INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

TO: Interested Parties / Applicant

DATE: November 22, 2013

RE: Hitachi Powdered Metals (USA), Inc. / 031-33637-00017

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

Notice of Decision – Approval

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

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

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

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

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

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

Enclosures
FNPER-AM.dot 6/13/2013

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Larry Kroger
Hitachi Powdered Metals (USA), Inc.
1024 Barachel Lane
Greensburg, Indiana 47240

November 22, 2013

Re: Exempt Construction and Operation Status,
E031-33637-00017

Dear Mr. Kroger:

The application from Hitachi Powdered Metals (USA), Inc., received on September 11, 2013, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-1.1-3, it has been determined that the following existing stationary sintered powder coating automobile parts manufacturing plant located at 1024 Barachel Lane, Indiana 47240 is classified as exempt from air pollution permit requirements:

(a) Powder Mix Room consisting of four (4) double cone mixers, two (2) sifters, one (1) weighing carousel, and one (1) powder invertor. The double cone mixers have a maximum rated capacity of 250, 500, 1,000, and 1,000 kilograms. An OptiFlow Cartridge Filter Dust Collector, constructed in June 2000, controls PM emissions generated in the Powder Mix Room, and exhausting to one (1) stack, identified as S6;

(b) Hopper operations with two (2) dust collectors, constructed in 1988, designated as PCD_1 and PCD_2, with emissions exhausting to two (2) stacks, identified as S15 and S16;

(c) Twenty-three (23) compaction presses for manufacturing automotive parts, and controlled with 7 dust collectors, PCD3 through PCD9 (5 Farr dust collectors and 2 AGET Dustkops):

Press Number	Maximum Capacity, tons	Stack ID	Control Device ID (Mfg)
P1	175	S15	PCD3 (Farr)
P2	100	S15	PCD3 (Farr)
P3	100	S16	PCD4 (Farr)
P4	100	S16	PCD4 (Farr)
P5	100	S16	PCD4 (Farr)
P6	100	S16	PCD4 (Farr)
P7	100	General Building Ventilation	PCD5 (Farr)
P8	500	General Building Ventilation	PCD5 (Farr)
P9	200	General Building Ventilation	PCD5 (Farr)
P10	800	General Building Ventilation	Uncontrolled
P13	40	General Building Ventilation	PCD6 (AGET)
P14	60	General Building Ventilation	PCD6 (AGET)
P16	100	S17	PCD7 (Farr)
P17	100	S17	PCD7 (Farr)
P18	100	S18	PCD8 (Farr)
P19	100	S18	PCD8 (Farr)
P20	100	S18	PCD8 (Farr)
P21	800	General Building Ventilation	PCD9 (AGET)
P22	500	General Building Ventilation	Uncontrolled

Press Number	Maximum Capacity, tons	Stack ID	Control Device ID (Mfg)
P23	200	General Building Ventilation	Uncontrolled
P24	500	General Building Ventilation	Uncontrolled
P25	200	General Building Ventilation	Uncontrolled
P26	200	General Building Ventilation	Uncontrolled

NOTE: Press numbers P10, P22, P23, P24, P25, and P26 are uncontrolled emission units.

(d) Eighteen (18) electric sintering furnaces, constructed in 1988, and two (2) electric sintering furnaces, constructed in 2002, which have 15 natural gas fired flame curtains each having a maximum heat input capacity of 0.25 MMBtu/hr, with emissions exhausting to four (4) stacks, identified as S1, S2, S3, and S4;

(e) Twenty-three (23) lathes, constructed from 2006 to 2013, with a total maximum coolant usage of 110 gallons per month, with emissions exhausting through genral building ventilation;

(f) One (1) 63 gallon per hour evaporator designated as Evaporator No. 2, constructed in 1996, fired by natural gas with a maximum heat input rate of 0.750 MMBtu/hr, with emissions exhausting to one (1) stack, identified as S11;

(g) Two (2) natural gas-fired boilers, constructed in 1988, each has a maximum heat input capacity of 1.05 MMBtu/hr, with emissions exhausting to one (1) stack, identified as S10.

(h) Three (3) parts washers with an actual usage rate of 0.01 gallons/hour of solvent.

(i) One (1) abrasive blasting cabinet, firing steel shot with a maximum abrasive input rate of 1.27 pounds/hour.

(j) Three (3) electric steam treat operations, constructed in 1988, with a maximum heat input of 200 kilowatt (KW) each, with emissions exhausting to three (3) stacks, identified as S7, S8, and S9.
NOTE: No criteria pollutants or HAPs are emitted from the electric steam treat operations.

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

Phase 1

(a) Four (4) compacting presses and two (2) represses, identified as P27 through P32, constructed in 2013, with a maximum capacity ranging from 200 to 800 tons.

(b) Three (3) electrically-heated sintering furnaces, each equipped with a natural gas-fired flame curtain, constructed in 2013, with a maximum heat input of 0.25 MMBtu/hour per flame curtain.

(c) Five (5) parts washers, constructed in 2013, with an actual usage rate of 0.01 gallons/hour of solvent.

(d) Three (3) grinders, constructed in 2013.

(e) Eighteen (18) pieces of machining equipment including: twelve (12) lathes and six (6) machining centers, constructed in 2013.

(f) Oil Dipping Operations, constructed in 2011, used for the application of rust preventatives on metal products.

Phase 2

(a) Two (2) compacting presses, identified as P33 and P34, constructed in 2014, with a maximum capacity ranging from 200 to 800 tons.

