACK ID (DIAM:HEIGHT): (1.5: 61)
 FLOWRATE (ACFM): 3926
 Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

POLLUTANT	SCC NO. 3-01-035-99		POTENTIAL EMISSIONS					
	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	20.576	0.992	5.1440	123.4557	22.5307	0.0412	0.1802	0.0014
PM10	20.576	0.992	5.1440	123.4557	22.5307	0.0412	0.1802	0.0014
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	13.169	0.992	3.2922	79.0116	14.4196	0.026337	0.115357	N/A
Cadmium	0.776	0.992	0.1939	4.6543	0.8494	0.001551	0.006795	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.470675	0.0037654
0.470675	0.0037654
0.000000	0.0000000
0.000000	0.0000000
0.000000	0.0000000
0.000000	0.0000000
0.301232	0.0024099
0.017744	0.000142

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 34-3 (Glass Concepts Process - Lead Side - Dryer)
(Natural Gas Combustion)

MDC (mmBtu/hr): 1.5
 MDR (mmctf/hr): 0.001500

HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmctf/yr): 2.55

STACK ID (DIAM:HEIGHT): (1.5: 61)
 FLOWRATE (ACFM): 3926
 Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

POLLUTANT	SCC No. 3-90-006-89		POTENTIAL EMISSIONS					
	EF(lbs/mmcf)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	1.9	0	0.0029	0.0684	0.0125	0.0029	0.0125	0.0001
PM10	7.6	0	0.0114	0.2736	0.0499	0.0114	0.0499	0.0004
SOx	0.6	0	0.0009	0.0216	0.0039	0.0009	0.0039	N/A
NOx	100	0	0.1500	3.6000	0.6570	0.1500	0.6570	N/A
VOC	5.5	0	0.0083	0.1980	0.0361	0.0083	0.0361	N/A
CO	84	0	0.1260	3.0240	0.5519	0.1260	0.5519	N/A
Lead	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.002419	0.002419
0.009678	0.009678
0.000764	0.000764
0.127337	0.127337
0.007004	0.007004
0.106963	0.106963
0.000001	0.000001

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 4B-S-34

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 34-3 (Glass Concepts Process - Lead Side - Dryer)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 1.5
MDR (mgal/hr): 0.016393
QTY BURNED (mgal/yr): 0
HEAT CONTENT (Btu/gal): 91,500
ASH CONTENT (%): N/A
SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (1.5: 61)
FLOWRATE (ACFM): 3926
Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0033	0.0787	0.0144	0.0033	0.0144	0.0001
PM10	0.7	0	0.0115	0.2754	0.0503	0.0115	0.0503	0.0004
SOx	0.1	0	0.0016	0.0393	0.0072	0.0016	0.0072	N/A
NOx	13	0	0.2131	5.1148	0.9334	0.2131	0.9334	N/A
VOC	1	0	0.0164	0.3934	0.0718	0.0164	0.0718	N/A
CO	7.5	0	0.1230	2.9508	0.5385	0.1230	0.5385	N/A
LEAD	---	0	N/A	N/A	N/A	N/A	N/A	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Unit ID: 34-3 (Glass Concepts Process - Lead Side - Packing)
Process Controls: Baghouse
CNTRL DEV: HEPA

MDR (T produced/hr): 0.250
YEARLY PROD (T/yr): 45.75
STACK ID (DIAM:HEIGHT): (1.5: 61)
FLOWRATE (ACFM): 3926
Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	20.576	0.992	5.1440	123.4557	22.5307	0.0411519	0.1802453	0.0014
PM10	20.576	0.992	5.1440	123.4557	22.5307	0.0411519	0.1802453	0.0014
SOx	0	0	0.0000	0.0000	0.0000	0.0000000	0.0000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000000	0.0000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000000	0.0000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000000	0.0000000	N/A
LEAD	13.169	0.992	3.2922	79.0116	14.4196	0.0263372	0.1153570	N/A
Cadmium	0.776	0.992	0.1939	4.6543	0.8494	0.0015514	0.0067952	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.470675	0.003765
0.470675	0.003765
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.301232	0.002410
0.01774444	0.00014196

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 4B-S-34

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 34-3 (Glass Concepts Process - Non-Lead Side - Dryer)
 Process Controls: Baghouse
 CNTRL DEV: HEPA

MDR (T produced/hr): 0.250
 YEARLY PROD (T/yr): 37.70

STACK ID (DIAM:HEIGHT): (1.5: 61)
 FLOWRATE (ACFM): 3926
 Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

POLLUTANT	POTENTIAL EMISSIONS								
	BEFORE CONTROLS					AFTER CONTROLS			
	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	
PM	20.576	0.992	5.1440	123.4557	22.5307	0.0412	0.1802	0.0014	
PM10	20.576	0.992	5.1440	123.4557	22.5307	0.0412	0.1802	0.0014	
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	
LEAD	0.000	0.992	0.0000	0.0000	0.0000	0.000000	0.000000	N/A	
Cadmium	0.776	0.992	0.1939	4.6543	0.8494	0.001551	0.006795	N/A	

