INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
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(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding a
Transition from a FESOP to a Part 70 Operating Permit

for Hammond Group, Inc. in Lake County

Permit No. 089-33798-00219

The Indiana Department of Environmental Management (IDEM) has received an application from Hammond Group, Inc. located at 2308 165th Street, Hammond for a transition from a Federally Enforceable State Operating Permit Renewal No. F089-14165-00219 issued on September 11, 2008 to a Part 70 Operating Permit. If approved by IDEM's Office of Air Quality (OAQ), this proposed permit would allow Hammond Group, Inc. to transition from its existing FESOP to a Title V Operating Permit and continue to operate its existing stationary Industrial Inorganic Chemicals and Inorganic Pigments Manufacturing Plant.

This draft Part 70 does not contain any new equipment that would emit air pollutants; however, some conditions from previously issued permits/approvals have been corrected, changed or removed. These corrections, changes, and removals may include Title I changes (exchanges that add or modify synthetic minor emission limits). This notice fulfills the public notice procedures to which those conditions are subject. IDEM has reviewed this application, and has developed preliminary findings, consisting of a draft permit and several supporting documents, that would allow for these changes.

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
8380 Louisiana Street
Merrillville, IN 46410

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 **(089-33798-00219)** in all correspondence.

Comments should be sent to:

Swarna Prabha
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for extension (2-4536)
Or dial directly: (317) 234-5376
Fax: (317)-232-6749 attn: (Swarna Prabha)
E-mail: (sprabha@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 you can participate, please see IDEM's **Guide for Citizen Participation** and **Permit Guide** on the Internet at: www.idem.in.gov.

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, and the IDEM public file room on the 12th floor of the Indiana Government Center North, 100 N. Senate Avenue, Indianapolis, Indiana 46204-2251 and IDEM Northwest Regional Office, 8380 Louisiana Street, Merrillville, IN 46410.

If you have any questions please contact Swarna Prabha of my staff at the above address.

Tripurari Sinha

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

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DRAFT

Part 70 Operating Permit
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	
Issued by:	Issuance Date:
Tripurari P. Sinha, Ph. D., Section Chief Permits Branch Office of Air Quality	Expiration Date:

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Attachment A: NESHAP Subpart VVVVVV - Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

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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 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 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

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.

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

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 four (4) baghouse & HEPA systems.

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

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.

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.

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.

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 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.

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

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 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. The material 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.

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.

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.

(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

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

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 which are connected in parallel to the collection ductwork. The system captures 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)]

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.

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:

(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.

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:

(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.

(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;

(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)]

(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
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

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:

(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.

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.

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;

(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

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 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;

(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).

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 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.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Stack ID1-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 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 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, the 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

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.

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.)

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.

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 the Stack ID1-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 to1.0 lbs/hr.

(b) The PM emissions from Stack ID 1-S-52 shall be limited to 1.00 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.

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.1.4 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

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 less than 10 microns in diameter (PM10)

(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 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.

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

Control Unit ID	**Pressure Drop** (inches of water)
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
(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.

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

D.1.11 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).

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

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 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.
(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]

In order to comply with 326 IAC 2-2 PSD Minor limits, 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.

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.

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.2.4 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

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 less than 10 microns in diameter (PM10)

(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 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.

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.

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

D.2.11 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).

(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).

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

SECTION D.3 FACILITY OPERATION CONDITIONS

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

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

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 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 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.

(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.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]

In order to comply with 326 IAC 2-2 PSD Minor limits, 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.

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.

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.3.4 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

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 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.

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	1.0 - 10 / 0.1 - 4.5

Control Unit ID	Pressure Drop (inches of water)
(80-Bag Filter / 80-Bag HEPA)	
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 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.

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

D.3.11 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).

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

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.

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 chemical manufacturing process units.

(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.

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]

In order to comply with 326 IAC 2-2 PSD Minor limits, 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.

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.

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.4.4 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

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 less than 10 microns in diameter (PM10)

(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 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.

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.

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

D.4.11 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) 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).

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

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 chemical manufacturing process units.

(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.

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]

In order to comply with 326 IAC 2-2 PSD Minor limits, 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.

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.

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.5.4 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 Requirements

D.5.5 Particulate Matter less than 10 microns in diameter (PM10)

(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 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.

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.

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

D.5.10 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) 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).

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

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 chemical manufacturing process units.

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 chemical manufacturing process units

(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.

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]

In order to comply with 326 IAC 2-2 PSD Minor limits, 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.

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.

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.6.4 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

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 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.

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.

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

D.6.12 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) 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).

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

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 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. The material 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 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.

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]

In order to comply with 326 IAC 2-2 PSD Minor limits, 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.

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.

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.7.4 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 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 Determination Requirements

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 less than 10 microns in diameter (PM10)

(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.

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.

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.

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

D.7.11 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) 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).

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

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.

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.

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]

In order to comply with 326 IAC 2-2 PSD Minor limits, 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.

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

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.

(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 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.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 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.

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.

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

D.9.8 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).

(c) Section C - General Record Keeping Requirements, of this permit contains the Permittee's

obligations with regard to the records required by this condition.

SECTION D.10 FACILITY OPERATION CONDITIONS – TRIVIAL ACTIVITY

Facility Description :

Stack ID V-1

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 which are connected in parallel to the collection ductwork. The system captures 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 shall be limited to 0.022 gr/dscf and 1.000 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]

In order to comply with 326 IAC 2-2 PSD Minor limits, the Stack ID V-1, PM and PM2.5 emissions shall be limited as follows:

(a) The PM2.5 emissions from shall be limited to 1.000 lbs/hr.

(b) The PM emissions from shall be limited to 1.000 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.

D.10.3 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 V-1 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 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 Requirements

D.10.5 Particulate Matter less than 10 microns in diameter (PM10)

(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 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.

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 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.

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*)

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

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.

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

D.10.10 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 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).

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

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 than 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).

(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.

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. 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 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 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 Truck Loading, Bulk Loading System, & Lead Oxide Bulk Loading – North.

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.

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

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.

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.

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.

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.

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 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.

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. The material 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]

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.

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
(9) Tables 9

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:

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**

☐ This is an emergency as defined in 326 IAC 2-7-1(12)

- 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:

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: _____

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:** _____

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".	
☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
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:	
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: _____

Attachment A
Title V No.: 089-33798-00219

Title 40: Protection of Environment

PART 63—NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS FOR SOURCE CATEGORIES (CONTINUED)

Subpart VVVVVV—National Emissions Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources

SOURCE: 74 FR 56041, Oct. 29, 2009, unless otherwise noted.

Applicability and Compliance Dates

§ 63.11494 What are the applicability requirements and compliance dates?

(a) Except as specified in paragraph (c) of this section, you are subject to this subpart if you own or operate a chemical manufacturing process unit (CMPU) that meets the conditions specified in paragraphs (a)(1) and (2) of this section.

(1) The CMPU is located at an area source of hazardous air pollutant (HAP) emissions.

(2) HAP listed in Table 1 to this subpart (Table 1 HAP) are present in the CMPU, as specified in paragraph (a)(2)(i), (ii), (iii), or (iv) of this section.

(i) The CMPU uses as feedstock, any material that contains quinoline, manganese, and/or trivalent chromium at an individual concentration greater than 1.0 percent by weight, or any other Table 1 HAP at an individual concentration greater than 0.1 percent by weight. To determine the Table 1 HAP content of feedstocks, you may rely on formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet (MSDS) for the material. If the concentration in an MSDS is presented as a range, use the upper bound of the range.

(ii) Quinoline is generated as byproduct and is present in the CMPU in any liquid stream (process or waste) at a concentration greater than 1.0 percent by weight.

(iii) Hydrazine and/or Table 1 organic HAP other than quinoline are generated as byproduct and are present in the CMPU in any liquid stream (process or waste), continuous process vent, or batch process vent at an individual concentration greater than 0.1 percent by weight.

(iv) Hydrazine or any Table 1 HAP is produced as a product of the CMPU.

(b) A CMPU includes all process vessels, equipment, and activities necessary to operate a chemical manufacturing process that produces a material or a family of materials described by North American Industry Classification System (NAICS) code 325. A CMPU consists of one or more unit operations and any associated recovery devices. A CMPU also includes each storage tank, transfer operation, surge control vessel, and bottoms receiver associated with the production of such NAICS code 325 materials.

(c) This subpart does not apply to the operations specified in paragraphs (c)(1) through (6) of this section.

(1) Affected sources under the following chemical manufacturing area source categories listed pursuant to Clean Air Act (CAA) section 112(c)(3) and 112(k)(3)(B)(ii) that are subject to area source standards under this part:

(i) Manufacture of Paint and Allied Products, subject to subpart CCCCCCC of this part.

(ii) Mercury Emissions from Mercury Cell Chlor-Alkali Plants, subject to subpart IIIII of this part.

(iii) Polyvinyl Chloride and Copolymers Production, subject to subpart DDDDDD of this part.

(iv) Acrylic and Modacrylic Fibers Production, subject to subpart LLLLLL of this part.

(v) Carbon Black Production, subject to subpart MMMMMM of this part.

(vi) Chemical Manufacturing Area Sources: Chromium Compounds, subject to subpart NNNNNN of this part.

(vii) Lead oxide production at Lead Acid Battery Manufacturing Facilities, subject to subpart PPPPPP of this part.

(2) Production of the following chemical manufacturing materials described in NAICS code 325:

(i) Manufacture of radioactive elements or isotopes, radium chloride, radium luminous compounds, strontium, uranium.

(ii) Manufacture of photographic film, paper, and plate where the material is coated with or contains chemicals. This subpart does apply to the manufacture of photographic chemicals.

(iii) Fabricating operations (such as spinning or compressing a solid polymer into its end use); compounding operations (in which blending, melting, and resolidification of a solid polymer product occurs for the purpose of incorporating additives, colorants, or stabilizers); and extrusion and drawing operations (converting an already produced solid polymer into a different shape by melting or mixing the polymer and then forcing it or pulling it through an orifice to create an extruded product). An operation is subject if it involves processing with Table 1 HAP solvent or if an intended purpose of the operation is to remove residual Table 1 HAP monomer.

(iv) Manufacture of chemicals classified in NAICS code 325222, 325314, 325413, or 325998.

(3) Research and development facilities, as defined in CAA section 112(c)(7).

(4) Quality assurance/quality control laboratories.

(5) Ancillary activities, as defined in § 63.11502(b).

(6) Metal HAP in structures or existing as articles as defined in 40 CFR 372.3.

(d) This subpart applies to each new or existing affected source. The affected source is the facility-wide collection of CMPUs and each heat exchange system and wastewater system associated with a CMPU that meets the criteria specified in paragraphs (a) and (b) of this section. A CMPU using only Table 1 organic HAP is required to control only total CAA section 112(b) organic HAP. A CMPU using only Table 1 metal HAP is required to control only total CAA section 112(b) metal HAP in accordance with § 63.11495 and, if applicable, § 63.11496(f).

(1) An affected source is an existing source if you commenced construction or reconstruction of the affected source before October 6, 2008.

(2) An affected source is a new source if you commenced construction or reconstruction of the affected source on or after October 6, 2008.

(e) Any area source that installed a federally-enforceable control device on an affected CMPU is required to obtain a permit under 40 CFR part 70 or 40 CFR part 71 if the control device on the affected CMPU is necessary to maintain the source's emissions at area source levels. For new and existing sources subject to this rule on December 21, 2012 and subject to title V as a result of this rule, a complete title V permit application must be submitted no later than December 21, 2013. New and existing sources that become subject to this rule after December 21, 2012 must submit a complete title V permit application no later than 12 months after becoming subject to this rule if the source is subject to title V as a result of this rule. Otherwise, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart.

(f) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions in this subpart no later than March 21, 2013.

(g) If you start up a new affected source on or before October 29, 2009, you must achieve compliance with the applicable provisions of this subpart no later than October 29, 2009.

(h) If you start up a new affected source after October 29, 2009, you must achieve compliance with the provisions in this subpart upon startup of your affected source.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75756, Dec. 21, 2012]

Standards and Compliance Requirements

§ 63.11495 What are the management practices and other requirements?

(a) *Management practices.* If you have a CMPU subject to this subpart, you must comply with paragraphs (a)(1) through (5) of this section.

(1) Each process vessel must be equipped with a cover or lid that must be closed at all times when it is in organic HAP service or metal HAP service, except for manual operations that require access, such as material addition and removal, inspection, sampling and cleaning. This requirement does not apply to process vessels containing only metal HAP that are in a liquid solution or other form that will not result in particulate emissions of metal HAP (e.g., metal HAP that is in ingot, paste, slurry, or moist pellet form or other form).

(2) You must use any of the methods listed in paragraphs (a)(2)(i) through (iv) of this section to control total organic HAP emissions from transfer of liquids containing Table 1 organic HAP to tank trucks or railcars. You are not required to comply with this paragraph (a)(2) if you have notified the Administrator in your initial notification that a material is reactive or resinous, and you will not be able to comply with any of the methods in paragraphs (a)(2)(i) through (iv) of this section for the transfer of such material.

(i) Use submerged loading or bottom loading.

(ii) Route emissions to a fuel gas system or process in accordance with § 63.982(d) of subpart SS.

(iii) Vapor balance back to the storage tank or another storage tank connected by a common header.

(iv) Vent through a closed-vent system to a control device.

(3) You must conduct inspections of process vessels and equipment for each CMPU in organic HAP service or metal HAP service, as specified in paragraphs (a)(3)(i) through (v) of this section, to demonstrate compliance with paragraph (a)(1) of this section and to determine that the process vessels and equipment are sound and free of leaks. Alternatively, except when the subject CMPU contains metal HAP as particulate, inspections may be conducted while the subject process vessels and equipment are in VOC service, provided that leaks can be detected when in VOC service.

(i) Inspections must be conducted at least quarterly.

(ii) For these inspections, detection methods incorporating sight, sound, or smell are acceptable. Indications of a leak identified using such methods constitute a leak unless you demonstrate that the indications of a leak are due to a condition other than loss of HAP. If indications of a leak are determined not to be HAP in one quarterly monitoring period, you must still perform the inspection and demonstration in the next quarterly monitoring period.

(iii) As an alternative to conducting inspections, as specified in paragraph (a)(3)(ii) of this section, you may use Method 21 of 40 CFR part 60, appendix A-7, with a leak definition of 500 ppmv to detect leaks. You may also use Method 21 with a leak definition of 500 ppmv to determine if indications of a leak identified during an inspection conducted in accordance with paragraph (a)(3)(ii) of this section are due to a condition other than loss of HAP. The procedures in this paragraph (a)(3)(iii) may not be used as an alternative to the inspection required by paragraph (a)(3)(ii) of this section for process vessels that contain metal HAP as particulate.

(iv) Inspections must be conducted while the subject CMPU is operating.

(v) No inspection is required in a calendar quarter during which the subject CMPU does not operate for the entire calendar quarter and is not in organic HAP service or metal HAP service. If the CMPU operates at all during a calendar quarter, an inspection is required.

(4) You must repair any leak within 15 calendar days after detection of the leak, or document the reason for any delay of repair. For the purposes of this paragraph (a)(4), a leak will be considered “repaired” if a condition specified in paragraph (a)(4)(i), (ii), or (iii) of this section is met.

(i) The visual, audible, olfactory, or other indications of a leak to the atmosphere have been eliminated, or

(ii) No bubbles are observed at potential leak sites during a leak check using soap solution, or

(iii) The system will hold a test pressure.

(5) You must keep records of the dates and results of each inspection event, the dates of equipment repairs, and, if applicable, the reasons for any delay in repair.

(b) *Small heat exchange systems.* For each heat exchange system subject to this subpart with a cooling water flow rate less than 8,000 gallons per minute (gal/min) and not meeting one or more of the conditions in § 63.104(a), you must comply with paragraphs (b)(1) through (3) of this section, or as an alternative, you may comply with any one of the requirements in Item 1.a or 1.b of Table 8 to this subpart.

(1) You must develop and operate in accordance with a heat exchange system inspection plan. The plan must describe the inspections to be performed that will provide evidence of hydrocarbons in the cooling water. Among other things, inspections may include checks for visible floating hydrocarbon on the water, hydrocarbon odor, discolored water, and/or chemical addition rates. You must conduct inspections at least once per quarter, even if the previous inspection determined that the indications of a leak did not constitute a leak as defined by § 63.104(b)(6).

(2) You must perform repairs to eliminate the leak and any indications of a leak or demonstrate that the HAP concentration in the cooling water does not constitute a leak, as defined by § 63.104(b)(6), within 45 calendar days after indications of the leak are identified, or you must document the reason for any delay of repair in your next semiannual compliance report.

(3) You must keep records of the dates and results of each inspection, documentation of any demonstrations that indications of a leak do not constitute a leak, the dates of leak repairs, and, if applicable, the reasons for any delay in repair.

(c) *Startup, shutdown and malfunction.* Startup, shutdown, and malfunction (SSM) provisions in subparts that are referenced in paragraphs (a) and (b) of this section do not apply.

(d) *General duty.* At all times, you must operate and maintain any affected CMPU, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator, which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the CMPU.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75756, Dec. 21, 2012]

§ 63.11496 What are the standards and compliance requirements for process vents?

(a) *Organic HAP emissions from batch process vents.* You must comply with the requirements in paragraphs (a)(1) through (4) of this section for organic HAP emissions from your batch process vents for each CMPU using Table 1 organic HAP. If uncontrolled organic HAP emissions from all batch process vents from a CMPU subject to this subpart are equal to or greater than 10,000 pounds per year (lb/yr), you must also comply with the emission limits and other requirements in Table 2 to this subpart.

(1) You must determine the sum of actual organic HAP emissions from all of your batch process vents within a CMPU subject to this subpart using process knowledge, engineering assessment, or test data. Emissions for a standard batch in a process may be used to represent actual emissions from each batch in that process. You must maintain records of the calculations. Calculations of annual emissions are not required if you meet the emission standards for batch process vents in Table 2 to this subpart.

(2) As an alternative to calculating actual emissions for each affected CMPU at your facility, you may elect to estimate emissions for each CMPU based on the emissions for the worst-case CMPU. The worst-case CMPU means the CMPU at the affected source with the highest organic HAP emissions per batch. The worst-case emissions per batch are used with the number of batches run for other affected CMPU. Process knowledge, engineering assessment, or test data may be used to identify the worst-case process. You must keep records of the information and procedures used to identify the worst-case process.

(3) If your current estimate is that emissions from batch process vents from a CMPU are less than 10,000 pounds per year (lb/yr), then you must keep a record of the number of batches of each process operated per month. Also, you must reevaluate your total emissions from batch process vents prior to making any process changes that affect emission calculations in paragraphs (a)(1) and (2) of this section.

If projected emissions increase to 10,000 lb/yr or more, you must be in compliance options for batch process vents in Table 2 to this subpart upon initiating operation under the new operating conditions. You must maintain records documenting the results of all updated emissions calculations.

(4) As an alternative to determining the HAP emissions, you may elect to demonstrate that the amount of organic HAP used in the process is less than 10,000 lb/yr. You must keep monthly records of the organic HAP usage.

(b) *Organic HAP emissions from continuous process vents.* You must comply with the requirements in paragraphs (b)(1) through (3) of this section for organic HAP emissions from your continuous process vents for each CMPU subject to this subpart using Table 1 organic HAP. If the total resource-effectiveness (TRE) index value for a continuous process vent is less than or equal to 1.0, you must also comply with the emission limits and other requirements in Table 3 to this subpart.

(1) You must determine the TRE index value according to the procedures in § 63.115(d), except as specified in paragraphs (b)(1)(i) through (iii) of this section.

(i) You are not required to calculate the TRE index value if you control emissions in accordance with Table 3 to this subpart.

(ii) Sections 63.115(d)(1)(i) and (ii) are not applicable for the purposes of this paragraph (b)(1)(ii).

(iii) You may assume the TRE for a vent stream is > 1.0 if the amount of organic HAP emitted in the vent stream is less than 0.1 pound per hour.

(2) If the current TRE index value is greater than 1, you must recalculate the TRE index value before you make any process or operational change that affects parameters in the calculation. If the recalculated TRE is less than or equal to 1.0, then you must comply with one of the compliance options for continuous process vents in Table 3 to this subpart before operating under the new operating conditions. You must maintain records of all TRE calculations.

(3) If a recovery device as defined in § 63.11502 is used to maintain the TRE index value at a level greater than 1.0 and less than or equal to 4.0, you must comply with § 63.982(e) and the requirements specified therein.

(c) *Combined streams.* If you combine organic HAP emissions from batch process vents and continuous process vents, you must comply with the more stringent standard in Table 2 or Table 3 to this subpart that applies to any portion of the combined stream, or you must comply with Table 2 for the batch process vents and Table 3 for the continuous process vents. The TRE index value for continuous process vents and the annual emissions from batch process vents shall be determined for the individual streams before they are combined, and prior to any control (e.g., by subtracting any emission contributions from storage tanks, continuous process vents or batch process vents, as applicable), in order to determine the most stringent applicable requirements.

(d) *Halogenated streams.* You must determine if an emission stream is a halogenated vent stream by calculating the mass emission rate of halogen atoms in accordance with § 63.115(d)(2)(v). Alternatively, you may elect to designate the emission stream as halogenated. If you use a combustion device to comply with the emission limits for organic HAP from a halogenated batch process vent or a halogenated continuous process vent, you must use a halogen reduction device to meet the emission limit in either paragraph (d)(1) or (d)(2) of this section and in accordance with § 63.994 and the requirements referenced therein.

(1) Reduce overall emissions of hydrogen halide and halogen HAP after the combustion device by greater than or equal to 95 percent, to less than or equal to 0.45 kilograms per hour (kg/hr), or to a concentration less than or equal to 20 parts per million by volume (ppmv).

(2) Reduce the halogen atom mass emission rate before the combustion device to less than or equal to 0.45 kg/hr or to a concentration less than or equal to 20 ppmv.

(e) *Alternative standard for organic HAP.* Exceptions to the requirements for the alternative standard requirements specified in Tables 2 and 3 to this subpart and § 63.2505 are specified in paragraphs (e)(1) through (6) of this section.

(1) When § 63.2505 of subpart FFFF refers to Tables 1 and 2 to subpart FFFF and §§ 63.2455 and 63.2460, it means Tables 2 and 3 to this subpart and § 63.11496(a) and (b).

(2) Sections 63.2505(a)(2) and (b)(9) do not apply.

(3) When § 63.2505(b) references § 63.2445 it means § 63.11494(f) through (h).

(4) The requirements for hydrogen halide and halogen HAP apply only to hydrogen halide and halogen HAP generated in a combustion device that is used to comply with the alternative standard.

(5) When § 63.1258(b)(5)(ii)(B)(*2*) refers to a “notification of process change” report, it means the semi-annual compliance report required by § 63.11501(d) for the purposes of this subpart.

(6) CEMS requirements and data reduction requirements for CEMS specified in § 63.2450(j) apply.

(f) *Emissions from metal HAP process vents.* You must comply with the requirements in paragraphs (f)(1) and (2) of this section for metal HAP emissions from each CMPU using Table 1 metal HAP. If the collective uncontrolled metal HAP emissions from all metal HAP process vents from a CMPU are equal to or greater than 400 lb/yr, then you must also comply with the emission limits and other requirements in Table 4 to this subpart and in paragraph (f)(3), (4), or (5) of this section. The requirements of this paragraph (f) do not apply to metal HAP process vents from CMPU containing only metal HAP that are in a liquid solution or other form that will not result in particulate emissions of metal HAP (e.g., metal HAP that is in ingot, paste, slurry, or moist pellet form or other form).

(1) You must determine the sum of metal HAP emissions from all metal HAP process vents within a CMPU subject to this subpart, except you are not required to determine the annual emissions if you control the metal HAP process vents within a CMPU in accordance with Table 4 to this subpart or if you determine your total metal HAP usage in the process unit is less than 400 lb/yr. To determine the mass emission rate you may use process knowledge, engineering assessment, or test data. You must keep records of the emissions calculations.

(2) If your current estimate is that total uncontrolled metal HAP emissions from a CMPU subject to this subpart are less than 400 lb/yr, then you must keep records of either the number of batches operated per month (batch vents) or the process operating hours (continuous vents). Also, you must reevaluate your total emissions before you make any process or operational change that affects emissions of metal HAP. If projected emissions increase to 400 lb/yr or more, then you must be in compliance with one of the options for metal HAP process vents in Table 4 to this subpart upon initiating operation under the new operating conditions. You must keep records of all recalculated emissions determinations.

(3) If you have an existing source subject to the HAP metals emission limits specified in Table 4 to this subpart, you must comply with the initial compliance and monitoring requirements in paragraphs

(f)(3)(i) through (iii) of this section. You must keep records of monitoring results to demonstrate continuous compliance.

(i) You must prepare a monitoring plan containing the information in paragraphs (f)(3)(i)(A) through (E) of this section. The plan must be maintained on-site and be available on request. You must operate and maintain the control device according to a site-specific monitoring plan at all times.

(A) A description of the device;

(B) Results of a performance test or engineering assessment conducted in accordance with paragraph (f)(3)(ii) of this section verifying the performance of the device for reducing HAP metals or particulate matter (PM) to the levels required by this subpart;

(C) Operation and maintenance plan for the control device (including a preventative maintenance schedule consistent with the manufacturer's instructions for routine and long-term maintenance) and continuous monitoring system (CMS).

(D) A list of operating parameters that will be monitored to maintain continuous compliance with the applicable emissions limits; and

(E) Operating parameter limits based on either monitoring data collected during the performance test or established in the engineering assessment.

(ii) You must conduct a performance test or an engineering assessment for each CMPU subject to a HAP metals emissions limit in Table 4 to this subpart and report the results in your Notification of Compliance Status (NOCS). Each performance test or engineering assessment must be conducted under representative operating conditions, and sampling for each performance test must be conducted at both the inlet and outlet of the control device. Upon request, you shall make available to the Administrator such records as may be necessary to determine the conditions of performance tests. If you own or operate an existing affected source, you are not required to conduct a performance test if a prior performance test was conducted within the 5 years prior to the effective date using the same methods specified in paragraph (f)(3)(iii) of this section, and, either no process changes have been made since the test, or, if you can demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process changes.

(iii) If you elect to conduct a performance test, it must be conducted according to requirements in § 63.11410(j)(1). As an alternative to conducting a performance test using Method 5 or 5D to determine the concentration of PM, you may use Method 29 in 40 CFR part 60, appendix A-8 to determine the concentration of HAP metals. You have demonstrated initial compliance if the overall reduction of either HAP metals or total PM is equal to or greater than 95 percent.

(4) If you have a new source using a baghouse as a control device, you must install, operate, and maintain a bag leak detection system on all baghouses used to comply with the HAP metals emissions limit in Table 4 to this subpart. You must comply with the testing, monitoring, and recordkeeping requirements in § 63.11410(g), (i), and (j)(1), except you are not required to submit the monitoring plan required by § 63.11410(g)(2) for approval.

(5) If you have a new source using a control device other than a baghouse to comply with the HAP metals emission limits in Table 4 to this subpart, you must comply with the initial compliance and monitoring requirements in paragraphs (f)(3)(i) through (iii) of this section.

(g) *Exceptions and alternatives to 40 CFR part 63, subpart SS.* If you are complying with the emission limits and other requirements for continuous process vents in Table 3 to this subpart, the

provisions in paragraphs (g)(1) through (7) and (9) of this section apply in addition to the provisions in 40 CFR part 63, subpart SS. If you are complying with the emission limits and other requirements for batch process vents in Table 2 to this subpart, the provisions in paragraphs (g)(1) through (8) of this section apply in addition to the provisions in subpart SS.

(1) *Requirements for performance tests.* (i) The requirements specified in § 63.2450(g)(1) through (4) apply instead of, or in addition to, the requirements specified in 40 CFR part 63, subpart SS.

(ii) Upon request, you shall make available to the Administrator, such records as may be necessary to determine the conditions of performance tests.

