



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

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

for Powder Processing Technology, LLC in Porter County

Significant Source Modification No.: 127-39352-00021

Significant Permit Modification No.: 127-39354-00021

The Indiana Department of Environmental Management (IDEM) has received an application from Powder Processing Technology, LLC, located at 5103 Evans Avenue, Valparaiso, Indiana 46383, for a significant modification of its Part 70 Operating Permit issued on May 10, 2016. If approved by IDEM's Office of Air Quality (OAQ), this proposed modification would allow Powder Processing Technology, LLC to make certain changes at its existing source. Powder Processing Technology, LLC has applied to construct and operate a new indirect-fired calciner with a natural gas-fired burner.

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

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

Valparaiso Public Library
103 Jefferson Street
Valparaiso, IN 46383

and

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

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

A copy of the preliminary findings is also available via IDEM's Virtual File Cabinet (VFC.) Please go to: <http://www.in.gov/idem/> and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria.

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 SSM 127-39352-00021 and SPM 127-39354-00021 in all correspondence.

Comments should be sent to:

Joshua Levering
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for extension 4-6543
Or dial directly: (317) 234-6543
Fax: (317) 232-6749 attn: Joshua Levering
E-mail: JLeverin@idem.IN.gov

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

For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: <http://www.in.gov/idem/airquality/2356.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

What will happen after IDEM makes a decision?

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

If you have any questions, please contact Joshua Levering or my staff at the above address.



Iryn Callung, Section Chief
Permits Branch
Office of Air Quality



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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

DRAFT

Mr. Brad S. Monton
Powder Processing Technology, LLC
5103 Evans Avenue
Valparaiso, IN 46383

Re: 127-39352-00021
Significant Source Modification

Dear Mr. Monton:

Powder Processing Technology, LLC was issued Part 70 Operating Permit Renewal No. T127-36185-00021 on May 10, 2016 for a stationary metal oxide product manufacturing source located at 5103 Evans Avenue, Valparaiso, Indiana 46383. An application to modify the source was received on December 6, 2017. Pursuant to the provisions of 326 IAC 2-7-10.5, a Significant Source Modification is hereby approved as described in the attached Technical Support Document.

Pursuant to 326 IAC 2-7-10.5, the following emission units are approved for construction at the source:

- (a) One (1) 4-foot by 30-foot indirect-fired calciner unit, identified as A-CS-12, approved in 2018 for construction, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as A-DC-12 and an UltraCat hot gas filtration system for NO_x control when using nitrate based products, exhausting through a stack.

The cartridge dust collector is integral when processing metal oxide products and nitrate based products.

- (b) One (1) natural gas burner #12 for indirect calciner A-CS-12, approved in 2018 for construction, with a maximum heat input capacity of 3.3 million British thermal units per hour.

The following construction conditions are applicable to the proposed modification:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

Effective Date of the Permit

3. Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

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Commenced Construction

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(j), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Approval to Construct

6. Pursuant to 326 IAC 2-7-10.5(h)(2), this Significant Source Modification authorizes the construction of the new emission unit(s), when the Significant Source Modification has been issued.

Pursuant to 326 IAC 2-7-10.5(m), the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

Pursuant to 326 IAC 2-7-12, operation of the new emission unit(s) is not approved until the Significant Permit Modification has been issued. Operating conditions shall be incorporated into the Part 70 Operating Permit as a Significant Permit Modification in accordance with 326 IAC 2-7-10.5(m)(2) and 326 IAC 2-7-12 (Permit Modification).

A copy of the permit is available on the Internet at: <http://www.in.gov/ai/appfiles/idem-caats/>. A copy of the permit is also available via IDEM's Virtual File Cabinet (VFC.) Please go to: <http://www.in.gov/idem/> and enter VFC in the search box. You will then have the option to search for permit documents using a variety of criteria. For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: <http://www.in.gov/idem/airquality/2356.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

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

If you have any questions on this matter, please contact Joshua Levering of my staff, OAQ, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana, 46204-2251, or call at (800) 451-6027, and ask for Joshua Levering or extension 4-6543 or dial (317) 234-6543.

Sincerely,

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Significant Source Modification and Technical Support Document

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



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Significant Source Modification to a Part 70 Source

OFFICE OF AIR QUALITY

**Powder Processing Technology, LLC
5103 Evans Avenue
Valparaiso, Indiana 46383**

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

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.

This permit also addresses certain new source review requirements for new and/or existing equipment and is intended to fulfill the new source review procedures pursuant to 326 IAC 2-7-10.5, applicable to those conditions.

Significant Source Modification No.: 127-39352-00021

Master Agency Interest ID.: 11586

Issued by:

Iryn Calilung,
Section Chief, Permits Branch
Office of Air Quality

Issuance Date:

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[326 IAC 20-82]

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Attachment A: 40 CFR 63, Subpart ZZZZ, National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines

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.3 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 metal oxide product manufacturing source.

| | |
|------------------------------|--|
| Source Address: | 5103 Evans Avenue, Valparaiso, Indiana 46383 |
| General Source Phone Number: | (219) 462-4141 |
| SIC Code: | 3499 (Fabricated Metal Products, Not Elsewhere Classified) |
| County Location: | Porter |
| 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 Not 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:

- (a) One (1) electric calciner, identified as A-CS-3, constructed prior to 1970, with a maximum capacity of 600 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-DC-4, exhausting through vent V-ACS-3.
- (b) One (1) electric calciner, identified as A-CS-4, constructed prior to 1970, and approved in 2018 for modification to use nitrate based products, with a maximum capacity of 600 pounds per hour of various metal oxide products or 300 pounds per hour of nitrate based products, equipped with an integral cartridge dust collector, identified as A-DC-4, exhausting through vent V-ACS-3, and an UltraCat hot gas filtration system for NO_x control when using nitrate based products, exhausting through a stack.

The cartridge dust collector is integral when processing metal oxide products and nitrate based products.

- (c) One (1) indirect-fired calciner, identified as A-CS-2, constructed in 1995, with a maximum capacity of 1,200 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector for particulate control, identified as A-DC-1, exhausting through stacks V-ACS-2 and V-AHX-1.
- (d) One (1) 20-foot dryer, identified as A-SD-1, constructed in 1973, with a maximum capacity of 3,000 pounds per hour of various metal oxide products, equipped with parallel cyclones and an integral cartridge dust collector, identified as A-SD-1, exhausting through stack V-BSD-1.
- (e) One (1) ball milling unit, identified as A-BM-7, constructed in 1973, with a maximum capacity of 21,000 pounds per batch (1,400 pounds per hour) of various metal oxide

products, equipped with an integral cartridge dust collector, identified as A-BM-7, exhausting to the interior.

- (f) One (1) batch operation, identified as A-GB-1, constructed in 1973, with a maximum capacity of 1500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-GB-1, exhausting to the interior.
- (g) One (1) weigh up operation, identified as A-WU-1, constructed in 1970, with a maximum capacity of 100 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-WU-1, exhausting through stack V-AWU-1.
- (h) One (1) 17.5-foot dryer, identified as B-SD-1, constructed in 1984, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with parallel cyclones and an integral cartridge dust collector, identified as B-SD-1, exhausting through stack V-BSD-1.
- (i) One (1) 9.5-foot anhydrous spray dryer, identified as B-SD-2, constructed in 1984, with a maximum capacity of 580 pounds per hour of various metal oxide products, equipped with a cyclone and an integral cartridge dust collector, identified as B-SD-2, exhausting through stack V-BSD-1.
- (j) One (1) 5-foot by 40-foot direct-fired calciner, identified as B-C-1, constructed in 1970, with a maximum capacity of 1,500 pounds per hour of various metal oxide products, equipped with a baghouse or cartridge dust collector for particulate control, identified as B-C-1, exhausting through stack V-BCS-1.

This dust collector is not considered integral.

- (k) One (1) 16-foot spray dryer, identified as C-SD-1, constructed before 1970, with a maximum capacity of 1,500 pounds per hour of various metal oxide products, equipped with three (3) parallel cyclone separators and a cartridge dust collector for particulate control, identified as C-SD-1, exhausting through stack V-CSD-1.

This dust collector is not considered integral.

- (l) Four (4) milling units, identified as C-GB-1, constructed in 1984, each with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, a common control shared by the milling units, identified as C-GB-1, exhausting to the interior.
- (m) One (1) batch operation, identified as C-WU-1, constructed in 1980, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with one (1) integral cabinet dust collector, identified as C-WU-1, exhausting to the interior.
- (n) One (1) batch operation, identified as C-GB-2, constructed in 1984, with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as C-GB-2, exhausting to the interior.
- (o) One (1) 3-foot by 26-foot indirect-fired calciner unit, identified as C-CS-6, constructed in 1996 and modified in 2015 to use nitrate based products, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as DC-CS-6 and an UltraCat hot gas filtration system for NO_x control when using nitrate based products, exhausting through stacks V-CCS-6 and V-CHX-6.

The cartridge dust collector is integral when processing metal oxide products (as determined in 2015) and when processing nitrate based products (as determined in 2018).

- (p) One (1) 15-inch by 26-foot electric calciner unit, identified as C-CS-7, constructed in 1996, with a maximum capacity of 200 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as C-CS-7, exhausting through stacks V-CCS-7 and V-CHX-7.
- (q) One (1) blending/packaging operation, identified as A-BL-1, constructed in 1993, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-BL-1, exhausting to the interior.
- (r) One (1) bulk handling operation, identified as A-BH-1, constructed in 1995, with a maximum capacity of 1,600 pounds per hour of various metal oxide products, equipped with an integral dust collector, identified as A-BH-1, exhausting to the interior.
- (s) Six (6) ball milling units, identified as A-BM-1 to A-BM-6, constructed in 1973, each with a maximum capacity of 7,500 pounds per batch (500 pounds per hour) each of various metal oxide products, each equipped with an integral cartridge dust collector, identified as A-BM-1 to A-BM-6, exhausting to the interior.
- (t) Three (3) fired bead screening units, identified as B-FB-1, constructed in 1989, each with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, a common control shared by the screening units, identified as B-FB-1, exhausting to the interior.
- (u) One (1) blending unit, identified as B-GB-1, constructed in 1984, with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-GB-1, exhausting to the interior.
- (v) One (1) wet ball milling operation, identified as B-WB-1, constructed in 1980, with a maximum capacity of 10,000 pounds per batch (666.7 pounds per hour) of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-WB-1, exhausting to the interior.
- (w) One (1) ball mill operation, utilizing a wet batch process, identified as B-BM-1, constructed in 1992, with a maximum capacity of 580 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-BM-1, exhausting to the interior.
- (x) One (1) indirect-fired calciner, identified as A-CS-11, approved in 2017 for construction, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as A-DC-11 and an UltraCat hot gas filtration system for NO_x control when using nitrate based products, exhausting through stacks V-ACS-2 and V-AHX-1.

The cartridge dust collector is integral when processing metal oxide products (as determined in 2017) and when processing nitrate based products (as determined in 2018).

- (y) One (1) 4-foot by 30-foot indirect-fired calciner unit, identified as A-CS-12, approved in 2018 for construction, with a maximum capacity of 1,200 pounds per hour of various

metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as A-DC-12 and an UltraCat hot gas filtration system for NO_x control when using nitrate based products, exhausting through a stack.

The cartridge dust collector is integral when processing metal oxide products and nitrate based products.