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.387857	0.0031029
0.387857	0.0031029
0.000000	0.0000000
0.000000	0.0000000
0.000000	0.0000000
0.000000	0.0000000
0.000000	0.0000000
0.000000	0.0000000
0.014622	0.000117

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 34-3 (Glass Concepts Process - Non-Lead Side - Dryer)
(Natural Gas Combustion)

MDC (mmBtu/hr): 1.5
 MDR (mmcft/hr): 0.001500

HEAT CONTENT (Btu/cft): 1,000
 QTY BURNED (mmcft/yr): 2.55

STACK ID (DIAM:HEIGHT): (1.5: 61)
 FLOWRATE (ACFM): 3926
 Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

POLLUTANT	POTENTIAL EMISSIONS								
	BEFORE CONTROLS					AFTER CONTROLS			
	EF(lbs/mmcf)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	
PM	1.9	0	0.0029	0.0684	0.0125	0.0029	0.0125	0.0001	
PM10	7.6	0	0.0114	0.2736	0.0499	0.0114	0.0499	0.0004	
SOx	0.6	0	0.0009	0.0216	0.0039	0.0009	0.0039	N/A	
NOx	100	0	0.1500	3.6000	0.6570	0.1500	0.6570	N/A	
VOC	5.5	0	0.0083	0.1980	0.0361	0.0083	0.0361	N/A	
CO	84	0	0.1260	3.0240	0.5519	0.1260	0.5519	N/A	
Lead	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.002419	0.002419
0.009678	0.009678
0.000764	0.000764
0.127337	0.127337
0.007004	0.007004
0.106963	0.106963
0.000001	0.000001

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 4B-S-34

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 34-3 (Glass Concepts Process - Non-Lead Side - Dryer)
Alternative Scenario: Propane Combustion

MDC (mmBtu/hr): 1.5
MDR (mgal/hr): 0.016393
QTY BURNED (mgal/yr): 0
HEAT CONTENT (Btu/gal): 91,500
ASH CONTENT (%): N/A
SULFUR CONTENT (%): N/A

STACK ID (DIAM:HEIGHT): (1.5: 61)
FLOWRATE (ACFM): 3926
Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS					
POLLUTANT	EF(lbs/kgal)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.2	0	0.0033	0.0787	0.0144	0.0033	0.0144	0.0001
PM10	0.7	0	0.0115	0.2754	0.0503	0.0115	0.0503	0.0004
SOx	0.1	0	0.0016	0.0393	0.0072	0.0016	0.0072	N/A
NOx	13	0	0.2131	5.1148	0.9334	0.2131	0.9334	N/A
VOC	1	0	0.0164	0.3934	0.0718	0.0164	0.0718	N/A
CO	7.5	0	0.1230	2.9508	0.5385	0.1230	0.5385	N/A
LEAD	---	0	N/A	N/A	N/A	N/A	N/A	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
N/A	N/A

Unit ID: 34-3 (Glass Concepts Process - Non-Lead Side - Packing)
Process Controls: Baghouse
CNTRL DEV: HEPA

MDR (T produced/hr): 0.250
YEARLY PROD (T/yr): 37.70
STACK ID (DIAM:HEIGHT): (1.5: 61)
FLOWRATE (ACFM): 3926
Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	20.576	0.992	5.1440	123.4557	22.5307	0.0411519	0.1802453	0.0014
PM10	20.576	0.992	5.1440	123.4557	22.5307	0.0411519	0.1802453	0.0014
SOx	0	0	0.0000	0.0000	0.0000	0.0000000	0.0000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000000	0.0000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000000	0.0000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000000	0.0000000	N/A
LEAD	0.000	0.992	0.0000	0.0000	0.0000	0.0000000	0.0000000	N/A
Cadmium	0.776	0.992	0.1939	4.6543	0.8494	0.0015514	0.0067952	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.387857	0.003103
0.387857	0.003103
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.01774444	0.00014196

Cadmium: 3.77% maximum content.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 4B-S-34

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Totals: Unit ID: 34-3 (Glass Concepts Process)							2012 Actual (TPY)		
POLLUTANT	POTENTIAL EMISSIONS				POTENTIAL EMISSIONS			BEFORE CONTROLS	AFTER CONTROLS
	BEFORE CONTROLS				AFTER CONTROLS				
	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)		
PM	20.5816	493.9595	90.1476	0.1703	0.7459	0.0056	1.7219	0.0186	
PM10	20.5987	494.3699	90.2225	0.1874	0.8208	0.0062	1.7364	0.0331	
SOx	0.0018	0.0432	0.0079	0.0018	0.0079	#VALUE!	0.0015	0.0015	
NOx	0.3000	7.2000	1.3140	0.3000	1.3140	#VALUE!	0.2547	0.2547	
VOC	0.0165	0.3960	0.0723	0.0165	0.0723	#VALUE!	0.0140	0.0140	
CO	0.2520	6.0480	1.1038	0.2520	1.1038	#VALUE!	0.2139	0.2139	
Lead	6.5843	158.0233	28.8392	0.0527	0.2307	#VALUE!	0.6025	0.0048	
Cadmium	0.7757	18.6171	3.3976	0.0062	0.0272	#VALUE!	0.032367	0.000259	