(b) Two (2) electrically-heated sintering furnaces, each equipped with a natural gas-fired flame curtain, constructed in 2014, with a maximum heat input of 0.25 MMBtu/hour per flame curtain.

(c) Twelve (12) pieces of machining equipment including: eight (8) lathes and four (4) machining centers, constructed in 2014.

The following conditions shall be applicable:

1. **326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)**
Pursuant to 326 IAC 6-2-1(d), the two (2) boilers are subject to the requirements of 326 IAC 6-2-4, since they were constructed after September 21, 1983. Pursuant to 326 IAC 6-2-4, the two (2) boilers shall not exceed 0.6 pounds of particulate matter emitted per million Btu (lb/MMBtu) heat input.

2. **326 IAC 8-3-1 (Volatile Organic Compound Rules: Organic Solvent Degreasing Operations)**
Pursuant to 326 IAC 8-3-1(c)(2)(A)(ii), the degreasers are subject to the requirements of 326 IAC 8-3-2. Pursuant to 326 IAC 8-3-2, the Permittee shall comply with the following:

(a) The owner or operator of a cold cleaner degreaser shall ensure the following control equipment and operating requirements are met:

(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 subdivisions (3), (4), (6), and (7).

(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.

(b) The owner or operator of a cold cleaner degreaser subject to this subsection shall ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) A refrigerated chiller.

(D) Carbon adsorption.

(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:

(A) must be a solid, fluid stream; and

(B) shall be applied at a pressure that does not cause excessive splashing

3. **326 IAC 8-3-8 (Material Requirements for cold cleaner degreasers)**
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).

(a) 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).

This exemption supersedes E031-22538-00017, issued on June 1, 2006.

A copy of the Exemption is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM's Guide for Citizen Participation and Permit Guide on the Internet at: www.idem.in.gov

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source. If you have any questions on this matter, please contact Joshua Levering, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, at 317-234-6543 or at 1-800-451-6027 (ext 4-6543).

Sincerely,

Jenny Acker, Section Chief
Permits Branch
Office of Air Quality

JA/jjl

cc: File - Decatur County
Decatur County Health Department
Compliance and Enforcement Branch

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for an Exemption

Source Description and Location

Source Name:	**Hitachi Powdered Metals (USA), Inc.**
Source Location:	**1024 Barachel Lane, Greensburg, Indiana 47240**
County:	**Decatur**
SIC Code:	**3399 (Automotive Parts)**
Exemption No.:	**E031-33637-00017**
Permit Reviewer:	**Joshua Levering**

On September 11, 2013, the Office of Air Quality (OAQ) received an application from Hitachi Powdered Metals (USA), Inc. related to the construction and operation of new emission units and the continued operation of an existing stationary sintered powder coating automobile parts manufacturing plant.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Exemption No. 031-22538-00017, issued on June 1, 2006.

(b) Exemption No. 031-17712-00017, issued on September 3, 2003.

(c) Exemption No. 031-11922-00017, issued on April 17, 2000.

(d) Exemption No. 031-04144-00017, issued on January 5, 1995.

County Attainment Status

The source is located in Decatur County.

Pollutant	Designation
SO_2	Better than national standards.
CO	Unclassifiable or attainment effective November 15, 1990.
O_3	Unclassifiable or attainment effective June 15, 2004, for the 8-hour ozone standard.[1]
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Not designated.

[1]Unclassifiable or attainment effective October 18, 2000, for the 1-hour ozone standard which was revoked effective June 15, 2005.
Unclassifiable or attainment effective April 5, 2005, for PM2.5.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Decatur County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Decatur 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.

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

Fugitive Emissions

The fugitive emissions of criteria pollutants, hazardous air pollutants, and greenhouse gases are counted toward the determination of 326 IAC 2-1.1-3 (Exemptions) applicability.

Background and Description of Emission Units and Pollution Control Equipment

The Office of Air Quality (OAQ) has reviewed an application, submitted by Hitachi Powdered Metals (USA), Inc. on September 11, 2013, relating to the construction and operation of new emission units, included below as Phase 1 and Phase 2, and the continued operation of an existing stationary sintered powder coating automobile parts manufacturing plant.

The source consists of the following existing emission units:

(a) Powder Mix Room consisting of four (4) double cone mixers, two (2) sifters, one (1) weighing carousel, and one (1) powder invertor. The double cone mixers have a maximum rated capacity of 250, 500, 1,000, and 1,000 kilograms. An OptiFlow Cartridge Filter Dust Collector, constructed in June 2000, controls PM emissions generated in the Powder Mix Room, and exhausting to one (1) stack, identified as S6;

(b) Hopper operations with two (2) dust collectors, constructed in 1988, designated as PCD_1 and PCD_2, with emissions exhausting to two (2) stacks, identified as S15 and S16;

(c) Twenty-three (23) compaction presses for manufacturing automotive parts, and controlled with 7 dust collectors, PCD3 through PCD9 (5 Farr dust collectors and 2 AGET Dustkops):

Press Number	Maximum Capacity, tons	Stack ID	Control Device ID (Mfg)
P1	175	S15	PCD3 (Farr)
P2	100	S15	PCD3 (Farr)
P3	100	S16	PCD4 (Farr)
P4	100	S16	PCD4 (Farr)
P5	100	S16	PCD4 (Farr)
P6	100	S16	PCD4 (Farr)
P7	100	General Building Ventilation	PCD5 (Farr)
P8	500	General Building Ventilation	PCD5 (Farr)
P9	200	General Building Ventilation	PCD5 (Farr)
P10	800	General Building Ventilation	Uncontrolled
P13	40	General Building Ventilation	PCD6 (AGET)
P14	60	General Building Ventilation	PCD6 (AGET)