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 also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour which include:
 - (1) One (1) heating boiler, identified as C-HB-1, constructed prior to 1983, exhausting through stack V-CHB-1, with a maximum heat input capacity of 5.25 million British thermal units per hour.
 - (2) One (1) hot water heater, constructed prior to 1983, with a maximum heat input capacity of 0.72 million British thermal units per hour.
 - (3) Three (3) air makeup units each with a maximum heat input capacity per unit of 0.08 million British thermal units per hour.
 - (4) One (1) air heater with a maximum heat input capacity of 0.05 million British thermal units per hour.
 - (5) One (1) air makeup unit with a maximum heat input capacity of 1.65 million British thermal units per hour.
 - (6) Eighteen (18) space heaters with a maximum heat input capacity per unit of 0.3 million British thermal units per hour.
 - (7) One (1) space heater with a maximum heat input capacity of 0.1 million British thermal units per hour.
 - (8) Two (2) roof top heaters each with a maximum heat input capacity per unit of 0.1 million British thermal units per hour.
 - (9) Two (2) roof top heaters each with a maximum heat input capacity per unit of 0.144 million British thermal units per hour.
 - (10) One (1) roof top heater with a maximum heat input capacity of 0.0180 million British thermal units per hour.
 - (11) One (1) roof top heater with a maximum heat input capacity of 0.08 million British thermal units per hour.
 - (12) One (1) space heater with a maximum heat input capacity of 0.625 million British thermal units per hour.
 - (13) One (1) space heater with a maximum heat input capacity of 0.938 million British thermal units per hour.
 - (14) One (1) natural gas-fired duct heater for the UltraCat Hot Gas Filtration System,

constructed in 2015, with a maximum heat input capacity of 2.2 million British thermal units per hour, exhausting to the outdoors.

- (15) One (1) natural gas-fired burner #2 for indirect calciner A-CS-2, constructed in 1995, with a maximum heat input capacity of 1.80 million British thermal units per hour.
 - (16) One (1) natural gas-fired burner #6 for indirect calciner C-CS-6, constructed in 1996, with a maximum heat input capacity of 1.80 million British thermal units per hour.
 - (17) One (1) natural gas-fired burner #5 for indirect calciner B-C-1, constructed in 1970, with a maximum heat input capacity of 2.80 million British thermal units per hour.
 - (18) One (1) natural gas-fired burner #11 for indirect calciner A-CS-11, approved in 2017 for construction, with a maximum heat input capacity of 3.20 million British thermal units per hour.
 - (19) One (1) natural gas-fired burner A for spray dryer A-SD-1, constructed in 1973, with a maximum heat input capacity of 2.0 million British thermal units per hour.
 - (20) One (1) natural gas-fired burner B for spray dryer B-SD-1, constructed in 1984, with a maximum heat input capacity of 1.60 million British thermal units per hour.
 - (21) One (1) natural gas-fired burner C for spray dryer C-SD-1, constructed before 1970, with a maximum heat input capacity of 1.40 million British thermal units per hour.
 - (22) One (1) natural gas-fired burner SRF for spray dryer B-SD-2, constructed in 1984, with a maximum heat input capacity of 0.6 million British thermal units per hour.
 - (23) One (1) natural gas burner #12 for indirect calciner A-CS-12, approved in 2018 for construction, with a maximum heat input capacity of 3.3 million British thermal units per hour.
- (b) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 million British thermal units per hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 British thermal units per hour which includes the following:
- (1) One (1) natural gas-fired emergency generator, constructed in 1975, with a maximum heat input capacity of 0.99 million British thermal units per hour.

The natural gas-fired emergency generator is an affected source under 40 CFR 63, Subpart ZZZZ.

- (c) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following; deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
- (d) One (1) pilot spray dryer, with a maximum capacity of less than 40 pounds per hour, with a maximum flow of 350 cubic feet per minute and an outlet grain loading of less than 0.03

grain per dry standard cubic foot, equipped with a natural gas-fired burner, with a maximum heat input capacity of 0.2 million British thermal units per hour, equipped with a cartridge dust collector for particulate control, and exhausting to the outdoors.

- (e) One (1) pilot spray dryer, constructed in 2014, processing a slurry based alumina oxide mixture that is very low in solids, with a maximum capacity of less than 100 pounds per hour, equipped with a natural gas-fired burner, with a maximum heat input capacity of 0.496 million British thermal units per hour, equipped with a cartridge dust collector for particulate control, and exhausting to the outdoors.
- (f) One (1) lab type pilot facility, identified as B-PS-1, which includes three (3) ball mills, a spray dryer (7 foot diameter), two (2) lab calciners, and three (3) small kilns.
- (g) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.
- (h) Filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.
- (i) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
- (j) Cleaners and solvents characterized as follows:
 - (1) having a vapor pressure equal to or less than 2 kiloPascals; 15 millimeters mercury; or 0.3 pounds per square inch measured at 38 degrees Celsius (100 degrees Fahrenheit) or;
 - (2) having a vapor pressure equal to or less than 0.7 kiloPascals; 5 millimeters mercury; or 0.1 pounds per square inch measured at 20 degrees Celsius (68 degrees Fahrenheit); the use of which for all cleaners and solvents combined does not exceed 145 gallons per 12 months.
- (k) Infrared cure equipment.
- (l) Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1 percent by volume.
- (m) Forced and induced draft cooling tower system not regulated under a NESHAP.
- (n) Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.
- (o) Blowdown for any of the following: sight glass, boiler, compressors; pumps; and cooling tower.
- (p) Filter or coalescer media changeout.
- (q) A laboratory as defined in 326 IAC 2-7-1(21)(H).
- (r) Paved and unpaved road and parking with public access.
- (s) One (1) APV dryer, processing a slurry based alumina oxide mixture that is very low in solids, with a maximum capacity of less than 200 pounds per hour, equipped with a natural gas-fired burner, with a maximum heat input capacity of 0.700 million British thermal units per hour, equipped with a cartridge dust collector for particulate control, and exhausting to the outdoors.

- (t) One (1) Flinn and Dreffein rotary dryer, with a maximum capacity of less than 200 pounds of metal oxide mixture per hour, equipped with a natural gas-fired burner, with a maximum heat input capacity of 0.496 million British thermal units per hour, equipped with a cartridge dust collector for particulate control, and exhausting to the outdoors.

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

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

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, T127-36185-00021, 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. All 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) A Preventive Maintenance Plan meets the requirements of 326 IAC 1-6-3 if it includes, at a minimum:

- (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.

The Permittee shall implement the PMPs.

- (b) If required by specific condition(s) in Section D of this permit where no PMP was previously required, 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.

- (c) 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).

- (d) 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 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

- (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 T127-36185-00021 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 Particulate Emission Limitations For Processes with Process Weight Rates Less Than One Hundred (100) Pounds per Hour [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2(e)(2), particulate emissions from any process not exempt under 326 IAC 6-3-1(b) or (c) which has a maximum process weight rate less than 100 pounds per hour and the methods in 326 IAC 6-3-2(b) through (d) do not apply shall not exceed 0.551 pounds per hour.

C.2 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 forty percent (40%) 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.3 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.4 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.5 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.6 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), 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. The provisions of 326 IAC 1-7-1(3), 326 IAC 1-7-2, 326 IAC 1-7-3(c) and (d), 326 IAC 1-7-4, and 326 IAC 1-7-5(a), (b), and (d) are not federally enforceable.

C.7 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.8 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.9 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.10 Compliance Monitoring [326 IAC 2-7-5(3)][326 IAC 2-7-6(1)][40 CFR 64][326 IAC 3-8]

- (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) For monitoring required by CAM, at all times, the Permittee shall maintain the monitoring, including but not limited to, maintaining necessary parts for routine repairs of the monitoring equipment.
- (d) For monitoring required by CAM, except for, as applicable, monitoring malfunctions, associated repairs, and required quality assurance or control activities (including, as applicable, calibration checks and required zero and span adjustments), the Permittee shall conduct all monitoring in continuous operation (or shall collect data at all required intervals) at all times that the pollutant-specific emissions unit is operating. Data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities shall not be used for purposes of this part, including data averages and calculations, or fulfilling a minimum data availability requirement, if applicable. The owner or operator shall use all the data collected during all other periods in assessing the operation of the control device and associated control system. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

C.11 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.12 Emergency Reduction Plans [326 IAC 1-5-2] [326 IAC 1-5-3]

Pursuant to 326 IAC 1-5-2 (Emergency Reduction Plans; Submission):

- (a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.
- (b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.13 Risk Management Plan [326 IAC 2-7-5(11)] [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.14 Response to Excursions or Exceedances [40 CFR 64][326 IAC 3-8][326 IAC 2-7-5]
[326 IAC 2-7-6]

- (I) Upon detecting an excursion where a response step is required by the D Section, or an exceedance of a limitation, not subject to CAM, 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.
- (II)
 - (a) *CAM Response to excursions or exceedances.*
 - (1) Upon detecting an excursion or exceedance, subject to CAM, the Permittee shall restore operation of the pollutant-specific emissions unit (including the 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 emissions. The response shall include minimizing the period of any startup, shutdown or malfunction and taking any necessary corrective actions to restore normal operation and prevent the likely recurrence of the cause of an excursion or exceedance (other than those caused by excused startup or shutdown conditions). Such actions may include initial inspection and evaluation, recording that operations returned to normal

without operator action (such as through response by a computerized distribution control system), or any necessary follow-up actions to return operation to within the indicator range, designated condition, or below the applicable emission limitation or standard, as applicable.

- (2) 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, monitoring results, review of operation and maintenance procedures and records, and inspection of the control device, associated capture system, and the process.
- (b) If the Permittee identifies a failure to achieve compliance with an emission limitation, subject to CAM, or standard, subject to CAM, for which the approved monitoring did not provide an indication of an excursion or exceedance while providing valid data, or the results of compliance or performance testing document a need to modify the existing indicator ranges or designated conditions, the Permittee shall promptly notify the IDEM, OAQ and, if necessary, submit a proposed significant permit modification to this permit to address the necessary monitoring changes. Such a modification may include, but is not limited to, reestablishing indicator ranges or designated conditions, modifying the frequency of conducting monitoring and collecting data, or the monitoring of additional parameters.
- (c) Based on the results of a determination made under paragraph (II)(a)(2) of this condition, the EPA or IDEM, OAQ may require the Permittee to develop and implement a Quality Improvement Plan (QIP). The Permittee shall develop and implement a QIP if notified to in writing by the EPA or IDEM, OAQ.
- (d) Elements of a QIP:
The Permittee shall maintain a written QIP, if required, and have it available for inspection. The plan shall conform to 40 CFR 64.8 b (2).
- (e) If a QIP is required, the Permittee shall develop and implement a QIP as expeditiously as practicable and shall notify the IDEM, OAQ if the period for completing the improvements contained in the QIP exceeds 180 days from the date on which the need to implement the QIP was determined.
- (f) Following implementation of a QIP, upon any subsequent determination pursuant to paragraph (II)(c) of this condition the EPA or the IDEM, OAQ may require that the Permittee make reasonable changes to the QIP if the QIP is found to have:
 - (1) Failed to address the cause of the control device performance problems;
or
 - (2) Failed to provide adequate procedures for correcting control device performance problems as expeditiously as practicable in accordance with good air pollution control practices for minimizing emissions.
- (g) Implementation of a QIP shall not excuse the Permittee from compliance with any existing emission limitation or standard, or any existing monitoring, testing, reporting or recordkeeping requirement that may apply under federal, state, or local law, or any other applicable requirements under the Act.
- (h) *CAM recordkeeping requirements.*
 - (1) The Permittee shall maintain records of monitoring data, monitor performance data, corrective actions taken, any written quality

improvement plan required pursuant to paragraph (II)(c) of this condition and any activities undertaken to implement a quality improvement plan, and other supporting information required to be maintained under this condition (such as data used to document the adequacy of monitoring, or records of monitoring maintenance or corrective actions). Section C - General Record Keeping Requirements of this permit contains the Permittee's obligations with regard to the records required by this condition.

- (2) Instead of paper records, the owner or operator may maintain records on alternative media, such as microfilm, computer files, magnetic tape disks, or microfiche, provided that the use of such alternative media allows for expeditious inspection and review, and does not conflict with other applicable recordkeeping requirements

C.15 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.16 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]

- (a) In accordance with the compliance schedule specified in 326 IAC 2-6-3(b)(1), the Permittee shall submit by July 1 an emission statement covering the previous calendar year as follows:
- (1) starting in 2004 and every three (3) years thereafter, and
- (2) any year not already required under (1) if the source emits volatile organic compounds or oxides of nitrogen into the ambient air at levels equal to or greater than twenty-five (25) tons during the previous calendar year.
- (b) 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(33) ("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.17 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.18 General Reporting Requirements [326 IAC 2-7-5(3)(C)] [326 IAC 2-1.1-11]
[40 CFR 64][326 IAC 3-8]

- (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.