(2) *Design evaluation.* To determine initial compliance with a percent reduction or outlet concentration emission limit, you may elect to conduct a design evaluation as specified in § 63.1257(a)(1) instead of a performance test as specified in subpart SS of this part 63. You must establish the value(s) and basis for the operating limits as part of the design evaluation. For continuous process vents, the design evaluation must be conducted at maximum representative operating conditions for the process, unless the Administrator specifies or approves alternate operating conditions. For batch process vents, the design evaluation must be conducted under worst-case conditions, as specified in § 63.2460(c)(2).

(3) *Outlet concentration correction for combustion devices.* When § 63.997(e)(2)(iii)(C) requires you to correct the measured concentration at the outlet of a combustion device to 3 percent oxygen if you add supplemental combustion air, the requirements in either paragraph (g)(3)(i) or (g)(3)(ii) of this section apply for the purposes of this subpart.

(i) You must correct the concentration in the gas stream at the outlet of the combustion device to 3 percent oxygen if you add supplemental gases, as defined in § 63.2550, to the vent stream, or;

(ii) You must correct the measured concentration for supplemental gases using Equation 1 of § 63.2460; you may use process knowledge and representative operating data to determine the fraction of the total flow due to supplemental gas.

(4) *Continuous parameter monitoring.* The provisions in § 63.2450(k)(1) through (6) apply in addition to the requirements for continuous parameter monitoring systems (CPMS) in subpart SS of this part 63, except as specified in paragraphs (g)(4)(i) and (ii) of this section.

(i) You may measure pH or caustic strength of the scrubber effluent at least once per day for any halogen scrubber within a CMPU subject to this rule.

(ii) The requirements in § 63.2450(k)(6) to request approval of a procedure to monitor operating parameters does not apply for the purposes of this subpart. You must provide the required information in your NOCS report required by § 63.11501(b).

(5) *Startup, shutdown, malfunction (SSM).* Sections 63.996(c)(2)(ii) and 63.998(b)(2)(iii), (b)(6)(i)(A), (c)(1)(ii)(E) and (d)(3) do not apply for the purposes of this subpart.

(6) *Excused excursions.* Excused excursions, as defined in subpart SS of this part 63, are not allowed.

(7) *Energetics and organic peroxides.* If an emission stream contains energetics or organic peroxides that, for safety reasons, cannot meet an applicable emission limit specified in this subpart, then you must submit an application to the Administrator explaining why an undue safety hazard would be created if the air emission controls were installed, and you must describe the procedures that you will

implement to minimize HAP emissions from these vent streams in lieu of the emission limitations in this section.

(8) *Additional requirements for batch process vents.* The provisions specified in § 63.2460(c) apply in addition to the provisions in subpart SS of this part 63, except as specified in paragraphs (g)(8)(i) through (iii) of this section.

(i) References to emission limits in Table 2 to subpart FFFF mean the emission limits in Table 2 to this subpart.

(ii) References to MCPU mean CMPU for purposes of this subpart.

(iii) Section 63.2460(c)(8) does not apply for the purposes of this subpart.

(9) *Parameter monitoring averaging periods.* Daily averages required in § 63.998(b)(3) apply at all times except during startup and shutdown. Separate averages shall be determined for each period of startup and period of shutdown.

(h) *Surge control vessels and bottoms receivers.* For each surge control vessel and bottoms receiver that meets the applicability criteria for storage tanks specified in Table 5 to this subpart, you must meet the emission limits and control requirements specified in Table 5 to this subpart.

(i) *Startup, shutdown, and malfunction (SSM).* References to SSM provisions in subparts that are referenced in paragraphs (a) through (h) of this section or Tables 2 through 5 to this subpart do not apply.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75757, Dec. 21, 2012]

§ 63.11497 What are the standards and compliance requirements for storage tanks?

(a) You must comply with the emission limits and other requirements in Table 5 to this subpart and in paragraph (b) of this section for organic HAP emissions from each of your storage tanks that meet the applicability criteria in Table 5 to this subpart.

(b) *Planned routine maintenance for a control device.* Operate in accordance with paragraphs (b)(1) through (3) of this section for periods of planned routine maintenance of a control device for storage tanks.

(1) Add no material to the storage tank during periods of planned routine maintenance.

(2) Limit periods of planned routine maintenance for each control device (or series of control devices) to no more than 240 hours per year (hr/yr), or submit an application to the Administrator requesting an extension of this time limit to a total of 360 hr/yr. The application must explain why the extension is needed and it must be submitted at least 60 days before the 240-hour limit will be exceeded.

(3) Keep records of the day and time at which planned routine maintenance periods begin and end, and keep a record of the type of maintenance performed.

(c) References to SSM provisions in subparts that are referenced in paragraphs (a) or (b) of this section or Table 5 to this subpart do not apply.

(d) *Combustion of halogenated streams.* If you use a combustion device to comply with the emission limits for organic HAP from a halogenated vent stream from a storage tank, you must reduce emissions in accordance with § 63.11496(d) and the requirements referenced therein.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75757, Dec. 21, 2012]

§ 63.11498 What are the standards and compliance requirements for wastewater systems?

(a) You must comply with the requirements in paragraph (a)(1) and (2) of this section and in Table 6, Item 1 to this subpart for all wastewater streams from a CMPU subject to this subpart. If the partially soluble HAP concentration in a wastewater stream is equal to or greater than 10,000 parts per million by weight (ppmw) and the wastewater stream contains a separate organic phase, then you must also comply with Table 6, Item 2 to this subpart for that wastewater stream. Partially soluble HAP are listed in Table 7 to this subpart.

(1) Except as specified in paragraph (a)(2) of this section, you must determine the total concentration of partially soluble HAP in each wastewater stream using process knowledge, engineering assessment, or test data. Also, you must reevaluate the concentration of partially soluble HAP if you make any process or operational change that affects the concentration of partially soluble HAP in a wastewater stream.

(2) You are not required to determine the partially soluble concentration in wastewater that is hard piped to a combustion unit or hazardous waste treatment unit, as specified in Table 6, Item 2.b to this subpart.

(3) Separated organic material that is recycled to a process is no longer wastewater and no longer subject to the wastewater requirements after it has been recycled.

(b) The requirements in Item 2 of Table 6 to this subpart do not apply during periods of startup or shutdown. References to SSM provisions in subparts that are referenced in paragraph (a) of this section or Table 6 to this subpart do not apply.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75757, Dec. 21, 2012]

§ 63.11499 What are the standards and compliance requirements for heat exchange systems?

(a) If the cooling water flow rate in your heat exchange system is equal to or greater than 8,000 gal/min and is not meeting one or more of the conditions in § 63.104(a), then you must comply with one of the requirements specified in Table 8 to this subpart.

(b) For equipment that meets Current Good Manufacturing Practice (CGMP) requirements of 21 CFR part 211, you may use the physical integrity of the reactor as the surrogate indicator of heat exchanger system leaks when complying with Item 1.a in Table 8 to this subpart.

(c) Any reference to SSM provisions in other subparts that are referenced in paragraphs (a) and (b) of this section or Table 8 to this subpart do not apply.

§ 63.11500 What compliance options do I have if part of my plant is subject to both this subpart and another Federal standard?

For any CMPU, heat exchange system, or wastewater system subject to the provisions of both this subpart and another rule, you may elect to comply only with the more stringent provisions as specified in paragraphs (a) through (d) of this section. You must consider all provisions of the rules, including

monitoring, recordkeeping, and reporting. You must identify the subject CMPU, heat exchange system, and/or wastewater system, and the provisions with which you will comply in your NOCS report required by § 63.11501(b). You also must demonstrate in your NOCS report that each provision with which you will comply is at least as stringent as the otherwise applicable requirement in this subpart VVVVVV. You are responsible for making accurate determinations concerning the more stringent standards and noncompliance with this rule is not excused if it is later determined that your determination was in error and, as a result, you are violating this subpart. Compliance with this rule is your responsibility and the NOCS report does not alter or affect that responsibility.

(a) *Compliance with other subparts of this part 63.* (1) If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of another subpart of 40 CFR part 63, then compliance with any of the requirements in the other subpart of this part 63 that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

(2) After the compliance dates specified in § 63.11494, at an offsite reloading or cleaning facility subject to § 63.1253(f), as referenced from § 63.2470(e) and Table 4 to subpart VVVVVV, compliance with the monitoring, recordkeeping, and reporting provisions of any other subpart of this part 63 constitutes compliance with the monitoring, recordkeeping, and reporting provisions of § 63.1253(f)(7)(ii) or (iii). You must identify in your notification of compliance status report required by § 63.11501(b) the subpart of this part 63 with which the owner or operator of the offsite reloading or cleaning facility complies.

(b) *Compliance with subparts of 40 CFR part 60.* If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of subpart VV, DDD, III, NNN, RRR, or YYY in 40 CFR part 60, then compliance with any of the requirements in 40 CFR part 60, subpart VV, DDD, III, NNN, RRR, or YYY that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

(c) *Compliance with subparts of 40 CFR part 61.* If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of subpart V, Y, BB, or FF of 40 CFR part 61, then compliance with any of the requirements in 40 CFR part 61, subpart V, Y, BB, or FF that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

(d) *Compliance with 40 CFR parts 260 through 272.* If any part of a CMPU that is subject to the provisions of this subpart is also subject to the provisions of 40 CFR parts 260 through 272, then compliance with any of the requirements in 40 CFR part 260 through 272 rule that are at least as stringent as the corresponding requirements in this subpart VVVVVV constitutes compliance with this subpart VVVVVV.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75757, Dec. 21, 2012]

§ 63.11501 What are the notification, recordkeeping, and reporting requirements, and how may I assert an affirmative defense for violation of emission standards during malfunction?

(a) *General provisions.* You must meet the requirements of the General Provisions in 40 CFR part 63, subpart A, as shown in Table 9 to this subpart. The General Provisions in other parts do not apply except when a requirement in an overlapping standard, which you determined is at least as stringent as subpart VVVVVV and with which you have opted to comply, requires compliance with general provisions in another part.

(b) *Notification of compliance status (NOCS).* Your NOCS required by § 63.9(h) must include the following additional information as applicable:

(1) This certification of compliance, signed by a responsible official:

(i) “This facility complies with the management practices in § 63.11495.”

(ii) “This facility complies with the requirements in § 63.11496 for HAP emissions from process vents.”

(iii) “This facility complies with the requirements in § 63.11496 and § 63.11497 for surge control vessels, bottoms receivers, and storage tanks.”

(iv) “This facility complies with the requirements in § 63.11498 to treat wastewater streams.”

(v) “This facility complies with the requirements in § 63.11499 for heat exchange systems.”

(2) If you comply with the alternative standard as specified in Table 2 to this subpart or Table 3 to this subpart, include the information specified in § 63.1258(b)(5), as applicable.

(3) If you establish an operating limit for a parameter that will not be monitored continuously in accordance with §§ 63.11496(g)(4) and 63.2450(k)(6), provide the information as specified in §§ 63.11496(g)(4) and 63.2450(k)(6).

(4) A list of all transferred liquids that are reactive or resinous materials, as defined in § 63.11502(b).

(5) If you comply with provisions in an overlapping rule in accordance with § 63.11500, identify the affected CMPU, heat exchange system, and/or wastewater system; provide a list of the specific provisions with which you will comply; and demonstrate that the provisions with which you will comply are at least as stringent as the otherwise applicable requirements, including monitoring, recordkeeping, and reporting requirements, in this subpart VVVVVV.

(c) *Recordkeeping.* You must maintain files of all information required by this subpart for at least 5 years following the date of each occurrence according to the requirements in § 63.10(b)(1). If you are subject, you must comply with the recordkeeping and reporting requirements of § 63.10(b)(2)(iii) and (vi) through (xiv), and the applicable requirements specified in paragraphs (c)(1) through (8) of this section.

(1) For each CMPU subject to this subpart, you must keep the records specified in paragraphs (c)(1)(i) through (viii) of this section.

(i) Records of management practice inspections, repairs, and reasons for any delay of repair, as specified in § 63.11495(a)(5).

(ii) Records of small heat exchange system inspections, demonstrations of indications of leaks that do not constitute leaks, repairs, and reasons for any delay in repair as specified in § 63.11495(b).

(iii) If batch process vent emissions are less than 10,000 lb/yr for a CMPU, records of batch process vent emission calculations, as specified in § 63.11496(a)(1), the number of batches operated each month, as specified in § 63.11496(a)(3), and any updated emissions calculations, as specified in § 63.11496(a)(3). Alternatively, keep records of the worst-case processes or organic HAP usage, as specified in § 63.11496(a)(2) and (4), respectively.

(iv) Records of all TRE calculations for continuous process vents as specified in § 63.11496(b)(2).

(v) Records of metal HAP emission calculations as specified in § 63.11496(f)(1) and (2). If total uncontrolled metal HAP process vent emissions from a CMPU subject to this subpart are estimated to be less than 400 lb/yr, also keep records of either the number of batches per month or operating hours, as specified in § 63.11496(f)(2).

(vi) Records identifying wastewater streams and the type of treatment they receive, as specified in Table 6 to this subpart.

(vii) Records of the date, time, and duration of each malfunction of operation of process equipment, control devices, recovery devices, or continuous monitoring systems used to comply with this subpart that causes a failure to meet a standard. The record must include a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over the standard, and a description of the method used to estimate the emissions.

(viii) Records of actions taken during periods of malfunction to minimize emissions in accordance with § 63.11495(d), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(2) For batch process vents subject to Table 2 to this subpart and continuous process vents subject to Table 3 to this subpart, you must keep records specified in paragraphs (c)(2)(i) or (ii) of this section, as applicable.

(i) If you route emissions to a control device other than a flare, keep records of performance tests, if applicable, as specified in § 63.998(a)(2)(ii) and (4), keep records of the monitoring system and the monitored parameters, as specified in § 63.998(b) and (c), and keep records of the closed-vent system, as specified in § 63.998(d)(1). If you use a recovery device to maintain the TRE above 1.0 for a continuous process vent, keep records of monitoring parameters during the TRE index value determination, as specified in § 63.998(a)(3).

(ii) If you route emissions to a flare, keep records of the flare compliance assessment, as specified in § 63.998(a)(1)(i), keep records of the pilot flame monitoring, as specified in § 63.998(a)(1)(ii) and (iii), and keep records of the closed-vent system, as specified in § 63.998(d)(1).

(3) For metal HAP process vents subject to Table 4 to this subpart, you must keep records specified in paragraphs (c)(3)(i) or (ii) of this section, as applicable.

(i) For a new source using a control device other than a baghouse and for any existing source, maintain a monitoring plan, as specified in § 63.11496(f)(3)(i), and keep records of monitoring results, as specified in § 63.11496(f)(3).

(ii) For a new source using a baghouse to control metal HAP emissions, keep a site-specific monitoring plan, as specified in §§ 63.11496(f)(4) and 63.11410(g), and keep records of bag leak detection systems, as specified in §§ 63.11496(f)(4) and 63.11410(g)(4).

(4) For each storage tank subject to Table 5 to this subpart, you must keep records specified in paragraphs (c)(4)(i) through (vi) of this section, as applicable.

(i) Keep records of the vessel dimensions, capacity, and liquid stored, as specified in § 63.1065(a).

(ii) Keep records of each inspection of an internal floating roof, as specified in § 63.1065(b)(1).

(iii) Keep records of each seal gap measurement for external floating roofs, as specified in § 63.1065(b)(2), and keep records of inspections of external floating roofs, as specified in § 63.1065(b)(1).

(iv) If you vent emissions to a control device other than a flare, keep records of the operating plan and measured parameter values, as specified in §§ 63.985(c) and 63.998(d)(2).

(v) If you vent emissions to a flare, keep records of all periods of operation during which the flare pilot flame is absent, as specified in §§ 63.987(c) and 63.998(a)(1), and keep records of closed-vent systems, as specified in § 63.998(d)(1).

(vi) For periods of planned routine maintenance of a control device, keep records of the day and time at which each maintenance period begins and ends, and keep records of the type of maintenance performed, as specified in § 63.11497(b)(3).

(5) For each wastewater stream subject to Item 2 in Table 6 to this subpart, keep records of the wastewater stream identification and the disposition of the organic phase(s), as specified in Item 2 to Table 6 to this subpart.

(6) For each large heat exchange system subject to Table 8 to this subpart, you must keep records of detected leaks; the date the leak was detected; if demonstrated not to be a leak, the basis for that determination; the date of efforts to repair the leak; and the date the leak is repaired, as specified in Table 8 to this subpart.

(7) You must keep a record of all transferred liquids that are reactive or resinous materials, as defined in § 63.11502(b), and not included in the NOCS.

(8) For continuous process vents subject to Table 3 to this subpart, keep records of the occurrence and duration of each startup and shutdown of operation of process equipment, or of air pollution control and monitoring equipment.

(d) *Semiannual Compliance Reports.* You must submit semiannual compliance reports that contain the information specified in paragraphs (d)(1) through (7) of this section, as applicable. Reports are required only for semiannual periods during which you experienced any of the events described in paragraphs (d)(1) through (8) of this section.

(1) *Deviations.* You must clearly identify any deviation from the requirements of this subpart.

(2) *Delay of repair for a large heat exchange system.* You must include the information specified in § 63.104(f)(2) each time you invoke the delay of repair provisions for a heat exchange system with a cooling water flow rate equal to or greater than 8,000 gal/min.

(3) *Delay of leak repair.* You must provide the following information for each delay of leak repair beyond 15 days for any process equipment, storage tank, surge control vessel, bottoms receiver, and each delay of leak repair beyond 45 days for any heat exchange system with a cooling water flow rate less than 8,000 gal/min: information on the date the leak was identified, the reason for the delay in repair, and the date the leak was repaired.

(4) *Process change.* You must report each process change that affects a compliance determination and submit a new certification of compliance with the applicable requirements in accordance with the procedures specified in paragraph (b) of this section.

(5) *Data for the alternative standard.* If you comply with the alternative standard, as specified in Table 2 to this subpart or Table 3 to this subpart, report the information required in § 63.1258(b)(5).

(6) *Overlapping rule requirements.* Report any changes in the overlapping provisions with which you comply.

(7) *Reactive and resinous materials.* Report any transfer of liquids that are reactive or resinous materials, as defined in § 63.11502(b), and not included in the NOCS.

(8) *Malfunctions.* If a malfunction occurred during the reporting period, the report must include the number of instances of malfunctions that caused emissions in excess of a standard. For each malfunction that caused emissions in excess of a standard, the report must include a list of the affected sources or equipment, an estimate of the volume of each regulated pollutant emitted over the standard, and a description of the method used to estimate the emissions. The report must also include a description of actions you took during a malfunction of an affected source to minimize emissions in accordance with § 63.11495(d), including actions taken to correct a malfunction.

(e) *Affirmative defense for violation of emission standards during malfunction.* In response to an action to enforce the standards set forth in §§ 63.11495 through 63.11499, you may assert an affirmative defense to a claim for civil penalties for violations of such standards that are caused by malfunction, as defined at 40 CFR 63.2. Appropriate penalties may be assessed if you fail to meet your burden of proving all of the requirements in the affirmative defense. The affirmative defense shall not available for claims for injunctive relief.

(1) To establish the affirmative defense in any action to enforce such a standard, you must timely meet the notification requirements in paragraph (e)(2) of this section, and must prove by a preponderance of evidence that:

(i) The violation:

(A) Was caused by a sudden, infrequent, and unavoidable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner; and

(B) Could not have been prevented through careful planning, proper design, or better operation and maintenance practices; and

(C) Did not stem from any activity or event that could have been foreseen and avoided, or planned for; and

(D) Was not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and

(ii) Repairs were made as expeditiously as possible when a violation occurred. Off-shift and overtime labor were used, to the extent practicable to make these repairs; and

(iii) The frequency, amount, and duration of the violation (including any bypass) were minimized to the maximum extent practicable; and

(iv) If the violation resulted from a bypass of control equipment or a process, then the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; and

(v) All possible steps were taken to minimize the impact of the violation on ambient air quality, the environment and human health; and

(vi) All emissions monitoring and control systems were kept in operation if at all possible, consistent with safety and good air pollution control practices; and

(vii) All of the actions in response to the violation were documented by properly signed, contemporaneous operating logs; and

(viii) At all times, the affected CMPU was operated in a manner consistent with good practices for minimizing emissions; and

(ix) A written root cause analysis has been prepared, the purpose of which is to determine, correct, and eliminate the primary causes of the malfunction and the violation resulting from the malfunction event at issue. The analysis must also specify, using best monitoring methods and engineering judgment, the amount of any emissions that were the result of the malfunction.

(2) *Report.* If you seek to assert an affirmative defense, you must submit a written report to the Administrator, with all necessary supporting documentation, that you have met the requirements set forth in paragraph (e)(1) of this section. This affirmative defense report must be included in the first periodic compliance report, deviation report, or excess emission report otherwise required after the initial occurrence of the violation of the relevant standard (which may be the end of any applicable averaging period). If such compliance report, deviation report, or excess emission report is due less than 45 days after the initial occurrence of the violation, the affirmative defense report may be included in the second compliance report, deviation report, or excess emission report due after the initial occurrence of the violation of the relevant standard.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75758, Dec. 21, 2012]

Other Requirements and Information

§ 63.11502 What definitions apply to this subpart?

(a) The following terms used in this subpart have the meaning given them in the CAA, § 63.2, subpart SS (§ 63.981), subpart WW (§ 63.1061), 40 CFR 60.111b, subpart F (§ 63.101), subpart G (§ 63.111), subpart FFFF (§ 63.2550), as specified after each term:

Administrator (§ 63.2)

Article (40 CFR 372.3)

Batch operation (§ 63.2550)

Boiler (§ 63.111)

Bottoms receiver (§ 63.2550)

CAA (§ 63.2)

Closed-vent system (§ 63.981)

Combustion device (§ 63.111)

Commenced (§ 63.2)

Compliance date (§ 63.2)

Container (§ 63.111)

Continuous monitoring system (§ 63.2)

Continuous operation (§ 63.2550)

Control device (§ 63.111)

Distillation unit (§ 63.111)

Emission standard (§ 63.2)

EPA (§ 63.2)

Fill or filling (§ 63.111)

Floating roof (§ 63.1061)

Fuel gas system (§ 63.981)

Halogen atoms (§ 63.2550)

Halogenated vent stream (§ 63.2550)

Halogens and hydrogen halides (§ 63.2550)

Hazardous air pollutant (§ 63.2)

Heat exchange system (§ 63.101)

Incinerator (§ 63.111)

Isolated intermediate (§ 63.2550)

Maintenance wastewater (§ 63.2550)

Major source (§ 63.2)

Maximum true vapor pressure (§ 63.111)

Oil-water separator or organic-water separator (§ 63.111)

Operating permit (§ 63.101)

Owner or operator (§ 63.2)

Performance test (§ 63.2)

Permitting authority (§ 63.2)

Process condenser (§ 63.2550)

Process heater (§ 63.111)

Process tank (§ 63.2550)

Process wastewater (§ 63.101)

Reactor (§ 63.111)

Responsible official (§ 63.2)

State (§ 63.2)

Supplemental gases (§ 63.2550)

Surge control vessel (§ 63.2550)

Test method (§ 63.2)

Unit operation (§ 63.101)

(b) All other terms used in this subpart shall have the meaning given them in this section. If a term is defined in the CAA, § 63.2, subpart SS (§ 63.981), subpart WW (§ 63.1061), 40 CFR 60.111b, subpart F (§ 63.101), subpart G (§ 63.111), or subpart FFFF (§ 63.2550), and in this section, it shall have the meaning given in this section for purposes of this subpart.

Affirmative defense means, in the context of an enforcement proceeding, a response or defense put forward by a defendant, regarding which the defendant has the burden of proof, and the merits of which are independently and objectively evaluated in a judicial or administrative proceeding.

Ancillary activities means boilers, incinerators, and process heaters not used to comply with the emission standards in §§ 63.11495 through 63.11500, chillers and other refrigeration systems, and other equipment and activities that are not directly involved (i.e., they operate within a closed system and materials are not combined with process fluids) in the processing of raw materials or the manufacturing of a product or intermediates used in the production of the product.

Batch process vent means a vent from a CMPU or vents from multiple CMPUs within a process that are manifolded together into a common header, through which a HAP-containing gas stream is, or has the potential to be, released to the atmosphere. Batch process vents include vents from batch operations and vents with intermittent flow from continuous operations that are not combined with any stream that originated as a continuous gas stream from the same continuousprocess. Examples of batch process vents include, but are not limited to, vents on condensers used for product recovery, reactors, filters, centrifuges, and process tanks. The following are not batch process vents for the purposes of this subpart:

(1) Continuous process vents;

(2) Bottoms receivers;

(3) Surge control vessels;

(4) Gaseous streams routed to a fuel gas system(s);

(5) A gas stream routed to other processes for reaction or other use in another process (i.e., for chemical value as a product, isolated intermediate, byproduct, or coproduct, or for heat value).

(6) Vents on storage tanks or wastewater systems;

(7) Drums, pails, and totes; and

(8) Emission streams from emission episodes that are undiluted and uncontrolled containing less than 50 ppmv HAP are not part of any batch process vent. The HAP concentration may be determined using any of the following: process knowledge, an engineering assessment, or test data.

Byproduct means a chemical (liquid, gas, or solid) that is produced coincidentally during the production of the product.

Chemical manufacturing process means all equipment which collectively functions to produce a product or isolated intermediate. A process includes, but is not limited to any, all, or a combination of

reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate. A process is also defined by the following:

(1) All cleaning operations;

(2) Each nondedicated solvent recovery operation is considered a single process;

(3) Each nondedicated formulation operation is considered a single process;

(4) Quality assurance/quality control laboratories are not considered part of any process;

(5) Ancillary activities are not considered a process or part of any process; and

(6) The end of a process that produces a solid material is either up to and including the dryer or extruder, or for a polymer production process without a dryer or extruder, it is up to and including the die plate or solid-state reactor, except in two cases. If the dryer, extruder, die plate, or solid-state reactor is followed by an operation that is designed and operated to remove HAP solvent or residual monomer from the solid, then the solvent removal operation is the last step in the process. If the dried solid is diluted or mixed with a HAP-based solvent, then the solvent removal operation is the last step in the process.

Continuous process vent means a “process vent” as defined in § 63.101 in subpart F of this part, except:

(1) The reference in § 63.107(e) to a chemical manufacturing process unit that meets the criteria of § 63.100(b) means a CMPU that meets the criteria of § 63.11494(a) and (b);

(2) The reference in § 63.107(h)(2) to subpart H means § 63.11495(a) for the purposes of this subpart;

(3) The reference in § 63.107(h)(4) to § 63.113 means Tables 2 and 3 to this subpart;

(4) The reference in § 63.107(h)(7) to § 63.119 means Table 5 to this subpart, and the reference to § 63.126 does not apply for the purposes of this subpart;

(5) The second sentence in the definition of “process vent” in § 63.101 does not apply for the purposes of this subpart;

(6) The references to an “air oxidation reactor, distillation unit, or reactor” in § 63.107 means any continuous operation for the purposes of this subpart;

(7) Section § 63.107(h)(8) does not apply for the purposes of this subpart; and

(8) A separate determination is required for the emissions from each CMPU, even if emission streams from two or more CMPU are combined prior to discharge to the atmosphere or to a control device.

Co-Product means a chemical that is produced during the production of another chemical, both for their intended production.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source fails to meet any requirement or obligation established by this subpart, including, but not limited to any emissions limitation or management practice; or fails to meet any term or

condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

Engineering assessment means, but is not limited to, the following:

(1) Previous test results provided the tests are representative of current operating practices at the process unit.

(2) Bench-scale or pilot-scale test data representative of the process under representative operating conditions.

(3) Maximum flow rate, TOC emission rate, organic HAP emission rate, metal HAP emission rate, or net heating value limit specified or implied within a permit limit applicable to the process vent.