Total: Stack 4B-S-34											
POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)		
	BEFORE CONTROLS				AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	(TPY)	(gr/dscf)				
PM	31.8350	764.0396	139.4372	0.1714	0.7509	0.0056	0.400	1.75	1.7219	0.0186	
PM10/PM2.5	31.8521	764.4500	139.5121	0.1885	0.8258	0.0062	0.400	1.75	1.7364	0.0331	
SOx	0.0018	0.0432	0.0079	0.0018	0.0079	#VALUE!	N/A	N/A	0.0015	0.0015	
NOx	0.3000	7.2000	1.3140	0.3000	1.3140	#VALUE!	N/A	N/A	0.2547	0.2547	
VOC	0.0165	0.3960	0.0723	0.0165	0.0723	#VALUE!	N/A	N/A	0.0140	0.0140	
CO	0.2520	6.0480	1.1038	0.2520	1.1038	#VALUE!	N/A	N/A	0.2139	0.2139	
LEAD	15.8793	381.1024	69.5512	0.0536	0.2348	#VALUE!	0.080	0.35	0.6025	0.0048	

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf
 PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr
 Pb: 326 IAC 15-1-2(a)(6)

Potential fugitives captured by building ventilation system (V-1).

Control Equipment comprised of baghouse & HEPA:

Baghouse: Micro-Pul Reverse Jet Air Pulse Cleaning Units with 100, eight (8) foot long membrane type filters on wire support cages.

HEPA includes (4) HEPA filters.

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 4B-S-34

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Explanation of Emission Factor Calculations:

Compliance Test Performed on 4/6/11: Pb Emission Rate 0.0151 lbs/hr. (B-400 64% Pb Content)

Unit ID	Percentage of Total Dust Load (%)	Control Efficiency (%)	Throughput During ST (Tons)	Uncontrolled	
				(2) New Pb EF (lbs/ton)	(3) New PM EF (lbs/ton)
Silicate Mill	5.000	99.99	2.3445	3.220	3.789
Mill Packing	5.000	99.99	2.3445	3.220	3.789
Lead Spray Dryer	45.000	99.2	0.0645	13.169	20.576
Glass Packing	45.000	99.2	0.0645	13.169	20.576
	100		4.8180	31.341	33.046

1998 Test with Mill and Packing alone was only approx. 6% of 2011 measured emissions.

(1) Equivalent Dust Load was calculated by: Previous Dust Load Factor x Avg. Hourly Process Rate.

(2) New Pb EF calculated by: Percentage of Total Dust Loading x Measured emission rate / Avg. Production Rate.

(3) New PM EF calculated using Pb EF and % Pb content.

**Appendix A: Emission Calculations
STACK ID 6-S-47**

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

No Processes currently vented to this stack.

Total: Stack 6-S-47

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE	AFTER
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)			CONTROLS	CONTROLS
PM	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.400	1.75	0.0000	0.0000
PM10/PM2.5	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.400	1.75	0.0000	0.0000
SOx	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	N/A	0.0000	0.0000
NOx	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	N/A	0.0000	0.0000
VOC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	N/A	0.0000	0.0000
CO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	N/A	0.0000	0.0000
LEAD	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.021	0.092	0.0000	0.0000

* Under Natural Gas Combustion.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf
 PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr
 Pb: 326 IAC 15-1-2(a)(6)

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 1-S-27

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: 27-1 (Lead Oxide Mill)

MDR (T produced/hr): 4.080
 YEARLY PROD (T/yr): 13,493

STACK ID (DIAM:HEIGHT): (1.125: 61)
 FLOWRATE (ACFM): 2969
 Ts(°F): 141

CNTRL DEV: Baghouse & HEPA (27-12-F & H)

PERMITTED OPERATING HRS: **8760** hr/yr

POLLUTAN	EF(LB/T)	CE (%)	POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.159	0.9999	0.6502	15.6042	2.8478	0.000065	0.000285	0.0000
PM10	0.159	0.9999	0.6502	15.6042	2.8478	0.000065	0.000285	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
LEAD	0.147	0.9999	0.6005	14.4120	2.6302	0.000060	0.000263	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
1.075193	0.000108
1.075193	0.000108
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.993048	0.000099

Potential fugitives captured by building ventilation system (V-1).