On and after the date by which the Permittee must use monitoring that meets the requirements of 40 CFR Part 64 and 326 IAC 3-8, the Permittee shall submit CAM reports to the IDEM, OAQ.

A report for monitoring under 40 CFR Part 64 and 326 IAC 3-8 shall include, at a minimum, the information required under paragraph (a) of this condition and the following information, as applicable:

- (1) Summary information on the number, duration and cause (including unknown cause, if applicable) of excursions or exceedances, as applicable, and the corrective actions taken;
- (2) Summary information on the number, duration and cause (including unknown cause, if applicable) for monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks, if applicable); and
- (3) A description of the actions taken to implement a QIP during the reporting period as specified in Section C-Response to Excursions or Exceedances. Upon completion of a QIP, the owner or operator shall include in the next summary report documentation that the implementation of the plan has been completed and reduced the likelihood of similar levels of excursions or exceedances occurring.

The Permittee may combine the Quarterly Deviation and Compliance Monitoring Report and a report pursuant to 40 CFR 64 and 326 IAC 3-8.

- (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) 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.19 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:

- (a) One (1) electric calciner, identified as A-CS-3, constructed prior to 1970, with a maximum capacity of 600 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-DC-4, exhausting through vent V-ACS-3.
- (b) One (1) electric calciner, identified as A-CS-4, constructed prior to 1970, and approved in 2018 for modification to use nitrate based products, with a maximum capacity of 600 pounds per hour of various metal oxide products or 300 pounds per hour of nitrate based products, equipped with an integral cartridge dust collector, identified as A-DC-4, exhausting through vent V-ACS-3, and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through a stack.

The cartridge dust collector is integral when processing metal oxide products and nitrate based products.
- (c) One (1) indirect-fired calciner, identified as A-CS-2, constructed in 1995, with a maximum capacity of 1,200 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector for particulate control, identified as A-DC-1, exhausting through stacks V-ACS-2 and V-AHX-1.
- (d) One (1) 20-foot dryer, identified as A-SD-1, constructed in 1973, with a maximum capacity of 3,000 pounds per hour of various metal oxide products, equipped with parallel cyclones and an integral cartridge dust collector, identified as A-SD-1, exhausting through stack V-BSD-1.
- (e) One (1) ball milling unit, identified as A-BM-7, constructed in 1973, with a maximum capacity of 21,000 pounds per batch (1,400 pounds per hour) of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-BM-7, exhausting to the interior.
- (f) One (1) batch operation, identified as A-GB-1, constructed in 1973, with a maximum capacity of 1500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-GB-1, exhausting to the interior.
- (g) One (1) weigh up operation, identified as A-WU-1, constructed in 1970, with a maximum capacity of 100 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-WU-1, exhausting through stack V-AWU-1.
- (h) One (1) 17.5-foot dryer, identified as B-SD-1, constructed in 1984, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with parallel cyclones and an integral cartridge dust collector, identified as B-SD-1, exhausting through stack V-BSD-1.
- (i) One (1) 9.5-foot anhydrous spray dryer, identified as B-SD-2, constructed in 1984, with a maximum capacity of 580 pounds per hour of various metal oxide products, equipped with a cyclone and an integral cartridge dust collector, identified as B-SD-2, exhausting through stack V-BSD-1.
- (j) One (1) 5-foot by 40-foot direct-fired calciner, identified as B-C-1, constructed in 1970,

with a maximum capacity of 1,500 pounds per hour of various metal oxide products, equipped with a baghouse or cartridge dust collector for particulate control, identified as B-C-1, exhausting through stack V-BCS-1.

This dust collector is not considered integral.

- (k) One (1) 16-foot spray dryer, identified as C-SD-1, constructed before 1970, with a maximum capacity of 1,500 pounds per hour of various metal oxide products, equipped with three (3) parallel cyclone separators and a cartridge dust collector for particulate control, identified as C-SD-1, exhausting through stack V-CSD-1.

This dust collector is not considered integral.

- (l) Four (4) milling units, identified as C-GB-1, constructed in 1984, each with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, a common control shared by the milling units, identified as C-GB-1, exhausting to the interior.
- (m) One (1) batch operation, identified as C-WU-1, constructed in 1980, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with one (1) integral cabinet dust collector, identified as C-WU-1, exhausting to the interior.
- (n) One (1) batch operation, identified as C-GB-2, constructed in 1984, with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as C-GB-2, exhausting to the interior.
- (o) One (1) 3-foot by 26-foot indirect-fired calciner unit, identified as C-CS-6, constructed in 1996 and modified in 2015 to use nitrate based products, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as DC-CS-6 and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stacks V-CCS-6 and V-CHX-6.

The cartridge dust collector is integral when processing metal oxide products (as determined in 2015) and when processing nitrate based products (as determined in 2018).

- (p) One (1) 15-inch by 26-foot electric calciner unit, identified as C-CS-7, constructed in 1996, with a maximum capacity of 200 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as C-CS-7, exhausting through stacks V-CCS-7 and V-CHX-7.
- (q) One (1) blending/packaging operation, identified as A-BL-1, constructed in 1993, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-BL-1, exhausting to the interior.
- (r) One (1) bulk handling operation, identified as A-BH-1, constructed in 1995, with a maximum capacity of 1,600 pounds per hour of various metal oxide products, equipped with an integral dust collector, identified as A-BH-1, exhausting to the interior.
- (s) Six (6) ball milling units, identified as A-BM-1 to A-BM-6, constructed in 1973, each with a maximum capacity of 7,500 pounds per batch (500 pounds per hour) each of various metal oxide products, each equipped with an integral cartridge dust collector,

identified as A-BM-1 to A-BM-6, exhausting to the interior.

- (t) Three (3) fired bead screening units, identified as B-FB-1, constructed in 1989, each with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, a common control shared by the screening units, identified as B-FB-1, exhausting to the interior.
- (u) One (1) blending unit, identified as B-GB-1, constructed in 1984, with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-GB-1, exhausting to the interior.
- (v) One (1) wet ball milling operation, identified as B-WB-1, constructed in 1980, with a maximum capacity of 10,000 pounds per batch (666.7 pounds per hour) of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-WB-1, exhausting to the interior.
- (w) One (1) ball mill operation, utilizing a wet batch process, identified as B-BM-1, constructed in 1992, with a maximum capacity of 580 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-BM-1, exhausting to the interior.
- (x) One (1) indirect-fired calciner, identified as A-CS-11, approved in 2017 for construction, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as A-DC-11 and an UltraCat hot gas filtration system for NO_x control when using nitrate based products, exhausting through stacks V-ACS-2 and V-AHX-1.

The cartridge dust collector is integral when processing metal oxide products (as determined in 2017) and when processing nitrate based products (as determined in 2018).

- (y) One (1) 4-foot by 30-foot indirect-fired calciner unit, identified as A-CS-12, approved in 2018 for construction, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as A-DC-12 and an UltraCat hot gas filtration system for NO_x control when using nitrate based products, exhausting through a stack.

The cartridge dust collector is integral when processing metal oxide products and nitrate based products.

(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 NO_x Emission Offset Minor Limit [326 IAC 2-3]

In order to render the requirements of 326 IAC 2-3 not applicable and pursuant to Significant Source Modification 127-35470-00021, issued on June 2, 2015, Significant Source Modification 127-38110-00021, issued on May 17, 2017, and revised in Significant Source Modification 127-39352-00021, the Permittee shall comply with the following:

- (a) The NO_x emissions after control from the indirect-fired calciner, identified as A-CS-11, shall not exceed 5.50 pounds per hour, when processing nitrate based catalyst powder.

- (b) The NOx emissions after control from the indirect-fired calciner, identified as C-CS-6, shall not exceed 4.50 pounds per hour, when processing nitrate based catalyst powder.
- (c) The NOx emissions after control from the indirect-fired calciner, identified as A-CS-4, shall not exceed 3.00 pounds per hour, when processing nitrate based catalyst powder.
- (d) The NOx emissions after control from the indirect-fired calciner, identified as A-CS-12, shall not exceed 5.50 pounds per hour, when processing nitrate based catalyst powder.

Compliance with these limits, combined with the potential to emit NOx from all other emission units at this source, shall limit the source-wide total potential to emit of NOx to less than 100 tons per 12 consecutive month period and shall render 326 IAC 2-3 (Emission Offset) not applicable.

D.1.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Process), the particulate emission rate from the facilities listed below, shall be limited as specified when operating at the respective process weight rate:

| Emission Units | Process Weight Rate (lb/hr) | Process Weight Rate (ton/hr) | Allowable PM Emission Rate (lb/hr) |
|---------------------------------------|-----------------------------|------------------------------|------------------------------------|
| 5' x 40' direct-fired calciner, B-C-1 | 1500 | 0.75 | 3.38 |

The pounds per hour allowable particulate emission rates were calculated with the following equation:

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

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.1.3 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

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

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

D.1.4 NOx Control

In order to comply with Condition D.1.1, the UltraCat hot gas filtration system, controlling NOx emissions from the calciners (A-CS-11, C-CS-6, A-CS-4, and A-CS-12) shall operate at all times that the calciners (A-CS-11, C-CS-6, A-CS-4, and A-CS-12) are in operation and processing nitrate based catalyst powder.

D.1.5 Particulate Control [326 IAC 2-7-6(6)]

- (a) In order to comply with Condition D.1.2, the cyclones and dust collectors for calciner B-C-1, when processing nitrate based powders, shall be in operation and control emissions at all times that the facilities are in operation.
- (b) In order to assure that 326 IAC 6-3-2 and 326 IAC 2-2 do not apply, the integral control devices for particulate control shall be in operation and control emissions from the metal

oxide and nitrate based products manufacturing operations at all times that the facilities are in operation.

- (c) In the event that bag or cartridge failure is observed in a multi-compartment particulate control device, 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.1.6 Testing Requirements [326 IAC 2-1.1-11] [326 IAC 2-7-6(1),(6)]

- (a) **NOx**
To demonstrate compliance with Condition D.1.1, the Permittee shall perform NOx emissions testing, after controls, while processing nitrate based catalyst powder in one of the three (3) calciners (A-CS-11, C-CS-6, and A-CS-12) 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.

The calciner not tested will be tested during the next compliance demonstration test in five years then testing will alternate between the three (3) calciners (A-CS-11, C-CS-6, and A-CS-12) every five years after.
- (b) **Dryers (A-SD-1 and B-SD-1)**
To assure that 326 IAC 2-2 (PSD) and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) do not apply, the Permittee shall perform PM, PM10, and PM2.5 testing on one of the two (2) dryers (A-SD-1 and B-SD-1) on a five (5) year rotating basis.
 - (i) The dryer A-SD-1 shall be tested no later than 180 days after issuance of permit T127-36185-00021.
 - (ii) The dryer B-SD-1 shall be tested no later than five (5) years of the compliance test for dryer A-SD-1.
 - (iii) Testing will alternate between the two (2) dryers every five (5) years after.
- (c) **Spray dryers (B-SD-2 and C-SD-1)**
To assure that 326 IAC 2-2 (PSD) and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) do not apply, the Permittee shall perform PM, PM10, and PM2.5 testing on one of the two (2) spray dryers (B-SD-2 and C-SD-1), on a five (5) year rotating basis.
 - (i) The spray dryer C-SD-1 shall be tested no later than 180 days after issuance of permit T127-36185-00021.
 - (ii) The spray dryer B-SD-2 shall be tested no later than five (5) years of the compliance demonstration test in five years.
 - (iii) Testing will alternate between the two (2) spray dryers every five (5) years after.
- (d) 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.