(4) Design analysis based on accepted chemical engineering principles, measurable process parameters, or physical or chemical laws or properties. Examples of analytical methods include, but are not limited to:

(i) Use of material balances based on process stoichiometry to estimate maximum organic HAP or metal HAP concentrations;

(ii) Estimation of maximum flow rate based on physical equipment design such as pump or blower capacities;

(iii) Estimation of TOC, organic HAP, or metal HAP concentrations based on saturation conditions; or

(iv) Estimation of maximum expected net heating value based on the vent stream concentration of each organic compound or, alternatively, as if all TOC in the vent stream were the compound with the highest heating value.

(5) All data, assumptions, and procedures used in the engineering assessment shall be documented.

Equipment means each pump, compressor, agitator, pressure relief device, sampling connection system, open-ended valve or line, valve, connector, and instrumentation system in or associated with a CMPU.

Family of materials means a grouping of materials that have the same basic composition or the same basic end use or functionality; are produced using the same basic feedstocks, the same manufacturing equipment configuration and in the same sequence of steps; and whose production results in emissions of the same Table 1 HAP at approximately the same rate per pound of product produced. Examples of families of materials include multiple grades of same product or different variations of a product (e.g., blue, black and red resins).

Feedstock means any raw material, reactant, solvent, additive, or other material introduced to a CMPU.

Hazardous waste treatment, as used in the wastewater requirements, means treatment in any of the following units:

(1) A hazardous waste incinerator for which you have been issued a final permit under 40 CFR part 270 and comply with the requirements of 40 CFR part 264, subpart O, for which you have certified

compliance with the interim status requirements of 40 CFR part 265, subpart O, or for which you have submitted a Notification of Compliance under 40 CFR 63.1207(j) and comply with the requirements of 40 CFR part 63, subpart EEE at all times (including times when non-hazardous waste is being burned);

(2) A process heater or boiler for which you have been issued a final permit under 40 CFR part 270 and comply with the requirements of 40 CFR part 266, subpart H, for which you have certified compliance with the interim status requirements of 40 CFR part 266, subpart H, or for which you have submitted a Notification of Compliance under 40 CFR 63.1207(j) and comply with the requirements of 40 CFR part 63, subpart EEE at all times (including times when non-hazardous waste is being burned); or

(3) An underground injection well for which you have been issued a final permit under 40 CFR part 270 or 40 CFR part 144 and comply with the requirements of 40 CFR part 122.

In metal HAP service means that a process vessel or piece of equipment either contains or contacts a feedstock, byproduct, or product that contains metal HAP. A process vessel is no longer in metal HAP service after the vessel has been emptied to the extent practicable (*i.e.,* a vessel with liquid left on process vessel walls or as bottom clingage, but not in pools, due to floor irregularity, is considered completely empty) and any cleaning has been completed.

In organic HAP service means that a process vessel or piece of equipment either contains or contacts a feedstock, byproduct, or product that contains an organic HAP, excluding any organic HAP used in manual cleaning activities. A process vessel is no longer in organic HAP service after the vessel has been emptied to the extent practicable (*i.e.,* a vessel with liquid left on process vessel walls or as bottom clingage, but not in pools, due to floor irregularity, is considered completely empty) and any cleaning has been completed.

In VOC service means that a process vessel or piece of equipment either contains or contacts a fluid that contains VOC.

Metal HAP means the compounds containing metals listed as HAP in section 112(b) of the CAA.

Metal HAP process vent means the point of discharge to the atmosphere (or inlet to a control device, if any) of a metal HAP-containing gas stream from any CMPU at an affected source containing at least 50 ppmv metal HAP. The metal HAP concentration may be determined using any of the following: process knowledge, an engineering assessment, or test data.

Organic HAP means any organic HAP listed in section 112(b) of the CAA. For the purposes of requirements in this subpart VVVVVV, hydrazine is to be considered an organic HAP.

Point of determination means “point of determination” as defined in § 63.111 in subpart G of this part, except:

(1) The reference to Table 8 or Table 9 compounds means Table 9 (subpart G) or Table 7 (subpart VVVVVV) compounds;

(2) The reference to “as determined in § 63.144 of this subpart” does not apply for the purposes of this subpart; and

(3) The point of determination is made at the point where the stream exits the CMPU. If a recovery device is used, the point of determination is after the last recovery device.

Process vessel means each vessel, except hand-held containers, used in the processing of raw materials to chemical products. Examples include, but are not limited to reactors, distillation units, centrifuges, mixing vessels, and process tanks.

Product means a compound or chemical which is manufactured as the intended product of the CMPU. Products include co-products. By-products, impurities, wastes, and trace contaminants are not considered products.

Reactive material means energetics, organic peroxides, and unstable chemicals such as chemicals that react violently with water and chemicals that vigorously polymerize, decompose, or become self-reactive under conditions of pressure or temperature.

Recovery device means an individual unit of equipment capable of and normally used for the purpose of recovering organic chemicals or metal-containing chemicals for fuel value (i.e., net positive heating value), use, reuse, or for sale for fuel value, use, or reuse. Examples of equipment that may be recovery devices include absorbers, carbon adsorbers, condensers, oil-water separators or organic-water separators, or organic removal devices such as decanters, strippers, or thin-film evaporation units.

Resinous material means a viscous, high-boiling point material resembling pitch or tar, such as plastic resin, that sticks to or hardens in the fill pipe under normal transfer conditions.

Shutdown, for a unit operation with a continuous process vent, means the cessation of the unit operation for any purpose. Shutdown begins with the initiation of steps as described in a written standard operating procedures (SOP) or shutdown plan to cease normal/stable operation (e.g., reducing or immediately stopping feed).

Startup, for a unit operation with a continuous process vent, means the setting in operation of the unit for any purpose. The period of startup ends upon completion of the transient, non-equilibrium step at the time operating conditions reach steady state for operating parameters such as temperature, pressure, composition, feed rate, and production rate. Periods of startup described by SOP manuals at the affected source may be used to determine the period of startup.

Storage tank means a tank or other vessel that is used to store liquids that contain organic HAP and that are part of a CMPU subject to this subpart VVVVVV. The following are not considered storage tanks for the purposes of this subpart:

(1) Vessels permanently attached to motor vehicles such as trucks, railcars, barges, or ships;

(2) Pressure vessels designed to operate in excess of 204.9 kilopascals (kPa) and without emissions to the atmosphere;

(3) Process tanks;

(4) Tanks storing organic liquids containing HAP only as impurities;

(5) Surge control vessels;

(6) Bottoms receivers; and

(7) Wastewater storage tanks.

Transfer operations means all product loading into tank trucks and rail cars of liquid containing organic HAP from a transfer rack. Transfer operations do not include the loading to other types of containers such as cans, drums, and totes.

Transfer rack means the system used to load organic liquids into tank trucks and railcars at a single geographic site. It includes all loading arms, pumps, meters, shutoff valves, relief valves, and other piping and equipment necessary for the transfer operation. Transfer equipment that are physically separate (i.e., do not share common piping, valves, and other equipment) are considered to be separate transfer racks.

Uncontrolled emissions means organic HAP process vent emissions or metal HAP process vent emissions, as applicable, at the outlet of the last recovery device, if any, and prior to any control device. In the absence of both recovery devices and control devices, uncontrolled emissions are the emissions discharged to the atmosphere.

Wastewater means water that is discarded from a CMPU or control device and that contains at least 5 ppmw of any HAP listed in Table 9 to 40 CFR part 63, subpart G and has an annual average flow rate of 0.02 liters per minute. Wastewater means both process wastewater and maintenance wastewater that is discarded from a CMPU or control device. The following are not considered wastewater for the purposes of this subpart:

(1) Stormwater from segregated sewers;

(2) Water from fire-fighting and deluge systems, including testing of such systems;

(3) Spills;

(4) Water from safety showers;

(5) Samples of a size not greater than reasonably necessary for the method of analysis that is used;

(6) Equipment leaks;

(7) Wastewater drips from procedures such as disconnecting hoses after cleaning lines; and

(8) Noncontact cooling water.

Wastewater stream means a single point discharge of wastewater from a CMPU or control device.

Wastewater treatment means chemical, biological, and mechanical procedures applied to wastewater to remove or reduce HAP or other chemical constituents.

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75759, Dec. 21, 2012]

§ 63.11503 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by the U.S. EPA or a delegated authority such as a State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or tribal agency pursuant to 40 CFR part 63, subpart E, then that Agency has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out if this subpart is delegated to a State, local, or tribal agency within your State.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or tribal agency under 40 CFR part 63, subpart E, the approval authorities contained in paragraphs (b)(1) through (4) of this section are retained by the Administrator of the U.S. EPA and are not transferred to the State, local, or tribal agency.

(1) Approval of an alternative non-opacity emissions standard under § 63.6(g).

(2) Approval of a major change to a test method. A “major change to test method” is defined in § 63.90.

(3) Approval of a major change to monitoring under § 63.8(f). A “major change to monitoring” is defined in § 63.90.

(4) Approval of a major change to recordkeeping/reporting under § 63.10(f). A “major change to recordkeeping/reporting” is defined in § 63.90.

Table 1 to Subpart VVVVVV of Part 63—Hazardous Air Pollutants Used To Determine Applicability of Chemical Manufacturing Operations

As required in § 63.11494(a), chemical manufacturing operations that process, use, or produce the HAP shown in the following table are subject to subpart VVVVVV.

Type of HAP	Chemical name	CAS No.
1. Organic compounds	a. 1,3-butadiene	106990
	b. 1,3-dichloropropene	542756
	c. Acetaldehyde	75070
	d. Chloroform	67663
	e. Ethylene dichloride	107062
	f. Hexachlorobenzene	118741
	g. Methylene chloride	75092
	h. Quinoline	91225
2. Metal compounds	a. Arsenic compounds	
	b. Cadmium compounds	
	c. Chromium compounds	
	d. Lead compounds	
	e. Manganese compounds	
	f. Nickel compounds	
3. Others	a. Hydrazine	302012

Table 2 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Batch Process Vents

As required in § 63.11496, you must comply with the requirements for batch process vents as shown in the following table.

For * * *	You must * * *	Except * * *
1. Batch process vents in a CMPU at an existing source for which the total organic HAP emissions are equal to or greater than 10,000 lb/yr	a. Reduce collective uncontrolled total organic HAP emissions from the sum of all batch process vents by ≥85 percent by weight or to ≤20 ppmv by routing emissions from a sufficient number of the batch process vents through a closed vent system to any combination of control devices (except a flare) in accordance with the requirements of § 63.982(c) and the requirements referenced therein; or	i. Compliance may be based on either total organic HAP or total organic carbon (TOC); and ii. As specified in § 63.11496(g).
	b. Route emissions from batch process vents containing at least 85 percent of the uncontrolled total organic HAP through a closed-vent system to a flare (except that a flare may not be used to control halogenated vent streams) in accordance with the requirements of § 63.982(b) and the requirements referenced therein; or	i. Not applicable.
	c. Comply with the alternative standard specified in § 63.2505 and the requirements referenced therein; or	i. As specified in § 63.11496(e) of this subpart.
	d. Comply with combinations of the requirements in Items a., b., and c. of this Table for different groups of batch process vents	i. The information specified above for Items a., b., and c., as applicable.
2. Batch process vents in a CMPU at a new source for which the total organic HAP emissions are equal to or greater than 10,000 lb/yr	a. Comply with any of the emission limits in Items 1.a through 1.d of this Table, except 90 percent reduction applies instead of 85 percent reduction in Item 1.a, and 90 percent of the emissions must be routed to a flare instead of 85 percent in Item 1.b	i. The information specified above for Items 1.a., 1.b., 1.c., and 1.d, as applicable.
3. Halogenated batch process vent stream at a new or existing source that is controlled through combustion	a. Comply with the requirements for halogen scrubbers in § 63.11496(d).	

Table 3 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Continuous Process Vents

[As required in § 63.11496, you must comply with the requirements for continuous process vents as shown in the following table]

For . . .	You must . . .	Except . . .
1. Each continuous process vent with a TRE ≤1.0	a. Reduce emissions of total organic HAP by ≥95 percent by weight (≥85 percent by weight for periods of startup or shutdown) or to ≤20 ppmv by routing emissions through a closed vent system to any combination of control devices (except a flare) in accordance with the requirements of § 63.982(c) and the requirements referenced therein; or	i. Compliance may be based on either total organic HAP or TOC; and ii. As specified in § 63.11496(g).
	b. Reduce emissions of total organic by HAP by routing all	i. Not applicable.

	emissions through a closed-vent system to a flare (except that a flare may not be used to control halogenated vent streams) in accordance with the requirements of § 63.982(b) and the requirements referenced therein, or	
	c. Comply with the alternative standard specified in § 63.2505 and the requirements referenced therein	i. As specified in § 63.11496(e).
2. Halogenated vent stream that is controlled through combustion	a. Comply with the requirements for halogen scrubbers in § 63.11496(d).	
3. Each continuous process vent with a TRE >1.0 but ≤4.0	a. Comply with the requirements of § 63.982(e) and the requirements specified therein if a recovery device, as defined in § 63.11502, is used to maintain a TRE >1.0 but ≤4.0.	

[77 FR 75760, Dec. 21, 2012]

Table 4 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Metal HAP Process Vents

As required in § 63.11496(f), you must comply with the requirements for metal HAP process vents as shown in the following table.

For * * *	You must * * *	Except * * *
Each CMPU with total metal HAP emissions ≥400 lb/yr	Reduce collective uncontrolled emissions of total metal HAP emissions by ≥95 percent by weight by routing emissions from a sufficient number of the metal process vents through a closed-vent system to any combination of control devices, according to the requirements of § 63.11496(f)(3), (4), or (5)	Not applicable.

Table 5 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Storage Tanks

As required in § 63.11497, you must comply with the requirements for storage tanks as shown in the following table.

For each * * *	You must * * *	Except * * *
1. Storage tank with a design capacity ≥40,000 gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the maximum true vapor pressure (MTVP) of total organic HAP at the storage temperature is ≥5.2 kPa and <76.6 kPa.	a. Comply with the requirements of subpart WW of this part;	i. All required seals must be installed by the compliance date in § 63.11494.
	b. Reduce total organic HAP emissions by ≥95 percent by	i. Compliance may be based on either total organic HAP or TOC;

	weight by operating and maintaining a closed-vent system and control device (other than a flare) in accordance with § 63.982(c); or	ii. When the term storage vessel is used in subpart SS of this part, the term storage tank, surge control vessel, or bottoms receiver, as defined in § 63.11502 of this subpart, applies; and iii. The requirements do not apply during periods of planned routine maintenance of the control device, as specified in § 63.11497(b).
	c. Reduce total HAP emissions by operating and maintaining a closed-vent system and a flare in accordance with § 63.982(b); or	i. The requirements do not apply during periods of planned routine maintenance of the flare, as specified in § 63.11497(b); and ii. When the term storage vessel is used in subpart SS of this part, it means storage tank, surge control vessel, or bottoms receiver, as defined in § 63.11502 of this subpart.
	d. Vapor balance in accordance with § 63.2470(e); or	i. To comply with § 63.1253(f)(6)(i), the owner or operator of an offsite cleaning or reloading facility must comply with § 63.11494 and § 63.11502 instead of complying with § 63.1253(f)(7)(ii), except as specified in item 1.d.ii and 1.2.iii of this table. ii. The reporting requirements in § 63.11501 do not apply to the owner or operator of the offsite cleaning or reloading facility. iii. As an alternative to complying with the monitoring, recordkeeping, and reporting provisions in §§ 63.11494 through 63.11502, the owner or operator of an offsite cleaning or reloading facility may comply as specified in § 63.11500 with any other subpart of this part 63 which has monitoring, recordkeeping, and reporting provisions as specified in § 63.11500.
	e. Route emissions to a fuel gas system or process in accordance with the requirements in § 63.982(d) and the requirements referenced therein.	i. When the term storage vessel is used in subpart SS of this part, it means storage tank, surge control vessel, or bottoms receiver, as defined in § 63.11502.
2. Storage tank with a design capacity ≥20,000 gallons and <40,000 gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the MTVP of total organic HAP at the storage temperature is	a. Comply with one of the options in Item 1 of this table	i. The information specified above for Items 1.a., 1.b., 1.c., 1.d, and 1.e, as applicable.

≥27.6 kPa and <76.6 kPa		
3. Storage tank with a design capacity ≥20,000 gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the MTVP of total organic HAP at the storage temperature is ≥76.6 kPa	a. Comply with option b, c, d, or e in Item 1 of this table	i. The information specified above for Items 1.b., 1.c., 1.d, and 1.e, as applicable.
4. Storage tank described by Item 1, 2, or 3 in this table and emitting a halogenated vent stream that is controlled with a combustion device	a. Reduce emissions of hydrogen halide and halogen HAP by ≥95 percent by weight, or to ≤0.45 kg/hr, or to ≤20 ppmv by using a halogen reduction device after the combustion device according to the requirements in § 63.11496(d); or	
	b. Reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to ≤20 ppmv by using a halogen reduction device before the combustion device according to the requirements in § 63.11496(d).	

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75760, Dec. 21, 2012]

Table 6 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Wastewater Systems

[As required in § 63.11498, you must comply with the requirements for wastewater systems as shown in the following table]

For each . . .	**You must . . .**	**And you must . . .**
1. Wastewater stream	a. Discharge to onsite or offsite wastewater treatment or hazardous waste treatment	i. Maintain records identifying each wastewater stream and documenting the type of treatment that it receives. Multiple wastewater streams with similar characteristics and from the same type of activity in a CMPU may be grouped together for recordkeeping purposes.
2. Wastewater stream containing partially soluble HAP at a concentration ≥10,000 ppmw and separate organic and water phases	a. Use a decanter, steam stripper, thin film evaporator, or distillation unit to separate the water phase from the organic phase(s); or	i. For the water phase, comply with the requirements in Item 1 of this table, and ii. For the organic phase(s), recycle to a process, use as fuel, or dispose as hazardous waste either onsite or offsite, and iii. Keep records of the wastewater streams subject to this requirement and the disposition of the organic phase(s).

	b. Hard pipe the entire wastewater stream to onsite treatment as a hazardous waste, or hard pipe the entire wastewater stream to a point of transfer to onsite or offsite hazardous waste treatment.	i. Keep records of the wastewater streams subject to this requirement and the disposition of the wastewater streams.

[77 FR 75761, Dec. 21, 2012]

Table 7 to Subpart VVVVVV of Part 63—Partially Soluble HAP

As required in § 63.11498(a), you must comply with emission limits for wastewater streams that contain the partially soluble HAP listed in the following table.

Partially soluble HAP name	**CAS No.**
1. 1,1,1-Trichloroethane (methyl chloroform)	71556
2. 1,1,2,2-Tetrachloroethane	79345
3. 1,1,2-Trichloroethane	79005
4. 1,1-Dichloroethylene (vinylidene chloride)	75354
5. 1,2-Dibromoethane	106934
6. 1,2-Dichloroethane (ethylene dichloride)	107062
7. 1,2-Dichloropropane	78875
8. 1,3-Dichloropropene	542756
9. 2,4,5-Trichlorophenol	95954
10. 1,4-Dichlorobenzene	106467
11. 2-Nitropropane	79469
12. 4-Methyl-2-pentanone (MIBK)	108101
13. Acetaldehyde	75070
14. Acrolein	107028
15. Acrylonitrile	107131
16. Allyl chloride	107051
17. Benzene	71432
18. Benzyl chloride	100447
19. Biphenyl	92524
20. Bromoform (tribromomethane)	75252
21. Bromomethane	74839
22. Butadiene	106990
23. Carbon disulfide	75150

24. Chlorobenzene	108907
25. Chloroethane (ethyl chloride)	75003
26. Chloroform	67663
27. Chloromethane	74873
28. Chloroprene	126998
29. Cumene	98828
30. Dichloroethyl ether	111444
31. Dinitrophenol	51285
32. Epichlorohydrin	106898
33. Ethyl acrylate	140885
34. Ethylbenzene	100414
35. Ethylene oxide	75218
36. Ethylidene dichloride	75343
37. Hexachlorobenzene	118741
38. Hexachlorobutadiene	87683
39. Hexachloroethane	67721
40. Methyl methacrylate	80626
41. Methyl-t-butyl ether	1634044
42. Methylene chloride	75092
43. N-hexane	110543
44. N,N-dimethylaniline	121697
45. Naphthalene	91203
46. Phosgene	75445
47. Propionaldehyde	123386
48. Propylene oxide	75569
49. Styrene	100425
50. Tetrachloroethylene (per- chloroethylene)	127184
51. Tetrachloromethane (carbon tetrachloride)	56235
52. Toluene	108883
53. Trichlorobenzene (1,2,4-)	120821
54. Trichloroethylene	79016
55. Trimethylpentane	540841
56. Vinyl acetate	108054
57. Vinyl chloride	75014

58. Xylene (m)	108383
59. Xylene (o)	95476
60. Xylene (p)	106423

Table 8 to Subpart VVVVVV of Part 63—Emission Limits and Compliance Requirements for Heat Exchange Systems

[As required in § 63.11499, you must comply with the requirements for heat exchange systems as shown in the following table]

For . . .	You must . . .	Except . . .
1. Each heat exchange system with a cooling water flow rate ≥8,000 gal/min and not meeting one or more of the conditions in § 63.104(a)	a. Comply with the monitoring requirements in § 63.104(c), the leak repair requirements in § 63.104(d) and (e), and the recordkeeping and reporting requirements in § 63.104(f); or	i. The reference to monthly monitoring for the first 6 months in § 63.104(b)(1) and (c)(1)(iii) does not apply. Monitoring shall be no less frequent than quarterly; ii. The reference in § 63.104(f)(1) to record retention requirements in § 63.103(c)(1) does not apply. Records must be retained as specified in §§ 63.10(b)(1) and 63.11501(c); and iii. The reference in § 63.104(f)(2) to "the next semi-annual periodic report required by § 63.152(c)" means the next semi-annual compliance report required by § 63.11501(f).
	b. Comply with the heat exchange system requirements in § 63.104(b) and the requirements referenced therein.	i. Not applicable.

[77 FR 75762, Dec. 21, 2012]

Table 9 to Subpart VVVVVV of Part 63—Applicability of General Provisions to Subpart VVVVVV

As required in § 63.11501(a), you must comply with the requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) as shown in the following table.

Citation	Subject	Applies to Subpart VVVVVV?	Explanation
63.1(a)(1), (a)(2), (a)(3), (a)(4), (a)(6), (a)(10)-(a)(12) (b)(1), (b)(3), (c)(1), (c)(2), (c)(5), (e)	Applicability	Yes	
63.1(a)(5), (a)(7)-(a)(9), (b)(2), (c)(3),	Reserved	No	

(c)(4), (d)			
63.2	Definitions	Yes	
63.3	Units and Abbreviations	Yes	
63.4	Prohibited Activities and Circumvention	Yes	
63.5	Preconstruction Review and Notification Requirements	Yes	
63.6(a), (b)(1)-(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1)(iii), (g), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes	
63.6(b)(6), (c)(3), (c)(4), (d), (h)(3), (h)(5)(iv)	Reserved	No	
63.6(e)(1)(i) and (ii), (e)(3), and (f)(1)	SSM Requirements	No	See § 63.11495(d) for general duty requirement.
63.6(h)(1)-(h)(4), (h)(5)(i)-(h)(5)(iii), (h)(6)-(h)(9)		No	Subpart VVVVVV does not include opacity or visible emissions (VE) standards or require a continuous opacity monitoring system (COMS).
63.7(a)(1), (a)(3), (a)(4), (c), (e)(4), and (f)-(h)	Performance Testing Requirements	Yes	
63.7(a)(2), (b), (d), (e)(2)-(e)(3)	Performance Testing Schedule, Notification of Performance Test, Performance Testing Facilities, and Conduct of Performance Tests	Yes/No	Requirements apply if conducting test for metal HAP control; requirements in §§ 63.997(c)(1), (d), (e), and 63.999(a)(1) apply, as referenced in § 63.11496(g), if conducting test for organic HAP or hydrogen halide and halogen HAP control device.
63.7(e)(1)	Performance Testing	No	See § 63.11496(f)(3)(ii) if conducting a test for metal HAP emissions. See §§ 63.11496(g) and 63.997(e)(1) if conducting a test for continuous process vents or for hydrogen halide and halogen emissions. See §§ 63.11496(g) and 63.2460(c) if conducting a test for batch process vents.
63.8(a)(1), (a)(4), (b), (c)(1)(ii), (c)(2)-(c)(3), (f)(1)-(5)	Monitoring Requirements	Yes	
63.8(a)(2)	Monitoring Requirements	No	
63.8(a)(3)	Reserved	No	
63.8(c)(1)(i)	General Duty to Minimize	No	

	Emissions and CMS Operation		
63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS	No	
63.8(c)(4)		Yes	Only for CEMS. CPMS requirements in 40 CFR part 63, subpart SS are referenced from § 63.11496. Requirements for COMS do not apply because subpart VVVVVV does not require COMS.
63.8(c)(5)		No	Subpart VVVVVV does not require COMS.
63.8(c)(6)-(c)(8), (d)(1)-(d)(2), (e), (f)(6)		Yes	Requirements apply only if you use a continuous emission monitoring system (CEMS) to demonstrate compliance with the alternative standard in § 63.11496(e).
63.8(d)(3)	Written Procedures for CMS	Yes	Requirement applies except for last sentence, which refers to an SSM plan. SSM plans are not required.
63.8(g)(1)-(g)(4)		Yes	Data reduction requirements apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e). COMS requirements do not apply. Requirement in § 63.8(g)(2) does not apply because data reduction for CEMS are specified in 40 CFR part 63, subpart FFFF.
63.8(g)(5)		No	Data reduction requirements for CEMS are specified in § 63.2450(j)(4), as referenced from § 63.11496. CPMS requirements are specified in 40 CFR part 63, subpart SS, as referenced from § 63.11496.
63.9(a), (b)(1), (b)(2), (b)(4), (b)(5), (c), (d), (e), (i)	Notification Requirements	Yes	
63.9(b)(3), (h)(4)	Reserved	No	
63.9(f)		No	Subpart VVVVVV does not contain opacity or VE limits.
63.9(g)		Yes	Additional notification requirement applies only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).
63.9(h)(1)-(h)(3), (h)(5)-(h)(6)		Yes	Except subpart VVVVVV does not contain opacity or VE limits.
63.9(i)		Yes	
63.9(j)	Change in Information Already Provided	No	Notification of process changes that affect a compliance determination are required in § 63.11501(d)(4).

63.10(a)	Recordkeeping Requirements	Yes	
63.10(b)(1)		Yes	
63.10(b)(2)(i)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns	No	See § 63.11501(c)(8) for recordkeeping of occurrence and duration of each startup and shutdown for continuous process vents that are subpart to Table 3 to this subpart.
63.10(b)(2)(ii)	Recordkeeping of Malfunctions	No	See § 63.11501(c)(1)(vii) and (viii) for recordkeeping of (1) date, time, duration, and volume of excess emissions and (2) actions taken during malfunction.
63.10(b)(2)(iii)	Maintenance Records	Yes	
63.10(b)(2)(iv) and (v)	Actions Taken to Minimize Emissions During SSM	No	
63.10(b)(2)(vi), (x), (xi), (xiii)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).
63.10(b)(2)(vii)-(b)(2)(ix), (b)(2)(xii), (b)(2)(xiv)		Yes	
63.10(b)(3)		Yes	
63.10(c)(1), (c)(5)-(c)(6), (c)(13)-(c)(14)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).
63.10(c)(7)-(8)	Additional Recordkeeping Requirements for CMS—Identifying Exceedances and Excess Emissions	Yes	
63.10(c)(10)	Recordkeeping Nature and Cause of Malfunctions	No	See § 63.11501(c)(1)(vii) and (viii) for malfunctions recordkeeping requirements.
63.10(c)(11)	Recording Corrective Actions	No	See § 63.11501(c)(1)(vii) and (viii) for malfunctions recordkeeping requirements.
63.10(c)(12)		Yes	
63.10(c)(15)	Use of SSM Plan	No	
63.10(c)(2)-(c)(4), (c)(9)	Reserved	No	
63.10(d)(1), (d)(2), (d)(4), (e)(1), (e)(2), (f)	Reporting Requirements	Yes	
63.10(d)(3)		No	Subpart VVVVVV does not include opacity or VE limits.