Press Number	Maximum Capacity, tons	Stack ID	Control Device ID (Mfg)
P16	100	S17	PCD7 (Farr)
P17	100	S17	PCD7 (Farr)
P18	100	S18	PCD8 (Farr)
P19	100	S18	PCD8 (Farr)
P20	100	S18	PCD8 (Farr)
P21	800	General Building Ventilation	PCD9 (AGET)
P22	500	General Building Ventilation	Uncontrolled
P23	200	General Building Ventilation	Uncontrolled
P24	500	General Building Ventilation	Uncontrolled
P25	200	General Building Ventilation	Uncontrolled
P26	200	General Building Ventilation	Uncontrolled

NOTE: Press numbers P10, P22, P23, P24, P25, and P26 are uncontrolled emission units.

(d) Eighteen (18) electric sintering furnaces, constructed in 1988, and two (2) electric sintering furnaces, constructed in 2002, which have 15 natural gas fired flame curtains each having a maximum heat input capacity of 0.25 MMBtu/hr, with emissions exhausting to four (4) stacks, identified as S1, S2, S3, and S4;

(e) Twenty-three (23) lathes, constructed from 2006 to 2013, with a total maximum coolant usage of 110 gallons per month, with emissions exhausting through genral building ventilation;

(f) One (1) 63 gallon per hour evaporator designated as Evaporator No. 2, constructed in 1996, fired by natural gas with a maximum heat input rate of 0.750 MMBtu/hr, with emissions exhausting to one (1) stack, identified as S11;

(g) Two (2) natural gas-fired boilers, constructed in 1988, each has a maximum heat input capacity of 1.05 MMBtu/hr, with emissions exhausting to one (1) stack, identified as S10.

(h) Three (3) parts washers with an actual usage rate of 0.01 gallons/hour of solvent.

(i) One (1) abrasive blasting cabinet, firing steel shot with a maximum abrasive input rate of 1.27 pounds/hour.

(j) Three (3) electric steam treat operations, constructed in 1988, with a maximum heat input of 200 kilowatt (KW) each, with emissions exhausting to three (3) stacks, identified as S7, S8, and S9. NOTE: No criteria pollutants or HAPs are emitted from the electric steam treat operations.

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

Phase 1

(a) Four (4) compacting presses and two (2) represses, identified as P27 through P32, constructed in 2013, with a maximum capacity ranging from 200 to 800 tons.

(b) Three (3) electrically-heated sintering furnaces, each equipped with a natural gas-fired flame curtain, constructed in 2013, with a maximum heat input of 0.25 MMBtu/hour per flame curtain.

(c) Five (5) parts washers, constructed in 2013, with an actual usage rate of 0.01 gallons/hour of solvent.

(d) Three (3) grinders, constructed in 2013.

(e) Eighteen (18) pieces of machining equipment including: twelve (12) lathes and six (6) machining centers, constructed in 2013.

(f) Oil Dipping Operations, constructed in 2011, used for the application of rust preventatives on metal products.

Phase 2

(a) Two (2) compacting presses, identified as P33 and P34, constructed in 2014, with a maximum capacity ranging from 200 to 800 tons.

(b) Two (2) electrically-heated sintering furnaces, each equipped with a natural gas-fired flame curtain, constructed in 2014, with a maximum heat input of 0.25 MMBtu/hour per flame curtain.

(c) Twelve (12) pieces of machining equipment including: eight (8) lathes and four (4) machining centers, constructed in 2014.

The following is a list of the emission units removed from the source:

(a) One (1) fifteen gallon per hour evaporator designated as Evaporator No. 1, constructed in 1996, fired by natural gas with a maximum heat input rate of 0.195 MMBtu/hr, with emissions exhausting to one (1) stack identified as S11.

Enforcement Issues

There are no pending enforcement actions related to this source.

Emission Calculations

See Appendix A of this TSD for detailed emission calculations.

Permit Level Determination – Exemption

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

	Potential To Emit of the Entire Source (tons/year)									
Process/ Emission Unit	PM	PM10*	PM2.5*	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Metal Powder Processes	2.42	2.42	2.42	--	--	--	--	--	--	--
NG Flame Curtains	0.04	0.16	0.16	0.01	2.15	0.12	1.80	2,592	0.04	0.04 Hexane
Evaporator	0.01	0.02	0.02	0.002	0.32	0.14	0.27	389	0.01	0.01 Hexane
Boilers	0.02	0.07	0.07	0.01	0.90	0.05	0.76	1,089	0.02	0.02 Hexane
Grinding Operations	0.85	0.08	0.08	--	--	--	--	--	--	--
Parts Washers	--	--	--	--	--	1.92	--	--	--	--
Abrasive Blasting	0.02	0.02	0.02	--	--	--	--	--	--	--

Process/ Emission Unit	Potential To Emit of the Entire Source (tons/year)									
	PM	PM10*	PM2.5*	SO_2	NOx	VOC	CO	GHGs as CO_2e**	Total HAPs	Worst Single HAP
Oil Dipping Operations	--	--	--	--	--	1.90	--	--	--	--
Lathes	--	--	--	--	--	negl.	--	--	--	--
Total PTE of Entire Source	**3.35**	**2.78**	**2.78**	**0.02**	**3.37**	**4.13**	**2.83**	**4,069.68**	**0.06**	**0.06 Hexane**
Exemptions Levels**	< 5	< 5	< 5	< 10	< 10	< 10	< 25	< 100,000	< 25	< 10

negl. = negligible
*Under the Part 70 Permit program (40 CFR 70), PM10 and PM2.5, not particulate matter (PM), are each considered as a regulated air pollutant".
**The 100,000 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.