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

D.1.7 Parametric Monitoring

The Permittee shall record the pressure drop across the baghouse and cartridge dust collectors used in conjunction with the emission units identified in the table below at least once per day. When for any one reading, the pressure drop across the baghouse or any of the cartridge dust collectors is outside the normal range, the Permittee shall take reasonable response steps. The normal range for each baghouse is a pressure drop between the values listed in the table below unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C – Response to Excursions and 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.

The instrument(s) 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.

| Emission Unit | Control ID | Pressure Drop Range (inches of H ₂ O) |
|--------------------------------------|------------|---|
| Electric calciners A-CS-3 and A-CS-4 | A-DC-4 | 1.0 - 6.0 |
| Indirect fired calciner A-CS-2 | A-DC-1 | 1.0 - 6.0 |
| Dryer A-SD-1 | A-SD-1 | 1.0 - 6.0 |
| Dryer B-SD-1 | B-SD-1 | 1.0 - 6.0 |
| Anhydrous spray dryer B-SD-2 | B-SD-2 | 1.0 - 6.0 |
| Direct-fired calciner B-C-1 | B-C-1 | 1.0 - 6.0 |
| Spray dryer C-SD-1 | C-SD-1 | 1.0 - 6.0 |
| Indirect-fired calciner C-CS-6 | DC-CS-6 | 1.0 - 6.0 |
| Indirect-fired calciner A-CS-11 | A-DC-11 | 1.0 - 6.0 |
| Indirect-fired calciner A-CS-12 | A-DC-12 | 1.0 - 6.0 |

D.1.8 Broken or Failed Bag/Cartridge Detection [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

- (a) For a single compartment device 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 device 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 baghouse operations. 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 or cartridge failure can be indicated by a significant drop in the baghouse's pressure reading with abnormal visible emissions, by an opacity violation, or by other means such as gas temperature, flow rate, air infiltration, leaks, dust traces or triboflows.

D.1.9 Cyclone Failure Detection

In the event that cyclone failure has been observed:

Failed units and the associated process will be shut down immediately until the failed units have 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). Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit

D.1.10 UltraCat Hot Gas Filtration System Monitoring Requirements [40 CFR 64]

Pursuant to 40 CFR 64,

- (a) The Permittee shall record the pressure drop across the UltraCat Hot Gas Filtration System used in conjunction with the calciners (A-CS-11, C-CS-6, A-CS-4, and A-CS-12) at least once per day when the calciners (A-CS-11, C-CS-6, A-CS-4, and A-CS-12) is in operation and processing nitrate based catalyst powder. When for any one reading, the pressure drop across the UltraCat Hot Gas Filtration System is outside the normal range the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.0 and 6.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take a reasonable response shall be considered a deviation from this permit.

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.

- (b) A continuous monitoring system shall be calibrated, maintained, and operated on the UltraCat Hot Gas Filtration System used in conjunction with the calciners (A-CS-11, C-CS-6, A-CS-4, and A-CS-12) for measuring operating temperature. For the purpose of this condition, continuous means no less than once per every fifteen (15) minutes. The output of this system shall be recorded as a 3-hour rolling average.
- (c) The Permittee shall determine the 3-hour minimum inlet temperature average from the most recent valid stack test that demonstrates compliance with limits in Condition D.1.1.
- (d) On and after the date the stack test results are available, the Permittee shall operate the UltraCat Hot Gas Filtration System at or above the 3-hour rolling average minimum inlet temperature as observed during the compliant stack test. When for any one reading, the temperature is below the temperature established in most recent compliant stack test, the Permittee shall take reasonable response steps. Section C- Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A reading that is below the temperature as established in most recent compliant stack test is not a deviation from this permit. Failure to take response steps shall be considered a deviation from the permit.
- (e) A continuous monitoring system shall be calibrated, maintained, and operated on the UltraCat Hot Gas Filtration System used in conjunction with the calciners (A-CS-11, C-CS-6, A-CS-4, and A-CS-12) for measuring the ammonia injection rate. For the purpose of this condition, continuous means no less than once per fifteen (15) minutes. The output of this system shall be recorded as a one-hour average.

- (f) The Permittee shall determine the one-hour average injection rate from the most recent valid stack test that demonstrates compliance with limits in Condition D.1.1.
- (g) On and after the date the stack test results are available, the Permittee shall inject ammonia at or above the one-hour average injection rate as observed during the compliant stack test. When for any one reading the one-hour injection rate falls below the above mentioned one-hour injection rate, the Permittee shall take a response step. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. A one-hour average that is outside the appropriate injection rate is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

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

D.1.11 Record Keeping Requirement

- (a) To document the compliance status with Condition D.1.7, the Permittee shall maintain daily records of the pressure drop across the baghouses controlling the particulate emissions from the emission units identified in Condition D.1.7. 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).
- (b) To document compliance with Condition D.1.10(a), the Permittee shall maintain daily records of pressure drop across the UltraCat Hot Gas Filtration System used in conjunction with the calciners (A-CS-11, C-CS-6, A-CS-4, and A-CS-12). The Permittee shall include in its daily record when a pressure drop is not taken and the reason for the lack of pressure drop or flow rate data (e.g. the process did not operate that day).
- (c) To document the compliance status with Condition D.1.10(b), (c), and (d), the Permittee shall maintain continuous temperature records for the UltraCat Hot Gas Filtration System and the 3-hour rolling average temperature used to demonstrate compliance during the most recent compliant stack test.
- (d) To document the compliance status with Condition D.1.10(e), the Permittee shall maintain records of the one-hour average ammonia injection rate into the UltraCat Hot Gas Filtration System used in conjunction with the calciners (A-CS-11, C-CS-6, A-CS-4, and A-CS-12).
- (e) Section C - General Record Keeping Requirements contains the Permittee's obligations with regard to the records required by this condition.

SECTION D.2

EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour which include:
- (1) One (1) heating boiler, identified as C-HB-1, constructed prior to 1983, exhausting through stack V-CHB-1, with a maximum heat input capacity of 5.25 million British thermal units per hour.
 - (2) One (1) hot water heater, constructed prior to 1983, with a maximum heat input capacity of 0.72 million British thermal units per hour.
 - (3) Three (3) air makeup units each with a maximum heat input capacity per unit of 0.08 million British thermal units per hour.
 - (4) One (1) air heater with a maximum heat input capacity of 0.05 million British thermal units per hour.
 - (5) One (1) air makeup unit with a maximum heat input capacity of 1.65 million British thermal units per hour.
 - (6) Eighteen (18) space heaters with a maximum heat input capacity per unit of 0.3 million British thermal units per hour.
 - (7) One (1) space heater with a maximum heat input capacity of 0.1 million British thermal units per hour.
 - (8) Two (2) roof top heaters each with a maximum heat input capacity per unit of 0.1 million British thermal units per hour.
 - (9) Two (2) roof top heaters each with a maximum heat input capacity per unit of 0.144 million British thermal units per hour.
 - (10) One (1) roof top heater with a maximum heat input capacity of 0.0180 million British thermal units per hour.
 - (11) One (1) roof top heater with a maximum heat input capacity of 0.08 million British thermal units per hour.
 - (12) One (1) space heater with a maximum heat input capacity of 0.625 million British thermal units per hour.
 - (13) One (1) space heater with a maximum heat input capacity of 0.938 million British thermal units per hour.
 - (14) One (1) natural gas-fired duct heater for the UltraCat Hot Gas Filtration System, constructed in 2015, with a maximum heat input capacity of 2.2 million British thermal units per hour, exhausting to the outdoors.
 - (15) One (1) natural gas-fired burner #2 for indirect calciner A-CS-2, constructed in 1995, with a maximum heat input capacity of 1.80 million British thermal units per hour.

- (16) One (1) natural gas-fired burner #6 for indirect calciner C-CS-6, constructed in 1996, with a maximum heat input capacity of 1.80 million British thermal units per hour.
- (17) One (1) natural gas-fired burner #5 for indirect calciner B-C-1, constructed in 1970, with a maximum heat input capacity of 2.80 million British thermal units per hour.
- (18) One (1) natural gas-fired burner #11 for indirect calciner A-CS-11, approved in 2017 for construction, with a maximum heat input capacity of 3.20 million British thermal units per hour.
- (19) One (1) natural gas-fired burner A for spray dryer A-SD-1, constructed in 1973, with a maximum heat input capacity of 2.0 million British thermal units per hour.
- (20) One (1) natural gas-fired burner B for spray dryer B-SD-1, constructed in 1984, with a maximum heat input capacity of 1.60 million British thermal units per hour.
- (21) One (1) natural gas-fired burner C for spray dryer C-SD-1, constructed before 1970, with a maximum heat input capacity of 1.40 million British thermal units per hour.
- (22) One (1) natural gas-fired burner SRF for spray dryer B-SD-2, constructed in 1984, with a maximum heat input capacity of 0.6 million British thermal units per hour.
- (23) One (1) natural gas burner #12 for indirect calciner A-CS-12, approved in 2018 for construction, with a maximum heat input capacity of 3.3 million British thermal units per hour.
- (c) Grinding and machining operations controlled with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4000 actual cubic feet per minute, including the following; deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations.
- (d) One (1) pilot spray dryer, with a maximum capacity of less than 40 pounds per hour, with a maximum flow of 350 cubic feet per minute and an outlet grain loading of less than 0.03 grain per dry standard cubic foot, equipped with a natural gas-fired burner, with a maximum heat input capacity of 0.2 million British thermal units per hour, equipped with a cartridge dust collector for particulate control, and exhausting to the outdoors.
- (e) One (1) pilot spray dryer, constructed in 2014, processing a slurry based alumina oxide mixture that is very low in solids, with a maximum capacity of less than 100 pounds per hour, with a maximum flow of 350 cubic feet per minute and an outlet grain loading of less than 0.03 grain per dry standard cubic foot, equipped with a natural gas-fired burner, with a maximum heat input capacity of 0.496 million British thermal units per hour, equipped with a cartridge dust collector for particulate control, and exhausting to the outdoors.
- (s) One (1) APV dryer, processing a slurry based alumina oxide mixture that is very low in solids, with a maximum capacity of less than 200 pounds per hour, equipped with a

- natural gas-fired burner, with a maximum heat input capacity of 0.700 million British thermal units per hour, equipped with a cartridge dust collector for particulate control, and exhausting to the outdoors.
- (t) One (1) Flinn and Dreffein rotary dryer, with a maximum capacity of less than 200 pounds of metal oxide mixture per hour, equipped with a natural gas-fired burner, with a maximum heat input capacity of 0.496 million British thermal units per hour, equipped with a cartridge dust collector for particulate control, and exhausting to the outdoors.

(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.2.1 Particulate Emission Limitations for Sources of Indirect Heating [326 IAC 6-2-2]

Pursuant to 326 IAC 6-2-2 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the following units shall be limited to Pt pounds per MMBtu heat input, as follows:

| Emission Unit | Pt (lb/MMBtu) |
|-------------------------|---------------|
| Burner C | 0.6 |
| Burner #5 | 0.6 |
| Burner A | 0.6 |
| Heating Boiler (C-HB-1) | 0.58 |
| Hot Water Heater (HW1) | 0.58 |

D.2.2 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the following units shall be limited to Pt pounds per MMBtu heat input, as follows:

| Emission Unit | Pt (lb/MMBtu) |
|--|---------------|
| Burner B | 0.55 |
| Burner SRF | 0.55 |
| Burner #2 | 0.53 |
| Burner #6 | 0.49 |
| Thirty-two (32) Air Makeup, Space Heaters, Rooftop Heaters | 0.49, each |
| Burner #11 | 0.47 |
| Burner #12 | 0.46 |

D.2.3 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes), the particulate emission rate from the facilities listed below, shall be limited as specified when operating at the respective process weight rate:

| Emission Units | Process Weight Rate (lb/hr) | Process Weight Rate (ton/hr) | Allowable PM Emission Rate (lb/hr) |
|-------------------|-----------------------------|------------------------------|------------------------------------|
| Pilot spray dryer | 40 | 0.02 | 0.551 |
| Pilot spray dryer | 100 | 0.05 | 0.551 |
| APV dryer | 195 | 0.10 | 0.86 |

| Emission Units | Process Weight Rate (lb/hr) | Process Weight Rate (ton/hr) | Allowable PM Emission Rate (lb/hr) |
|---------------------------------|--------------------------------|---------------------------------|---------------------------------------|
| Flinn and Dreiffen rotary dryer | 195 | 0.10 | 0.86 |

The pounds per hour allowable particulate emissions for the two (2) pilot spray dryers are pursuant to 326 IAC 6-3-2(e)(2).