63.10(d)(5)	SSM Reports	No	See § 63.11501(d)(8) for reporting requirements for malfunctions.
63.10(e)(1)-(e)(2)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).
63.10(e)(3)		Yes	
63.10(e)(4)		No	Subpart VVVVVV does not include opacity or VE limits.
63.11	Control Device Requirements	Yes	
63.12	State Authorities and Delegations	Yes	
63.13	Addresses	Yes	
63.14	Incorporations by Reference	Yes	
63.15	Availability of Information and Confidentiality	Yes	
63.16	Performance Track Provisions	Yes	

[74 FR 56041, Oct. 29, 2009, as amended at 77 FR 75762, Dec. 21, 2012]

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Transition from a Federally Enforceable State Operating Permit to a Part 70 Permit

Source Description and Location

Source Name:	Hammond Group, Inc. (HGI)
Source Location:	2308 -165th Street, Hammond, Indiana 46320
County:	Lake
SIC Code:	2819, 2816, and 2869
Operation Permit No.:	T089-33798-00219
Permit Reviewer:	Swarna Prabha

History

Hammond Group, Inc. was issued its first FESOP Renewal (F089-14165-00219) on September 11, 2008. On October 21, 2013, Hammond Group, Inc. submitted an application to the OAQ requesting the transition of its operating permit from a Federally Enforceable State Operating Permit (FESOP) to a Part 70 Operating Permit as required by 40 CFR 63, subpart VVVVVV, that major sources that installed air pollution controls after 1990, and, as a result, became an area source, obtain a title V permit. For new and existing sources subject to this rule on December 21, 2012 are subject to Title V as a result of this rule, and are required to submit complete Title V permit application no later than December 21, 2013.

Permitted Emission Units and Pollution Control Equipment

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

Stack ID 1-S-52

This stack is identified as the Main Control System. This control system is comprised of four (4) units in parallel. Each unit includes a baghouse and a HEPA. 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. 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 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 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

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.

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

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 four (4) baghouse & HEPA systems.

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

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.

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.

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.

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 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.

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

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 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. The material 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.

Stack ID 6-S-47

No processes currently vent through this stack.

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 emissions from these units are controlled by particulate filters.

Insignificant Activities

(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.

(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 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):

Stack ID V-1

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 which are connected in parallel to the collection ductwork. The system captures 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)]

Emission Units Removed/Added

The source has not proposed any new construction or significant modifications as part of this application; however source has requested to remove following process emission units no longer in operation at this facility:

1. Unit IDs 52-~~2~~**3** through 52-10: Furnace Systems ~~1,~~ 2, 10, 3, 4, 5, 6, 8, & 9 (Insignificant Activities)

2. ~~Unit ID 52-17: Mykro Mill (Insignificant Activity)~~

~~The Mykro Mill consists of two high efficiency cyclones that separate lead oxide into a fine lead oxide product and a coarse lead oxide product. Lead oxide from a barton is conveyed to the feed hopper from which it is fed through an air lock rotary valve into the Mykro Mill. The fine lead oxide is packed into containers and the coarse lead oxide can either be recycled or packed into containers.~~

~~Emission units associated with Unit ID 52-17 were installed in November, 1989.~~

3. ~~Unit ID 52-20: Rail Car Loading~~

~~The Rail Car Loading operation consists of a covered railroad hopper car, loading device, and a dust collection device. A rail car is spotted at the loading area and the loading device and dust collection device are put in place. Tote bins containing material are then lifted above the loading device and discharged into the car.~~

~~Emission units associated with Unit 52-20 were installed in 1960.~~

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

4. ~~Unit ID 56-10: Non-Lead Glass Process~~

~~The Non-Lead Glass Process consists of a natural gas (propane alternative) fired furnace, wet ball mill, wet sweco, mixing tank, and interconnecting conveyors. Glass frit from the furnace is milled, separated, and sent to a mix tank. The mix tank feeds the glass product spray dryer.~~

~~Emission units associated with Unit ID 56-10 were installed in May, 2006. The natural gas fired furnace was approved for construction in 2011.~~

~~This unit is controlled by a cartridge filter.~~

5. ~~Unit ID 56-12: Glass Additive Drying Process~~

~~The Glass Additive Drying Process consists of a bin unloading station, drying screw, heated mixer, bin packing station, and interconnecting conveyors. The mixer is an indirectly heated natural gas fired (with propane as an alternative fuel), unit used to remove the water from the glass additive. The dried glass additive is then packed.~~

~~Emission units associated with Unit ID 56-12 were installed in 2002.~~

~~This unit is controlled by a baghouse & HEPA system~~.

Existing Approvals

The source was issued FESOP First Renewal No.: F089-14165-00219 on September 11, 2008. The source has since received the following approvals:

First Administrative Amendment No.: 089-28377-00219, issued on September 9, 2009.
Significant Permit Revision No.: 089-29891-00219, issued on March 1, 2011.
Second Administrative Amendment No.: 089-30288-00219, issued on March 17, 2011.
Third Administrative Amendment No.: 089-30655-00219, issued on July 19, 2011.
Fourth Administrative Amendment No.: 089-30840-00219, issued on November 1, 2011.
Fifth Administrative Amendment No.: 089-31419-00219, issued on March 23, 2012.

Sixth Administrative Amendment No.: 089-32008-00219, issued on June 21, 2012.
Seventh Administrative Amendment No.: 089-32182-00219, issued on September 20, 2012.
Eighth Administrative Amendment No.: 089-33383-00219, issued on July 26, 2013.
Ninth Administrative Amendment No.: 089-33540-00219, issued on September 06, 2013.
Tenth Administrative Amendment No.: 089-33697-00219, issued on October 7, 2013.

All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous permits are superseded by this permit.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

The calculations submitted by the applicant have been verified and found to be accurate and correct. The source has requested the calculations to be confidential.

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; 148th 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	40 CFR 81.315 as amended by 77 FR 34228.1,2
$PM_{2.5}$	Attainment effective February 6, 2012, for the annual PM2.5 standard.
$PM_{2.5}$	Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM2.5 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. 1Nonattainment
1Nonattainment Severe 17 effective November 15, 1990, for the Chicago-Gary-Lake County area for the 1-hour ozonestandard which was revoked effective June 15, 2005.	

Ozone Standards

U.S. EPA, in the Federal Register Notice 77 FR 112 dated June 11, 2012, has designated Lake 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 US EPA in the US 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. See the State Rule Applicability – Entire Source section.

$PM_{2.5}$
Lake County has been classified as attainment for $PM_{2.5}$. On May 8, 2008, U.S. EPA promulgated the requirements for Prevention of Significant Deterioration (PSD) for $PM_{2.5}$ emissions. These rules became effective on July 15, 2008. On May 4, 2011 the air pollution control board issued an emergency rule establishing the direct $PM_{2.5}$ significant level at ten (10) tons per year. This rule became effective, June 28, 2011.. Therefore, direct $PM_{2.5}$, SO_2, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability – Entire Source section.

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

Fugitive Emissions

Since this source is classified as a chemical process 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.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

Unrestricted Potential Emissions	
Pollutant	Tons/year
PM	1266
PM_{10}	1268
$PM_{2.5}$	1268
SO_2	0.010
VOC	6.75
CO	14.58
NO_x	17.36
(Pb) Inorganic Lead Compound	1092.95
Combined Lead	>25
GHG as CO2e	<100,000

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM10, and PM2.5 is equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit.

(b) The potential to emit lead (Pb) is greater than twenty-five (25) tons per year. Therfore, the source is subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of GHGs is less than one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year.

(c) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP is greater than ten (10) tons per year and the potential to emit (as defined in 326 IAC 2-7-1(29)) of a combination of

HAPs is more than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7. This plant is regulated facility under NESHAP Subpart VVVVVV and is required to obtain a permit under part 70 because control device is necessary to maintain the source's emissions at area source levels.

Permit Level Determination – PSD

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 Operating Permit, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

Process/ Emission Unit	Potential To Emit of the Entire Source After the issuance (tons/year)									
	PM	*(1)* PM10	PM2.5	SO_2	*(3)* NOx	*(3)* VOC	*(3)* CO	GHGs as CO_2e**	Total LEAD	*(2)*LEAD
Stack ID 1-S-52	4.38	4.38	4.38	negl.	2.68	0.14	2.25	3242.06	0.31	0.31 (Lead)
Stack ID 4A-S-8	1.1	1.1	1.1	negl.	0.74	0.04	0.63	901.07	0.23	0.23 (Lead)
Stack ID 14-S-16	1.1	1.1	1.1	negl.	0.74	0.04	0.41	586.44	0.23	0.23 (Lead)
Stack ID 1-S-2	1.1	1.1	1.1	negl.	0.74	0.04	0.63	889.44	0.23	0.23 (Lead)
Stack ID 1-S-26	1.1	1.1	1.1	negl.	1.49	0.08	0.98	1405.55	0.23	0.23 (Lead)
Stack ID 16-S-56	4.38	4.38	4.38	negl.	3.94	0.21	3.31	4759.19	0.88	0.88 (Lead)
Stack ID 4-S-35	2.5	2.5	2.5	negl.	1.07	0.06	0.90	1299.26	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	4679.87	0.31	0.31 (Lead)
Stack ID 4B-S-34	1.75	1.75	1.75	negl.	1.31	0.07	1.1	1586.40	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	0.0	0.63	1043	0.23	0.23 (Lead)
Expander operation	1.40	1.40	1.40	-	-	-	-	-	-	-
Miscellaneous insignificant activities	-	-	-	-	-	5.8	-	1466.26	-	3.39 Cadmium
Total PTE of Entire Source	**31.23**	**31.23**	**31.23**	**negl.**	**17.4**	**6.75**	**14.6**	**21858.54**	**3.96**	**3.96 (Lead)**
Title V Major Source Thresholds**	NA	100	100	100	100	100	100	100,000	25	10
PSD Major Source Thresholds**	100	100	100	100	100	100	100	100,000	NA	NA

negl. = negligible *$PM_{2.5}$ listed is direct $PM_{2.5}$., No Haps are emitted from this facility.
**The 100,000 CO_2e threshold represents the Title V and PSD subject to regulation thresholds for GHGs in order to determine whether a source's emissions are a regulated NSR pollutant under Title V and PSD.

(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 and 326 IAC 2-2). The lead emissions are less than 25 tons per year.

(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.

(a) This existing stationary source is not major for PSD because the emissions of each regulated pollutant, excluding GHG, are less than one hundred (<100) tons per year and it is in one of the twenty-eight (28) listed source categories.

Federal Rule Applicability Determination

NSPS:

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

NESHAP:

(a) NESHAP: 40 CFR 63, Subpart VVVVVV
This source is subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources, 40 CFR 63, Subpart VVVVVV, because this source operates chemical manufacturing process units (CMPU) that use feedstocks and generate products that contain concentrations of lead greater than 0.1 percent by weight at an area source of HAPs emissions. The affected source is the facility-wide collection of CMPUs and each heat exchange system and wastewater system associated with a CMPU. Under 40 CFR 63, Subpart VVVVVV this is an existing affected source because it commenced construction or reconstruction of the affected source before October 6, 2008.

This source is subject to the following VVVVVV:

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

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the source except as otherwise specified in 40 CFR 63, Subpart VVVVVV.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Glass Manufacturing Area Sources, 40 CFR 63, Subpart SSSSSS, are not included for this source, since this source does not meet the definition of a glass manufacturing facility as defined in 40 CFR 63.11448(a). This source produces raw materials that are used by glass manufacturing facilities in the production of glass.

(c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Area Sources: Chemical Preparations Industry, 40 CFR 63, Subpart BBBBBBB, are not included for this source, since the source does not meet the definition of a chemical preparations facility as defined in 40 CFR 63.11588. Furthermore, pursuant to 40 CFR63.11579(f), a source that is already subject to 40 CFR 63 Subpart VVVVVV is exempt from 40 CFR 63 Subpart BBBBBBB.

(d) 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 is not subject to National Emission Standards for Hazardous Air Pollutants: Organic Liquids Distribution (Non-Gasoline), 40 CFR 63, Subpart EEEE because operation is not located at a major source of HAP.

(e) The degreasing operation is not subject to the 40 CFR Part 63, Subpart T, National Emission Standards for Halogenated Solvent Cleaning because the solvent used in the degreasing operation is not any of the listed regulated solvents; therefore, this NESHAP is not included in this permit.

(e) There are no other National Emission Standards for Hazardous Air Pollutants (NESHAP) (326 IAC 14, 326 IAC 20 and 40 CFR Part 63) included in this permit renewal.

CAM:

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each new or modified pollutant-specific emission unit that meets 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 HGI because the source does not meet the definition of a "major source" in part 70 but is subject to part 70 because of 40 CFR part 63 NESHAP VVVVVV requirements.

State Rule Applicability - Entire Source

326 IAC 1-6-3 (Preventive Maintenance Plan)
The source is subject to 326 IAC 1-6-3.

326 IAC 1-5-2 (Emergency Reduction Plans)
The source is subject to 326 IAC 1-5-2.

326 IAC 1-7 (Stack Height Provisions)
Pursuant to 326 IAC 1-7, the source shall comply with 326 IAC 1-7-3 for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

326 IAC 2-2 (Prevention of Significant Deterioration PSD)
The source was constructed in 1930 and is in one of the twenty-eight (28) listed source categories under 326 IAC 2-2 (PSD). Although the source has the potential to emit in excess of 100 ton per year of PM, and PM_{10} emissions, the source has limited the PTE of PM and PM_{10} emissions to less than 100 tons per year. Also, the source has limited the PTE of Lead (Pb) to less than twenty-five (25) tons per year. Therefore, the source is a minor source under 326 IAC 2-2 (PSD).

326 IAC 2-6 (Emission Reporting)
This source is subject to 326 IAC 2-6 (Emission Reporting) because it is required to have operating permit under 326 IAC 2-7, Part 70 Permit Program. Therefore, pursuant to 326 IAC 2-6-3(a)(2), triennial reporting is required. An emission statement shall be submitted in accordance

with the compliance schedule in 326 IAC 2-6-3 by July 1, and every three (3) years thereafter. The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2(1)

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)
The source is not subject to the requirements of 326 IAC 6-5 because it does not contain any facilities with the potential to emit fugitive PM in amounts greater than twenty-five (25) tons per year.

326 IAC 8-7-2 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties – Applicability)
This rule does not apply to this source because the source does not emit or have the potential to emit volatile organic compounds (VOCs) at levels equal to or greater than twenty-five (25) tons per year (tpy) in Lake County.

326 IAC 6.8-8-1 (Lake County: Continuous Compliance Plan – Applicability)
Pursuant to 326 IAC 6.8-8-1(5) (Lake County: Continuous Compliance Plan – Hammond Group, Inc. (HGI), Lead Products Division, Hammond Expander Division, and Halstab Division), the Permittee shall submit to IDEM, OAQ, and maintain at the source a copy of the Continuous Compliance Plan (CCP). The Permittee shall perform the inspections, monitoring, and record keeping requirements as specified in 326 IAC 6.8-8-2 through 326 IAC 6.8-8-7 or according to the Permittee's CCP.

326 IAC 6.8-10-3 (Lake County fugitive particulate matter control requirements)
For paved roads and parking lots, the average instantaneous opacity of fugitive particulate emissions from a paved road shall not exceed ten percent (10%).

326 IAC 6.8-11-1 (Lake County Particulate Matter Contingency Measures)
This source is subject to the requirements of in 326 IAC 6.8-11, because the source is specifically listed in 326 IAC 6.8-2-13, and has potential PM10 emissions greater than or equal to ten (10) tons per year.

326 IAC 6.8-2-13, 326 IAC 15-1-2, 326 IAC 2-2 (Lake County: Source Specific PM10 and Lead Emission Requirements)
Pursuant to 326 IAC 6.8-2-13, and 326 IAC 15-1-2(a)(6) the Source Specific PM10 and Lead emissions from the following emission units at Hammond Group, Inc. shall not exceed the gr/dscf and pounds per hour emission limits below:

Unit Description as Specified in 326 IAC 6.8-2-13	Emissions Limits* PM10 326 IAC 6.8-2-13		Emissions Limits Lead (Pb) 326 IAC 15-1-2(a)(6)
	(gr/dscf)	(lbs/hr)	lbs/hr
Stack ID 1-S-52	0.022	1.00	0.070
Stack ID 4A-S-8	0.022	0.25	0.053
Stack ID 14-S-16	0.022	0.25	0.053
Stack ID 1-S-2	0.022	0.25	0.053
Stack ID 1-S-26	0.022	0.25	0.053
Stack ID 16-S-56	0.022	1.00	0.200
Stack ID 4-S-35	0.022	0.57	0.09
Stack ID 1-S-27	0.022	0.290	0.020

Stack ID 6-S-33	0.022	0.90	0.07
Stack ID 4B-S-34	0.022	0.40	0.08
Stack ID 6-S-47	0.022	0.40	0.021
Stack ID V-1	0.022	1.0	0.09
Stack ID 1-S-7	0.022	0.25	0.053
Expander stack ID 14-S-15	0.022	0.32	-

**PM and PM2.5 are assumed equal to PM10 for purposes of 326 IAC 2-2 (PSD)*

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.

State Rule Applicability - Individual Facilities

326 IAC 7-4-1.1 (Lake County sulfur dioxide emission limitations)
This source is not subject to 326 IAC 7-4-1.1 because it does 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)
This source is not subject to 326 IAC 8-1-6 because no facility has the potential to emit VOC emissions of 25 tons or more per year.

326 IAC 6-2 (Emission Limitations for Sources of Indirect Heating)

(a) The Non-Lead Glass Process Furnace and XS Furnace System are not subject to the requirements of 326 IAC 6-2 because they are not a source of indirect heating.

(b) The natural gas-fired combustion units are not subject to 326 IAC 6-2 because they are not sources of indirect heating.

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Particulate emissions from the Non-Lead Glass Process Furnace and XS Furnace System are subject to more stringent particulate requirement in 326 IAC 6.8. Therefore, these emission units are exempt from the requirements of 326 IAC 6-3-2.

326 IAC 6.8 (Nonattainment Area Limitations)
This rule is applicable to this source because it is located in Lake County; it is specifically listed in 326 IAC 6.8-2-13 and 326 IAC 6.8-2-15 of this rule; and the source has the potential to emit 100 tons or more of PM.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)
The natural gas-fired combustion units are not subject to the requirements of 326 IAC 7-1.1, because the potential sulfur dioxide emissions are less than twenty-five (25) tons per year and

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.

(a) The testing requirements applicable to this source are as follows:
Compliance stack tests are required on the following facilities to demonstrate compliance with the applicable lead (Pb) emission limits.

Emission Unit / Stack ID	Timeframe for Testing	Pollutant(s)	Frequency of Testing
Stack ID 1-S-52	Not later than five (5) years from the date of the last valid compliance demonstration	Pb	Once every five (5) years
Stack IDs 4A-S-8, 14-S-16, 1-S-2, 1-S-26 & 1-S-7	Not later than five (5) years from the date of the last valid compliance demonstration	Pb	Once every five (5) years
Stack ID 16-S-56	Not later than five (5) years from the date of the last valid compliance demonstration	Pb	Once every five (5) years
Stack ID 4-S-35	Not later than five (5) years from the date of the last valid compliance demonstration	Pb	Once every five (5) years
Stack ID 6-S-33	Not later than five (5) years from the date of the last valid compliance demonstration	Pb	Once every five (5) years
Stack ID 4B-S-34 & 1-S-27	Not later than five (5) years from the date of the last valid compliance demonstration	Pb	Once every five (5) years

(b) The compliance determination and monitoring requirements applicable to this source are as follows:

(*Stack ID 1-S-52*)

Control Unit ID	Frequency	Parameter	Pressure Drop Range (inches of water)	Excursions and Exceedances
		(Unit ID 52-1)		
52-10 F (Baghouse)	Daily	Pressure Drop	1.0 - 9.0	Response Steps
	Daily	Visible Emissions	Normal - Abnormal	
52-10 H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
(Main Control System) (Unit IDs 52-2 through 52-13, 52-15, 52-19				
52-1 F (Micro-Pul Baghouse)	Daily	Pressure Drop	1.0 - 9.0	
	Daily	Visible Emissions	Normal - Abnormal	
52-1 H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
52-2 F (Micro-Pul Baghouse)	Daily	Pressure Drop	1.0 - 9.0	
	Daily	Visible Emissions	Normal - Abnormal	
52-2 H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
52-3 F (Micro-Pul Baghouse)	Daily	Pressure Drop	1.0 - 9.0	
	Daily	Visible Emissions	Normal - Abnormal	
52-3 H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
52-4 F (Micro-Pul Baghouse)	Daily	Pressure Drop	1.0 - 9.0	
	Daily	Visible Emissions	Normal - Abnormal	
52-4 H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
52-5-H (Unit IDs 52-5, 6, 7, & 9 HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 52-14)				
52-7 F (Baghouse)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
52-9 F (Baghouse)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
52-5-H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 52-14)				
52-5 F (Baghouse)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
52-6 F (Baghouse)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
52-5-H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	

***Stack IDs* 4A-S-8, 14-S-16, 1-S-2, 1-S-26 and 1-S-7)**

Control Unit ID	Frequency	Parameter	Pressure Drop (inches of water)	Excursions and Exceedances
(Unit ID 8-1)				
8-7-F (Baghouse)	Daily	Pressure Drop	0.1 - 8.5	Response Steps
	Daily	Visible Emissions	Normal - Abnormal	
8-7-H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 16-1)				
16-8-F (Baghouse)	Daily	Pressure Drop	0.1 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
16-8-H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 2-1)				
2-9-F (Baghouse)	Daily	Pressure Drop	0.1 - 5.0	
	Daily	Visible Emissions	Normal - Abnormal	
2-9-H (HEPA)	Daily	Pressure Drop	0.1 - 2.0	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 7-1)				
7-1-F (Baghouse)	Daily	Pressure Drop	0.1 - 5.0	
	Daily	Visible Emissions	Normal - Abnormal	
7-1-H (HEPA)	Daily	Pressure Drop	0.1 - 2.0	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit IDs 26-1 & 2)				
26-10-F & 26-11-F (Baghouse)	Daily	Pressure Drop	0.5 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
26-10-H & 26-11-H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	

(Stack ID 16-S-56)

Control Unit ID	Frequency	Parameter	Pressure Drop Range (inches of water)	Excursions and Exceedances
(Unit IDs 56-1, 56-11, 56-12, and 56-13)				Response Steps
56-18-F & 56-18-H (100-Bag Filter / 100-Bag HEPA)	Daily	Pressure Drop	1.0 - 9.0 / 0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
56-19-F & 56-19-H (80-Bag Filter / 80-Bag HEPA)	Daily	Pressure Drop	1.0 - 10 / 0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
56-20-F & 56-20-H (72-Bag Filter / 72-Bag HEPA)	Daily	Pressure Drop	0.5 - 8.5 / 0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
56-25-F & 56-25-H (130-Bag Filter / 130-Bag HEPA)	Daily	Pressure Drop	1.0 - 9.0 / 0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 56-3)				
56-21-F (Baghouse)	Daily	Pressure Drop	0.1 - 10	
	Daily	Visible Emissions	Normal - Abnormal	

Control Unit ID	Frequency	Parameter	Pressure Drop Range (inches of water)	Excursions and Exceedances
56-21-H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Frequency	Parameter	Normal - Abnormal	
(Unit ID 56-4)				Response Steps
56-22-F (Baghouse)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
56-22-H (HEPA)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 56-7)				
56-25-F (130-Bag Baghouse)	Daily	Pressure Drop	1.0 - 9.0	
	Daily	Visible Emissions	Normal - Abnormal	
56-25-H (130-Bag HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 56-9)				
56-17-F (144 Bag Filter)	Daily	Pressure Drop	0.1 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
56-17-H (144-Bag HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 56-10)				
56-26-F (Cartridge Filter)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	

Control Unit ID	Frequency	Parameter	Pressure Drop Range (inches of water)	Excursions and Exceedances
Stack ID 4-S-35 (Unit ID 35-1)				Response Steps
35-15-F (Baghouse)	Daily	Pressure Drop	0.1 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
35-15-H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
Stack ID 1-S-27 (Unit ID 27-1)				
27-12-F (Baghouse)	Daily	Pressure Drop	0.5 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
27-12-H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
Stack ID 6-S-33 (Unit ID 33-1)				
33-14-F (Baghouse)	Daily	Pressure Drop	0.1 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
33-14-H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	

Control Unit ID	Frequency	Parameter	Pressure Drop Range (inches of water)	Excursions and Exceedances
Stack ID 4B-S-34 (Unit ID 34-1)				Response Steps
34-16 F (Baghouse)	Daily	Pressure Drop	0.1 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
34-16 H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
Stack ID 4B-S-34 (Unit ID 34-3)				
34-15 F (Baghouse)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
34-15 H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions	Normal - Abnormal	
34-17 F (Baghouse)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
34-17 H (HEPA)	Daily	Pressure Drop	0.1 - 4.5	
	Daily	Visible Emissions		

Control Unit ID	Frequency	Parameter	Pressure Drop Range (inches of water)	Excursions and Exceedances
Expander (Unit ID 15-1)				Response Steps
Alpha Blender (RB-1000)	Daily	Pressure Drop	0.1 - 7.0	
	Daily	Visible Emissions	Normal - Abnormal	
Alpha BM Receiver (R-1000)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
Alpha Ball Mill (DC-4001)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
Alpha Silo (T-1000)	Daily	Pressure Drop	0.5 - 10.0	
	Daily	Visible Emissions	Normal - Abnormal	
Alpha Packer Receiver (R-1002)	Daily	Pressure Drop	0.5 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
Alpha Packing (DC-4000)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 15-2)				
Beta Blender (RB-2000)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
Beta BM Receiver (R-2000)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
Beta Ball Mill (DC-3003)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
Beta Silo (T-2000)	Daily	Pressure Drop	0.5 - 10.0	
	Daily	Visible Emissions	Normal - Abnormal	

Beta Packer Receiver (R-2001)	Daily	Pressure Drop	0.5 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
Beta Packing (DC-3002)	Daily	Pressure Drop	0.1 - 8.0	
	Daily	Visible Emissions	Normal - Abnormal	
(Unit ID 15-3)				
Mixer (DC-3000)	Daily	Pressure Drop	2.0 - 10.0	
	Daily	Visible Emissions	Normal - Abnormal	
Mixer Packer (DC-2000)	Daily	Pressure Drop	0.5 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	

Control Unit ID	**Frequency**	**Parameter**	**Pressure Drop Range** (inches of water)	**Excursions and Exceedances**
Stack ID V-1 (Unit ID 1-1)				Response Steps
V-1 West	Daily	Pressure Drop	0.5 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
V-1 Mid	Daily	Pressure Drop	0.5 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	
V-1 East	Daily	Pressure Drop	0.5 - 8.5	
	Daily	Visible Emissions	Normal - Abnormal	

The source is subject to 326 IAC 6.8-4 because it is located in Lake County. Therefore, it must use the specified methods pertaining to opacity limits and testing conditions.

These monitoring conditions are necessary because the control equipment must operate properly to ensure compliance with 326 IAC 6.8-2-2 (Lake County: PM10 and total suspended particulates (TSP) emissions), 326 IAC 15-1-2 (Source-specific lead provisions).

Conclusion and Recommendation

The operation of this source shall be subject to the conditions of the attached proposed Part 70 Operating Permit No. 089-33798-00219. The staff recommends to the Commissioner that this Part 70 Operating Permit be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Swarna Prabha 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) 234-5376 or toll free at 1-800-451-6027extension 4-5376.