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

(b) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA) and not subject to the provisions of 326 IAC 2-7.

(c) The potential to emit (PTE) (as defined in 326 IAC 2-1.1-1) of greenhouse gases (GHGs) is less than the Title V subject to regulation threshold of one hundred thousand (100,000) tons of CO_2 equivalent emissions (CO_2e) per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

Federal Rule Applicability Determination

New Source Performance Standards (NSPS)

(a) The requirements of the New Source Performance Standard for Surface Coating of Metal Furniture, 40 CFR 60, Subpart EE (326 IAC 12), are not included in the permit, since this source does not coat metal furniture.

(b) The requirements of the New Source Performance Standard for Automobile and Light Duty Truck Surface Coating Operations, 40 CFR 60, Subpart MM (326 IAC 12), are not included in the permit, although the source coats parts for automobiles, it is not an assembly plant of automobile or light duty trucks.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP)

(d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Automobiles and Light Duty Trucks, 40 CFR 63.3080, Subpart IIII (326 IAC 20-85), are not included in the permit, since this source is not located or part of a major source of HAPs.

(e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Miscellaneous Metal Parts, 40 CFR 63.3880, Subpart MMMM (326 IAC 20-66), are not included in the permit, since this source is not located or part of a major source of HAPs.

(f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63.11169, Subpart HHHHH (326 IAC 20-88), are not included in the permit, since this source uses powder coating which is exempt as defined in section 63.11180.

(g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63.11193, Subpart JJJJJJ, are not included in the permit, since the boilers are natural gas-fired which is exempt as defined in section 63.11195(e).

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

Compliance Assurance Monitoring (CAM)

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

State Rule Applicability Determination

The following state rules are applicable to the source:

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

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

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

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

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

(2) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

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

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

Boilers

326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(d), indirect heating facilities which received permit to construct after September 21, 1983 are subject to the requirements of 326 IAC 6-2-4.

The particulate matter emissions (Pt) shall be limited by the following equation:

$$Pt = \frac{1.09}{Q^{0.26}}$$

Where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu).

Q = Total source maximum operating capacity rating in MMBtu/hr heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation.

Pursuant to 326 IAC 6-2-4(a), for Q less than 10 MMBtu/hr, Pt shall not exceed 0.6 lb/MMBtu.

Indirect Heating Units Which Began Operation After September 21, 1983						
Facility	Construction Date	Operating Capacity (MMBtu/hr)	Q (MMBt/hr)	Calculated Pt (lb/MMBtu)	Particulate Limitation, (Pt) (lb/MMBtu)	PM PTE based on AP-42 (lb/MMBtu)
Two (2) Natural gas-fired Boilers	1988	1.05 for each boiler	2.10	0.9	0.6	0.02
Where: Q =	Includes the capacity (MMBtu/hr) of the new unit(s) and the capacities for those unit(s) which were in operation at the source at the time the new unit(s) was constructed.					

Grinding Operations

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
Pursuant to 326 IAC 6-3-1(b)(14), the grinding operation is not subject to the requirements of 326 IAC 6-3-2, since the grinding operation has potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

Parts Washer

326 IAC 8-3-1 (Volatile Organic Compound Rules: Organic Solvent Degreasing Operations)
Pursuant to 326 IAC 8-3-1(c)(2)(A)(ii), the degreasers are subject to the requirements of 326 IAC 8-3-2. Pursuant to 326 IAC 8-3-2, the Permittee shall comply with the following:

(a) The owner or operator of a cold cleaner degreaser shall ensure the following control equipment and operating requirements are met:

(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 subdivisions (3), (4), (6), and (7).

(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.

(b) The owner or operator of a cold cleaner degreaser subject to this subsection shall ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.

(B) A water cover when solvent used is insoluble in, and heavier than, water.

(C) A refrigerated chiller.

(D) Carbon adsorption.

(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

(2) Ensure the degreaser cover is designed so that it can be easily operated with one (1) hand if the solvent is agitated or heated.

(3) If used, solvent spray:

(A) must be a solid, fluid stream; and

(B) shall be applied at a pressure that does not cause excessive splashing

326 IAC 8-3-8 (Material Requirements for cold cleaner degreasers)
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).

(a) 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).

Abrasive Blasting

326 IAC 6-3-2 (Particulate emissions from manufacturing processes)
Pursuant to 326 IAC 6-3-1(b)(14), the abrasive blasting is not subject to the requirements of 326 IAC 6-3-2, since the abrasive blasting has potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour.

Oil Dipping Operations

326 IAC 8-1-6 (Volatile Organic Compound Rules: New Facilities; General Reduction Requirements)
Pursuant to 326 IAC 8-1-6, the oil dipping operation is not subject to the requirements of 326 IAC 8-1-6, since it has potential VOC emissions less than twenty-five (25) tons per year.