The pounds per hour allowable particulate emission rates for the APV and Flinn and Dreiffen dryers were calculated with the following equation:

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

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

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

D.2.4 Particulate Control [326 IAC 2-7-6(6)]

- (a) In order to comply with Condition D.2.3, all of the cartridge dust collectors, for particulate control, shall be in operation and control emissions at all times that the facilities are in operation.
- (b) In the event that bag or cartridge failure is observed in a multi-compartment particulate control device, 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.

SECTION E.1

NESHAP

Emissions Unit Description:

- (b) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 million British thermal units per hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 British thermal units per hour which includes the following:

- (1) One (1) natural gas-fired emergency generator, constructed in 1975, with a maximum heat input capacity of 0.99 MMBtu/hr.

The natural gas-fired emergency generator is an affected source under 40 CFR 63, Subpart ZZZZ.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-7-5(1)]

E.1.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

- (a) Pursuant to 40 CFR 63.1 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, for the emission unit(s) listed above, except as otherwise specified in 40 CFR Part 63, Subpart ZZZZ.

- (b) Pursuant to 40 CFR 63.10, the Permittee shall submit all required notifications and reports to:

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

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

E.1.2 National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart ZZZZ (included as Attachment A to the operating permit), which are incorporated by reference as 326 IAC 20-82, for the emission unit(s) listed above:

- (1) 40 CFR 63.6580
- (2) 40 CFR 63.6585
- (3) 40 CFR 63.6590(a)(1)(iii) and (iv)
- (4) 40 CFR 63.6595(a)(1), (b), and (c)
- (5) 40 CFR 63.6603(a)

- (6) 40 CFR 63.6605
- (7) 40 CFR 63.6625(e)(3), (f), (h), and (j)
- (8) 40 CFR 63.6635
- (9) 40 CFR 63.6640(a), (b), (e), and (f)
- (10) 40 CFR 63.6645(a)(5)
- (11) 40 CFR 63.6650
- (12) 40 CFR 63.6655
- (13) 40 CFR 63.6660
- (14) 40 CFR 63.6665
- (15) 40 CFR 63.6670
- (16) 40 CFR 63.6675
- (17) Table 2d (item 5)
- (18) Table 6 (item 9)
- (19) Table 8

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

Source Name: Powder Processing Technology, LLC
Source Address: 5103 Evans Avenue, Valparaiso, Indiana 46383
Part 70 Permit No.: T127-36185-00021

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: Powder Processing Technology, LLC
Source Address: 5103 Evans Avenue, Valparaiso, Indiana 46383
Part 70 Permit No.: T127-36185-00021

This form consists of 2 pages

Page 1 of 2

- | |
|---|
| <p><input type="checkbox"/> This is an emergency as defined in 326 IAC 2-7-1(12)</p> <ul style="list-style-type: none">• The Permittee must notify the Office of Air Quality (OAQ), within four (4) daytime 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: Powder Processing Technology, LLC
Source Address: 5103 Evans Avenue, Valparaiso, Indiana 46383
Part 70 Permit No.: T127-36185-00021

Months: _____ to _____ Year: _____

Page 1 of 2

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: _____

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

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

Source Description and Location

| | |
|---|---|
| Source Name: | Powder Processing Technology, LLC |
| Source Location: | 5103 Evans Avenue, Valparaiso, Indiana 46383 |
| County: | Porter |
| SIC Code: | 3499 (Fabricated Metal Products, Not Elsewhere Classified) |
| Operation Permit No.: | T127-36185-00021 |
| Operation Permit Issuance Date: | May 10, 2016 |
| Significant Source Modification No.: | 127-39352-00021 |
| Significant Permit Modification No.: | 127-39354-00021 |
| Permit Reviewer: | Joshua Levering |

Existing Approvals

The source was issued Part 70 Operating Permit Renewal No. T127-36185-00021 on May 10, 2016. The source has since received the following approvals:

| Permit Type | Permit Number | Issuance Date |
|---------------------------------|-----------------|---------------|
| Significant Source Modification | 127-38110-00021 | May 17, 2017 |
| Significant Permit Modification | 127-38141-00021 | June 5, 2017 |

County Attainment Status

The source is located in Porter County.

| Pollutant | Designation |
|-------------------|--|
| SO ₂ | Cannot be classified for the area bounded on the north by Lake Michigan; on the west by the Lake County and Porter County line; on the south by I-80 and I-90; and on the east by the LaPorte County and Porter County line. The remainder of Porter County is better than national standards. |
| CO | Unclassifiable or attainment effective November 15, 1990. |
| O ₃ | On June 11, 2012, the U.S. EPA designated Porter County nonattainment, for the 8-hour ozone standard. |
| PM _{2.5} | Unclassifiable or attainment effective February 6, 2012, for the annual PM _{2.5} standard. |
| PM _{2.5} | Unclassifiable or attainment effective December 13, 2009, for the 24-hour PM _{2.5} standard. |
| PM ₁₀ | Unclassifiable effective November 15, 1990. |
| NO ₂ | Cannot be classified or better than national standards. |
| Pb | Unclassifiable or attainment effective December 31, 2011. |

¹Nonattainment Severe 17 effective November 15, 1990, for the Chicago-Gary-Lake County area, including Porter County, for the 1-hour standard which was revoked effective June 15, 2005.

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

²The department has filed a legal challenge to U.S. EPA's designation in 77 FR 34228.

- (a) **Ozone Standards**
U.S. EPA, in the Federal Register Notice 77 FR 112 dated June 11, 2012, designated Porter County as nonattainment for ozone. On August 1, 2012, the air pollution control board issued an emergency rule adopting the U.S. EPA's designation. This rule became effective August 9, 2012. IDEM does not agree with U.S. EPA's designation of nonattainment. IDEM filed a suit against U.S. EPA in the U.S. Court of Appeals for the DC Circuit on July 19, 2012. However, in order to assure that sources are not potentially liable for a violation of the Clean Air Act, the OAQ is following the U.S. EPA's designation. Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Therefore, VOC and NO_x emissions were evaluated pursuant to the requirements of Emission Offset, 326 IAC 2-3.
- (b) **PM_{2.5}**
Porter County has been classified as attainment for PM_{2.5}. Therefore, direct PM_{2.5}, SO₂, and NO_x emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.
- (c) **Other Criteria Pollutants**
Porter County has been classified as attainment or unclassifiable in Indiana for all the 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 type of operation is not one (1) of the twenty-eight (28) listed source categories under 326 IAC 2-2-1(ff)(1), 326 IAC 2-3-2(g), or 326 IAC 2-7-1(22)(B), and there is no applicable New Source Performance Standard or National Emission Standard for Hazardous Air Pollutants that was in effect on August 7, 1980, fugitive emissions are not counted toward the determination of PSD, Emission Offset, and Part 70 Permit applicability.

Greenhouse Gas (GHG) Emissions

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

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

Source Status - Existing Source

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

| Process/ Emission Unit | Source-Wide Emissions Before Modification (tons/year) | | | | | | | | |
|--|---|-------------------|--------------------|-----------------|-----------------|-------------|--------------|-------------|---------------------|
| | PM | PM10 ¹ | PM2.5 ² | SO ₂ | NO _x | VOC | CO | Total HAPs | Single HAP (Nickel) |
| Powder Mfg. Operations ³ | 36.97 | 93.47 | 93.47 | 0.00 | 81.56 | 0.00 | 0.00 | 5.52 | 5.52 |
| Natural Gas Combustion | 0.29 | 1.14 | 1.14 | 0.09 | 15.03 | 0.83 | 12.63 | 0.28 | 0.0003 |
| Emergency Generators | 0.01 | 0.01 | 0.01 | 0 | 0.78 | 0.03 | 0.10 | 0.02 | 0 |
| Total PTE of Entire Source⁴ | 36.97 | 94.63 | 94.63 | 0.09 | 97.38 | 0.86 | 12.72 | 5.85 | 5.52 |
| Title V Major Source Thresholds | NA | 100 | 100 | 100 | 100 | 100 | 100 | 25 | 10 |
| PSD Major Source Thresholds | 250 | 250 | 250 | 250 | NA | NA | 250 | NA | NA |
| Emission Offset Major Source Thresholds | NA | NA | NA | NA | 100 | 100 | NA | NA | NA |
| negl. = negligible ¹ Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM ₁₀), not particulate matter (PM), is considered as a "regulated air pollutant". ² PM _{2.5} listed is direct PM _{2.5} . ³ NO _x emissions have been limited to render 326 IAC 2-3 (Emission Offset) not applicable. ⁴ In 2016, IDEM revised their interpretation of Potential to Emit (PTE) with respect to integral to the process determinations; this table contains the resulting updated PTE values. | | | | | | | | | |

- (a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).
- (b) This existing source is not a major stationary source under Emission Offset (326 IAC 2-3) because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or more.
- (c) This existing source is not a major source of HAPs, as defined in 40 CFR 63.2, because HAPs emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).
- (d) These emissions are based on the TSD of Significant Permit Modification No.: 127-38141-00021, issued on June 5, 2017.

Description of Proposed Modification

The Office of Air Quality (OAQ) has reviewed an application, submitted by Powder Processing Technology, LLC on December 6, 2017, relating to the following:

- (a) Construction and operation of a new indirect-fired calciner with a natural gas-fired burner, and an integral control evaluation of a cartridge dust collector for this calciner when processing various metal oxide products or nitrate based products.
 - (1) The following is a list of the proposed emission units and pollution control devices:
 - (A) One (1) 4-foot by 30-foot indirect-fired calciner unit, identified as A-CS-12, approved in 2018 for construction, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based

products, equipped with a cartridge dust collector for particulate control, identified as A-DC-12 and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through a stack.

The cartridge dust collector is integral when processing metal oxide products and nitrate based products.

- (B) One (1) natural gas burner #12 for indirect calciner A-CS-12, approved in 2018 for construction, with a maximum heat input capacity of 3.3 million British thermal units per hour.

- (b) Modification of the existing electric calciner, identified as A-CS-4, to process nitrate based products and re-evaluation of the integral control determination of the existing cartridge dust collector for this calciner when processing nitrate based products. The existing cartridge dust collector is already considered as integral when A-CS-4 is processing various metal oxide products.

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

- (a) One (1) electric calciner, identified as A-CS-4, constructed prior to 1970, and approved in 2018 for modification to use nitrate based products, with a maximum capacity of 600 pounds per hour of various metal oxide products or 300 pounds per hour of nitrate based products, equipped with an integral cartridge dust collector, identified as A-DC-4, exhausting through vent V-ACS-3, and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through a stack.

The cartridge dust collector is integral when processing metal oxide products and nitrate based products.

- (c) An integral control re-evaluation for the existing calciners, C-CS-6 and A-CS-11, when these emission units are processing nitrate based products. The control devices for these calciners have previously been determined to be integral when processing metal oxide products only.

- (1) C-CS-6
Calciner C-CS-6 (constructed in 1996) has been approved in 2015 to process nitrate based products. At that time, the source did not submit an integral determination for the dust collector when processing nitrate based products.