Control Equipment comprised of baghouse & HEPA:

Baghouse: Micro-Pul Reverse Jet Air Pulse Cleaning Units with 81, eight (8) foot long membrane type filters on wire support cages.
 HEPA includes (4) HEPA filters

Unit ID: 27-1 (Tote Bin Fill)

MDR (T produced/hr): 4.080
 YEARLY PROD (T/yr): 3

STACK ID (DIAM:HEIGHT): (1.125: 61)
 FLOWRATE (ACFM): 2969
 Ts(°F): 141

CNTRL DEV: Baghouse & HEPA (27-12-F & H)

PERMITTED OPERATING HRS: **8760** hr/yr

POLLUTAN	EF(LB/T)	CE (%)	POTENTIAL EMISSIONS					
			BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.159	0.9999	0.6502	15.6042	2.8478	0.000065	0.000285	0.0000
PM10	0.159	0.9999	0.6502	15.6042	2.8478	0.000065	0.000285	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A
LEAD	0.147	0.9999	0.6005	14.4120	2.6302	0.000060	0.000263	N/A

2012 Actual (TPY)	
BEFORE CONTROLS	AFTER CONTROLS
0.000239	0.000000
0.000239	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000000	0.000000
0.000221	0.000000

Appendix A: Emission Calculations
PTE from Units Exhausting Through STACK ID 1-S-27

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Total: Stack 1-S-27

POLLUTANT	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)				
PM	1.3003	31.2083	5.6955	0.0001	0.0006	0.0000	0.290	1.270	1.075432	0.000108
PM10/PM2.5	1.3003	31.2083	5.6955	0.0001	0.0006	0.0000	0.290	1.270	1.075432	0.000108
SOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	N/A	N/A	0.000000	0.000000
NOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	N/A	N/A	0.000000	0.000000
VOC	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	N/A	N/A	0.000000	0.000000
CO	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	N/A	N/A	0.000000	0.000000
LEAD	1.2010	28.8240	5.2604	0.0001	0.0005	#VALUE!	0.020	0.088	0.993269	0.000099

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf
 PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr
 Pb: 326 IAC 15-1-2(a)(6)

Explanation of Emission Factor Calculations:

Compliance Test Performed on 11/17/99: Pb Emission Rate 0.0002 lbs/hr. (92.36% Pb Content)

Unit ID	Avg. Hourly Process Rate (lbs/hr)	Previous Dust Load Factor Used	(1) Equivalent Dust Load (lbs/hr)	Percentage of Total Dust Load (%)	Control Efficiency (%)	Throughput During ST (Tons)	Uncontrolled	
							(2) New Pb EF (lbs/ton)	(3) New PM EF (lbs/ton)
HM Mill	7.751	2.27 lbs per 100 lbs	176	50.000	99.99	6.7935	0.147	0.159
Tote Bin Fill	7.751	2.27 lbs per 100 lbs	176	50.000	99.99	6.7935	0.147	0.159
Total:			352	100		14	0.147	0.155

- (1) Equivalent Dust Load was calculated by: Previous Dust Load Factor x Avg. Hourly Process Rate.
- (2) New Pb EF calculated by: Percentage of Total Dust Loading x Measured emission rate / Avg. Production Rate.
- (3) New PM EF calculated using Pb\ EF and % Pb content.

**Appendix A: Emission Calculations
Natural Gas Combustion Units**

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Appendix A: Limited
Emission Calculations
Summary

**Combustion Units
Calendar Year 2012**

EQUIPMENT	HEAT INPUT (MBTU/HR)	ACTUAL GAS USAGE* (SCF/YR)	ACTUAL GAS USAGE* (mmcuft/YR)
LEAD OXIDE DIVISION			
No. 1 Melt Kettle	1000	1553098.964	1.553
No. 1 Melt Kettle torch	394	611655.1946	0.612
No.1 Pit	275	427291.9328	0.427
No. 2 Melt Kettle	1704	2647656.195	2.648
No. 2 Melt Kettle torch		0	0.000
No. 2 Pit		0	0.000
No.2 Pipe		0	0.000
No. 3 Melt Kettle	714	1109405.237	1.109
No. 3 Melt Kettle torch	75	116534.1635	0.117
No. 3 Pit	320	497212.4309	0.497
No. 4 Melt Kettle	894	1389087.229	1.389
No. 4 Melt Kettle torch	394	612192.8056	0.612
No. 4 Pit	394	612192.8056	0.612
No. 5 Melt Kettle	769	1194863.623	1.195
No. 5 Melt Kettle torch	394	612192.8056	0.612
No. 5 Pit	344	534503.3633	0.535
No. 6 Barton	1151	1788410.963	1.788
Reactor (Removed 2007)	0	0	0
Flash Calciner	1500	2330683.27	2.331
Furnace #1	0	0	0.000
Furnace #2	650	1009962.75	1.010
Furnace #3	369	573348.0844	0.573
Furnace #4	468	727173.1802	0.727
Furnace #5	468	727173.1802	0.727
Furnace #6	468	727173.1802	0.727
Furnace #8	792	0	0.000
Furnace #9	779	1210401.512	1.210
Furnace #10	468	727173.1802	0.727
400Y Furnace	5000	7768944.233	7.769
B-Furnace	3850	5982087.06	5.982
B-Furnace Drying	2457	3817659.196	3.818
S-Furnace	5000	7768944.233	7.769
Glass Additives Mixer	0	0	0.000
Glass Frit 'Spray Dryers	3000	4661366.54	4.661
Non-lead Glass Furnace	0	0	0.000
XS Furnace	2500	3884472.117	3.884
Main Office Furnace (by copier)	175	271913.0482	0.272
Lunch Room	150	233068.327	0.233
Main Locker Room	150	233068.327	0.233
Water Heater	240	372909.3232	0.373
Second Floor Offices	150	233068.327	0.233
Laboratory Furnace	125	194223.6058	0.194
Portable Heaters (Various)	1000	1553788.847	1.554
Subtotal (Main Gas Meter-Halox Meter)	38580.21	59,945,500	58.715
Maintenance Furnace	140	92417.5	0.092
Welding Shop	65	42908.125	0.043
Electrical Shop	80	52810	0.053
North Warehouse	300	198037.5	0.198
EHS	75	49509.375	0.050
Water Heater 2 (Downstairs)	140	92417.5	0.092
Subtotal	800	528,100	0.528
(No production eqpt. Assoc. w/ this usage)			
Total (Lead Plant)	39,380.21	60,473,600.00	59.24