Lathes

326 IAC 8-1-6 (Volatile Organic Compound Rules: New Facilities; General Reduction Requirements)
Pursuant to 326 IAC 8-1-6, the lathes are not subject to the requirements of 326 IAC 8-1-6, since they have potential VOC emissions less than twenty-five (25) tons per year.

Conclusion and Recommendation

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant. An application for the purposes of this review was received on September 11, 2013.

The construction and operation of this source shall be subject to the conditions of the attached proposed Exemption No. 031-33637-00017. The staff recommends to the Commissioner that this Exemption be approved.

IDEM Contact

(a) Questions regarding this proposed permit can be directed to Joshua Levering 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) 234-6543 or toll free at 1-800-451-6027 extension 4-6543.

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

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

Source Summary

Company Name: **Hitachi Powdered Metals (USA), Inc.**
Address, City IN Zip: **1024 Barachel Lane, Greensburg, IN 47240**
Permit Number: **E031-33637-00017**
Plt ID: **031-00017**
Reviewer: **Joshua Levering**
Date: **October 2013**

	Potential to Emit (tons per year)										
	PM	PM_{10}	$PM_{2.5}$	SO_2	NO_X	VOC	CO	GHGs	Total HAPs	Single HAP [Worst Case]	
Metal Powder Processes	2.42	2.42	2.42	--	--	--	--	--	--	--	--
NG Flame Curtains	0.04	0.16	0.16	0.01	2.15	0.12	1.80	2,592	0.04	0.04	Hexane
Evaporator	0.01	0.02	0.02	0.002	0.32	0.14	0.27	389	0.01	0.01	Hexane
Boilers	0.02	0.07	0.07	0.01	0.90	0.05	0.76	1,089	0.02	0.02	Hexane
Grinding Operations	0.85	0.08	0.08	--	--	--	--	--	--	--	--
Parts Washers	--	--	--	--	--	1.92	--	--	--	--	--
Abrasive Blasting	0.02	0.02	0.02	--	--	--	--	--	--	--	--
Oil Dipping	--	--	--	--	--	1.90	--	--	--	--	--
Lathes	--	--	--	--	--	0.00	--	--	--	--	--
TOTAL	3.35	2.78	2.78	0.02	3.37	4.13	2.83	4,069.68	0.06	0.06	Hexane

Metal Powder Processes

Company Name: **Hitachi Powdered Metals (USA), Inc.**
Address, City IN Zip: **1024 Barachel Lane, Greensburg, IN 47240**
Permit Number: **E031-33637-00017**
Plt ID: **031-00017**
Reviewer: **Joshua Levering**
Date: **October 2013**

Description of Metal Powder Processes:

a) Powder Mix Room: Consists of four (4) double cone mixers with maximum rated capacities of 250 kg, 500 kg, 1,000 kg, and 1,000 kg; two (2) sifters; one (1) weighing carousel; and one (1) powder inverter. The Powder Mix Room is controlled with one (1) OptiFlow Cartridge Filter Dust Collector (model 4RC16) manufactured by American Air Filter.

b) Hopper operations with two (2) dust collectors, PCD1 and PCD2, exhausting to stacks S15 and S16.

c) Twenty-three (23) compacting presses with maximum capacity ranging from 40 to 880 tons controlled by two (2) fabric filter baghouse systems, PCD6 and PCD9), (Model FT24S21) manufactured by AGET Manufacturing and three (5) dust collectors (PCD3, 4, 5, 7, and 8) (Tenkay Model 5C) manufactured by Farr Air Pollution Control.
NOTE: Press numbers P10, P22, P23, P24, P25, and P26 are uncontrolled.

d) New eight (8) compacting presses, identified as P27 through P34, with maximum capacity ranging from 200 to 800 tons.
The facility is planning to install dust collectors for the new presses but has not yet selected them.

Uncontrolled Potential PM/PM_{10} Emissions

Established PM Emission Rate [lb/hr] (1)	0.45
PM Emission Rate after Modification [lb/hr] (2)	0.55
$PM/PM_{10}/PM_{2.5}$ Emissions [tpy] (3)	2.42

Controlled Potential PM/PM_{10} Emissions

Control Efficiency	99%
$PM/PM_{10}/PM_{2.5}$ Emissions [tpy] (4)	0.02

Additional Information:

(1) This rate was determined in Exemption 031-22538-00017, issued on 6/1/06. It is based on a mass balance of a like process.
(2) PM Emission Rate after Modification [lb/hr] = Established Particulate Emission Rate [lb/hr] x 38 existing machines handling metal powder / 31 machines in previous exemption
(3) $PM/PM_{10}/PM_{2.5}$ Emissions [tpy] = $PM/PM_{10}/PM_{2.5}$ Emissions [lb/hr] x 8,760 hr/yr / 2,000 lb/ton
All PM is assumed to be PM_{10} and $PM_{2.5}$
(4) $PM/PM_{10}/PM_{2.5}$ Emissions [tpy] = $PM/PM_{10}/PM_{2.5}$ Emissions [tpy] x (1 - Control Efficiency)

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

Company Name: Hitachi Powdered Metals (USA), Inc.
Address City IN Zip: 1024 Barachel Lane, Greensburg, IN 47240
Permit Number: E031-33637-00017
Plt ID: 031-00017
Reviewer: Joshua Levering
Date: October 2013

25 Electric Sintering Furnaces with 20 Natural Gas Fired Flame Curtains, each flame curtain has a maximum heat input of 0.25 MMBtu/hour.