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

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

Company name: Hammond Group, Inc.
Address, City IN Zip: 2308- 165th Street, Hammond, Indiana 46230
Permit No.: T089-33798-00219
Reviewer: Provided BY Hammond Group, reviewed by Swarna Prabha

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	NOx	VOC	CO	GHGs as CO2e**	Total LEAD
Stack ID 1-S-52	515.9	515.9	515.9	negl.	2.69	0.15	2.3	3,242.06	476.7
Stack ID 4A-S-8	12.31	12.31	12.31	negl.	0.74	0.04	0.63	901.07	11.62
Stack ID 14-S-16	12.31	12.31	12.31	negl.	0.74	0.04	0.41	586.44	11.62
Stack ID 1-S-2	27.58	27.58	27.58	negl.	0.74	0.04	0.63	889.44	26.04
Stack ID 1-S-26	18.41	18.41	18.41	negl.	1.49	0.08	1.25	1,405.55	17.37
Stack ID 16-S-56	416.32	417.45	417.45	negl.	3.94	0.21	3.31	4,759.19	391.22
Stack ID 4-S-35	49.84	49.84	49.84	negl.	1.07	0.06	0.90	1,299.26	42.35
Stack ID 1-S-27	5.70	5.70	5.70	-	-	-	-	-	5.26
Stack ID 6-S-33	38.33	38.33	38.33	negl.	3.87	0.21	3.25	4,679.87	29.52
Stack ID 4B-S-34	139.44	139.44	139.44	negl.	1.31	0.07	1.10	1,586.40	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	12.31	12.36	12.36	negl.	0.74	0.00	0.63	1,043.00	11.62
Expander operation	17.73	17.73	17.73	-	-	-	-	-	-
Miscellaneous insignificant activities	-	-	-	-	-	5.8	-	1,466.26	3.39 Cadmium
Total PTE of Entire Source	**1266.3**	**1268.2**	**1268.2**	**negl.**	**17.4**	**6.75**	**14.6**	**21,858.54**	**1092.95**

Hammond Group, Inc.
Address, City IN Zip: 2308- 165th Street, Hammond, Indiana 46320
Permit No. : T089-33798- 00219
Reviewer: Provide By Hammond Group, Reviewed by Swarna Prabha

Appendix A: Limited Emission Calculations Summary

Process/ Emission Unit	Potential To Emit of the Entire Source After the issuance (tons/year)									
	PM	*(1)* PM10	PM2.5	SO_2	*(3)* NOx	*(3)* VOC	*(3)* CO	GHGs as CO2e**	Total LEAD	*(2)* LEAD
Stack ID 1-S-52	4.38	4.38	4.38	negl.	2.68	0.14	2.25	3,242.06	0.31	0.31 (Lead)
Stack ID 4A-S-8	1.1	1.1	1.1	negl.	0.74	0.04	0.63	901.07	0.23	0.23 (Lead)
Stack ID 14-S-16	1.1	1.1	1.1	negl.	0.74	0.04	0.41	586.44	0.23	0.23 (Lead)
Stack ID 1-S-2	1.1	1.1	1.1	negl.	0.74	0.04	0.63	889.44	0.23	0.23 (Lead)
Stack ID 1-S-26	1.1	1.1	1.1	negl.	1.49	0.08	1.25	1,405.55	0.23	0.23 (Lead)
Stack ID 16-S-56	4.38	4.38	4.38	negl.	3.94	0.21	3.31	4,759.19	0.88	0.88 (Lead)
Stack ID 4-S-35	2.5	2.5	2.5	negl.	1.07	0.059	0.9	1,299.26	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	4,679.87	0.31	0.31 (Lead)
Stack ID 4B-S-34	1.75	1.75	1.75	negl.	1.31	0.07	1.1	1,586.40	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	1,043.00	0.23	0.23 (Lead)
Expander operation	1.4	1.4	1.4	-	-	-	-	-	-	-
insignificant activities	-	-	-	-	-	5.8	-	1,466.26	-	3.39 Cadmium
Total PTE of Entire Source	**31.23**	**31.23**	**31.23**	**negl.**	**17.4**	**6.75**	**14.6**	**21,858.54**	**3.96**	**3.96 (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 ı exceed the major source thresholds and therefore are based on unrestricted emissions

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

NOTES

Appendix A: Limited Emission Calculati 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

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.123	0.9999	2.8081	67.3936	**12.2993**	0.0003	0.0012	0.0000	5.919854	0.000592
PM10	1.123	0.9999	2.8081	67.3936	**12.2993**	0.0003	0.0012	0.0000	5.919854	0.000592
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	1.061	0.9999	2.6525	63.6600	**11.6180**	0.0003	0.0012	N/A	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 contro 1.06119561 lbs/ton.

Pb is 94.46% of PT.

Potential fugitives 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 STACK ID (DIAM:HEIGHT): (3: 82)

1 MDR 0.0017 QTY BURNED (mmcft/yr): 2.83 FLOWRATE (ACFM): 25,848

Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

2			POTENTIAL EMISSIONS						2012 Actual (TPY)	
3	No. 3-01-900-03		BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0032	0.0761	**0.0139**	0.0032	0.0139	0.0000	0.002691	0.002691
PM10	7.6	0	0.0127	0.3044	**0.0556**	0.0127	0.0556	0.0001	0.010763	0.010763
SOx	0.6	0	0.0010	0.0240	**0.0044**	0.0010	0.0044	N/A	0.000850	0.000850
NOx	100	0	0.1669	4.0056		0.1669	0.7310	N/A	0.141617	0.141617
VOC	5.5	0	0.0092	0.2203	**0.0402**	0.0092	0.0402	N/A	0.007789	0.007789
CO	84	0	0.1402	3.3647	**0.6141**	0.1402	0.6141	N/A	0.118958	0.118958
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000001	0.000001

Unit ID: 52-1 (No. 1 Barton) MDC (mmBtu/hr): 1.669 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)

Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.018240 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0036	0.0876	**0.0160**	0.0036	0.0160	0.0000	0.000000	0.000000
PM10	0.7	0	0.0128	0.3064	**0.0559**	0.0128	0.0559	0.0001	0.000000	0.000000
SOx	0.1	0	0.0018	0.0438	**0.0080**	0.0018	0.0080	N/A	0.000000	0.000000
NOx	13	0	0.2371	5.6910	**1.0386**	0.2371	1.0386	N/A	0.000000	0.000000
VOC	1	0	0.0182	0.4378	**0.0799**	0.0182	0.0799	N/A	0.000000	0.000000
CO	7.5	0	0.1368	3.2833	**0.5992**	0.1368	0.5992	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: Unit 52-1 (No. 1 Barton)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	2.8112	67.4697	12.3132	0.0035	0.0151	0.0000	5.922545	0.003283
PM10	2.8208	67.6980	12.3549	0.0130	0.0568	0.0001	5.930617	0.011355
SOx	0.0010	0.0240	0.0044	0.0010	0.0044	#VALUE!	0.000850	0.000850
NOx	0.1669	4.0056	0.7310	0.1669	0.7310	#VALUE!	0.141617	0.141617
VOC	0.0092	0.2203	0.0402	0.0092	0.0402	#VALUE!	0.007789	0.007789
CO	0.1402	3.3647	0.6141	0.1402	0.6141	#VALUE!	0.118958	0.118958
LEAD	2.6525	63.6600	11.6180	0.0003	0.0012	#VALUE!	5.591895	0.000560

* Under Natural Gas Combustion.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

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

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.012	0.9999	0.0124	0.2964	**0.0541**	0.0000	0.0000	0.0000	0.008603	0.000001
PM10	0.012	0.9999	0.0124	0.2964	**0.0541**	0.0000	0.0000	0.0000	0.008603	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	0.011	0.9999	0.0114	0.2738	**0.0500**	0.0000	0.0000	N/A	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 (mmcft/hr): 0.0007 QTY BURNED (mmcft/yr): 0.87 FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0012	0.0296	**0.0054**	0.0012	0.0054	0.0000	0.000823	0.000823
PM10	7.6	0	0.0049	0.1186	**0.0216**	0.0049	0.0216	0.0000	0.003290	0.003290
SOx	0.6	0	0.0004	0.0094	**0.0017**	0.0004	0.0017	N/A	0.000260	0.000260
NOx	100	0	0.0650	1.5600	**0.2847**	0.0650	0.2847	N/A	0.043295	0.043295
VOC	5.5	0	0.0036	0.0858	**0.0157**	0.0036	0.0157	N/A	0.002381	0.002381
CO	84	0	0.0546	1.3104	**0.2391**	0.0546	0.2391	N/A	0.036367	0.036367
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Unit ID: 52-3 (No.2 Calcining Furnace) MDC (mmBtu/hr): 0.65 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0014	0.0341	**0.0062**	0.0014	0.0062	0.0000	0.000000	0.000000
PM10	0.7	0	0.0050	0.1193	**0.0218**	0.0050	0.0218	0.0000	0.000000	0.000000
SOx	0.1	0	0.0007	0.0170	**0.0031**	0.0007	0.0031	N/A	0.000000	0.000000
NOx	13	0	0.0923	2.2164	**0.4045**	0.0923	0.4045	N/A	0.000000	0.000000
VOC	1	0	0.0071	0.1705	**0.0311**	0.0071	0.0311	N/A	0.000000	0.000000
CO	7.5	0	0.0533	1.2787	**0.2334**	0.0533	0.2334	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: Unit 52-3 (No. 2 Calcining Furnace) (Insignificant)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.0136	0.3260	0.0595	0.0012	0.0054	0.0000	0.009426	0.000823
PM10	0.0173	0.4150	0.0757	0.0049	0.0216	0.0000	0.011894	0.003291
SOx	0.0004	0.0094	0.0017	0.0004	0.0017	#VALUE!	0.000260	0.000260
NOx	0.0650	1.5600	0.2847	0.0650	0.2847	#VALUE!	0.043295	0.043295
VOC	0.0036	0.0858	0.0157	0.0036	0.0157	#VALUE!	0.002381	0.002381
CO	0.0546	1.3104	0.2391	0.0546	0.2391	#VALUE!	0.036367	0.036367
LEAD	0.0114	0.2738	0.0500	0.0000	0.0000	#VALUE!	0.007946	0.000001

* Under Natural Gas Combustion.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.026	0.9999	0.0278	0.6673	**0.1218**	0.0000	0.0000	0.0000	0.006737	0.000001
PM10	0.026	0.9999	0.0278	0.6673	**0.1218**	0.0000	0.0000	0.0000	0.006737	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	0.024	0.9999	0.0257	0.6163	**0.1125**	0.0000	0.0000	N/A	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 (mmcft/hr): 0.0005 QTY BURNED (mmcft/yr): 0.79 FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0009	0.0213	**0.0039**	0.0009	0.0039	0.0000	0.000755	0.000755
PM10	7.6	0	0.0036	0.0854	**0.0156**	0.0036	0.0156	0.0000	0.003019	0.003019
SOx	0.6	0	0.0003	0.0067	**0.0012**	0.0003	0.0012	N/A	0.000238	0.000238
NOx	100	0	0.0468	1.1232	**0.2050**	0.0468	0.2050	N/A	0.039729	0.039729
VOC	5.5	0	0.0026	0.0618	**0.0113**	0.0026	0.0113	N/A	0.002185	0.002185
CO	84	0	0.0393	0.9435	**0.1722**	0.0393	0.1722	N/A	0.033372	0.033372
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Unit ID: 52-4 (No.10 Calcining Furnace) MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0010	0.0246	**0.0045**	0.0010	0.0045	0.0000	0.000000	0.000000
PM10	0.7	0	0.0036	0.0859	**0.0157**	0.0036	0.0157	0.0000	0.000000	0.000000
SOx	0.1	0	0.0005	0.0123	**0.0022**	0.0005	0.0022	N/A	0.000000	0.000000
NOx	13	0	0.0665	1.5958	**0.2912**	0.0665	0.2912	N/A	0.000000	0.000000
VOC	1	0	0.0051	0.1228	**0.0224**	0.0051	0.0224	N/A	0.000000	0.000000
CO	7.5	0	0.0384	0.9207	**0.1680**	0.0384	0.1680	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: Unit 52-4 (No. 10 Calcining Furnace) (Insignificant)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.0287	0.6886	0.1257	0.0009	0.0039	0.0000	0.007492	0.000756
PM10	0.0314	0.7526	0.1374	0.0036	0.0156	0.0000	0.009756	0.003020
SOx	0.0003	0.0067	0.0012	0.0003	0.0012	#VALUE!	0.000238	0.000238
NOx	0.0468	1.1232	0.2050	0.0468	0.2050	#VALUE!	0.039729	0.039729
VOC	0.0026	0.0618	0.0113	0.0026	0.0113	#VALUE!	0.002185	0.002185
CO	0.0393	0.9435	0.1722	0.0393	0.1722	#VALUE!	0.033372	0.033372
LEAD	0.0257	0.6163	0.1125	0.0000	0.0000	#VALUE!	0.006222	0.000001

* Under Natural Gas Combustion.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: 52-5 (No.3 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.018	0.9999	0.0185	0.4449	**0.0812**	0.0000	0.0000	0.0000	0.012912	0.000001
PM10	0.018	0.9999	0.0185	0.4449	**0.0812**	0.0000	0.0000	0.0000	0.012912	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	0.016	0.9999	0.0171	0.4109	**0.0750**	0.0000	0.0000	N/A	0.011926	0.000001

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-5 (No.3 Calcining Furnace) MDC (mmBtu/hr): 0.369 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (3: 82)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0004 QTY BURNED (mmcft/yr): 0.63 FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0007	0.0168	**0.0031**	0.0007	0.0031	0.0000	0.000595	0.000595
PM10	7.6	0	0.0028	0.0673	**0.0123**	0.0028	0.0123	0.0000	0.002381	0.002381
SOx	0.6	0	0.0002	0.0053	**0.0010**	0.0002	0.0010	N/A	0.000188	0.000188
NOx	100	0	0.0369	0.8856	**0.1616**	0.0369	0.1616	N/A	0.031325	0.031325
VOC	5.5	0	0.0020	0.0487	**0.0089**	0.0020	0.0089	N/A	0.001723	0.001723
CO	84	0	0.0310	0.7439	**0.1358**	0.0310	0.1358	N/A	0.026313	0.026313
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Unit ID: 52-5 (No.3 Calcining Furnace) MDC (mmBtu/hr): 0.369 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0008	0.0194	**0.0035**	0.0008	0.0035	0.0000	0.000000	0.000000
PM10	0.7	0	0.0028	0.0678	**0.0124**	0.0028	0.0124	0.0000	0.000000	0.000000
SOx	0.1	0	0.0004	0.0097	**0.0018**	0.0004	0.0018	N/A	0.000000	0.000000
NOx	13	0	0.0524	1.2582	**0.2296**	0.0524	0.2296	N/A	0.000000	0.000000
VOC	1	0	0.0040	0.0968	**0.0177**	0.0040	0.0177	N/A	0.000000	0.000000
CO	7.5	0	0.0302	0.7259	**0.1325**	0.0302	0.1325	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: Unit 52-5 (No. 3 Calcining Furnace) (Insignificant)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.0192	0.4617	0.0843	0.0007	0.0031	0.0000	0.013508	0.000596
PM10	0.0213	0.5122	0.0935	0.0028	0.0123	0.0000	0.015293	0.002382
SOx	0.0002	0.0053	0.0010	0.0002	0.0010	#VALUE!	0.000188	0.000188
NOx	0.0369	0.8856	0.1616	0.0369	0.1616	#VALUE!	0.031325	0.031325
VOC	0.0020	0.0487	0.0089	0.0020	0.0089	#VALUE!	0.001723	0.001723
CO	0.0310	0.7439	0.1358	0.0310	0.1358	#VALUE!	0.026313	0.026313
LEAD	0.0171	0.4109	0.0750	0.0000	0.0000	#VALUE!	0.011926	0.000001

* Under Natural Gas Combustion.

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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.018	0.9999	0.0185	0.4449	**0.0812**	0.0000	0.0000	0.0000	0.012912	0.0000013
PM10	0.018	0.9999	0.0185	0.4449	**0.0812**	0.0000	0.0000	0.0000	0.012912	0.0000013
SOx	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.0000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.0000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.0000000
CO	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.0000000
LEAD	0.016	0.9999	0.0171	0.4109	**0.0750**	0.0000	0.0000	N/A	0.011926	0.0000012

Potential fugitives captured by building ventilation system (V-1).

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

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 (mmcft/hr): 0.0005 QTY BURNED (mmcft/yr): 0.79 FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0009	0.0213	**0.0039**	0.0009	0.0039	0.0000	0.000755	0.000755
PM10	7.6	0	0.0036	0.0854	**0.0156**	0.0036	0.0156	0.0000	0.003019	0.003019
SOx	0.6	0	0.0003	0.0067	**0.0012**	0.0003	0.0012	N/A	0.000238	0.000238
NOx	100	0	0.0468	1.1232	**0.2050**	0.0468	0.2050	N/A	0.039729	0.039729
VOC	5.5	0	0.0026	0.0618	**0.0113**	0.0026	0.0113	N/A	0.002185	0.002185
CO	84	0	0.0393	0.9435	**0.1722**	0.0393	0.1722	N/A	0.033372	0.033372
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Unit ID: 52-6 (No.4 Calcining Furnace) MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0010	0.0246	**0.0045**	0.0010	0.0045	0.0000	0.000000	0.000000
PM10	0.7	0	0.0036	0.0859	**0.0157**	0.0036	0.0157	0.0000	0.000000	0.000000
SOx	0.1	0	0.0005	0.0123	**0.0022**	0.0005	0.0022	N/A	0.000000	0.000000
NOx	13	0	0.0665	1.5958	**0.2912**	0.0665	0.2912	N/A	0.000000	0.000000
VOC	1	0	0.0051	0.1228	**0.0224**	0.0051	0.0224	N/A	0.000000	0.000000
CO	7.5	0	0.0384	0.9207	**0.1680**	0.0384	0.1680	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: Unit 52-6 (No. 4 Calcining Furnace) (Insignificant)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.0194	0.4662	0.0851	0.0009	0.0039	0.0000	0.013667	0.000756
PM10	0.0221	0.5302	0.0968	0.0036	0.0156	0.0000	0.015932	0.003021
SOx	0.0003	0.0067	0.0012	0.0003	0.0012	#VALUE!	0.000238	0.000238
NOx	0.0468	1.1232	0.2050	0.0468	0.2050	#VALUE!	0.039729	0.039729
VOC	0.0026	0.0618	0.0113	0.0026	0.0113	#VALUE!	0.002185	0.002185
CO	0.0393	0.9435	0.1722	0.0393	0.1722	#VALUE!	0.033372	0.033372
LEAD	0.0171	0.4109	0.0750	0.0000	0.0000	#VALUE!	0.011926	0.000001

* Under Natural Gas Combustion.

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

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.018	0.9999	0.0185	0.4449	**0.0812**	0.0000	0.0000	0.0000	0.012912	0.0000013
PM10	0.018	0.9999	0.0185	0.4449	**0.0812**	0.0000	0.0000	0.0000	0.012912	0.0000013
SOx	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.0000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.0000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.0000000
CO	0	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.0000000
LEAD	0.016	0.9999	0.0171	0.4109	**0.0750**	0.0000	0.0000	N/A	0.011926	0.0000012

Potential fugitives captured by building ventilation system (V-1).

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

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 (mmcft/hr): 0.0005 QTY BURNED (mmcft/yr): 0.79 FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0009	0.0213	**0.0039**	0.0009	0.0039	0.0000	0.000755	0.000755
PM10	7.6	0	0.0036	0.0854	**0.0156**	0.0036	0.0156	0.0000	0.003019	0.003019
SOx	0.6	0	0.0003	0.0067	**0.0012**	0.0003	0.0012	N/A	0.000238	0.000238
NOx	100	0	0.0468	1.1232	**0.2050**	0.0468	0.2050	N/A	0.039729	0.039729
VOC	5.5	0	0.0026	0.0618	**0.0113**	0.0026	0.0113	N/A	0.002185	0.002185
CO	84	0	0.0393	0.9435	**0.1722**	0.0393	0.1722	N/A	0.033372	0.033372
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Unit ID: 52-7 (No.5 Calcining Furnace) MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0010	0.0246	**0.0045**	0.0010	0.0045	0.0000	0.000000	0.000000
PM10	0.7	0	0.0036	0.0859	**0.0157**	0.0036	0.0157	0.0000	0.000000	0.000000
SOx	0.1	0	0.0005	0.0123	**0.0022**	0.0005	0.0022	N/A	0.000000	0.000000
NOx	13	0	0.0665	1.5958	**0.2912**	0.0665	0.2912	N/A	0.000000	0.000000
VOC	1	0	0.0051	0.1228	**0.0224**	0.0051	0.0224	N/A	0.000000	0.000000
CO	7.5	0	0.0384	0.9207	**0.1680**	0.0384	0.1680	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: Unit 52-7 (No. 5 Calcining Furnace) (Insignificant)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.0194	0.4662	0.0851	0.0009	0.0039	0.0000	0.013667	0.000756
PM10	0.0221	0.5302	0.0968	0.0036	0.0156	0.0000	0.015932	0.003021
SOx	0.0003	0.0067	0.0012	0.0003	0.0012	#VALUE!	0.000238	0.000238
NOx	0.0468	1.1232	0.2050	0.0468	0.2050	#VALUE!	0.039729	0.039729
VOC	0.0026	0.0618	0.0113	0.0026	0.0113	#VALUE!	0.002185	0.002185
CO	0.0393	0.9435	0.1722	0.0393	0.1722	#VALUE!	0.033372	0.033372
LEAD	0.0171	0.4109	0.0750	0.0000	0.0000	#VALUE!	0.011926	0.000001

* Under Natural Gas Combustion.

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

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.026	0.9999	0.0278	0.6673	**0.1218**	0.0000	0.0000	0.0000	0.016807	0.000002
PM10	0.026	0.9999	0.0278	0.6673	**0.1218**	0.0000	0.0000	0.0000	0.016807	0.000002
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	0.024	0.9999	0.0257	0.6163	**0.1125**	0.0000	0.0000	N/A	0.015523	0.000002

Potential fugitives captured by building ventilation system (V-1).

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

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 (mmcft/hr): 0.0005 QTY BURNED (mmcft/yr): 0.79 FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0009	0.0213	**0.0039**	0.0009	0.0039	0.0000	0.000755	0.000755
PM10	7.6	0	0.0036	0.0854	**0.0156**	0.0036	0.0156	0.0000	0.003019	0.003019
SOx	0.6	0	0.0003	0.0067	**0.0012**	0.0003	0.0012	N/A	0.000238	0.000238
NOx	100	0	0.0468	1.1232	**0.2050**	0.0468	0.2050	N/A	0.039729	0.039729
VOC	5.5	0	0.0026	0.0618	**0.0113**	0.0026	0.0113	N/A	0.002185	0.002185
CO	84	0	0.0393	0.9435	**0.1722**	0.0393	0.1722	N/A	0.033372	0.033372
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Unit ID: 52-8 (No.6 Calcining Furnace) MDC (mmBtu/hr): 0.468 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0010	0.0246	**0.0045**	0.0010	0.0045	0.0000	0.000000	0.000000
PM10	0.7	0	0.0036	0.0859	**0.0157**	0.0036	0.0157	0.0000	0.000000	0.000000
SOx	0.1	0	0.0005	0.0123	**0.0022**	0.0005	0.0022	N/A	0.000000	0.000000
NOx	13	0	0.0665	1.5958	**0.2912**	0.0665	0.2912	N/A	0.000000	0.000000
VOC	1	0	0.0051	0.1228	**0.0224**	0.0051	0.0224	N/A	0.000000	0.000000
CO	7.5	0	0.0384	0.9207	**0.1680**	0.0384	0.1680	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: Unit 52-8 (No. 6 Calcining Furnace) (Insignificant)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.0287	0.6886	0.1257	0.0009	0.0039	0.0000	0.017562	0.000757
PM10	0.0314	0.7526	0.1374	0.0036	0.0156	0.0000	0.019827	0.003021
SOx	0.0003	0.0067	0.0012	0.0003	0.0012	#VALUE!	0.000238	0.000238
NOx	0.0468	1.1232	0.2050	0.0468	0.2050	#VALUE!	0.039729	0.039729
VOC	0.0026	0.0618	0.0113	0.0026	0.0113	#VALUE!	0.002185	0.002185
CO	0.0393	0.9435	0.1722	0.0393	0.1722	#VALUE!	0.033372	0.033372
LEAD	0.0257	0.6163	0.1125	0.0000	0.0000	#VALUE!	0.015523	0.000002

* Under Natural Gas Combustion.

Unit ID: 52-9 (No.8 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): 0.00 FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.034	0.9999	0.0357	0.8568	**0.1564**	0.0000	0.0000	0.0000	0.000000	0.000000
PM10	0.034	0.9999	0.0357	0.8568	**0.1564**	0.0000	0.0000	0.0000	0.000000	0.000000
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	0.032	0.9999	0.0336	0.8064	**0.1472**	0.0000	0.0000	N/A	0.000000	0.000000

EF from 11/17/99 stack test.

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-9 (No.8 Calcining Furnace) MDC (mmBtu/hr): 0.792 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (3: 82)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0008 QTY BURNED (mmcft/yr): 0.00 FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0015	0.0361	**0.0066**	0.0015	0.0066	0.0000	0.000000	0.000000
PM10	7.6	0	0.0060	0.1445	**0.0264**	0.0060	0.0264	0.0000	0.000000	0.000000
SOx	0.6	0	0.0005	0.0114	**0.0021**	0.0005	0.0021	N/A	0.000000	0.000000
NOx	100	0	0.0792	1.9008	**0.3469**	0.0792	0.3469	N/A	0.000000	0.000000
VOC	5.5	0	0.0044	0.1045	**0.0191**	0.0044	0.0191	N/A	0.000000	0.000000
CO	84	0	0.0665	1.5967	**0.2914**	0.0665	0.2914	N/A	0.000000	0.000000
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: 52-9 (No.8 Calcining Furnace) MDC (mmBtu/hr): 0.792 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0017	0.0415	**0.0076**	0.0017	0.0076	0.0000	0.000000	0.000000
PM10	0.7	0	0.0061	0.1454	**0.0265**	0.0061	0.0265	0.0000	0.000000	0.000000
SOx	0.1	0	0.0009	0.0208	**0.0038**	0.0009	0.0038	N/A	0.000000	0.000000
NOx	13	0	0.1125	2.7006	**0.4929**	0.1125	0.4929	N/A	0.000000	0.000000
VOC	1	0	0.0087	0.2077	**0.0379**	0.0087	0.0379	N/A	0.000000	0.000000
CO	7.5	0	0.0649	1.5580	**0.2843**	0.0649	0.2843	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: Unit 52-9 (No. 8 Calcining Furnace) (Insignificant)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.0372	0.8929	0.1630	0.0015	0.0066	0.0000	0.000000	0.000000
PM10	0.0417	1.0013	0.1827	0.0060	0.0264	0.0000	0.000000	0.000000
SOx	0.0005	0.0114	0.0021	0.0005	0.0021	#VALUE!	0.000000	0.000000
NOx	0.0792	1.9008	0.3469	0.0792	0.3469	#VALUE!	0.000000	0.000000
VOC	0.0044	0.1045	0.0191	0.0044	0.0191	#VALUE!	0.000000	0.000000
CO	0.0665	1.5967	0.2914	0.0665	0.2914	#VALUE!	0.000000	0.000000
LEAD	0.0336	0.8064	0.1472	0.0000	0.0000	#VALUE!	0.000000	0.000000

* Under Natural Gas Combustion.