- (2) A-CS-11
Calciner A-CS-11 was approved in 2017 for construction to process both various metal oxide products and nitrate based products. At that time, the source only submitted an integral determination for the dust collector when processing metal oxide products. No integral determination was submitted when processing nitrate based products.

- (d) Adjustment of existing NOx emission limits for calciners A-CS-11 and C-CS-6 due to the addition of the new calciner (A-CS-12), in order to continue to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable to the entire source, as follows:

| Process | Current NOx emissions shall not exceed (lb/hr) | Proposed NOx emissions shall not exceed (lb/hr) |
|--------------------|--|---|
| Calciner (A-CS-11) | 9.31 | 5.50 |
| Calciner (C-CS-6) | 9.31 | 4.50 |

- (e) Minor descriptive changes to existing control device identification numbers have been requested to match current configurations, as follows:

| Process | Current control device ID | Proposed control device ID |
|--------------------|---------------------------|----------------------------|
| Calciner (A-CS-3) | A-DC-1 | A-DC-4 |
| Calciner (C-CS-6) | C-CS-6 | DC-CS-6 |
| Calciner (A-CS-11) | A-DC-1 | A-DC-11 |

“Integral Part of the Process” Determination

The applicant submitted the following information to justify why the dust collectors for the calciners listed below should be considered an integral part of the calcining process:

- (a) New calciner, A-CS-12, with a dust collector A-DC-12, when processing both metal oxide based products and nitrate based products.
- (b) The existing calciners listed below have a previous integral determination when processing metal oxide based products. The applicant is requesting an integral control determination for the following:
 - (1) Existing calciner A-CS-4, with dust collector A-DC-4, when processing nitrate based products.
 - (2) Existing calciner C-CS-6, with dust collector DC-CS-6, when processing nitrate based products.
 - (3) Existing calciner A-CS-11, with dust collector A-DC-11, when processing nitrate based products.

New calciner (A-CS-12)

The new calciner (A-CS-12) is capable of processing both metal oxide based powders and nitrate based catalyst powders. Only one based powder is processed at a time. The same dust collection system is used as particulate control for both powders.

When processing metal oxide based powders the maximum capacity of the calciner is 1,200 pounds per hour. When processing nitrate based powders the maximum capacity of the calciner is 600 pounds per hour.

The table below provides the unlimited potential to emit particulate matter before control for each powder based product:

| Process | Powder based Product | Maximum Capacity (lb/hr) | PM Emission Factor* (lb/ton) | Uncontrolled PM Emissions* (ton/yr) |
|--------------------|----------------------|--------------------------|------------------------------|-------------------------------------|
| Calciner (A-CS-12) | Metal Oxide | 1,200 | 15 | 39.42 |
| | Nitrate | 600 | 15 | 19.71 |

*PM10 and PM2.5 equal to PM

- (1) **Metal Oxide and Nitrate Based Products**
The Permittee submitted the following information to justify why the dust collection system should be considered an integral part of the new calciner when processing metal oxide and nitrate based products:
 - (a) **Product Recovery**
All particulate matter emissions are made up of the metal oxide based or nitrate based products that Powder Processing Technology, LLC is producing. This is not considered waste and therefore, it is in their best interest to capture and reprocess as much of the

product as possible using the dust collection system. The dust collection system's primary function is to capture the metal oxide or nitrate based fine particles from the calcining operation for return to the process. As a secondary benefit, the dust collection system also protects the fans required to keep the calciner operating properly. The calciner cannot operate properly without the fans and baghouses of the dust collection system in place. Without the dust collection system, metal oxide and/or nitrate based product dust from the process would clog exhaust systems, cause excessive fan maintenance, and product would be lost to the atmosphere.

(b) Cost

The cost of the capturing and reprocessing of the particulate matter emissions is considerably less than the cost of purchasing new product which are also the particulate matter emissions from the calciner. The cost of the dust collection system is offset over time by the capture and sale of the metal oxide and nitrate based product that would otherwise be blown to the atmosphere.

The economic benefit of the control equipment is as follows:

| Calciner (A-CS-12) - Dust Collection System | |
|---|-----------------------------|
| Capital Cost = | \$19,871 |
| Amount of Metal Oxide and Nitrate Based Powders Recovered = | 166,440 pounds per year |
| Metal Oxide Based Powders Cost = | \$10.00 per pound |
| Value of Recovered Product = | \$1,664,400 per year |
| Product Recovery Savings = | \$1,644,529 per year |

(c) Integral

IDEM, OAQ evaluated the information submitted and agrees that the dust collection system is considered an integral part of the calciner (A-CS-12) when processing metal oxide and nitrate based products because the dust collection system serves a primary purpose other than pollution control.

As a result, the potential particulate matter emissions from the calciner (A-CS-12) were calculated after consideration of the dust collection system when processing metal oxide and nitrate based products for the purposes of determining permitting level and applicability of 326 IAC 2-2 (PSD) and 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Process). Operating conditions in the proposed permit will specify that this dust collection system shall operate at all times when the calciner is in operation and processing either metal oxide or nitrate based powder.

Existing calciners (A-CS-4, C-CS-6, and A-CS-11)

The existing calciners, identified as A-CS-4, C-CS-6, and A-CS-11, are capable of processing both metal oxide based powders and nitrate based powders. Only one based powder is processed at a time. Each calciner has its own dust collection system which is used as particulate control for both powders. An integral determination has already been made for these existing calciners when processing metal oxide products. The following information is for when these emission units are processing nitrate based products.

The table below provides the unlimited potential to emit particulate matter before control for each powder based product:

| Process | Powder based Product | Maximum Capacity (lb/hr) | PM Emission Factor* (lb/ton) | Uncontrolled PM Emissions* (ton/yr) |
|--------------------|----------------------|--------------------------|------------------------------|-------------------------------------|
| Calciner (A-CS-4) | Metal Oxide | 600 | 15 | 19.71 |
| | Nitrate | 300 | 15 | 9.86 |
| Calciner (C-CS-6) | Metal Oxide | 1,200 | 15 | 39.42 |
| | Nitrate | 600 | 15 | 19.71 |
| Calciner (A-CS-11) | Metal Oxide | 1,200 | 15 | 39.42 |
| | Nitrate | 600 | 15 | 19.71 |

*PM10 and PM2.5 equal to PM

(1) Nitrate Based Products

The Permittee submitted the following information to justify why the dust collection system should be considered an integral part of these existing calciners when processing nitrate based products:

(a) Product Recovery

All particulate matter emissions are made up of the metal oxide based or nitrate based products that Powder Processing Technology, LLC is producing. This is not considered waste and therefore, it is in their best interest to capture and reprocess as much of the product as possible using the dust collection system. The dust collection system's primary function is to capture the metal oxide or nitrate based fine particles from the calcining operation for return to the process. As a secondary benefit, the dust collection system also protects the fans required to keep the calciner operating properly. The calciner cannot operate properly without the fans and baghouses of the dust collection system in place. Without the dust collection system, metal oxide and/or nitrate based product dust from the process would clog exhaust systems, cause excessive fan maintenance, and product would be lost to the atmosphere.

(b) Cost

The cost of the capturing and reprocessing of the particulate matter emissions is considerably less than the cost of purchasing new product which are also the particulate matter emissions from the calciner. The cost of the dust collection system is offset over time by the capture and sale of the metal oxide and nitrate based product that would otherwise be blown to the atmosphere.

The economic benefit of the control equipment is as follows:

| Calciner (A-CS-4) - Dust Collection System | |
|---|---------------------------|
| Capital Cost = | \$16,896 |
| Amount of Metal Oxide and Nitrate Based Powders Recovered = | 70,080 pounds per year |
| Nitrate Based Powders Cost = | \$8.00 per pound |
| Value of Recovered Product = | \$560,640 per year |
| Product Recovery Savings = | \$543,744 per year |

| Calciner (C-CS-6) - Dust Collection System | |
|---|-----------------------------|
| Capital Cost = | \$18,531 |
| Amount of Metal Oxide and Nitrate Based Powders Recovered = | 148,920 pounds per year |
| Nitrate Based Powders Cost = | \$8.00 per pound |
| Value of Recovered Product = | \$1,191,360 per year |
| Product Recovery Savings = | \$1,172,829 per year |

| Calciner (A-CS-11) - Dust Collection System | |
|---|-----------------------------|
| Capital Cost = | \$15,308 |
| Amount of Metal Oxide and Nitrate Based Powders Recovered = | 166,440 pounds per year |
| Nitrate Based Powders Cost = | \$8.00 per pound |
| Value of Recovered Product = | \$1,331,520 per year |
| Product Recovery Savings = | \$1,316,212 per year |

- (c) Integral
IDEM, OAQ evaluated the information submitted and agrees that the dust collection system is considered an integral part of the existing calciners (A-CS-4, C-CS-6, and A-CS-11) when processing nitrate based products because the dust collection system serves a primary purpose other than pollution control.

As a result, the potential particulate matter emissions from the calciners (A-CS-4, C-CS-6, and A-CS-11) were calculated after consideration of the dust collection system when processing metal oxide and nitrate based products for the purposes of determining permitting level and applicability of 326 IAC 2-2 (PSD) and 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Process). Operating conditions in the proposed permit will specify that this dust collection system shall operate at all times when the calciner is in operation and processing either metal oxide or nitrate based powder.

Conclusion

The dust collectors for the calciners, identified as A-CS-12, A-CS-4, C-CS-6, and A-CS-11, are integral when processing both metal oxide and nitrate based products.

Enforcement Issues

There are no pending enforcement actions related to this modification.

Emission Calculations

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

Permit Level Determination – Part 70 Modification to an Existing Source

Pursuant to 326 IAC 2-1.1-1(12), Potential to Emit is defined as “the maximum capacity of a stationary source or emission unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, IDEM, or the appropriate local air pollution control agency.”

The following table is used to determine the appropriate permit level under 326 IAC 2-7-10.5 and 326 IAC 2-7-11. This table reflects the PTE before controls. Control equipment is not considered federally

enforceable until it has been required in a federally enforceable permit. If the control equipment has been determined to be integral, the table reflects the PTE after consideration of the integral control device.

| PTE Before Controls of the New Emission Units (ton/year) | | | | | | | | | |
|--|--------|------------------|-------------------|-----------------|-----------------|------|------|-------------|---------------|
| Process / Emission Unit | PM | PM ₁₀ | PM _{2.5} | SO ₂ | NO _x | VOC | CO | Single HAP* | Combined HAPs |
| Calciner (A-CS-12) | 0.04** | 0.04** | 0.04** | 0 | 131.40*** | 0 | 0 | negl. | negl. |
| Natural Gas Burner #12 | 0.03 | 0.11 | 0.11 | 0.01 | 1.42 | 0.08 | 1.19 | 0.03 | 0.03 |
| Total: | 0.07 | 0.15 | 0.15 | 0.01 | 132.82 | 0.08 | 1.19 | 0.03 | 0.03 |

*Single HAP is Hexane

** PTE is after control because dust collector is considered as integral.

*** PTE before control and based on nitrate based products.

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

| PTE Change of the Modified Emission Unit(s)/Process (ton/year) | | | | | | | | | |
|---|-------|------------------|-------------------|-----------------|-----------------|-----|----|------------|---------------|
| Calciner (A-CS-4)* | PM | PM ₁₀ | PM _{2.5} | SO ₂ | NO _x | VOC | CO | Single HAP | Combined HAPs |
| PTE Before Modification (Processing Metal Oxide, after Integral Control) | 0.02* | 0.02* | 0.02* | 0 | 0 | 0 | 0 | 0 | 0 |
| PTE After Modification (Processing Nitrate Oxide, after Integral Control) | 0.01* | 0.01* | 0.01* | 0 | 65.70** | 0 | 0 | negl. | negl. |
| PTE Increase From Modification | 0 | 0 | 0 | 0 | 65.70 | 0 | 0 | negl. | negl. |

*Calciner A-CS-4 currently processes metal oxide products, however, due to this modification it will now be permitted to process nitrate based products as well as metal oxide products. The dust collector, A-DC-4, is now integral when processing both metal oxide products and nitrate based products.