EQUIPMENT	HEAT INPUT (MBTU/HR)	ACTUAL GAS USAGE* (SCF/YR)	ACTUAL GAS USAGE* (mmcuft/YR)
EXPANDER DIVISION			
6544 Osborn - Plant (1 hot water heater and 6 ha	980	910,300	0.910
6544 Osborn Bldg A - Offices (4 furnaces and 1	700	521,100	0.521
6510 Osborn Ste E - Shipping (1 hanging furnac	280	45,300	1.431
Total (Expander)	1,960	1,476,700	3

TOTALS (Facility):	41,340.21	61,950,300	62
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* BASED ON AVERAGED FUEL HEATING VALUE (1020 BTU/SCF)

**Appendix A: Emission Calculations
HAPs**

**Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell**

Miscellaneous Insignificant Activities

Activity / Material	Hazardous Components	% by Weight	Material Handled (gal/yr)	HAPs Emissions	
				Potential (Tons/yr)	Actual (Tons/yr)
Glass Concepts Process	Cadmium	3.77	N/A	3.3976	0.000258933
Safety Kleen solvent *			3378		
				0.00	0.00
				0.00	0.00
Paint (Maintainance) **	Various VOC's	5.8 (lb/gal)	1000	5.800	2.900
(Throughput is very conservative value. Thus, not changed yearly unless operations drastically modify)					

* As per correspondence May'09: The premium solvent is 100% petroleum distillates (CAS 64742-47-8) which is not an EPA HAP.

**Air HAPs

EXPANDER DIVISION					
	Carbon Black (30 % max)	NA	NA	0.0707230	0.000657886
	Barium Sulphate (96 % max)	NA	NA	0.2263135	0.002105234

Potentials based on Potential PM, after controls.

Total: 0.297036 0.002763

**Appendix A: Emission Calculations
Natural Gas Combustion**

**Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell**

Natural Gas Combustion

Appendix A: Limited Emission Calculat HHV Potential Throughput

MMBtu/hr	mmBtu mmscf	MMCF/yr
41.34021	1020	355.0

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.3	1.3	1.3	0.1	17.8	1.0	14.9

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

PM2.5 emission factor is filterable and condensable PM2.5 combined.

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

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

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

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu

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

HAPS Calculation

Emission Factor in lb/MMcf	HAPs - Organics					Total - Organics
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	
	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	3.728E-04	2.130E-04	1.331E-02	3.195E-01	6.036E-04	3.340E-01

Emission Factor in lb/MMcf	HAPs - Metals					Total - Metals
	Lead	Cadmium	Chromium	Manganese	Nickel	
	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03	
Potential Emission in tons/yr	8.876E-05	1.953E-04	2.485E-04	6.746E-05	3.728E-04	9.728E-04

Total HAPs	3.350E-01
Worst HAP	3.195E-01

Methodology is the same as above.

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

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

Greenhouse Gas Calculations

Emission Factor in lb/MMcf	Greenhouse Gas		
	CO2	CH4	N2O
	120,000	2.3	2.2
Potential Emission in tons/yr	21,728	0.4	0.4
Summed Potential Emissions in tons/yr	21,729		
CO2e Total in tons/yr based on 11/29/2013 federal GWPs	21,858		
CO2e Total in tons/yr based on 10/30/2009 federal GWPs	21,861		

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.

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

CO2e (tons/yr) based on 11/29/2013 federal GWPs= CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

CO2e (tons/yr) based on 10/30/2009 federal GWPs = 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
PTE for Unit ID: HLP #8 Roof Vent (Stack V-11)

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: HLP #8 Roof Vent (Stack V-11)
 CNTRL DEV: None

MDR (T produced/hr): 3.32192E-10
 YEARLY PROD (T/yr): 0.000003

STACK ID (DIAM:HEIGHT): (1: 36)
 FLOWRATE (ACFM): 30568
 Ts(°F): 70

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-99			POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)				
PM	2000.000	0	0.0000007	0.0000159	0.0000029	0.000001	0.000003	0.0000	1.000	4.380	0.000003	0.000003
PM10/PM2.5	2000.000	0	0.0000007	0.0000159	0.0000029	0.000001	0.000003	0.0000	1.000	4.380	0.000003	0.000003
SOx	0	0	0.0000000	0.0000000	0.0000000	0.000000	0.000000	N/A	N/A	N/A	0.000000	0.000000
NOx	0	0	0.0000000	0.0000000	0.0000000	0.000000	0.000000	N/A	N/A	N/A	0.000000	0.000000
VOC	0	0	0.0000000	0.0000000	0.0000000	0.000000	0.000000	N/A	N/A	N/A	0.000000	0.000000
CO	0	0	0.0000000	0.0000000	0.0000000	0.000000	0.000000	N/A	N/A	N/A	0.000000	0.000000
LEAD	1578.2	0	0.0000005	0.0000126	0.0000023	0.000001	0.000002	N/A	0.090	0.39	0.000002	0.000002

Vents 400Y MCC Room.