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

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.023	0.9999	0.0238	0.5720	**0.1044**	0.0000	0.0000	0.0000	0.014406	0.000001
PM10	0.023	0.9999	0.0238	0.5720	**0.1044**	0.0000	0.0000	0.0000	0.014406	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	0.021	0.9999	0.0220	0.5283	**0.0964**	0.0000	0.0000	N/A	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 (mmcft/hr): 0.0008 QTY BURNED (mmcft/yr): 1.32 FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0015	0.0355	**0.0065**	0.0015	0.0065	0.0000	0.001256	0.001256
PM10	7.6	0	0.0059	0.1421	**0.0259**	0.0059	0.0259	0.0000	0.005026	0.005026
SOx	0.6	0	0.0005	0.0112	**0.0020**	0.0005	0.0020	N/A	0.000397	0.000397
NOx	100	0	0.0779	1.8696	**0.3412**	0.0779	0.3412	N/A	0.066130	0.066130
VOC	5.5	0	0.0043	0.1028	**0.0188**	0.0043	0.0188	N/A	0.003637	0.003637
CO	84	0	0.0654	1.5705	**0.2866**	0.0654	0.2866	N/A	0.055549	0.055549
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: 52-10 (No.9 Calcining Furnace) MDC (mmBtu/hr): 0.779 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.008514 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0017	0.0409	**0.0075**	0.0017	0.0075	0.0000	0.000000	0.000000
PM10	0.7	0	0.0060	0.1430	**0.0261**	0.0060	0.0261	0.0000	0.000000	0.000000
SOx	0.1	0	0.0009	0.0204	**0.0037**	0.0009	0.0037	N/A	0.000000	0.000000
NOx	13	0	0.1107	2.6563	**0.4848**	0.1107	0.4848	N/A	0.000000	0.000000
VOC	1	0	0.0085	0.2043	**0.0373**	0.0085	0.0373	N/A	0.000000	0.000000
CO	7.5	0	0.0639	1.5325	**0.2797**	0.0639	0.2797	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: Unit 52-10 (No. 9 Calcining Furnace) (Insignificant)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.0253	0.6075	0.1109	0.0015	0.0065	0.0000	0.015663	0.001258
PM10	0.0298	0.7140	0.1303	0.0059	0.0259	0.0000	0.019432	0.005027
SOx	0.0005	0.0112	0.0020	0.0005	0.0020	#VALUE!	0.000397	0.000397
NOx	0.0779	1.8696	0.3412	0.0779	0.3412	#VALUE!	0.066130	0.066130
VOC	0.0043	0.1028	0.0188	0.0043	0.0188	#VALUE!	0.003637	0.003637
CO	0.0654	1.5705	0.2866	0.0654	0.2866	#VALUE!	0.055549	0.055549
LEAD	0.0220	0.5283	0.0964	0.0000	0.0000	#VALUE!	0.013306	0.000002

* Under Natural Gas Combustion.

Unit ID: 52-11 (Lead Oxide Grinding Mill) (Litharge Mill) 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. 3-01-035-52			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	6.603	0.9999	25.9400	622.5601	**113.6172**	0.0026	0.0114	0.0000	34.800610	0.003480
PM10	6.603	0.9999	25.9400	622.5601	**113.6172**	0.0026	0.0114	0.0000	34.800610	0.003480
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	6.099	0.9999	23.9582	574.9965	**104.9369**	0.0024	0.0105	N/A	32.141844	0.003214

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 52-11 (Packing) (Front End Packing) 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): 145.51 FLOWRATE (ACFM): 25,848
Ts(°F): 183

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	6.603	0.9999	25.9400	622.5601	**113.6172**	0.0026	0.0114	0.0000	0.480387	0.000048
PM10	6.603	0.9999	25.9400	622.5601	**113.6172**	0.0026	0.0114	0.0000	0.480387	0.000048
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	6.099	0.9999	23.9582	574.9965	**104.9369**	0.0024	0.0105	N/A	0.443685	0.000044

Packing station used also for 52-12. Throughput is the total of 52-11 & 52-12.

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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	2.794	0.9999	10.9746	263.3908	**48.0688**	0.0011	0.0048	0.0000	14.723335	0.001472
PM10	2.794	0.9999	10.9746	263.3908	**48.0688**	0.0011	0.0048	0.0000	14.723335	0.001472
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	2.580	0.9999	10.1362	243.2678	**44.3964**	0.0010	0.0044	N/A	13.598472	0.001360

This unit is shown on the flow diagram for 56-3. Material transfer into one of two weigh hoppers.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Total: Unit 52-11

POLLUTANT	POTENTIAL EMISSIONS BEFORE CONTROLS (lbs/hr)	(lbs/day)	**(TPY)**	AFTER CONTROLS (lbs/hr)	(TPY)	(gr/dscf)	2012 Actual (TPY) BEFORE CONTROLS	AFTER CONTROLS
PM	62.8546	1,508.5110	275.3033	0.0063	0.0275	0.0000	50.004332	0.005000
PM10	62.8546	1,508.5110	275.3033	0.0063	0.0275	0.0000	50.004332	0.005000
SOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.000000	0.000000
NOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.000000	0.000000
VOC	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.000000	0.000000
CO	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.000000	0.000000
LEAD	58.0525	1,393.2608	254.2701	0.0058	0.0254	#VALUE!	46.184001	0.004618

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): 6,360.53 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. 3-01-035-52

POLLUTANT	EF(LB/T)	CE (%)	POTENTIAL EMISSIONS BEFORE CONTROLS (lbs/hr)	(lbs/day)	**(TPY)**	AFTER CONTROLS (lbs/hr)	(TPY)	(gr/dscf)	2012 Actual (TPY) BEFORE CONTROLS	AFTER CONTROLS
PM	3.149	0.9999	14.1726	340.1430	**62.0761**	0.0014	0.0062	0.0000	10.016155	0.001002
PM10	3.149	0.9999	14.1726	340.1430	**62.0761**	0.0014	0.0062	0.0000	10.016155	0.001002
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	2.909	0.9999	13.0898	314.1560	**57.3335**	0.0013	0.0057	N/A	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
PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-52

POLLUTANT	EF(LB/T)	CE (%)	POTENTIAL EMISSIONS BEFORE CONTROLS (lbs/hr)	(lbs/day)	**(TPY)**	AFTER CONTROLS (lbs/hr)	(TPY)	(gr/dscf)	2012 Actual (TPY) BEFORE CONTROLS	AFTER CONTROLS
PM	0.159	0.9999	0.3983	9.5582	**1.7444**	0.0000	0.0002	0.0000	0.182005	0.000018
PM10	0.159	0.9999	0.3983	9.5582	**1.7444**	0.0000	0.0002	0.0000	0.182005	0.000018
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	0.147	0.9999	0.3678	8.8279	**1.6111**	0.0000	0.0002	N/A	0.168100	0.000017

Potential fugitives captured by building ventilation system (V-1).

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

POLLUTANT	EF(LB/T)	CE (%)	POTENTIAL EMISSIONS BEFORE CONTROLS (lbs/hr)	(lbs/day)	**(TPY)**	AFTER CONTROLS (lbs/hr)	(TPY)	(gr/dscf)	2012 Actual (TPY) BEFORE CONTROLS	AFTER CONTROLS
PM	0.159	0.9999	0.3983	9.5582	**1.7444**	0.0000	0.0002	0.0000	0.011590	0.000001
PM10	0.159	0.9999	0.3983	9.5582	**1.7444**	0.0000	0.0002	0.0000	0.011590	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	0.147	0.9999	0.3678	8.8279	**1.6111**	0.0000	0.0002	N/A	0.010704	0.000001

Total: Unit 52-13

POLLUTANT	POTENTIAL EMISSIONS BEFORE CONTROLS (lbs/hr)	(lbs/day)	**(TPY)**	AFTER CONTROLS (lbs/hr)	(TPY)	(gr/dscf)	2012 Actual (TPY) BEFORE CONTROLS	AFTER CONTROLS
PM	0.7965	19.1164	3.4887	0.0001	0.0003	0.0000	0.193594	0.000019
PM10	0.7965	19.1164	3.4887	0.0001	0.0003	0.0000	0.193594	0.000019
SOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.000000	0.000000
NOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.000000	0.000000
VOC	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.000000	0.000000
CO	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.000000	0.000000
LEAD	0.7357	17.6559	3.2222	0.0001	0.0003	#VALUE!	0.178804	0.000018

Unit ID: 52-14 (Air Conveying System) (Insignificant) MDR (T produced/hr): 5 STACK ID (DIAM:HEIGHT): (3: 82)
(HM Conveyor) YEARLY PROD (T/yr): 1.10 FLOWRATE (ACFM): 25,848
CNTRL DEV: Filters (52-7 and 9-F & H) Ts(°F): 183
PERMITTED OPERATING HRS: **8760** hr/yr

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SCC NO. 3-01-035-54

POLLUTANT	EF(LB/T)	CE (%)	POTENTIAL EMISSIONS BEFORE CONTROLS (lbs/hr)	(lbs/day)	**(TPY)**	AFTER CONTROLS (lbs/hr)	(TPY)	(gr/dscf)	2012 Actual (TPY) BEFORE CONTROLS	AFTER CONTROLS
PM	0.02607	0.9999	0.1304	3.1286	**0.5710**	0.000013	0.000057	0.000000	0.000014	0.000000
PM10	0.02607	0.9999	0.1304	3.1286	**0.5710**	0.000013	0.000057	0.000000	0.000014	0.000000
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0.02408	0.9999	0.1204	2.8896	**0.5273**	0.000012	0.000053	N/A	0.000013	0.000000

Potential fugitives captured by building ventilation system (V-1).

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: 52-15 (Lead Oxide Bulk Loading) MDR (T produced/hr): 13.38 STACK ID (DIAM:HEIGHT): (3: 82)
YEARLY PROD (T/yr): 8,155.22 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.487	0.9999	6.5153	156.3676	**28.5371**	0.0007	0.0029	0.0000	1.985569	0.000199
PM10	0.487	0.9999	6.5153	156.3676	**28.5371**	0.0007	0.0029	0.0000	1.985569	0.000199
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	0.450	0.9999	6.0175	144.4211	**26.3569**	0.0006	0.0026	N/A	1.833872	0.000183

Unit ID: 52-16 (Bulk Truck Loading System) MDR (T produced/hr): 79.965 STACK ID (DIAM:HEIGHT): (3: 82)
YEARLY PROD (T/yr): 52,691.05 FLOWRATE (ACFM): 25,848
CNTRL DEV: Filters (52-5 and 6-F & H) Ts(°F): 183
PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.1469	0.9999	11.7494	281.9847	**51.4622**	0.0012	0.0051	0.0000	3.870983	0.000387
PM10	0.1469	0.9999	11.7494	281.9847	**51.4622**	0.0012	0.0051	0.0000	3.870983	0.000387
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	0.1357	0.9999	10.8517	260.4411	**47.5305**	0.0011	0.0048	N/A	3.575240	0.000358

Unit ID: 52-19 (Lead Oxide Bulk Loading North) MDR (T produced/hr): 50 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
PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.371	0.9999	18.5643	445.5437	**81.3117**	0.0019	0.0081	0.0000	0.424197	0.000042
PM10	0.371	0.9999	18.5643	445.5437	**81.3117**	0.0019	0.0081	0.0000	0.424197	0.000042
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	0.343	0.9999	17.1460	411.5042	**75.0995**	0.0017	0.0075	N/A	0.391789	0.000039

Total: Stack 1-S-52

	POTENTIAL EMISSIONS						**PERMIT LIMIT**		**2012 Actual (TPY)**	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	117.7859	2,826.8625	515.9024	0.0234	0.1026	0.0001	1.000	4.380	72.5084	0.0156
PM10	117.8209	2,827.7012	516.0555	0.0584	0.2557	0.0003	1.000	4.380	72.5335	0.0408
SOx	0.0037	0.0883	0.0161	0.0037	0.0161	#VALUE!	N/A	N/A	0.0026	0.0026
NOx	0.6131	14.7144	2.6854	0.6131	2.6854	#VALUE!	N/A	N/A	0.4413	0.4413
VOC	0.0337	0.8093	0.1477	0.0337	0.1477	#VALUE!	N/A	N/A	0.0243	0.0243
CO	0.5150	12.3601	2.2557	0.5150	2.2557	#VALUE!	N/A	N/A	0.3707	0.3707
LEAD	108.8359	2,612.0624	476.7014	0.0109	0.0477	#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).

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

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. Hourl rocess Ra (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)	Uncontrolled (3) New PM EF (lbs/ton)	
52-1 (No. 1 Barton)	3,582		31	3.000	99.99	5,463	1.061	1.123	4 Barton Test 6/24/09
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 Loac	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 - Nort	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**	

(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.

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STACK ID 4A-S-8

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Unit ID: 8-1 (No. 2 Barton System) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): (1.25: 60)

CNTRL DEV: Baghouse & HEPA (8-7-F & H) YEARLY PROD (T/yr): 4,926.96 FLOWRATE (ACFM): 2758

Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS BEFORE CONTROLS			AFTER CONTROLS			2012 Actual (TPY) BEFORE CONTROLS	2012 Actual (TPY) 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	2.767047	0.000277
PM10	1.123	0.9999	2.8081	67.3936	**12.2993**	0.0003	0.0012	0.0000	2.767047	0.000277
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	1.061	0.9999	2.6525	63.6600	**11.6180**	0.0003	0.0012	N/A	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; EF (before controls) = 1.06119561 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) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (1.25: 60)

(Natural Gas Combustion) MDR (mmcft/hr): 0.0017 QTY BURNED (mmcft/yr): 1.97 FLOWRATE (ACFM): 2758

Ts(°F): 225

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0032	0.0775	**0.0141**	0.0032	0.0141	0.0002	0.001869	0.001869
PM10	7.6	0	0.0129	0.3101	**0.0566**	0.0129	0.0566	0.0007	0.007478	0.007478
SOx	0.6	0	0.0010	0.0245	**0.0045**	0.0010	0.0045	N/A	0.000590	0.000590
NOx	100	0	0.1700	4.0800	**0.7446**	0.1700	0.7446	N/A	0.098389	0.098389
VOC	5.5	0	0.0094	0.2244	**0.0410**	0.0094	0.0410	N/A	0.005411	0.005411
CO	84	0	0.1428	3.4272	**0.6255**	0.1428	0.6255	N/A	0.082647	0.082647
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Unit ID: 8-1 (No. 2 Barton System) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.25: 60)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A FLOWRATE (ACFM): 2758
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
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 Barton System)

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	2.8113	67.4711	12.3135	0.0035	0.0154	0.0002	0.250	1.10	2.768916	0.002146
PM10	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.

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STACK ID 14-S-16

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Unit ID: 16-1 (No. 3 Barton System) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): (1.25: 60)
CNTRL DEV: Baghouse & HEPA (16-8-F & H) YEARLY PROD (T/yr): 13,973.04 FLOWRATE (ACFM): 2758
Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.123	0.9999	2.8081	67.3936	**12.2993**	0.0003	0.0012	0.0000	7.847446	0.000785
PM10	1.123	0.9999	2.8081	67.3936	**12.2993**	0.0003	0.0012	0.0000	7.847446	0.000785
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	1.061	0.9999	2.6525	63.6600	**11.6180**	0.0003	0.0012	N/A	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; EF (before controls) = 1.06119561 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) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (1.25: 60)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0017 QTY BURNED (mmcft/yr): 1.88 FLOWRATE (ACFM): 2758
Ts(°F): 225

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0032	0.0775	**0.0141**	0.0032	0.0141	0.0002	0.001789	0.001789
PM10	7.6	0	0.0129	0.3101	**0.0566**	0.0129	0.0566	0.0007	0.007155	0.007155
SOx	0.6	0	0.0010	0.0245	**0.0045**	0.0010	0.0045	N/A	0.000565	0.000565
NOx	100	0	0.1700	4.0800	**0.7446**	0.1700	0.7446	N/A	0.094144	0.094144
VOC	5.5	0	0.0094	0.2244	**0.0410**	0.0094	0.0410	N/A	0.005178	0.005178
CO	84	0	0.1428	3.4272	**0.6255**	0.1428	0.6255	N/A	0.079081	0.079081
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Unit ID: 16-1 (No. 3 Barton System) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.25: 60)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A FLOWRATE (ACFM): 2758
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
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 14-S-16 (No. 3 Barton System)

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTANT	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	2.8113	67.4711	12.3135	0.0035	0.0154	0.0002	0.250	1.10	7.849235	0.002573
PM10	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.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

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STACK ID 1-S-2

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Unit ID: 2-1 (No. 4 Barton System) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): (1.25: 60)
CNTRL DEV: Baghouse & HEPA (2-9-F & H) YEARLY PROD (T/yr): 9,168.12 FLOWRATE (ACFM): 2843
Ts(°F): 193

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.876	0.9999	2.1888	52.5302	**9.5868**	0.0002	0.0010	0.00001	4.013358	0.000401
PM10	0.876	0.9999	2.1888	52.5302	**9.5868**	0.0002	0.0010	0.00001	4.013358	0.000401
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	0.827	0.9999	2.0675	49.6200	**9.0557**	0.0002	0.0009	N/A	3.791018	0.000379

Compliance Test performed on 4/18/12: Pb Results = 0.0002 lbs/hr; Production = 2.417 Tons/hr; EF (before controls 0.827472073 lbs/ton.
Pb is 94.46% of PT. (Goretex bags used during this compliance test).

Unit ID: 2-1 (No. 4 Barton System) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (1.25: 60)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0017 QTY BURNED (mmcft/yr): 2.86 FLOWRATE (ACFM): 2843
Ts(°F): 193

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0032	0.0775	**0.0141**	0.0032	0.0141	0.0002	0.002713	0.002713
PM10	7.6	0	0.0129	0.3101	**0.0566**	0.0129	0.0566	0.0007	0.010852	0.010852
SOx	0.6	0	0.0010	0.0245	**0.0045**	0.0010	0.0045	N/A	0.000857	0.000857
NOx	100	0	0.1700	4.0800	**0.7446**	0.1700	0.7446	N/A	0.142787	0.142787
VOC	5.5	0	0.0094	0.2244	**0.0410**	0.0094	0.0410	N/A	0.007853	0.007853
CO	84	0	0.1428	3.4272	**0.6255**	0.1428	0.6255	N/A	0.119941	0.119941
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000001	0.000001

Unit ID: 2-1 (No. 4 Barton System) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.25: 60)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A FLOWRATE (ACFM): 2843
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 193

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
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) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): (1.25: 60)
CNTRL DEV: Baghouse & HEPA (2-9-F & H) 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)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
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)

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTANT	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	6.2969	151.1256	27.5804	0.0039	0.0169	0.0002	0.250	1.10	4.028385	0.003116
PM10	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.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

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STACK ID 1-S-26

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Unit ID: 26-1 (No. 5 Barton System) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): (17 3/4": 60)
CNTRL DEV: Baghouse & HEPA (26-10-F & H) YEARLY PROD (T/yr): 11,854.08 FLOWRATE (ACFM): 4331
Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.839	0.9999	2.0987	50.3681	**9.1922**	0.0002	0.0009	0.0000	4.975567	0.000498
PM10	0.839	0.9999	2.0987	50.3681	**9.1922**	0.0002	0.0009	0.0000	4.975567	0.000498
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	0.793	0.9999	1.9824	47.5777	**8.6829**	0.0002	0.0009	N/A	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 4,191 lbs/hr at #6 0.79296246 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) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (17 3/4": 60)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0017 QTY BURNED (mmcft/yr): 2.56 FLOWRATE (ACFM): 4331
Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0032	0.0775	**0.0141**	0.0032	0.0141	0.0001	0.002431	0.002431
PM10	7.6	0	0.0129	0.3101	**0.0566**	0.0129	0.0566	0.0005	0.009723	0.009723
SOx	0.6	0	0.0010	0.0245	**0.0045**	0.0010	0.0045	N/A	0.000768	0.000768
NOx	100	0	0.1700	4.0800	**0.7446**	0.1700	0.7446	N/A	0.127931	0.127931
VOC	5.5	0	0.0094	0.2244	**0.0410**	0.0094	0.0410	N/A	0.007036	0.007036
CO	84	0	0.1428	3.4272	**0.6255**	0.1428	0.6255	N/A	0.107462	0.107462
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000001	0.000001

Unit ID: 26-1 (No. 5 Barton System) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (17 3/4": 60)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A FLOWRATE (ACFM): 4331
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0037	0.0892	**0.0163**	0.0037	0.0163	0.0001	0.000000	0.000000
PM10	0.7	0	0.0130	0.3121	**0.0570**	0.0130	0.0570	0.0005	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: Unit 26-1 (No. 5 Barton System)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	2.1019	50.4457	9.2063	0.0034	0.0151	0.0001	4.977997	0.002928
PM10	2.1116	50.6782	9.2488	0.0131	0.0575	0.0005	4.985289	0.010220
SOx	0.0010	0.0245	0.0045	0.0010	0.0045	#VALUE!	0.000768	0.000768
NOx	0.1700	4.0800	0.7446	0.1700	0.7446	#VALUE!	0.127931	0.127931
VOC	0.0094	0.2244	0.0410	0.0094	0.0410	#VALUE!	0.007036	0.007036
CO	0.1428	3.4272	0.6255	0.1428	0.6255	#VALUE!	0.107462	0.107462
LEAD	1.9824	47.5778	8.6829	0.0002	0.0009	#VALUE!	4.699921	0.000471

* Under Natural Gas Combustion.

Unit ID: 26-2 (No. 6 Barton System) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): (17 3/4": 60)
CNTRL DEV: Baghouse & HEPA (26-11-F & H) YEARLY PROD (T/yr): 11,820.60 FLOWRATE (ACFM): 4331
Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.839	0.9999	2.0987	50.3681	**9.1922**	0.0002	0.0009	0.0000	4.961514	0.000496
PM10	0.839	0.9999	2.0987	50.3681	**9.1922**	0.0002	0.0009	0.0000	4.961514	0.000496
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	0.793	0.9999	1.9824	47.5777	**8.6829**	0.0002	0.0009	N/A	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 4,191 lbs/hr at #6 0.79296246 lbs/ton.
Pb is 94.46% of PT.
Potential fugitives captured by building ventilation system (V-1).

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: 26-2 (No. 6 Barton System) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (17 3/4": 60)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0017 QTY BURNED (mmcft/yr): 1.95 FLOWRATE (ACFM): 4331
Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0032	0.0775	**0.0141**	0.0032	0.0141	0.0001	0.001856	0.001856
PM10	7.6	0	0.0129	0.3101	**0.0566**	0.0129	0.0566	0.0005	0.007426	0.007426
SOx	0.6	0	0.0010	0.0245	**0.0045**	0.0010	0.0045	N/A	0.000586	0.000586
NOx	100	0	0.1700	4.0800	**0.7446**	0.1700	0.7446	N/A	0.097710	0.097710
VOC	5.5	0	0.0094	0.2244	**0.0410**	0.0094	0.0410	N/A	0.005374	0.005374
CO	84	0	0.1428	3.4272	**0.6255**	0.1428	0.6255	N/A	0.082076	0.082076
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Unit ID: 26-2 (No. 6 Barton System) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (17 3/4": 60)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A FLOWRATE (ACFM): 4331
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 249

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0037	0.0892	**0.0163**	0.0037	0.0163	0.0001	0.000000	0.000000
PM10	0.7	0	0.0130	0.3121	**0.0570**	0.0130	0.0570	0.0005	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: Unit 26-2 (No. 6 Barton System)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	2.1019	50.4457	9.2063	0.0034	0.0151	0.0001	4.963370	0.002353
PM10	2.1116	50.6782	9.2488	0.0131	0.0575	0.0005	4.968940	0.007922
SOx	0.0010	0.0245	0.0045	0.0010	0.0045	#VALUE!	0.000586	0.000586
NOx	0.1700	4.0800	0.7446	0.1700	0.7446	#VALUE!	0.097710	0.097710
VOC	0.0094	0.2244	0.0410	0.0094	0.0410	#VALUE!	0.005374	0.005374
CO	0.1428	3.4272	0.6255	0.1428	0.6255	#VALUE!	0.082076	0.082076
LEAD	1.9824	47.5778	8.6829	0.0002	0.0009	#VALUE!	4.686647	0.000469

* Under Natural Gas Combustion.

Total: Stack 1-S-26

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	4.2038	100.8913	18.4127	0.0069	0.0301	0.0002	0.250	1.10	9.941368	0.005281
PM10	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 2-1.1-5 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.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

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STACK ID 1-S-7

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Unit ID: 7-1 (No. 7 Barton System) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): (1.25: 60)
CNTRL DEV: Baghouse & HEPA (7-1-F & H) YEARLY PROD (T/yr): 0.00 FLOWRATE (ACFM): 2758
(New Unit 2013) Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-06			POTENTIAL EMISSIONS BEFORE CONTROLS			AFTER CONTROLS			2012 Actual (TPY) BEFORE CONTROLS	2012 Actual (TPY) 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	0.000000	0.000000
PM10	1.123	0.9999	2.8081	67.3936	**12.2993**	0.0003	0.0012	0.0000	0.000000	0.000000
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	1.061	0.9999	2.6525	63.6600	**11.6180**	0.0003	0.0012	N/A	0.000000	0.000000

Compliance Test performed on 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 fugitives captured by building ventilation system (V-1).

Unit ID: 7-1 (No. 7 Barton System) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (1.25: 60)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0017 QTY BURNED (mmcft/yr): 0.00 FLOWRATE (ACFM): 2758
Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS BEFORE CONTROLS			AFTER CONTROLS			2012 Actual (TPY) BEFORE CONTROLS	2012 Actual (TPY) AFTER CONTROLS
POLLUTANT	EF(lbs/mmcft)	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	0.000000	0.000000
PM10	7.6	0	0.0129	0.3101	**0.0566**	0.0129	0.0566	0.0007	0.000000	0.000000
SOx	0.6	0	0.0010	0.0245	**0.0045**	0.0010	0.0045	N/A	0.000000	0.000000
NOx	100	0	0.1700	4.0800	**0.7446**	0.1700	0.7446	N/A	0.000000	0.000000
VOC	5.5	0	0.0094	0.2244	**0.0410**	0.0094	0.0410	N/A	0.000000	0.000000
CO	84	0	0.1428	3.4272	**0.6255**	0.1428	0.6255	N/A	0.000000	0.000000
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Unit ID: 7-1 (No. 7 Barton System) MDC (mmBtu/hr): 1.7 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.25: 60)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.018579 ASH CONTENT (%): N/A FLOWRATE (ACFM): 2758
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 225

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS BEFORE CONTROLS			AFTER CONTROLS			2012 Actual (TPY) BEFORE CONTROLS	2012 Actual (TPY) AFTER CONTROLS
POLLUTANT	EF(lbs/kgal)	CE (%)	(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 Barton System)

	POTENTIAL EMISSIONS BEFORE CONTROLS			AFTER CONTROLS			PERMIT LIMIT		2012 Actual (TPY) BEFORE CONTROLS	2012 Actual (TPY) AFTER CONTROLS
POLLUTANT	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)		
PM	2.8113	67.4711	12.3135	0.0035	0.0154	0.0002	0.250	1.10	0.000000	0.000000
PM10	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.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

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STACK ID 16-S-56

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Unit ID: 56-1 (400Y Furnace) MDR (T produced/hr): 4.985 STACK ID (DIAM:HEIGHT): (3: 82)
CNTRL DEV: (4) Baghouse (56-18, 19, 20, & 25-F) YEARLY PROD (T/yr): 0.00 FLOWRATE (ACFM): 23,151
& HEPA (56-18, 19, 20, & 25-H) Systems Ts(°F): 236.2

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.716	0.9999	8.5566	205.3587	**37.4780**	0.0009	0.0037	0.00001	0.000000	0.000000
PM10	1.716	0.9999	8.5566	205.3587	**37.4780**	0.0009	0.0037	0.00001	0.000000	0.000000
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	1.628	0.9999	8.1151	194.7622	**35.5441**	0.0008	0.0036	N/A	0.000000	0.000000

Unit ID: 56-1 (400Y Furnace) MDC (mmBtu/hr): 5 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (3: 82)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0050 QTY BURNED (mmcft/yr): 8.49 FLOWRATE (ACFM): 23,151
Ts(°F): 236.2

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0095	0.2280	**0.0416**	0.0095	0.0416	0.0001	0.008065	0.008065
PM10	7.6	0	0.0380	0.9120	**0.1664**	0.0380	0.1664	0.0003	0.032259	0.032259
SOx	0.6	0	0.0030	0.0720	**0.0131**	0.0030	0.0131	N/A	0.002547	0.002547
NOx	100	0	0.5000	12.0000	**2.1900**	0.5000	2.1900	N/A	0.424457	0.424457
VOC	5.5	0	0.0275	0.6600	**0.1205**	0.0275	0.1205	N/A	0.023345	0.023345
CO	84	0	0.4200	10.0800	**1.8396**	0.4200	1.8396	N/A	0.356543	0.356543
LEAD	0.0005	0	0.0000	0.0001	**0.0000**	0.0000	0.0000	N/A	0.000002	0.000002

Unit ID: 56-1 (400Y Furnace) MDC (mmBtu/hr): 5 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.054645 ASH CONTENT (%): N/A FLOWRATE (ACFM): 23,151
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 236.2

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0109	0.2623	**0.0479**	0.0109	0.0479	0.0001	0.000000	0.000000
PM10	0.7	0	0.0383	0.9180	**0.1675**	0.0383	0.1675	0.0003	0.000000	0.000000
SOx	0.1	0	0.0055	0.1311	**0.0239**	0.0055	0.0239	N/A	0.000000	0.000000
NOx	13	0	0.7104	17.0492	**3.1115**	0.7104	3.1115	N/A	0.000000	0.000000
VOC	1	0	0.0546	1.3115	**0.2393**	0.0546	0.2393	N/A	0.000000	0.000000
CO	7.5	0	0.4098	9.8361	**1.7951**	0.4098	1.7951	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: Unit 56-1

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	8.5661	205.5867	37.5196	0.0104	0.0454	0.0001	0.0081	0.0081
PM10	8.5946	206.2707	37.6444	0.0389	0.1702	0.0003	0.0323	0.0323
SOx	0.0030	0.0720	0.0131	0.0030	0.0131	#VALUE!	0.0025	0.0025
NOx	0.5000	12.0000	2.1900	0.5000	2.1900	#VALUE!	0.4245	0.4245
VOC	0.0275	0.6600	0.1205	0.0275	0.1205	#VALUE!	0.0233	0.0233
CO	0.4200	10.0800	1.8396	0.4200	1.8396	#VALUE!	0.3565	0.3565
LEAD	8.1151	194.7623	35.5441	0.0008	0.0036	#VALUE!	0.0000	0.0000

* Under Natural Gas Combustion.