** PTE before control and based on nitrate based products.

Appendix A of this TSD reflects the potential emissions of the modification in detail.

| Total PTE Increase Due to the Modification (ton/year) | | | | | | | | | |
|---|-------------|------------------|-------------------|-----------------|-----------------|-------------|-------------|-------------|---------------|
| | PM | PM ₁₀ | PM _{2.5} | SO ₂ | NO _x | VOC | CO | Single HAP | Combined HAPs |
| PTE of New Emission units | 0.07 | 0.15 | 0.15 | 0.01 | 132.82 | 0.08 | 1.19 | 0.03 | 0.03 |
| PTE Increase of Modified Emission Units/Process | 0 | 0 | 0 | 0 | 65.70 | 0 | 0 | negl. | negl. |
| Total PTE of the Modification | 0.07 | 0.15 | 0.15 | 0.01 | 198.52 | 0.08 | 1.19 | 0.03 | 0.03 |

Appendix A of this TSD reflects the potential emissions of the modification in detail.

- (a) Approval to Construct
Pursuant to 326 IAC 2-7-10.5(g)(4), a Significant Source Modification is required because this modification has the potential to emit nitrogen oxides (NO_x) at greater than or equal to twenty-five (25) tons per year.
- (b) Approval to Operate
Pursuant to 326 IAC 2-7-12(d)(1), this change to the permit is being made through a Significant Permit Modification because this modification does not qualify as a Minor Permit Modification or as an Administrative Amendment.

Permit Level Determination – PSD or Emission Offset

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

| Process / Emission Unit | Project Emissions (ton/year) | | | | | | |
|---|------------------------------|------------------|---------------------|-----------------|-----------------|-------------|-------------|
| | PM | PM ₁₀ | PM _{2.5} * | SO ₂ | NO _x | VOC | CO |
| Calciner (A-CS-4) ¹ | 0.02 | 0.02 | 0.02 | 0 | 13.14 | 0 | 0 |
| Calciner (A-CS-12) ¹ | 0.04 | 0.04 | 0.04 | 0 | 24.09 | 0 | 0 |
| Natural Gas Burner #12 | 0.03 | 0.11 | 0.11 | 0.01 | 1.42 | 0.08 | 1.19 |
| Total for Modification | 0.09 | 0.17 | 0.17 | 0.01 | 38.65 | 0.08 | 1.19 |
| PSD Major Source Thresholds | 250 | 250 | 250 | 250 | NA | NA | 250 |
| Emission Offset Major Source Thresholds | --- | NA | NA | NA | 100 | 100 | NA |

¹ NO_x limited to render 326 IAC 2-3 not applicable.

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

- (a) This modification to an existing minor PSD stationary source is not major because the emissions increase of each PSD regulated pollutant is less than the PSD major source threshold. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (b) This modification to an existing minor Emission Offset stationary source is not major because the emissions increase of NO_x and VOC is less than the Emission Offset major source threshold. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.
- (1) In order to continue to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable to the entire source, the existing NO_x emission limits for calciners A-CS-11 and C-CS-6 shall not exceed the proposed lb/hr rates as follows:

| Process | Current NO _x emissions shall not exceed (lb/hr) | Proposed NO _x emissions shall not exceed (lb/hr) |
|--------------------|--|---|
| Calciner (A-CS-11) | 9.31 | 5.50 |
| Calciner (C-CS-6) | 9.31 | 4.50 |

- (2) In order to render the requirements of 326 IAC 2-3 not applicable, the NO_x emissions after control from the calciner, identified as A-CS-4, shall not exceed 3.00 pounds per hour, when processing nitrate based catalyst powder.

- (3) In order to render the requirements of 326 IAC 2-3 not applicable, the NOx emissions after control from the calciner, identified as A-CS-12, shall not exceed 5.50 pounds per hour, when processing nitrate based catalyst powder.

Compliance with this limit, combined with the potential to emit NOx from all other emission units at this source, shall limit the source-wide total potential to emit of NOx to less than 100 tons per 12 consecutive month period and shall render 326 IAC 2-3 (Emission Offset) not applicable.

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

| Process/ Emission Unit | Source-Wide Emissions after Issuance (tons/year) | | | | | | | | |
|---|--|-------------------|--------------------|-----------------|--------------|-------------|--------------|-------------|---------------------|
| | PM | PM10 ¹ | PM2.5 ² | SO ₂ | NOx | VOC | CO | Total HAPs | Single HAP (Nickel) |
| Powder Mfg. Operations ³ | 20.76 | 4.95 | 0.60 | 0.00 | 81.03 | 0.00 | 0.00 | 0.60 | 0.60 |
| Natural Gas Combustion | 0.31 | 1.25 | 1.25 | 0.10 | 16.45 | 0.90 | 13.82 | 0.31 | 0.0003 |
| Emergency Generators | 0.01 | 0.01 | 0.01 | 0 | 0.78 | 0.03 | 0.10 | 0.02 | 0 |
| Total PTE of Entire Source⁴ | 21.08 | 6.21 | 1.86 | 0.10 | 98.27 | 0.93 | 13.92 | 0.93 | 0.60 |
| Title V Major Source Thresholds | NA | 100 | 100 | 100 | 100 | 100 | 100 | 25 | 10 |
| PSD Major Source Thresholds | 250 | 250 | 250 | 250 | NA | NA | 250 | NA | NA |
| Emission Offset Major Source Thresholds | NA | NA | NA | NA | 100 | 100 | NA | NA | NA |

negl. = negligible
¹Under the Part 70 Permit program (40 CFR 70), particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers (PM₁₀), not particulate matter (PM), is considered as a "regulated air pollutant".
²PM_{2.5} listed is direct PM_{2.5}.
³NOx emissions have been limited to render 326 IAC 2-3 (Emission Offset) not applicable.
⁴In 2016, IDEM revised their interpretation of Potential to Emit (PTE) with respect to integral to the process determinations; this table contains the resulting updated PTE values.

- (a) This existing minor PSD stationary source will continue to be minor under 326 IAC 2-2 because the emissions of each PSD regulated pollutant will continue to be less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (b) This existing minor Emission Offset stationary source will continue to be minor under 326 IAC 2-3 because the emissions of the nonattainment pollutant NOx and VOC will continue to be less than the Emission Offset major source thresholds. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Federal Rule Applicability Determination

Due to the modification at this source, federal rule applicability has been reviewed as follows:

New Source Performance Standards (NSPS):

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

National Emission Standards for Hazardous Air Pollutants (NESHAP):

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

Compliance Assurance Monitoring (CAM):

- (a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is applicable to each existing pollutant-specific emission unit that meets the following criteria:
- (1) has a potential to emit before controls equal to or greater than the major source threshold for the regulated pollutant involved;
 - (2) is subject to an emission limitation or standard for that pollutant (or a surrogate thereof); and
 - (3) uses a control device, as defined in 40 CFR 64.1, to comply with that emission limitation or standard.
- (b) Pursuant to 40 CFR 64.2(b)(1)(i), emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act are exempt from the requirements of CAM. Therefore, an evaluation was not conducted for any emission limitations or standards proposed after November 15, 1990 pursuant to a NSPS or NESHAP under Section 111 or 112 of the Clean Air Act.
- (c) Pursuant to 40 CFR 64.2(b)(1)(iii), Acid Rain requirements pursuant to Sections 404, 405, 406, 407(a), 407(b), or 410 of the Clean Air Act are exempt emission limitations or standards. Therefore, CAM was not evaluated for emission limitations or standards for SO₂ and NO_x under the Acid Rain Program.
- (d) Pursuant to 40 CFR 64.3(d), if a continuous emission monitoring system (CEMS) is required pursuant to other federal or state authority, the owner or operator shall use the CEMS to satisfy the requirements of CAM according to the criteria contained in 40 CFR 64.3(d).

The following table is used to identify the applicability of CAM to each existing emission unit and each emission limitation or standard for a specified pollutant based on the criteria specified under 40 CFR 64.2:

| Emission Unit/Pollutant | Control Device | Applicable Emission Limitation | Uncontrolled PTE (tons/year) | Controlled PTE (tons/year) | CAM Applicable (Y/N) | Large Unit (Y/N) |
|---|--|--------------------------------|------------------------------|----------------------------|----------------------|------------------|
| Calciner (A-CS-12) Metal Oxides / PM* | DC | 326 IAC 6-3-2 | <100 | - | N ^{1,2} | - |
| Calciner (A-CS-12) Metal Oxides / PM10 | DC | - | - | - | N ^{2,3} | - |
| Calciner (A-CS-12) Metal Oxides / PM2.5 | DC | - | - | - | N ^{2,3} | - |
| Calciner (A-CS-12) Nitrate Catalyst / PM* | DC | 326 IAC 6-3-2 | <100 | - | N ^{1,2} | - |
| Calciner (A-CS-12) Nitrate Catalyst / PM10 | DC | - | - | - | N ^{2,3} | - |
| Calciner (A-CS-12) Nitrate Catalyst / PM2.5 | DC | - | - | - | N ^{2,3} | - |
| Calciner (A-CS-12) / NOx | UHGF | 326 IAC 2-3 | >100 | <100 | Y | N |
| Uncontrolled PTE (tpy) and controlled PTE (tpy) are evaluated against the Major Source Threshold for each pollutant. Major Source Threshold for criteria pollutants (PM10, PM2.5, SO2, NOX, VOC and CO) is 100 tpy, for a single HAP ten (10) tpy, and for total HAPs twenty-five (25) tpy. Under the Part 70 Permit program (40 CFR 70), PM is not a regulated pollutant. | | | | | | |
| PM* | For limitations under 326 IAC 6-3-2, 326 IAC 6.5, and 326 IAC 6.8, IDEM OAQ uses PM as a surrogate for the regulated air pollutant PM10. Therefore, uncontrolled PTE and controlled PTE reflect the emissions of the regulated air pollutant PM10. | | | | | |
| N ¹ | CAM does not apply for because the uncontrolled PTE is less than the major source threshold. | | | | | |
| N ² | Pursuant to 40 CFR Part 64.1, the control devices are considered to be inherent process equipment. Therefore, based on the evaluation, the requirements of 40 CFR Part 64, CAM, are not applicable. | | | | | |

| Emission Unit/Pollutant | Control Device | Applicable Emission Limitation | Uncontrolled PTE (tons/year) | Controlled PTE (tons/year) | CAM Applicable (Y/N) | Large Unit (Y/N) |
|--|----------------|--------------------------------|------------------------------|----------------------------|----------------------|------------------|
| N ³ The control device is not required to comply with the applicable emission limitation or standard. Therefore, based on this evaluation, the requirements of 40 CFR Part 64, CAM, are not applicable. | | | | | | |
| Controls: DC = Dust Collection System, UHGF = UltraCat Hot Gas Filtration System | | | | | | |
| Emission units without air pollution controls are not subject to CAM. Therefore, they are not listed. | | | | | | |

Inherent Process Equipment

Pursuant to 40 CFR Part 64.1, the definition of inherent process equipment is "equipment that is necessary for the proper or safe functioning of the process, or material recovery equipment that the owner or operator documents is installed and operated primarily for purposes other than compliance with air pollution regulations. Equipment that must be operated at an efficiency higher than that achieved during normal process operations in order to comply with the applicable emission limitation or standard is not inherent process equipment. For the purposes of this part, inherent process equipment is not considered subject to CAM."

The dust collection system determined to be necessary for the normal and proper operation of the new calciner (A-CS-12) when processing metal oxide and nitrate based powders (*see the "Air Pollution Control Justification as an Integral Part of the Process" section above for more detail*). Therefore, the dust collection system when the calciner is processing metal oxide and nitrate based products meets the criteria for inherent to the process for the purpose of determining CAM applicability, and is not considered a control device. Therefore, the requirements of 40 CFR Part 64.2, CAM, do not apply to the calciner (A-CS-12) when processing metal oxide and nitrate based products.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM, is applicable to the calciner (A-CS-12), which is considered as an "other unit," for NO_x upon issuance of the Part 70 Permit Renewal. A CAM plan must be submitted as part of the Part 70 Operating Permit Renewal application.