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf
 PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr
 Pb: 326 IAC 15-1-2(a)(6)

Appendix A: Emission Calculations

STACK ID V-1 and STACK ID V-2

Company Name: Hammond Group, Inc.
 Address City IN Zip: 2308 165th Street, Hammond, IN 46320
 Permit Number: 089-36936-00219
 Reviewer: Daniel W Pell

Unit ID: 1-1 (LCMA Building Ventilation) (Trivial)

MDR (T produced/hr): 0.0054

STACK ID (DIAM:HEIGHT): (6: 76)

Control System for Lead Chemical Mfg. Areas

YEARLY PROD (T/yr): 74

FLOWRATE (ACFM): 52212

CNTRL DEV: (3) HEPAs

(Based on 8760 hr/yr)

Ts(°F): 83.8

PERMITTED OPERATING HRS: 8760 hr/yr

SCC NO. 3-01-035-99			POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)				
PM	4.773	0.941	0.0258	0.6186	0.1129	0.001521	0.006661	0.0000	1.000	4.380	0.176606	0.010420
PM10	4.773	0.941	0.0258	0.6186	0.1129	0.001521	0.006661	0.0000	1.000	4.380	0.176606	0.010420
SOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A	N/A	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A	N/A	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A	N/A	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	0.0000	0.000000	0.000000	N/A	N/A	N/A	0.000000	0.000000
LEAD	3.766	0.941	0.0203	0.4881	0.0891	0.001200	0.005256	N/A	0.090	0.394	0.139360	0.008222

Compliance Test performed on 10/10/12 Pb Results = <0.0012 lbs/hr (0.00027 gr/dscf)

PM10: 326 IAC 6-8-2-13(a): 0.022 gr/dscf

Dust Loading is 10.8 lbs/hr. Thus, EF = 0.0012 / (10.8/2000) / (1-0.941) = 3.766478 lbs/ton.

PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr

Pb: 326 IAC 15-1-2(a)(6)

Total: Hammond Lead Plant

			POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
POLLUTANT	BEFORE CONTROLS		BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
	(lbs/hr)	(lbs/day)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)				
PM	285.0624	6,841.4986	285.0624	6,841.4986	1,248.5735	0.2693	1.1795	0.0074	6.8100	29.8278	112.7393	0.0862
PM10/PM2.5	285.4937	6,851.8493	285.4937	6,851.8493	1,250.4625	0.4953	2.1695	0.0125	6.8100	29.8278	112.8923	0.2392
SOx	0.0238	0.5708	0.0238	0.5708	0.1042	0.0238	0.1042	#VALUE!	#VALUE!	#VALUE!	0.0161	0.0161
NOx	3.9638	95.1312	3.9638	95.1312	17.3614	3.9638	17.3614	#VALUE!	#VALUE!	#VALUE!	2.6837	2.6837
VOC	0.2180	5.2322	0.2180	5.2322	0.9549	0.2180	0.9549	#VALUE!	#VALUE!	#VALUE!	0.1476	0.1476
CO	3.3296	79.9102	3.3296	79.9102	14.5836	3.3296	14.5836	#VALUE!	#VALUE!	#VALUE!	2.2543	2.2543
LEAD	249.5324	5,988.7767	249.5324	5,988.7767	1,092.9517	0.0796	0.3485	#VALUE!	0.9060	3.9683	103.8871	0.0234

* Under Natural Gas Combustion.

Lead (lbs/yr) 46.742272

Appendix A: Emissions Calculations
New MZR (Unit 56-14) PTE from NG Combustion and Lead Casting - Exhausts through Stack 16-S-56
(MMBTU/HR <100 from NG Combustion)

Company Name: Hammond Group, Inc.
Source Address: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

(NG Combustion)

Heat Input Capacity MMBtu/hr	HHV mmBtu mmscf	Potential Throughput MMCF/yr
0.305	1020	2.6

Emission Factor in lb/MMCF	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
	1.9	7.6	7.6	0.6	100 **see below	5.5	84
Potential Emission in tons/yr	0.00	0.01	0.01	0.00	0.13	0.01	0.11

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
 PM2.5 emission factor is filterable and condensable PM2.5 combined.
 **Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
 MMBtu = 1,000,000 Btu
 MMCF = 1,000,000 Cubic Feet of Gas
 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
 Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
 Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Hazardous Air Pollutants (HAPs)

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	Total - Organics
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	2.8E-06	1.6E-06	9.8E-05	0.002	4.5E-06	0.00