Potential fugitives captured by building ventilation system (V-1).

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: 56-3 (Lead Oxide Pneumatic Conveyor System,)

STACK ID (DIAM:HEIGHT): (3: 82)

MDR (T produced/hr): 4.985 YEARLY PROD (T/yr): 4,926.96 FLOWRATE (ACFM): 23,151

CNTRL DEV: Baghouse (56-21-F) & HEPA (56-21-H) Ts(°F): 236.2

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.296	0.9999	6.4604	155.0493	**28.2965**	0.0006	0.0028	0.0000	3.192586	0.000319
PM10	1.296	0.9999	6.4604	155.0493	**28.2965**	0.0006	0.0028	0.0000	3.192586	0.000319
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	1.229	0.9999	6.1270	147.0488	**26.8364**	0.0006	0.0027	N/A	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 STACK ID (DIAM:HEIGHT): (3: 82)

YEARLY PROD (T/yr): 10,540.80 FLOWRATE (ACFM): 23,151

CNTRL DEV: Baghouse (56-22-F) & HEPA (56-22-H) Ts(°F): 236.2

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.716	0.9999	49.9056	1,197.7337	**218.5864**	0.0050	0.0219	0.0000	9.046495	0.000905
PM10	1.716	0.9999	49.9056	1,197.7337	**218.5864**	0.0050	0.0219	0.0000	9.046495	0.000905
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	1.628	0.9999	47.3304	1,135.9307	**207.3073**	0.0047	0.0207	N/A	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

Unit ID: 56-7 (Direct Car Loading System)

MDR (T produced/hr): 13.5 STACK ID (DIAM:HEIGHT): (3: 82)

CNTRL DEV: Baghouse w/ laminated bags & HEPA (56-25-F & H) YEARLY PROD (T/yr): 1.10 FLOWRATE (ACFM): 23,151

Ts(°F): 236.2

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL TO EMIT (PTE)						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.716	0.9999	23.1724	556.1370	**101.4950**	0.0023	0.0101	0.0000	0.000947	0.000000
PM10	1.716	0.9999	23.1724	556.1370	**101.4950**	0.0023	0.0101	0.0000	0.000947	0.000000
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	1.628	0.9999	21.9767	527.4403	**96.2579**	0.0022	0.0096	N/A	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.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: 56-9 Flash Calciner MDR (T produced/hr): 1.25 STACK ID (DIAM:HEIGHT): (3: 82)
YEARLY PROD (T/yr): 2.28 FLOWRATE (ACFM): 28,227
CNTRL DEV: HEPA (56-17-H) Ts(°F): 241.1
Process Controls: Baghouse (56-17-F) PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-07			POTENTIAL EMISSIONS BEFORE CONTROLS			AFTER CONTROLS			2012 Actual (TPY) BEFORE CONTROLS	2012 Actual (TPY) AFTER CONTROLS
POLLUTANT	EF(LB/T)	CE (%)	(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	0.000163	0.000001
PM10	0.150	0.992	0.1875	4.5000	**0.8213**	0.0015	0.0066	0.0000	0.000171	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	0.140	0.992	0.1750	4.2000	**0.7665**	0.0014	0.0061	N/A	0.000160	0.000001

Efs from AP-42 and adjusted for baghouse process unit:
Potential fugitives captured by building ventilation system (V-1).

Unit ID: 56-9 Flash Calciner MDC (mmBtu/hr): 1.5 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (3: 82)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0015 QTY BURNED (mmcft/yr): 2.55 FLOWRATE (ACFM): 28,227
Ts(°F): 241.1
PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS BEFORE CONTROLS			AFTER CONTROLS			2012 Actual (TPY) BEFORE CONTROLS	2012 Actual (TPY) AFTER CONTROLS
POLLUTANT	EF(lbs/mmcft)	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	0.0000	0.002419	0.002419
PM10	7.6	0	0.0114	0.2736	**0.0499**	0.0114	0.0499	0.0001	0.009678	0.009678
SOx	0.6	0	0.0009	0.0216	**0.0039**	0.0009	0.0039	N/A	0.000764	0.000764
NOx	100	0	0.1500	3.6000	**0.6570**	0.1500	0.6570	N/A	0.127337	0.127337
VOC	5.5	0	0.0083	0.1980	**0.0361**	0.0083	0.0361	N/A	0.007004	0.007004
CO	84	0	0.1260	3.0240	**0.5519**	0.1260	0.5519	N/A	0.106963	0.106963
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000001	0.000001

Unit ID: 56-9 Flash Calciner MDC (mmBtu/hr): 1.5 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.016393 ASH CONTENT (%): N/A FLOWRATE (ACFM): 28,227
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 241.1
PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS BEFORE CONTROLS			AFTER CONTROLS			2012 Actual (TPY) BEFORE CONTROLS	2012 Actual (TPY) AFTER CONTROLS
POLLUTANT	EF(lbs/kgal)	CE (%)	(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	0.000000	0.000000
PM10	0.7	0	0.0115	0.2754	**0.0503**	0.0115	0.0503	0.0001	0.000000	0.000000
SOx	0.1	0	0.0016	0.0393	**0.0072**	0.0016	0.0072	N/A	0.000000	0.000000
NOx	13	0	0.2131	5.1148	**0.9334**	0.2131	0.9334	N/A	0.000000	0.000000
VOC	1	0	0.0164	0.3934	**0.0718**	0.0164	0.0718	N/A	0.000000	0.000000
CO	7.5	0	0.1230	2.9508	**0.5385**	0.1230	0.5385	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: 56-9 Flash Calciner - Packing MDR (T produced/hr): 1.25 STACK ID (DIAM:HEIGHT): (3: 82)
CNTRL DEV: Baghouse 56-17 & HEPA YEARLY PROD (T/yr): 2.28 FLOWRATE (ACFM): 28,227
Ts(°F): 241.1
PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS BEFORE CONTROLS			AFTER CONTROLS			2012 Actual (TPY) BEFORE CONTROLS	2012 Actual (TPY) AFTER CONTROLS
POLLUTANT	EF(LB/T)	CE (%)	(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	0.001106	0.000000
PM10	0.970	0.9999	1.2125	29.1000	**5.3108**	0.0001	0.0005	0.0000	0.001106	0.000000
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	0.920	0.9999	1.1500	27.6000	**5.0370**	0.0001	0.0005	N/A	0.001049	0.000000

Efs from 56-1 Packing used.

Total: Unit 56-9 Flash Calciner

	POTENTIAL EMISSIONS BEFORE CONTROLS			AFTER CONTROLS			2012 Actual (TPY) BEFORE CONTROLS	2012 Actual (TPY) AFTER CONTROLS
POLLUTANT	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)		
PM	1.3937	33.4494	6.1045	0.0044	0.0193	0.0000	0.0037	0.0024
PM10	1.4114	33.8736	6.1819	0.0130	0.0570	0.0001	0.0110	0.0097
SOx	0.0009	0.0216	0.0039	0.0009	0.0039	#VALUE!	0.0008	0.0008
NOx	0.1500	3.6000	0.6570	0.1500	0.6570	#VALUE!	0.1273	0.1273
VOC	0.0083	0.1980	0.0361	0.0083	0.0361	#VALUE!	0.0070	0.0070
CO	0.1260	3.0240	0.5519	0.1260	0.5519	#VALUE!	0.1070	0.1070
LEAD	1.3250	31.8000	5.8035	0.0015	0.0066	#VALUE!	0.0012	0.0000

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: 56-11 (XS-Furnace System) MDR (T produced/hr): 0.25 STACK ID (DIAM:HEIGHT): (3: 82)
CNTRL DEV: 56-19F (80-bag filter) and 56-19H YEARLY PROD (T/yr): 0 FLOWRATE (ACFM): 28,227
Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-99			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	4.448	0.9999	1.1119	26.6856	**4.8701**	0.0001	0.0005	0.0000	0.000000	0.000000
PM10	5.232	0.9999	1.3081	31.3948	**5.7296**	0.0001	0.0006	0.0000	0.000000	0.000000
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	3.780	0.9999	0.9451	22.6827	**4.1396**	0.0001	0.0004	N/A	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) MDC (mmBtu/hr): 2.5 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (3: 82)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0025 QTY BURNED (mmcft/yr): 4.24 FLOWRATE (ACFM): 28,227
Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0048	0.1140	**0.0208**	0.0048	0.0208	0.0000	0.004032	0.004032
PM10	7.6	0	0.0190	0.4560	**0.0832**	0.0190	0.0832	0.0001	0.016129	0.016129
SOx	0.6	0	0.0015	0.0360	**0.0066**	0.0015	0.0066	N/A	0.001273	0.001273
NOx	100	0	0.2500	6.0000	**1.0950**	0.2500	1.0950	N/A	0.212228	0.212228
VOC	5.5	0	0.0138	0.3300	**0.0602**	0.0138	0.0602	N/A	0.011673	0.011673
CO	84	0	0.2100	5.0400	**0.9198**	0.2100	0.9198	N/A	0.178272	0.178272
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000001	0.000001

Unit ID: 56-11 (XS-Furnace System) MDC (mmBtu/hr): 2.5 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (3: 82)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.027322 ASH CONTENT (%): N/A FLOWRATE (ACFM): 28,227
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0055	0.1311	**0.0239**	0.0055	0.0239	0.0000	0.000000	0.000000
PM10	0.7	0	0.0191	0.4590	**0.0838**	0.0191	0.0838	0.0001	0.000000	0.000000
SOx	0.1	0	0.0027	0.0656	**0.0120**	0.0027	0.0120	N/A	0.000000	0.000000
NOx	13	0	0.3552	8.5246	**1.5557**	0.3552	1.5557	N/A	0.000000	0.000000
VOC	1	0	0.0273	0.6557	**0.1197**	0.0273	0.1197	N/A	0.000000	0.000000
CO	7.5	0	0.2049	4.9180	**0.8975**	0.2049	0.8975	N/A	0.000000	0.000000
LEAD	---	0	#VALUE!	#VALUE!	**#VALUE!**	#VALUE!	#VALUE!	N/A	#VALUE!	#VALUE!

Totals: Unit ID: 56-11 (XS-Furnace System)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	**(TPY)**	(gr/dscf)	CONTROLS	CONTROLS
PM	1.1166	26.7996	4.8909	0.0049	0.0213	0.0000	0.0040	0.0040
PM10	1.3271	31.8508	5.8128	0.0191	0.0838	0.0001	0.0161	0.0161
SOx	0.0015	0.0360	0.0066	0.0015	0.0066	#VALUE!	0.0013	0.0013
NOx	0.2500	6.0000	1.0950	0.2500	1.0950	#VALUE!	0.2122	0.2122
VOC	0.0138	0.3300	0.0602	0.0138	0.0602	#VALUE!	0.0117	0.0117
CO	0.2100	5.0400	0.9198	0.2100	0.9198	#VALUE!	0.1783	0.1783
Lead	0.9451	22.6828	4.1396	0.0001	0.0004	#VALUE!	0.0000	0.0000

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: 56-13 Blending System MDR (T produced/hr): 1.7995 STACK ID (DIAM:HEIGHT): (3: 82)
CNTRL DEV: Baghouse & HEPA (56-25-F & H) YEARLY PROD (T/yr): 75 FLOWRATE (ACFM): 28,227
Process Controls: Torit 56-26 on top of mixer. Ts(°F): 241.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-52			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	2.465	0.9999	4.4358	106.4584	**19.4287**	0.000444	0.001943	0.0000	0.092502	0.000009
PM10	2.465	0.9999	4.4358	106.4584	**19.4287**	0.000444	0.001943	0.0000	0.092502	0.000009
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	1.945	0.9999	3.5000	84.0007	**15.3301**	0.000350	0.001533	N/A	0.072989	0.000007

EF: Used same as mill.

Total: Stack 16-S-56

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	95.0506	2,281.2142	416.3216	0.0280	0.1227	0.0002	1.000	4.380	12.3483	0.0158
PM10	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)

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. Hourl Process Ra (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)	Uncontrolled (3) New PM EF (lbs/ton)
56-1	7,050	1.1 lbs per 100 lbs	78	7.173	99.99	7,050	1.628	1.716
56-1 (Pack)	7,050	1.1 lbs per 100 lbs	78	7.173	99.99	7,050	1.628	1.716
56-3	9,970	1.1 lbs per 100 lbs	110	10.144	99.99	13,205	1.229	1.296
56-4	53,455	1.1 lbs per 100 lbs	588	54.387	99.99	53,455	1.628	1.716
56-7	18,980	1.1 lbs per 100 lbs	209	19.311	99.99	18,980	1.628	1.716
56-9	1,781	1.1 lbs per 100 lbs	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.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

****

STACK ID 6-S-33

****

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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	4.444	0.9999	7.9295	190.3075	**34.7311**	0.0008	0.0035	0.0000	0.198070	0.000020
PM10	4.444	0.9999	7.9295	190.3075	**34.7311**	0.0008	0.0035	0.0000	0.198070	0.000020
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	3.777	0.9999	6.7401	161.7614	**29.5214**	0.0007	0.0030	N/A	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) MDC (mmBtu/hr): 3.85 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (2: 60)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0039 QTY BURNED (mmcft/yr): 7 FLOWRATE (ACFM): 8914
Ts(°F): 235

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0073	0.1756	**0.0320**	0.0073	0.0320	0.0001	0.006210	0.006210
PM10	7.6	0	0.0293	0.7022	**0.1282**	0.0293	0.1282	0.0005	0.024839	0.024839
SOx	0.6	0	0.0023	0.0554	**0.0101**	0.0023	0.0101	N/A	0.001961	0.001961
NOx	100	0	0.3850	9.2400	**1.6863**	0.3850	1.6863	N/A	0.326832	0.326832
VOC	5.5	0	0.0212	0.5082	**0.0927**	0.0212	0.0927	N/A	0.017976	0.017976
CO	84	0	0.3234	7.7616	**1.4165**	0.3234	1.4165	N/A	0.274538	0.274538
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000002	0.000002

Unit ID: B-Furnace (Unit 33-1) MDC (mmBtu/hr): 3.85 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (2: 60)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.042077 ASH CONTENT (%): N/A FLOWRATE (ACFM): 8914
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 235

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0084	0.2020	**0.0369**	0.0084	0.0369	0.0001	0.000000	0.000000
PM10	0.7	0	0.0295	0.7069	**0.1290**	0.0295	0.1290	0.0005	0.000000	0.000000
SOx	0.1	0	0.0042	0.1010	**0.0184**	0.0042	0.0184	N/A	0.000000	0.000000
NOx	13	0	0.5470	13.1279	**2.3958**	0.5470	2.3958	N/A	0.000000	0.000000
VOC	1	0	0.0421	1.0098	**0.1843**	0.0421	0.1843	N/A	0.000000	0.000000
CO	7.5	0	0.3156	7.5738	**1.3822**	0.3156	1.3822	N/A	0.000000	0.000000
LEAD	---	0	#VALUE!	#VALUE!	**#VALUE!**	#VALUE!	#VALUE!	N/A	#VALUE!	#VALUE!

Baghouse: Bottom loading 264 bag MikroPul reverse jet air pulse cleaning unit w/ laminated bags.

Totals: Unit ID: 33-1 (B-Furnace)

	POTENTIAL EMISSIONS							**PERMIT LIMIT**		**2012 Actual (TPY)**	
	BEFORE CONTROLS			AFTER CONTROLS						BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	**(TPY)**	(gr/dscf)		(lbs/hr)	(TPY)	CONTROLS	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

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: S-Furnace Operation (Unit 33-2) MDR (T produced/hr): 0.1205 STACK ID (DIAM:HEIGHT): (2: 60)
YEARLY PROD (T/yr): 33 FLOWRATE (ACFM): 12234
CNTRL DEV: Using Baghouse & HEPA for B-Furnace (33-14-F & H) not (47-13-F & H) because boric acid controls are already in Ts(°F): 172

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-99			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	4.448	0.9999	0.5359	12.8624	**2.3474**	0.0001	0.0002	0.0000	0.073385	0.000007
PM10	4.448	0.9999	0.5359	12.8624	**2.3474**	0.0001	0.0002	0.0000	0.073385	0.000007
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	0	0.9999	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Potential fugitives captured by building ventilation system (V-1).

Unit ID: S-Furnace MDC (mmBtu/hr): 5 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (2: 60)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0050 QTY BURNED (mmcft/yr): 3 FLOWRATE (ACFM): 12234
Ts(°F): 172

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0095	0.2280	**0.0416**	0.0095	0.0416	0.0001	0.002419	0.002419
PM10	7.6	0	0.0380	0.9120	**0.1664**	0.0380	0.1664	0.0004	0.009678	0.009678
SOx	0.6	0	0.0030	0.0720	**0.0131**	0.0030	0.0131	N/A	0.000764	0.000764
NOx	100	0	0.5000	12.0000	**2.1900**	0.5000	2.1900	N/A	0.127337	0.127337
VOC	5.5	0	0.0275	0.6600	**0.1205**	0.0275	0.1205	N/A	0.007004	0.007004
CO	84	0	0.4200	10.0800	**1.8396**	0.4200	1.8396	N/A	0.106963	0.106963
LEAD	0.0005	0	0.0000	0.0001	**0.0000**	0.0000	0.0000	N/A	0.000001	0.000001

Unit ID: S-Furnace MDC (mmBtu/hr): 5 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (2: 60)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.054645 ASH CONTENT (%): N/A FLOWRATE (ACFM): 12234
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 172

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0109	0.2623	**0.0479**	0.0109	0.0479	0.0001	0.000000	0.000000
PM10	0.7	0	0.0383	0.9180	**0.1675**	0.0383	0.1675	0.0004	0.000000	0.000000
SOx	0.1	0	0.0055	0.1311	**0.0239**	0.0055	0.0239	N/A	0.000000	0.000000
NOx	13	0	0.7104	17.0492	**3.1115**	0.7104	3.1115	N/A	0.000000	0.000000
VOC	1	0	0.0546	1.3115	**0.2393**	0.0546	0.2393	N/A	0.000000	0.000000
CO	7.5	0	0.4098	9.8361	**1.7951**	0.4098	1.7951	N/A	0.000000	0.000000
LEAD	---	0	#VALUE!	#VALUE!	**#VALUE!**	#VALUE!	#VALUE!	N/A	#VALUE!	#VALUE!

Unit ID: S-Furnace MDR (T produced/hr): 0.1205 STACK ID (DIAM:HEIGHT): (2: 60)
(Packing) YEARLY PROD (T/yr): 33 FLOWRATE (ACFM): 12234
CNTRL DEV: Baghouse & HEPA (33-14-F & H) Ts(°F): 172

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	2.224	0.9999	0.2680	6.4312	**1.1737**	0.0000	0.0001	0.0000	0.036693	0.000004
PM10	2.224	0.9999	0.2680	6.4312	**1.1737**	0.0000	0.0001	0.0000	0.036693	0.000004
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	0.000	0.9999	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000000	0.000000

Totals: Unit ID: 33-2 (S-Furnace)

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.8134	19.5217	3.5627	0.0096	0.0420	0.0001	0.112497	0.002430
PM10	0.8419	20.2057	3.6875	0.0381	0.1668	0.0004	0.119756	0.009689
SOx	0.0030	0.0720	0.0131	0.0030	0.0131	#VALUE!	0.000764	0.000764
NOx	0.5000	12.0000	2.1900	0.5000	2.1900	#VALUE!	0.127337	0.127337
VOC	0.0275	0.6600	0.1205	0.0275	0.1205	#VALUE!	0.007004	0.007004
CO	0.4200	10.0800	1.8396	0.4200	1.8396	#VALUE!	0.106963	0.106963
LEAD	0.0000	0.0001	0.0000	0.0000	0.0000	#VALUE!	0.000001	0.000001

* Under Natural Gas Combustion.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Explanation of Emission Factor Calculations:

Compliance Test Performed on 4/18/12: Pb Emission Rate 0.763 lbs/hr. (Non-Lead)

Unit ID	Avg. Hourl Process Ra (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)	Uncontrolled (3) New PM EF (lbs/ton)
Furnace	229	7.6 lbs per 100 lb	17	66.667	99.99	0.1145	0.000	4.448
Packing	229	3.8 lbs per 100 lb	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.

Total: Stack 6-S-33

POLLUTAN	POTENTIAL EMISSIONS BEFORE CONTROLS (lbs/hr)	(lbs/day)	**(TPY)**	AFTER CONTROLS (lbs/hr)	(TPY)	(gr/dscf)	PERMIT LIMIT (lbs/hr)	(TPY)	2012 Actual (TPY) BEFORE CONTROLS	AFTER CONTROLS
PM	8.7502	210.0047	38.3259	0.0177	0.0775	0.0002	0.900	3.94	0.3168	0.0087
PM10	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

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STACK ID 4-S-35

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Unit ID: B-Furnace Drying System (Unit 35-1) MDR (T produced/hr): 1.7845 STACK ID (DIAM:HEIGHT): (1.25: 61)
CNTRL DEV: Baghouse & HEPA (35-15-F & H) YEARLY PROD (T/yr): 0 FLOWRATE (ACFM): 3792
Ts(°F): 148.8

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54

POLLUTANT	EF(LB/T)	CE (%)	POTENTIAL EMISSIONS BEFORE CONTROLS (lbs/hr)	(lbs/day)	**(TPY)**	AFTER CONTROLS (lbs/hr)	(TPY)	(gr/dscf)	2012 Actual (TPY) BEFORE CONTROLS	AFTER CONTROLS
PM	3.333	0.9999	5.9473	142.7362	**26.0494**	0.0006	0.0026	0.0000	0.000000	0.000000
PM10	3.333	0.9999	5.9473	142.7362	**26.0494**	0.0006	0.0026	0.0000	0.000000	0.000000
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	2.833	0.9999	5.0552	121.3258	**22.1420**	0.0005	0.0022	N/A	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) MDC (mmBtu/hr): 2.457 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (1.25: 61)
(Natural Gas Combustion) MDR (mmcft/hr): 0.0025 QTY BURNED (mmcft/yr): 4 FLOWRATE (ACFM): 3792
Ts(°F): 148.8

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-90-006-89

POLLUTANT	EF(lbs/mmcft)	CE (%)	POTENTIAL EMISSIONS BEFORE CONTROLS (lbs/hr)	(lbs/day)	**(TPY)**	AFTER CONTROLS (lbs/hr)	(TPY)	(gr/dscf)	2012 Actual (TPY) BEFORE CONTROLS	AFTER CONTROLS
PM	1.9	0	0.0047	0.1120	**0.0204**	0.0047	0.0204	0.0002	0.003963	0.003963
PM10	7.6	0	0.0187	0.4482	**0.0818**	0.0187	0.0818	0.0007	0.015852	0.015852
SOx	0.6	0	0.0015	0.0354	**0.0065**	0.0015	0.0065	N/A	0.001251	0.001251
NOx	100	0	0.2457	5.8968	**1.0762**	0.2457	1.0762	N/A	0.208578	0.208578
VOC	5.5	0	0.0135	0.3243	**0.0592**	0.0135	0.0592	N/A	0.011472	0.011472
CO	84	0	0.2064	4.9533	**0.9040**	0.2064	0.9040	N/A	0.175205	0.175205
LEAD	0.0005	0	0.0000	0.0000	**0.0000**	0.0000	0.0000	N/A	0.000001	0.000001

Unit ID: B-Furnace Drying System (Unit 35-1) MDC (mmBtu/hr): 2.457 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.25: 61)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.026852 ASH CONTENT (%): N/A FLOWRATE (ACFM): 3792
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 148.8

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02

POLLUTANT	EF(lbs/kgal)	CE (%)	POTENTIAL EMISSIONS BEFORE CONTROLS (lbs/hr)	(lbs/day)	**(TPY)**	AFTER CONTROLS (lbs/hr)	(TPY)	(gr/dscf)	2012 Actual (TPY) BEFORE CONTROLS	AFTER CONTROLS
PM	0.2	0	0.0054	0.1289	**0.0235**	0.0054	0.0235	0.0002	0.000000	0.000000
PM10	0.7	0	0.0188	0.4511	**0.0823**	0.0188	0.0823	0.0007	0.000000	0.000000
SOx	0.1	0	0.0027	0.0644	**0.0118**	0.0027	0.0118	N/A	0.000000	0.000000
NOx	13	0	0.3491	8.3780	**1.5290**	0.3491	1.5290	N/A	0.000000	0.000000
VOC	1	0	0.0269	0.6445	**0.1176**	0.0269	0.1176	N/A	0.000000	0.000000
CO	7.5	0	0.2014	4.8334	**0.8821**	0.2014	0.8821	N/A	0.000000	0.000000
LEAD	---	0	#VALUE!	#VALUE!	**#VALUE!**	#VALUE!	#VALUE!	N/A	#VALUE!	#VALUE!

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: Packing Stations 3 and 4 MDR (T produced/hr): 7.5 STACK ID (DIAM:HEIGHT): (1.25: 61)

YEARLY PROD (T/yr): 0 FLOWRATE (ACFM): 3792

CNTRL DEV: Baghouse & HEPA (35-15-F & H) Ts(°F): 148.8

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.724	0.9999	5.4280	130.2722	**23.7747**	0.000543	0.002377	0.0000	0.000000	0.000000
PM10	0.724	0.9999	5.4280	130.2722	**23.7747**	0.000543	0.002377	0.0000	0.000000	0.000000
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0.615	0.9999	4.6138	110.7314	**20.2085**	0.000461	0.002021	N/A	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.