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
5.00	1020	42.9

	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	0.04	0.16	0.16	0.01	2.15	0.12	1.80

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	4.509E-05	2.576E-05	1.610E-03	3.865E-02	7.300E-05	**4.040E-02**

	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	1.074E-05	2.362E-05	3.006E-05	8.159E-06	4.509E-05	**1.177E-04**
					Total HAPs	**0.04**
					Worst HAP	**0.04**

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	2,576	0.0	0.0
Summed Potential Emissions in tons/yr	2,577		
CO2e Total in tons/yr	2,592		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Appendix A: Emissions Calculations
Evaporator No. 2 (page 1 of 2)
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Hitachi Powdered Metals (USA), Inc.
Address City IN Zip: 1024 Barachel Lane, Greensburg, IN 47240
Permit Number: E031-33637-00017
Plt ID: 031-00017
Reviewer: Joshua Levering
Date: October 2013

One (1) Natural gas-fired Evaporator, identified as Evaporator No. 2, with a maximum heat input capacity of 0.75 MMBtu/hour.
NOTE: Evaporator No. 1 has been removed from the facility.

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
0.75	1020	6.4

	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	0.01	0.02	0.02	0.002	0.32	0.02	0.27

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	6.763E-06	3.865E-06	2.415E-04	5.797E-03	1.095E-05	**6.060E-03**

	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	1.610E-06	3.543E-06	4.509E-06	1.224E-06	6.763E-06	**1.765E-05**
					Total HAPs	**0.01**
					Worst HAP	**0.01**

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	386	0.0	0.0
Summed Potential Emissions in tons/yr	386		
CO2e Total in tons/yr	389		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Evaporator No. 2 (page 2 of 2)

Company Name:	**Hitachi Powdered Metals (USA), Inc.**
Address, City IN Zip:	**1024 Barachel Lane, Greensburg, IN 47240**
Permit Number:	**E031-33637-00017**
Plt ID:	**031-00017**
Reviewer:	**Joshua Levering**
Date:	**October 2013**

Additional VOC Emissions:

Total Evaporator Combined Throughput [gal/hr] (5)	78
Mop Water Density [lb/gal] (1)	8.34
VOC Content of Mop Water [wt. %] (1)	0.0044%
VOC Emissions [tpy] (2)	0.125

Additional Information:

(1) Same data used for existing Letter of Exemption. The evaporator has not changed.

(2) VOC Emissions [tpy] = Total Evaporator Combined Throughput [gal/hr] x Mop Water Density [lb/gal] x VOC Content of Mop Water [wt. %] x 8,760 hr/yr / 2,000 lb/ton

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

Company Name: Hitachi Powdered Metals (USA), Inc.
Address City IN Zip: 1024 Barachel Lane, Greensburg, IN 47240
Permit Number: E031-33637-00017
Plt ID: 031-00017
Reviewer: Joshua Levering
Date: October 2013

Boiler No. 1 and Boiler No. 2, each with a maximum input capacity rate of 1.05 MMBtu/hour.

Heat Input Capacity MMBtu/hr	HHV mmBtu / mmscf	Potential Throughput MMCF/yr
2.1	1020	18.0

	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	0.02	0.07	0.07	0.01	0.90	0.05	0.76

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
PM2.5 emission factor is filterable and condensable PM2.5 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

HAPS Calculations

	HAPs - Organics					
	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene	**Total - Organics**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	1.894E-05	1.082E-05	6.763E-04	1.623E-02	3.066E-05	**1.697E-02**

	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	4.509E-06	9.919E-06	1.262E-05	3.427E-06	1.894E-05	**4.942E-05**
					Total HAPs	**0.02**
					Worst HAP	**0.02**

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	1,082	0.02	0.02
Summed Potential Emissions in tons/yr	1,082		
CO2e Total in tons/yr	1,089		

Methodology
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (21) + N2O Potential Emission ton/yr x N2O GWP (310).

Grinding Operations

Company Name: **Hitachi Powdered Metals (USA), Inc.**
Address City IN Zip: **1024 Barachel Lane, Greensburg, IN 47240**
Permit Number: **E031-33637-00017**
Plt ID: **031-00017**
Reviewer: **Joshua Levering**
Date: **October 2013**

Grinding Operations	Material	Number of Machines	Uncontrolled Process Rate (lb/hr)	Uncontrolled Process Rate (tons/hr)	PM Emission Factor (lbs emitted/ton processed)	Total PM Potential to Emit (tons/yr)	$PM_{10}/PM_{2.5}$ Emission Factors (lbs emitted/ton processed)	Total $PM_{10}/PM_{2.5}$ Potential to Emit (tons/yr)
Current grinding operations including: 7 lathes, 2 Brother machining centers, 1 diamond hone, and 3 double disk grinders	steel	13	11.41	0.0057	17	0.4249	1.70	0.0425
3 Koyo Grinders and 10 machining centers	steel	13	11.41	0.0057	17	0.4249	1.70	0.0425
					Totals	**0.85**		**0.08**

Methodology

Emission Factor obtained from Factor Information Retrieval Data System (FIRE) Emission Factor for Grey Iron Foundry Grinding
Emissions are uncontrolled and exhaust inside the facility to the atmosphere.
It is conservatively assumed that all powdered metals processed by the facility are then sent for grinding.
Total $PM/PM_{10}/PM_{2.5}$ PTE (tons/yr) = Uncontrolled Process Rate (lb/hr) * Emission Factor (lbs emitted/ton processed) * 8760 (hrs/yr) /2000 (lbs/ton)
Controlled PTE = Total $PM/PM_{10}/PM_{2.5}$ PTE (tons/yr) * (1-Control Efficiency)