	HAPs - Metals					
	Lead	Cadmium	Chromium	Manganese	Nickel	Total - Metals
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	6.5E-07	1.4E-06	1.8E-06	5.0E-07	2.8E-06	7.2E-06

Methodology is the same as above.
 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	0.002
Worst HAP	0.002

Appendix A: Emissions Calculations

New MZR (Unit 56-14) PTE from NG Combustion and Lead Casting - Exhausts Through Stack 16-S-56

Company Name: Hammond Group, Inc.
Source Address: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

(Lead Casting)
EF from SCC 3-04-004-09

Maximum Rate (ton/hr) = 0.1875

Emission Factor in lb/ton	PTE for Lead Casting Before Controls							
	PM	PM10	direct PM2.5	SO2	NOx	VOC	CO	Lead
	0.04	0.87	0.87	0.00	0.00	0.00	0.00	0.01
PTE Before Controls (tons/yr)	0.033	0.714	0.714	0.000	0.000	0.000	0.000	0.008

Control efficiency (99.99%)	PTE for Lead Casting After Controls							
	PM	PM10	direct PM2.5	SO2	NOx	VOC	CO	Lead
PTE After Controls (tons/yr)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.0000

Total PTE from Casting and Combustion Before Controls (tons/yr)	0.04	0.72	0.72	0.00	0.13	0.01	0.11	0.01
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Total PTE from Casting and Combustion After Controls (tons/yr)	0.00							
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Pollutant	Permit Limit for Stack 16-S-56	
	(lbs/hr)	(TPY)
PM	1.000	4.38
PM10/PM2.5	1.000	4.38
SOx	N/A	N/A
NOx	N/A	N/A
VOC	N/A	N/A
CO	N/A	N/A
Lead	0.200	0.88

PM10: 326 IAC 6.8-2-13(a) - 0.022 gr/dscf
 PM: 326 IAC 2-2; PM2.5: 326 IAC 2-1.1-5 0.022 gr/dscf & 1.000 lbs/hr
 Pb: 326 IAC 15-1-2(a)(6)

Appendix A: Emission Calculations

New HM Loading Bay

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308 165th Street, Hammond, IN 46320
Permit Number: 089-36936-00219
Reviewer: Daniel W Pell

Unit ID: HM Loading Bay

MDR (T produced/hr): 13.38
 YEARLY PROD (T/yr): N/A

STACK ID (DIAM:HEIGHT): (3: 82)
 FLOWRATE (ACFM): 28167
 Ts(°F): 145

CNTRL DEV: Bin Vent followed by a HEPA unit.

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS					
POLLUTANT	EF(LB/T)	CE (%)	BEFORE CONTROLS			AFTER CONTROLS		
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)
PM	0.004	0.992	0.0535	1.2845	0.2344	0.0004	0.0019	0.0000
PM10	0.004	0.992	0.0535	1.2845	0.2344	0.0004	0.0019	0.0000
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A
LEAD	0.004	0.992	0.0535	1.2845	0.2344	0.0004	0.0019	N/A



Indiana Department of Environmental Management

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100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

March 21, 2016

Ms. Jean Ziga, EHS Director
Hammond Group, Inc.
6544 Osborn Avenue
Hammond, IN 46320

Re: Public Notice
Hammond Group, Inc.
Permit Level: Title V Significant Permit Modification
Permit Number: 089-36936-00219

Dear Ms. Ziga:

Enclosed is a copy of your draft Title V Significant Permit Modification, Technical Support Document, emission calculations, and the Public Notice which will be printed in your local newspaper.

The Office of Air Quality (OAQ) has prepared two versions of the Public Notice Document. The abbreviated version will be published in the newspaper, and the more detailed version will be made available on the IDEM's website and provided to interested parties. Both versions are included for your reference. The OAQ has requested that the Post Tribune in Merrillville, Indiana and The Times in Munster, Indiana publish the abbreviated version of the public notice no later than March 23, 2016. You will not be responsible for collecting any comments, nor are you responsible for having the notice published in the newspaper.

OAQ has submitted the draft permit package to the Hammond Public Library, 564 State Street in Hammond, Indiana. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Daniel W. Pell, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 4-8532 or dial (317) 234-8532.

Sincerely,

Vivian Haun

Vivian Haun
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover letter 2/17/2016



Indiana Department of Environmental Management

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

March 18, 2016

The Post Tribune
1433 E. 83rd Avenue
Merrillville, IN 46410

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for Hammond Group, Inc., Lake County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than March 23, 2016.

Please send a notarized form, clippings showing the date of publication, and the billing to the Indiana Department of Environmental Management, Accounting, Room N1345, 100 North Senate Avenue, Indianapolis, Indiana, 46204.

To ensure proper payment, please reference account # 100174737.

We are required by the Auditor's Office to request that you place the Federal ID Number on all claims. If you have any conflicts, questions, or problems with the publishing of this notice or if you do not receive complete public notice information for this notice, please call Vivian Haun at 800-451-6027 and ask for extension 3-6878 or dial 317-233-6878.