Total: Stack 4-S-35

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	11.3800	273.1205	49.8445	0.0058	0.0254	0.0002	0.570	2.50	0.003963	0.003963
PM10	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)	Uncontrolled (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.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

****

STACK ID 4B-S-34

****

Unit ID: B-Furnace Mill (Unit 34-1) MDR (T produced/hr): 1.7995 STACK ID (DIAM:HEIGHT): (1.5: 61)
CNTRL DEV: Baghouse & HEPA (34-16-F & H) YEARLY PROD (T/yr): 0 FLOWRATE (ACFM): 3926
Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-52			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	3.789	0.9999	6.8176	163.6217	**29.8610**	0.000682	0.002986	0.0000	0.000000	0.000000
PM10	3.789	0.9999	6.8176	163.6217	**29.8610**	0.000682	0.002986	0.0000	0.000000	0.000000
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	3.220	0.9999	5.7949	139.0784	**25.3818**	0.000579	0.002538	N/A	0.000000	0.000000

Unit ID: Packing Stations 1 & 2 MDR (T produced/hr): 1.7995 STACK ID (DIAM:HEIGHT): (1.5: 61)
CNTRL DEV: Baghouse & HEPA (34-16-F & H) YEARLY PROD (T/yr): 0 FLOWRATE (ACFM): 3926
(Ground Mono in bags) Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	2.465	0.9999	4.4358	106.4584	**19.4287**	0.000444	0.001943	0.0000	0.000000	0.000000
PM10	2.465	0.9999	4.4358	106.4584	**19.4287**	0.000444	0.001943	0.0000	0.000000	0.000000
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	1.945	0.9999	3.5000	84.0007	**15.3301**	0.000350	0.001533	N/A	0.000000	0.000000

Unit ID: 34-3 (Glass Concepts Process - Lead Side - Dryer) MDR (T produced/hr): 0.250 STACK ID (DIAM:HEIGHT): (1.5: 61)
Process Controls: Baghouse YEARLY PROD (T/yr): 45.75 FLOWRATE (ACFM): 3926
CNTRL DEV: HEPA Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-99			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	20.576	0.992	5.1440	123.4557	22.5307	0.0412	0.1802	0.0014	0.470675	0.0037654
PM10	20.576	0.992	5.1440	123.4557	22.5307	0.0412	0.1802	0.0014	0.470675	0.0037654
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.0000000
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.0000000
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.0000000
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.0000000
LEAD	13.169	0.992	3.2922	79.0116	14.4196	0.026337	0.115357	N/A	0.301232	0.0024099
Cadmium	0.776	0.992	0.1939	4.6543	0.8494	0.001551	0.006795	N/A	0.017744	0.000142

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 34-3 (Glass Concepts Process - Lead Side - Dryer) MDC (mmBtu/hr): 1.5 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (1.5: 61)
(Natural Gas Combustion) MDR (mmcft/hr): 0.001500 QTY BURNED (mmcft/yr): 2.55 FLOWRATE (ACFM): 3926
Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0029	0.0684	0.0125	0.0029	0.0125	0.0001	0.002419	0.002419
PM10	7.6	0	0.0114	0.2736	0.0499	0.0114	0.0499	0.0004	0.009678	0.009678
SOx	0.6	0	0.0009	0.0216	0.0039	0.0009	0.0039	N/A	0.000764	0.000764
NOx	100	0	0.1500	3.6000	0.6570	0.1500	0.6570	N/A	0.127337	0.127337
VOC	5.5	0	0.0083	0.1980	0.0361	0.0083	0.0361	N/A	0.007004	0.007004
CO	84	0	0.1260	3.0240	0.5519	0.1260	0.5519	N/A	0.106963	0.106963
Lead	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000001	0.000001

Unit ID: 34-3 (Glass Concepts Process - Lead Side - Dryer) MDC (mmBtu/hr): 1.5 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.5: 61)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.016393 ASH CONTENT (%): N/A FLOWRATE (ACFM): 3926
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0033	0.0787	**0.0144**	0.0033	0.0144	0.0001	0.000000	0.000000
PM10	0.7	0	0.0115	0.2754	**0.0503**	0.0115	0.0503	0.0004	0.000000	0.000000
SOx	0.1	0	0.0016	0.0393	**0.0072**	0.0016	0.0072	N/A	0.000000	0.000000
NOx	13	0	0.2131	5.1148	**0.9334**	0.2131	0.9334	N/A	0.000000	0.000000
VOC	1	0	0.0164	0.3934	**0.0718**	0.0164	0.0718	N/A	0.000000	0.000000
CO	7.5	0	0.1230	2.9508	**0.5385**	0.1230	0.5385	N/A	0.000000	0.000000
LEAD	---	0	N/A	N/A	**N/A**	N/A	N/A	N/A	N/A	N/A

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: 34-3 (Glass Concepts Process - Lead Side - Packing) MDR (T produced/hr): 0.250 STACK ID (DIAM:HEIGHT): (1.5: 61)
Process Controls: Baghouse YEARLY PROD (T/yr): 45.75 FLOWRATE (ACFM): 3926
CNTRL DEV: HEPA Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	20.576	0.992	5.1440	123.4557	**22.5307**	0.0411519	0.1802453	0.0014	0.470675	0.003765
PM10	20.576	0.992	5.1440	123.4557	**22.5307**	0.0411519	0.1802453	0.0014	0.470675	0.003765
SOx	0	0	0.0000	0.0000	**0.0000**	0.0000000	0.0000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.0000000	0.0000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.0000000	0.0000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.0000000	0.0000000	N/A	0.000000	0.000000
LEAD	13.169	0.992	3.2922	79.0116	**14.4196**	0.0263372	0.1153570	N/A	0.301232	0.002410
Cadmium	0.776	0.992	0.1939	4.6543	0.8494	0.0015514	0.0067952	N/A	0.01774444	0.00014196

Unit ID: 34-3 (Glass Concepts Process - Non-Lead Side - Dryer) MDR (T produced/hr): 0.250 STACK ID (DIAM:HEIGHT): (1.5: 61)
Process Controls: Baghouse YEARLY PROD (T/yr): 37.70 FLOWRATE (ACFM): 3926
CNTRL DEV: HEPA Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-99			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	20.576	0.992	5.1440	123.4557	22.5307	0.0412	0.1802	0.0014	0.387857	0.0031029
PM10	20.576	0.992	5.1440	123.4557	22.5307	0.0412	0.1802	0.0014	0.387857	0.0031029
SOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.0000000
NOx	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.0000000
VOC	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.0000000
CO	0	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000000	0.0000000
LEAD	0.000	0.992	0.0000	0.0000	0.0000	0.000000	0.000000	N/A	0.000000	0.0000000
Cadmium	0.776	0.992	0.1939	4.6543	0.8494	0.001551	0.006795	N/A	0.014622	0.000117

Potential fugitives captured by building ventilation system (V-1).

Unit ID: 34-3 (Glass Concepts Process - Non-Lead Side - Dryer) MDC (mmBtu/hr): 1.5 HEAT CONTENT (Btu/cft): 1,000 STACK ID (DIAM:HEIGHT): (1.5: 61)
(Natural Gas Combustion) MDR (mmcft/hr): 0.001500 QTY BURNED (mmcft/yr): 2.55 FLOWRATE (ACFM): 3926
Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC No. 3-90-006-89			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/mmcft)	CE (%)	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	1.9	0	0.0029	0.0684	0.0125	0.0029	0.0125	0.0001	0.002419	0.002419
PM10	7.6	0	0.0114	0.2736	0.0499	0.0114	0.0499	0.0004	0.009678	0.009678
SOx	0.6	0	0.0009	0.0216	0.0039	0.0009	0.0039	N/A	0.000764	0.000764
NOx	100	0	0.1500	3.6000	0.6570	0.1500	0.6570	N/A	0.127337	0.127337
VOC	5.5	0	0.0083	0.1980	0.0361	0.0083	0.0361	N/A	0.007004	0.007004
CO	84	0	0.1260	3.0240	0.5519	0.1260	0.5519	N/A	0.106963	0.106963
Lead	0.0005	0	0.0000	0.0000	0.0000	0.0000	0.0000	N/A	0.000001	0.000001

Unit ID: 34-3 (Glass Concepts Process - Non-Lead Side - Dryer) MDC (mmBtu/hr): 1.5 HEAT CONTENT (Btu/gal): 91,500 STACK ID (DIAM:HEIGHT): (1.5: 61)
Alternative Scenario: Propane Combustion MDR (mgal/hr): 0.016393 ASH CONTENT (%): N/A FLOWRATE (ACFM): 3926
QTY BURNED (mgal/yr): 0 SULFUR CONTENT (%): N/A Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 1-03-010-02			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(lbs/kgal)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2	0	0.0033	0.0787	**0.0144**	0.0033	0.0144	0.0001	0.000000	0.000000
PM10	0.7	0	0.0115	0.2754	**0.0503**	0.0115	0.0503	0.0004	0.000000	0.000000
SOx	0.1	0	0.0016	0.0393	**0.0072**	0.0016	0.0072	N/A	0.000000	0.000000
NOx	13	0	0.2131	5.1148	**0.9334**	0.2131	0.9334	N/A	0.000000	0.000000
VOC	1	0	0.0164	0.3934	**0.0718**	0.0164	0.0718	N/A	0.000000	0.000000
CO	7.5	0	0.1230	2.9508	**0.5385**	0.1230	0.5385	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: 34-3 (Glass Concepts Process - Non-Lead Side - Packing) MDR (T produced/hr): 0.250 STACK ID (DIAM:HEIGHT): (1.5: 61)
Process Controls: Baghouse YEARLY PROD (T/yr): 37.70 FLOWRATE (ACFM): 3926
CNTRL DEV: HEPA Ts(°F): 127.7

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	20.576	0.992	5.1440	123.4557	**22.5307**	0.0411519	0.1802453	0.0014	0.387857	0.003103
PM10	20.576	0.992	5.1440	123.4557	**22.5307**	0.0411519	0.1802453	0.0014	0.387857	0.003103
SOx	0	0	0.0000	0.0000	**0.0000**	0.0000000	0.0000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.0000000	0.0000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.0000000	0.0000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.0000000	0.0000000	N/A	0.000000	0.000000
LEAD	0.000	0.992	0.0000	0.0000	**0.0000**	0.0000000	0.0000000	N/A	0.000000	0.000000
Cadmium	0.776	0.992	0.1939	4.6543	0.8494	0.0015514	0.0067952	N/A	0.01774444	0.00014196

Cadmium: 3.77% maximum content.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Totals: Unit ID: 34-3 (Glass Concepts Process)

	POTENTIAL EMISSIONS							2012 Actual (TPY)	
	BEFORE CONTROLS				AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	(TPY)		(lbs/hr)	**(TPY)**	(gr/dscf)	CONTROLS	CONTROLS
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

	POTENTIAL EMISSIONS							PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS				AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**		(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	31.8350	764.0396	139.4372		0.1714	0.7509	0.0056	0.400	1.75	1.7219	0.0186
PM10	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.

Explanation of Emission Factor Calculations:

Compliance Test Performed on 4/6/11: Pb Emission Rate 0.0151 lbs/hr. (B-400 64% Pb Content)

				Uncontrolled	
Unit ID	Percentage of Total Dust Load (%)	Control Efficiency (%)	Throughput During ST (Tons)	(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.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

****

STACK ID 6-S-47

****

No Processes currently vented to this stack.

Total: Stack 6-S-47

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.400	1.75	0.0000	0.0000
PM10	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)

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STACK ID 1-S-27

****

Unit ID: 27-1 (Lead Oxide Mill) MDR (T produced/hr): 4.080 STACK ID (DIAM:HEIGHT): (1.125: 61)
YEARLY PROD (T/yr): 13,493 FLOWRATE (ACFM): 2969
CNTRL DEV: Baghouse & HEPA (27-12-F & H) Ts(°F): 141
PERMITTED OPERATING HRS: **8760** hr/yr

			POTENTIAL EMISSIONS						2012 Actual (TPY)	
SCC NO. 3-01-035-52			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.159	0.9999	0.6502	15.6042	**2.8478**	0.000065	0.000285	0.0000	1.075193	0.000108
PM10	0.159	0.9999	0.6502	15.6042	**2.8478**	0.000065	0.000285	0.0000	1.075193	0.000108
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0.147	0.9999	0.6005	14.4120	**2.6302**	0.000060	0.000263	N/A	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 STACK ID (DIAM:HEIGHT): (1.125: 61)
CNTRL DEV: Baghouse & HEPA (27-12-F & H) YEARLY PROD (T/yr): 3 FLOWRATE (ACFM): 2969
Ts(°F): 141
PERMITTED OPERATING HRS: **8760** hr/yr

			POTENTIAL EMISSIONS						2012 Actual (TPY)	
SCC NO. 3-01-035-54			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.159	0.9999	0.6502	15.6042	**2.8478**	0.000065	0.000285	0.0000	0.000239	0.000000
PM10	0.159	0.9999	0.6502	15.6042	**2.8478**	0.000065	0.000285	0.0000	0.000239	0.000000
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0.147	0.9999	0.6005	14.4120	**2.6302**	0.000060	0.000263	N/A	0.000221	0.000000

Total: Stack 1-S-27

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	1.3003	31.2083	5.6955	0.0001	0.0006	0.0000	0.290	1.270	1.075432	0.000108
PM10	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)

							Uncontrolled	
Unit ID	Avg. Hourl Process Ra (lbs/hr)	Previous Dust Load Factor Used	(1) Equivalent Dust Load (lbs/hr)	Percentage of Total Dust Load (%)	Control Efficiency (%)	Throughput During ST (Tons)	(2) New Pb EF (lbs/ton)	(3) New PM EF (lbs/ton)
HM Mill	7,751	2.27 lbs per 100 l	176	50.000	99.99	6.7935	0.147	0.159
Tote Bin Fill	7,751	2.27 lbs per 100 l	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.

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Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

****

STACK ID V-1

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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

			POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
SCC NO. 3-01-035-99			BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
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)

Dust Loading is 10.8 lbs/hr. Thus, EF = 0.0012 / (10.8/2000) / (1-0.941) = 3.76647834 lbs/ton.

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)

Total: Hammond Lead Plant

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
PM	285.0624	6,841.4986	1,248.5735	0.2693	1.1795	0.0074	6.8100	29.8278	112.7393	0.0862
PM10	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	0.1042	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.

Lead (lbs/yr) 46.742272

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** Expander Plant **

Lignin, carbon black, barium sulfate, and other fillers are mixed.

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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 (Ambient)
PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.01125	0	0.0394	0.9450	**0.1725**	0.039375	0.172463	0.0066	0.013495	0.013495
PM10	0.01125	0	0.0394	0.9450	**0.1725**	0.039375	0.172463	0.0066	0.013495	0.013495
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	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 (Ambient)
PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.000003	0	0.000011	0.000269	**0.000049**	0.000011	0.000049	0.000002	0.000004	0.000004
PM10	0.000003	0	0.000011	0.000269	**0.000049**	0.000011	0.000049	0.000002	0.000004	0.000004
SOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	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 Ball Mill (DC-4001) (Insignificant) MDR (T produced/hr): 3.5 STACK ID (DIAM:HEIGHT): Vent within building
CNTRL DEV: Cartridge Filter YEARLY PROD (T/yr): 2,399 FLOWRATE (ACFM): 1,000
Ts(°F): 70 (Ambient)
PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2255	0.999	0.7891	18.9387	**3.4563**	0.000789	0.003456	0.0001	0.270454	0.000270
PM10	0.2255	0.999	0.7891	18.9387	**3.4563**	0.000789	0.003456	0.0001	0.270454	0.000270
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	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) = 0.22546054 lbs/ton

Unit ID: Silo w/ bin vent (T-1000) (Trivial) MDR (T produced/hr): 3.5 STACK ID (DIAM:HEIGHT): Side Louvered Vents
CNTRL DEV: None YEARLY PROD (T/yr): 2,399 FLOWRATE (ACFM): 1,100
Process Controls: Cartridge Bin Vent Filter Ts(°F): 70 (Ambient)
PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.000003	0	0.000011	0.000269	**0.000049**	0.000011	0.000049	0.00000	0.000004	0.000004
PM10	0.000003	0	0.000011	0.000269	**0.000049**	0.000011	0.000049	0.00000	0.000004	0.000004
SOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	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: Alpha BM Line

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.789134	18.939223	3.456408	0.000812	0.003554	0.000095	0.270461	0.000278
PM10	0.789134	18.939223	3.456408	0.000812	0.003554	0.000095	0.270461	0.000278
SOx	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!	0.000000	0.000000
NOx	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!	0.000000	0.000000
VOC	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!	0.000000	0.000000
CO	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!	0.000000	0.000000
LEAD	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!	0.000000	0.000000

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****

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)

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.01125	0	0.0394	0.9450	**0.1725**	0.039375	0.172463	0.0038	0.015783	0.015783
PM10	0.01125	0	0.0394	0.9450	**0.1725**	0.039375	0.172463	0.0038	0.015783	0.015783
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	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-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): 700

Process Controls: Cartridge Bin Vent Filter Ts(°F): 70

PERMITTED OPERATING HRS: **8760** hr/yr (Ambient)

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.000003	0	0.000011	0.000269	**0.000049**	0.000011	0.000049	0.000002	0.000004	0.000004
PM10	0.000003	0	0.000011	0.000269	**0.000049**	0.000011	0.000049	0.000002	0.000004	0.000004
SOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	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 STACK ID (DIAM:HEIGHT): Vent within building

YEARLY PROD (T/yr): 2,806 FLOWRATE (ACFM): 1,000

CNTRL DEV: Cartridge Filter Ts(°F): 70

PERMITTED OPERATING HRS: **8760** hr/yr (Ambient)

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.2255	0.999	0.7891	18.9387	**3.4563**	0.000789	0.003456	0.0001	0.316306	0.000316
PM10	0.2255	0.999	0.7891	18.9387	**3.4563**	0.000789	0.003456	0.0001	0.316306	0.000316
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	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) = 0.22546054 lbs/ton

Unit ID: Bin/Silo w/ bin vent (T-2000) (Trivial) MDR (T produced/hr): 3.5 STACK ID (DIAM:HEIGHT): Side Louvered Vents

CNTRL DEV: None YEARLY PROD (T/yr): 2,806 FLOWRATE (ACFM): 1,100

Process Controls: Cartridge Bin Vent Filter Ts(°F): 70

PERMITTED OPERATING HRS: **8760** hr/yr (Ambient)

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.000003	0	0.000011	0.000269	**0.000049**	0.000011	0.000049	0.00000	0.000004	0.000004
PM10	0.000003	0	0.000011	0.000269	**0.000049**	0.000011	0.000049	0.00000	0.000004	0.000004
SOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	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						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.789134	18.939223	3.456408	0.000812	0.003554	0.000095	0.316315	0.000325
PM10	0.789134	18.939223	3.456408	0.000812	0.003554	0.000095	0.316315	0.000325
SOx	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!	0.000000	0.000000
NOx	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!	0.000000	0.000000
VOC	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!	0.000000	0.000000
CO	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!	0.000000	0.000000
LEAD	0.000000	0.000000	0.000000	0.000000	0.000000	#VALUE!	0.000000	0.000000

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

****

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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.000003	0	0.000008	0.000192	**0.000035**	0.000008	0.000035	0.000002	0.000004	0.000004
PM10	0.000003	0	0.000008	0.000192	**0.000035**	0.000008	0.000035	0.000002	0.000004	0.000004
SOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	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

Ts(°F): 70

PERMITTED OPERATING HRS: **8760** hr/yr (Ambient)

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.291	0.999	0.727500	17.460000	**3.186450**	0.000728	0.003186	0.000041	0.349072	0.000349
PM10	0.291	0.999	0.727500	17.460000	**3.186450**	0.000728	0.003186	0.000041	0.349072	0.000349
SOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000

Halstab S-17 (Bulk/Bag Packing System) stack test 10/6/98.

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Unit ID: Beta Packer Receiver w/ bin vent (R-2001) (Trivial) MDR (T produced/hr): 2.5 STACK ID (DIAM:HEIGHT): Vent within building
CNTRL DEV: None YEARLY PROD (T/yr): 2,806 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						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.000003	0	0.000008	0.000192	**0.000035**	0.000008	0.000035	0.000002	0.000004	0.000004
PM10	0.000003	0	0.000008	0.000192	**0.000035**	0.000008	0.000035	0.000002	0.000004	0.000004
SOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	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 STACK ID (DIAM:HEIGHT): Vent within building
CNTRL DEV: Torit Cartridge Filter (DC-3002) YEARLY PROD (T/yr): 2,806 FLOWRATE (ACFM): 2,050
Ts(°F): 70
(Ambient)

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.291	0.999	0.727500	17.460000	**3.186450**	0.000728	0.003186	0.000041	0.408253	0.000408
PM10	0.291	0.999	0.727500	17.460000	**3.186450**	0.000728	0.003186	0.000041	0.408253	0.000408
SOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.000000	0.000000	**0.000000**	0.000000	0.000000	N/A	0.000000	0.000000

Halstab S-17 (Bulk/Bag Packing System) stack test 10/6/98.

Total: Alph & Beta BM Lines

	POTENTIAL EMISSIONS						2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	3.0333	72.7988	13.2858	0.0031	0.0136	0.0003	1.3441	0.0014
PM10	3.0333	72.7988	13.2858	0.0031	0.0136	0.0003	1.3441	0.0014
SOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.0000	0.0000
NOx	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.0000	0.0000
VOC	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.0000	0.0000
CO	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.0000	0.0000
LEAD	0.0000	0.0000	0.0000	0.0000	0.0000	#VALUE!	0.0000	0.0000

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Mixer Line

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Unit ID: Mixer (DC-3000) and Mixer Packer (DC-2000) (Insignificant) MDR (T produced/hr): 4.5 STACK ID (DIAM:HEIGHT): Vent within building
CNTRL DEV: Torit Cartridge Filters YEARLY PROD (T/yr): 146 FLOWRATE (ACFM): 3250
Ts(°F): 75.1

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-01-035-54			POTENTIAL EMISSIONS						2012 Actual (TPY)	
			BEFORE CONTROLS			AFTER CONTROLS			BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	CONTROLS	CONTROLS
PM	0.225	0.95	1.0146	24.3497	**4.4438**	0.050729	0.222191	0.0018	0.016478	0.000824
PM10	0.225	0.95	1.0146	24.3497	**4.4438**	0.050729	0.222191	0.0018	0.016478	0.000824
SOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
NOx	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
VOC	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
CO	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	0.000000	0.000000
LEAD	0	0	0.0000	0.0000	**0.0000**	0.000000	0.000000	N/A	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) = 0.22546054 lbs/ton

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

****

Total - Expanders Plant

****

Total: Expander Operation

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	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) ****

	POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
	BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTAN	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	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.

46.742 Pb, lbs/yr
5.454869 All pollutants Total, TPY

****

** Trivial Activities **

****

Unit ID: HLP #8 Roof Vent (Stack V-11) MDR (T produced/hr): 3.3219E-10 STACK ID (DIAM:HEIGHT): (1: 36)
CNTRL DEV: None YEARLY PROD (T/yr): 0.000003 FLOWRATE (ACFM): 30568
Ts(°F): 70

PERMITTED OPERATING HRS: **8760** hr/yr

			POTENTIAL EMISSIONS						PERMIT LIMIT		2012 Actual (TPY)	
SCC NO. 3-01-035-99			BEFORE CONTROLS			AFTER CONTROLS					BEFORE	AFTER
POLLUTANT	EF(LB/T)	CE (%)	(lbs/hr)	(lbs/day)	**(TPY)**	(lbs/hr)	(TPY)	(gr/dscf)	(lbs/hr)	(TPY)	CONTROLS	CONTROLS
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	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

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)

Vents 400Y MCC Room.

Ap **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
1	Reactor (Removed 2007)	0	0	0
	Flash Calciner	1500	2330683.27	2.331
	Furnace #1	0	0	0.000
2	Furnace #2	650	1009962.75	1.010
3	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 equipt. 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 h	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 furna	280	45,300	1.431
Total (Expander)	1,960	1,476,700	3

TOTALS (Facility):	41,340.21	61,950,300	62

* BASED ON AVERAGED FUEL HEATING VALUE (1020 BTU/SCF)

Natural Gas Combustion

Appendix A: Limited Emission Calcula MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
41.34021	1020	355.0

	Pollutant						
	PM*	PM10*	direct PM2.5*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	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

1

HAPS Calculatior

2

3	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**otal - 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	3.728E-04	2.130E-04	1.331E-02	3.195E-01	6.036E-04	**3.340E-01**

	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	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

	Greenhouse Gas		
	CO2	CH4	N2O
Emission Factor in lb/MMcf	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).

Company Name: Hammond Group, Inc.
Address City IN Zip: 2308-165th Street, Hammond, Indiana 46320
Permit No.: T089-33798-00219
Reviewer: Provided By Hammond Group, reviewed by Swarna Prabha

Miscellaneous Insignificant Activities

Activity / Material	Hazardous Components	% by Weight	Material Handled (gal/yr)	HAPs Emissions Potential (Tons/yr)	HAPs Emissions 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**

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

February 6, 2014

Jean Ziga
Hammond Group
2323 165th Street
Hammond, Indiana 46320

Re: Public Notice
Hammond Group
Permit Level: Title V – Transition from FESOP
Permit Number: 089-33798-00219

Dear Jean:

Enclosed is a copy of your draft Title V – Transition from FESOP, Technical Support Document, emission calculations, and the Public Notice which will be printed in your local newspaper.

The Office of Air Quality (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.

You will not be responsible for collecting any comments, nor are you responsible for having the notice published in the newspaper. The OAQ has requested that The Times and The Post Tribune in Merrillville and Munster, Indiana publish this notice no later than February 11, 2014.

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 Swarna Prabha, 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 2-4536 or dial (317) 232-4536.

Sincerely,
Angela R Wells

Angela R Wells
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover letter. dot 3/27/08

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ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

February 6, 2014

The Times
Nicole Muscari
601 West 45th Ave.
Munster, Indiana 46321

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for Hammond Group, 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 February 11, 2014.

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.

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 Swarna Prabha at 800-451-6027 and ask for extension 2-4536 or dial 317-232-4536.

Sincerely,
Angela R Wells

Angela R Wells
Permit Branch
Office of Air Quality

Permit Level: Title V – Transition from FESOP
Permit Number: 089-33798-00219

Enclosure
PN Newspaper.dot 6/13/2013

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Governor

Thomas W. Easterly
Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

February 6, 2014

The Post Tribune
Lakesha West
1433 E. 83rd Ave.
Merrillville, Indiana 46410

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for Hammond Group, 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 February 11, 2014.

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.

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Sincerely,
Angela R Wells

Angela R Wells
Permit Branch
Office of Air Quality

Permit Level: Title V – Transition from FESOP
Permit Number: 089-33798-00219

Enclosure
PN Newspaper.dot 6/13/2013

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Commissioner

February 6, 2014

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: 089-33798-00219

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 6/13/2013

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Commissioner

Notice of Public Comment

February 6, 2014
Hammond Group, Inc.
089-33798-00219

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 6/13/13

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Commissioner

AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD
DRAFT INDIANA AIR PERMIT

February 6, 2014

A 30-day public comment period has been initiated for:

Permit Number: **089-33798-00219**
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 3/13/2013

Mail Code 61-53

IDEM Staff	AWELLS 2/6/2014 Hammond Group, Inc. 089-33798-00219 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		Jean Ziga Hammond Group, Inc. 2323 165th St Hammond IN 46320 (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 3229 E. Atlanta Court Portage IN 46368 *(Affected Party)*									
8		Mark Coleman 107 Diana Road Portage IN 46368 *(Affected Party)*									
9		Mr. Chris Hernandez Pipefitters Association, Local Union 597 8762 Louisiana St., Suite G Merrillville IN 46410 *(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.
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FACSIMILIE OF PS Form 3877

Mail Code 61-53

IDEM Staff	AWELLS 2/6/2014 Hammond Group, Inc. 089-33798-00219 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)*									
6		Matt Mikus 1710 Vale Park Rd Apt 302 Valparaiso IN 46383 *(Affected Party)*									
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