6330367.91	Pounds of various alloy powders processed in 2012
9495551.87	Multiplied by safety factor of 1.5 to ensure worst-case scenario is represented
0.50%	Surface area percentage subject to grinding
47477.76	Total Amount ground per year
4160	Hours operated 2012
11.41	Maximum hourly process rate

Parts Washers

Company Name: Hitachi Powdered Metals (USA), Inc.
Address City IN Zip: 1024 Barachel Lane, Greensburg, IN 47240
Permit Number: E031-33637-00017
Plt ID: 031-00017
Reviewer: Joshua Levering
Date: October 2013

							HAPs	
Emission Unit ID	Solvent	Maximum Usage Rate per unit (gal/hr)	Number of Units	Weight % VOC	Density (lbs/gal)	PTE of VOC (tons/yr)	This solvent does not contain any HAPs	
5 New AEC Washers	Safety Kleen Premium	0.01	5.00	100.00%	6.7	1.20	0.00%	0.000
3 Current Parts Washers	Safety Kleen Premium	0.01	3.00	100.00%	6.7	0.72	0.00%	0.000
					Total	**1.92**		**0.00**

68 gal Safety Kleen Premium Solvent used in 2012
4160 hrs operated in 2012
3 Number of parts washers used in 2012
0.01 Safety Kleen Premium Solvent usage rate (gal/hr) per parts washer
0.01 Safety-Kleen Solvent Usage rate (gal/hr) per parts washer * 1.5 for worst-case scenario usage

Notes

Safety-Kleen units (3) are covered tanks used for degresing/general maintenance purposes. Units are serviced regularly by Safety-Kleen. Amount supplied was determined and the amount shipped off for reuse was subtracted from this to obtain a total usage rate.

Methodology

PTE of VOC (tons/yr) = Maximum Usage Rate per unit (gal/hr) x Number of Units x Density (lbs/gal) x Weight % VOC x 8,760 hrs/yr x 1 ton/2,000 lbs

Abrasive Blasting

Company Name: **Hitachi Powdered Metals (USA), Inc.**
Address City IN Zip: **1024 Barachel Lane, Greensburg, IN 47240**
Permit Number: **E031-33637-00017**
Plt ID: **031-00017**
Reviewer: **Joshua Levering**
Date: **October 2013**

Unit ID	Description	Max Abrasive Input Rate (lbs/hr)	Type Abrasive Used	PM Emission Factor (lbs/lbs)	PTE of PM before Control (lbs/hr)	PTE of PM before Control (tons/yr)	PM10/PM2.5 Emission Factor (lbs PM10/lbs PM)	PTE of PM10/PM2.5 before Control (lbs/hr)	PTE of PM10/PM2.5 before Control (tons/yr)	Control Device	Control Efficiency	PTE of PM after Control (lbs/hr)	PTE of PM after Control (tons/yr)	PTE of PM10/PM2.5 after Control (lbs/hr)	PTE of PM10/PM2.5 after Control (tons/yr)
Goff	Goff shot blast cabinet	1.269231	steel shot	0.004	0.01	0.02	0.86	4.37E-03	0.02	baghouse	99%	5.08E-05	2.22E-04	4.37E-05	1.91E-04
											Total Controlled*	**5.08E-05**	**2.22E-04**	**4.37E-05**	**1.91E-04**

**PM emission factors for abrasive blasting were taken from Section 3 of STAPPA/ALAPCO "Confined Abrasive Blasting Cabinets/Rooms" document based upon controlled emissions.*

***Shot blasting equipment is installed & wired so that the shot-blasting machine cannot be turned on without the dust collector also being turned on.*
Because it is not possible to operate the blasting equipment without the controls, the PTE is based upon controlled emissions.

Notes
Emissions are based upon blast media purchase records for 2012, divided by the number of hours operated during the year and multiplied by a safety factor of 1.5 to ensure the worst-case scenario is represented. [1 (drum purchased/year) * 55 (gal/drum) * 64 (lb shot/gal) /4160 hours * 1.5 (safety factor)]
Facility actually purchases 1 drum every few years. Conservatively assumed 1 drum per year purchased.
Density of the shot was estimated to be that of iron since that makes up 96% of the product.

Methodology
PM10=PM2.5
PTE of PM before Control (lbs/hr) = Max. Abrasive Usage (lbs/hr) * PM Emission Factor (lbs/lbs)
PTE of PM before Control (tons/yr) = Max. Abrasive Usage (lbs/hr) * PM Emission Factor (lbs/lbs) * 8,760 hr/yr * 1 ton/2,000 lbs
PTE of PM10 before Control = PTE of PM * PM10 Emission Factor (lbs/lbs)
PTE of PM/PM10 after Control = PTE of PM/PM10 before Control * (1- Control Efficiency)

Oil Dipping

Company Name: **Hitachi Powdered Metals (USA), Inc.**
Address City IN Zip: **1024 Barachel Lane, Greensburg, IN 47240**
Permit Number: **E031-33637-00017**
Plt ID: **031-00017**
Reviewer: **Joshua Levering**
Date: **October 2013**

Rust Preventative	Usage in 2011 (gal)	Annual Operating hours	Usage rate (gal/hr)	Density	VOC content (lbs/gal)	PTE of VOC (lbs/hr)	PTE of VOC (tpy)
YUMARK FL-40	21030	4160	7.583	6.840	0.00	0.00	0.00
CRC-3-36	440	4160	0.159	6.830	2.74	0.43	1.90
Nippon Chelespin	3080	4160	1.111	7.140	0.00	0.00	0.00
					Total	**0.43**	**1.90**

Notes

The facility has replaced Perdraw 1050 with Yumark FL-40. The combined usage of both is used in preventatives in 2012 to reflect future usage of the Yumark.