Sincerely,

Vivian Haun

Vivian Haun
Permit Branch
Office of Air Quality

Permit Level: Title V Significant Permit Renewal
Permit Number: 089-36936-00219

Enclosure
PN Newspaper.dot 8/27/2015



Indiana Department of Environmental Management

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Michael R. Pence
Governor

Carol S. Comer
Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

March 18, 2016

The Times
601 West 45th Avenue
Munster, IN 46321

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for Hammond Group, Inc., Lake County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than March 23, 2016.

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Sincerely,

Vivian Haun

Vivian Haun
Permit Branch
Office of Air Quality

Permit Level: Title V Significant Permit Renewal
Permit Number: 089-36936-00219

Enclosure
PN Newspaper.dot 8/27/2015



Indiana Department of Environmental Management

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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

March 21, 2016

To: Hammond Public Library

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

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

Applicant Name: Hammond Group, Inc.
Permit Number: 089-36936-00219

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Request to publish the Notice of 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. **Please make this information readily available until you receive a copy of the final package.**

If you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library.dot 2/17/2016



Indiana Department of Environmental Management

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Carol S. Comer
Commissioner

Notice of Public Comment

March 21, 2016
Hammond Group, Inc.
089-36936-00219

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has been placed in the Legal Advertising section of your local newspaper. The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana's Air Permitting Program.

Please Note: *If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.*

Enclosure
PN AAA Cover.dot 2/17/2016



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Commissioner

AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD DRAFT INDIANA AIR PERMIT

March 21, 2016

A 30-day public comment period has been initiated for:

Permit Number: 089-36936-00219
Applicant Name: Hammond Group, Inc.
Location: Hammond, Lake County, Indiana

The public notice, draft permit and technical support documents can be accessed via the **IDEM Air Permits Online** site at:

<http://www.in.gov/ai/appfiles/idem-caats/>

Questions or comments on this draft permit should be directed to the person identified in the public notice by telephone or in writing to:

Indiana Department of Environmental Management
Office of Air Quality, Permits Branch
100 North Senate Avenue
Indianapolis, IN 46204

Questions or comments regarding this email notification or access to this information from the EPA Internet site can be directed to Chris Hammack at chammack@idem.IN.gov or (317) 233-2414.

Affected States Notification.dot 2/17/2016

Mail Code 61-53

IDEM Staff	VHAUN 3/21/2016 Hammond Group, Inc. 089-36936-00219 DRAFT		Type of Mail: CERTIFICATE OF MAILING ONLY	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		

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		Jean Ziga Hammond Group, Inc. 6544 Osborn Ave Hammond IN 46230 (Source CAATS)										
2		East Chicago City Council 4525 Indianapolis Blvd East Chicago IN 46312 (Local Official)										
3		Lake County Health Department-Gary 1145 W. 5th Ave Gary IN 46402-1795 (Health Department)										
4		WJOB / WZVN Radio 6405 Olcott Ave Hammond IN 46320 (Affected Party)										
5		Hammond City Council and Mayors Office 5925 Calumet Avenue Hammond IN 46320 (Local Official)										
6		Hammond Public Library 564 State St Hammond IN 46320-1532 (Library)										
7		Shawn Sobocinski 5950 Old Porter Rd Aprt 306 Portage IN 46368-1558 (Affected Party)										
8		Mark Coleman 8 Turret Rd. Portage IN 46368-1072 (Affected Party)										
9		Mr. Chris Hernandez Pipefitters Association, Local Union 597 1461 East Summit St Crown Point IN 46307 (Affected Party)										
10		Craig Hogarth 7901 West Morris Street Indianapolis IN 46231 (Affected Party)										
11		Lake County Commissioners 2293 N. Main St, Building A 3rd Floor Crown Point IN 46307 (Local Official)										
12		Anthony Copeland 2006 E. 140th Street East Chicago IN 46312 (Affected Party)										
13		Barbara G. Perez 506 Lilac Street East Chicago IN 46312 (Affected Party)										
14		Mr. Robert Garcia 3733 Parrish Avenue East Chicago IN 46312 (Affected Party)										
15		Ms. Karen Kroczek 8212 Madison Ave Munster IN 46321-1627 (Affected Party)										

Total number of pieces Listed by Sender	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	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 inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
15			

Mail Code 61-53

IDEM Staff	VHAUN 3/21/2016 Hammond Group, Inc. 089-36936-00219 DRAFT			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		Joseph Hero 11723 S Oakridge Drive St. John IN 46373 (Affected Party)									
2		Gary City Council 401 Broadway # 209 Gary IN 46402 (Local Official)									
3		Ron Novak Hammond Dept. of Environmental Management 5925 Calumnet Ave. Hammond IN 46320 (Local Official)									
4		Mr. Larry Davis 268 South, 600 West Hebron IN 46341 (Affected Party)									
5		Ryan Dave 939 Cornwallis Munster IN 46321 (Affected Party)									
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Total number of pieces Listed by Sender <div style="font-size: 2em; font-weight: bold; text-align: center;">5</div>	Total number of Pieces Received at Post Office	Postmaster, Per (Name of Receiving employee)	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 inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.
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