Methodology

Usage rate = Usage in 2011 (gal) / annual operating hours * 1.5 (safety factor)
PTE of VOC (lbs/hr) = Usage rate (gal/hr) * VOC content (lbs/gal)
PTE of VOC (tpy) = Usage rate (gal/hr) * VOC content (lbs/gal) * 8760 (hrs/yr) /2000 (lbs/ton)

Lathe Operations

Company Name: **Hitachi Powdered Metals (USA), Inc.**
Address City IN Zip: **1024 Barachel Lane, Greensburg, IN 47240**
Permit Number: **E031-33637-00017**
Plt ID: **031-00017**
Reviewer: **Joshua Levering**
Date: **October 2013**

Potential Emissions from Lathe Operations

Miller VG-I No.1 (RV 2%) Oil Information	
density (lb/gal)	7.50
VOC wt %	0.00%

Lathe ID	Number of Machines	Product Density (lb/gal)	Maximum Usage Rate (gal/hr)	Flash-off (%)	VOC Content (lbs/gal)	Potential VOC Emissions (lbs/hr)	Potential VOC Emissions (tons/yr)
23 Toho Lathes	23	7.50	2.34	100%	0.00	0.000	0.00
6 Hydromat machines	6	7.50	0.61	100%	0.00	0.000	0.00
2 Brother machining centers	2	7.50	0.20	100%	0.00	0.000	0.00
1 Wasino CNC	1	7.50	0.10	100%	0.00	0.000	0.00
8 Okuma CNC	8	7.50	0.81	100%	0.00	0.000	0.00
8 Okuma 2SP	8	7.50	0.81	100%	0.00	0.000	0.00
1 Diamond hone	1	7.50	0.10	100%	0.00	0.000	0.00
Phase I Addition							
12 Takisawa TT-2000 lathes	12	7.50	1.22	100%	0.00	0.000	0.00
6 Brother machining centers	6	7.50	0.61	100%	0.00	0.000	0.00
Phase II Addition							
8 Takisawa TT-2000 lathes	8	7.50	0.81	100%	0.00	0.000	0.00
4 Brother machining centers	4	7.50	0.41	100%	0.00	0.000	0.00
Total Machines	79						**0.00**

Methodology

Maximum Usage Rate (gal/hr) = Maximum Product Usage rate per machine (gal/hr) * Number of machines/Total Machines
Potential VOC Emissions (lbs/hr) = Maximum Usage Rate (gal/hr) x Flash-off (%) x VOC Content (lbs/gal)
Potential Emissions (tons/yr) = Potential Emissions (lb/hr) * 8,760 hrs/yr x 1 ton/2,000 lb

22275	Product usage in 2011 (gal)
4160	Hours Operated in 2011
5.354567308	Product Usage Rate for 2011
8.031850962	Maximum Product Usage Rate per machine* (gal/hr)

* Maximum Product Usage Rate (gal/hr) = Product Usage Rate for 2011 * 1.5 safety factor to ensure worst case-scenario is reflected.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We Protect Hoosiers and Our Environment.
100 N. Senate Avenue • Indianapolis, IN 46204
(800) 451-6027 • (317) 232-8603 • www.idem.IN.gov

Michael R. Pence
Governor

Thomas W. Easterly
Commissioner

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

TO: Larry Kroger
Hitachi Powdered Metals (USA), Inc.
1024 Barachel Lane
Greensburg, IN 47240

DATE: November 22, 2013

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

SUBJECT: Final Decision
Exemption
031-33637-00017

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

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

A copy of the final decision and supporting materials has also been sent via standard mail to:
Gregory Owens - Director
Andrea Swanson - Cornerstone Environmental
OAQ Permits Branch Interested Parties List

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

Mail Code 61-53

IDEM Staff	GHOTOPP 11/22/2013 Hitachi Powdered Metals, Inc 031-33637-00017 Final		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Larry Kroger Hitachi Powdered Metals, Inc 1024 Barachel Ln Greensburg IN 47240 (Source CAATS) via confirmed delivery									
2		Gregory Owens Director Hitachi Powdered Metals, Inc 1024 Barachel Ln Greensburg IN 47240 *(RO CAATS)*									
3		Decatur County Commissioners 150 Courthouse Square Greensburg IN 47240 *(Local Official)*									
4		Greensburg City Council & Mayors office 314 W Washington Street Greensburg IN 47240 *(Local Official)*									
5		Decatur County Health Department 801 N. Lincoln St Greensburg IN 47240-1397 *(Health Department)*									
6		Mr. Leonard Rohls 8504 North County Road 300 West Batesville IN 47006 *(Affected Party)*									
7		Melanie Brassell 606 Nelsons Parkway, P.O. Box 465 Wakarusa IN 46573 *(Affected Party)*									
8		Ms. Andrea Swanson Cornerstone Environmental 880 Lennox Ct Zionsville IN 46077 *(Consultant)*									
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