State Rule Applicability Determination

Due to the modification at this source, state rule applicability has been reviewed as follows:

326 IAC 2-2 (PSD) and 2-3 (Emission Offset)

PSD and Emission Offset applicability is discussed under the Permit Level Determination – PSD and Emission Offset section.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of the new calciner (A-CS-12) will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-7-6(5) (Annual Compliance Certification)

The U.S. EPA Federal Register 79 FR 54978 notice does not exempt Title V Permittees from the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D), but the submittal of the Title V annual compliance certification to IDEM satisfies the requirement to submit the Title V annual compliance certifications to EPA. IDEM does not intend to revise any permits since the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D) still apply, but Permittees can note on their Title V annual compliance certifications that submission to IDEM has satisfied reporting to EPA per Federal Register 79 FR 54978. This only applies to Title V Permittees and Title V compliance certifications.

326 IAC 6-2-4 (Particulate Matter 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.

| Indirect Heating Units Which Began Operation After September 21, 1983 | | | | | | |
|--|---|-------------------------------------|-----------------|--------------------------------|--|---|
| Facility | Construction Date (Removal Date) | Operating Capacity (MMBtu/hr) | Q (MMBtu/hr) | Calculated Pt (lb/MMBtu) | Particulate Limitation, (Pt) (lb/MMBtu) | PM PTE based on AP-42 (lb/MMBtu) |
| Units Operating Prior to 9/21/1983 | | | 12.17 | -- | -- | -- |
| Burner B | 1984 | 1.60 | 14.37 | 0.55 | 0.55 | 0.072 |
| Burner SRF | 1984 | 0.6 | 14.37 | 0.55 | 0.55 | 0.072 |
| Burner #2 | 1995 | 1.80 | 16.17 | 0.53 | 0.53 | 0.072 |
| Burner #6 | 1996 | 1.80 | 22.22 | 0.49 | 0.49 | 0.072 |
| Thirty-two (32) Air Makeup, Space Heaters, Rooftop Heaters | 1996 | 4.25 | 22.22 | 0.49, each | 0.49, each | 0.072, each |
| Burner #11 | 2017 | 3.20 | 25.42 | 0.47 | 0.47 | 0.072 |
| Burner #12 | 2018 | 3.30 | 28.72 | 0.46 | 0.46 | 0.072 |
| 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. | | | | | | |

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)

When processing metal oxide and nitrate based products the cartridge dust collector is integral to the process for the calciner (A-CS-12) and the potential particulate matter emissions are less than 0.551 pounds per hour.

Pursuant to 326 IAC 6-3-1(b)(14), manufacturing processes with potential emissions less than five hundred fifty-one thousandths (0.551) pound per hour are exempt from the requirements of 326 IAC 6-3-2. Therefore, when processing metal oxide and nitrate based products the calciner (A-CS-12) is not subject to the requirements of 326 IAC 6-3-2.

The cartridge dust collector shall be in operation at all times the calciner (A-CS-12) is in operation and processing metal oxide and nitrate based products, in order to assure the requirements of 326 IAC 6-3-2 are not applicable.

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)

This source, which is located in Porter County, is not subject to the requirements of 326 IAC 2-7, since the source-wide potential to emit VOC is less than twenty-five (25) tons per year.

326 IAC 10 (Nitrogen Oxide Rules)

This source is not subject to 326 IAC 10 because it is not located in Clark or Floyd Counties, it is not one of the specific source categories listed, and it does not have any electricity generating units or large affected units (as defined under 326 IAC 10-4-2(27)).

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-7 are required to assure 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 Compliance Determination Requirements applicable to this modification are as follows:

| Summary of Testing Requirements | | | | | |
|---------------------------------|------------------------------------|--|-----------|---------------------------|-------------|
| Emission Unit | Control Device | Timeframe for Testing or Date of Last Valid Demonstration | Pollutant | Frequency of Testing | Authority |
| Calcliner (A-CS-12) | Ultracat Hot Gas Filtration System | No later than five (5) years from the date of the last valid compliance demonstration ¹ | NOx | Once every five (5) years | 326 IAC 2-3 |

- (1) This testing is necessary to demonstrate compliance with 326 IAC 2-3 (Emission Offset). The source shall perform testing on each calciner (A-CS-11, C-CS-6, and A-CS-12) on a five (5) year rotating basis. The calciner not tested, will be tested during the next compliance demonstration test in five years then testing will alternate between the three calciners every five years after. These testing requirements are being revised due to this modification to include the new calciner (A-CS-12).

The source performed NOx testing on calciner (C-CS-6) on December 1, 2015 and was in compliance with the NOx emission limit. Therefore, the next NOx test shall be performed on either calciner A-CS-11 or A-CS-12, not later than five (5) years from the date of the last valid compliance demonstration.

(b) The Compliance Monitoring Requirements applicable to this proposed modification are as follows:

| Emission Unit/Control | Operating Parameters | Frequency |
|---|----------------------|--------------|
| Calcliners (A-CS-12)/Ultracat Hot Gas Filtration System | Pressure Drop | Once per day |
| | Ammonia Injection | Continuous |
| | Inlet Temperature | Continuous |
| Calcliners (A-CS-12)/Cartridge Dust Collector | Pressure Drop | Once per day |

These monitoring conditions are necessary because the ultracat hot gas filtration system for the calciners must operate properly to ensure compliance with 326 IAC 2-3 (Emission Offset) and the cartridge dust collector must operate properly to ensure compliance with 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes). These are new compliance monitoring requirement due to this modification.

Proposed Changes

The following changes listed below are due to the proposed modification. Deleted language appears as ~~strikethrough~~ text and new language appears as **bold** text:

- (1) Calciner A-CS-4 was separated from the emission unit description with A-CS-3. The calciner A-CS-4 currently processes various metal oxide products and is being modified to also process nitrate based products. Calciner A-CS-3 will continue to only process various metal oxides.
- (2) An Integral Determination has been done for the existing calciners A-CS-4, C-CS-6, and A-CS-11; therefore the emission unit descriptions for these emission units have been updated.
- (3) Calciner A-CS-12 and associated burner #12 have been added to the appropriate Sections A.2, A.3, D.1, and D.2.
- (4) NOx pound per hour limits in Section D.1.1 have been modified for the two (2) Calciners identified as A-CS-11 and C-CS-6, per request from the Permittee. Also, NOx pound per hour limits for A-CS-4 and A-CS-12 have been added to this section.
- (5) A-CS-11 and C-CS-6 have been removed from Sections D.1.2 and D.1.5 because they are no longer subject to 326 IAC 6-3-2 because their associated control devices have been determined to be integral to the calcining process.
- (6) "Nitrate based products" has been added to Section D.1.5(b) because the integral control devices must operate when processing both metal oxide and nitrate based products in order to assure that 326 IAC 6-3-2 and 326 IAC 2-2 do not apply to the associated manufacturing operations.
- (7) Applicable requirements for the existing calciner (A-CS-4) and the new calciner (A-CS-12) have been added to Section D.1.4.
- (8) Section D.1.7 - Calciner A-CS-12 has been added to Parametric Monitoring and three (3) of the Control IDs have been updated to the correct control devices.
- (9) Applicable requirements for the existing calciner (A-CS-4) and the new calciner (A-CS-12) have been added to Section D.1.10.
- (10) Applicable requirements for the existing calciner (A-CS-4) and the new calciner (A-CS-12) have been added to Section D.1.11.
- (11) Particulate Emissions Limitations for the new burner #12 have been added to Section D.2.2.

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:

- (a) ~~Two (2)~~ **One (1)** electric calciners, identified as A-CS-3 and ~~A-CS-4~~, constructed prior to 1970, ~~each~~ with a maximum capacity of 600 pounds per hour of various metal oxide products, ~~each~~ equipped with an integral cartridge dust collector, identified as A-DC-14, exhausting through vent V-ACS-3.

- (b) One (1) electric calciner, identified as A-CS-4, constructed prior to 1970, **and approved in 2018 for modification to use nitrate based products**, with a maximum capacity of 600 pounds per hour of various metal oxide products **or 300 pounds per hour of nitrate based products**, equipped with an integral cartridge dust collector, identified as A-DC-4, exhausting through vent V-ACS-3, **and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through a stack.**

The cartridge dust collector is integral when processing metal oxide products and nitrate based products.

- (bc) One (1) indirect-fired calciner, identified as A-CS-2, constructed in 1995, with a maximum capacity of 1,200 pounds per hour of various metal oxide products, equipped with an **integral** cartridge dust collector for particulate control, identified as A-DC-1, exhausting through stacks V-ACS-2 and V-AHX-1.
- (ed) One (1) 20-foot dryer, identified as A-SD-1, constructed in 1973, with a maximum capacity of 3,000 pounds per hour of various metal oxide products, equipped with parallel cyclones and an integral cartridge dust collector, identified as A-SD-1, exhausting through stack V-BSD-1.
- (de) One (1) ball milling unit, identified as A-BM-7, constructed in 1973, with a maximum capacity of 21,000 pounds per batch (1,400 pounds per hour) of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-BM-7, exhausting to the interior.
- (ef) One (1) batch operation, identified as A-GB-1, constructed in 1973, with a maximum capacity of 1500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-GB-1, exhausting to the interior.
- (fg) One (1) weigh up operation, identified as A-WU-1, constructed in 1970, with a maximum capacity of 100 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-WU-1, exhausting through stack V-AWU-1.
- (gh) One (1) 17.5-foot dryer, identified as B-SD-1, constructed in 1984, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with parallel cyclones and an integral cartridge dust collector, identified as B-SD-1, exhausting through stack V-BSD-1.
- (hi) One (1) 9.5-foot anhydrous spray dryer, identified as B-SD-2, constructed in 1984, with a maximum capacity of 580 pounds per hour of various metal oxide products, equipped with a cyclone and an integral cartridge dust collector, identified as B-SD-2, exhausting through stack V-BSD-1.
- (ij) One (1) 5-foot by 40-foot direct-fired calciner, identified as B-C-1, constructed in 1970, with a maximum capacity of 1,500 pounds per hour of various metal oxide products, equipped with a baghouse or cartridge dust collector for particulate control, identified as B-C-1, exhausting through stack V-BCS-1.

This dust collector is not considered integral.

- (jk) One (1) 16-foot spray dryer, identified as C-SD-1, constructed before 1970, with a maximum capacity of 1,500 pounds per hour of various metal oxide products, equipped with three (3) parallel cyclone separators and a cartridge dust collector for particulate control, identified as C-SD-1, exhausting through stack V-CSD-1.

This dust collector is not considered integral.

- (kl) Four (4) milling units, identified as C-GB-1, constructed in 1984, each with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, a common control shared by the milling units, identified as C-GB-1, exhausting to the interior.
- (lm) One (1) batch operation, identified as C-WU-1, constructed in 1980, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with one (1) integral cabinet dust collector, identified as C-WU-1, exhausting to the interior.
- (mn) One (1) batch operation, identified as C-GB-2, constructed in 1984, with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as C-GB-2, exhausting to the interior.
- (no) One (1) 3-foot by 26-foot indirect-fired calciner unit, identified as C-CS-6, constructed in 1996 and modified in 2015 to use nitrate based products, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as DC-CS-6 and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stacks V-CCS-6 and V-CHX-6.

The cartridge dust collector is ~~only~~ integral when processing metal oxide products **(as determined in 2015)** and ~~An integral determination has not been made for the cartridge dust collector when processing nitrate based products (as determined in 2018).~~ Therefore, at this time the cartridge dust collector is not considered integral when processing nitrate based products.

- (op) One (1) 15-inch by 26-foot electric calciner unit, identified as C-CS-7, constructed in 1996, with a maximum capacity of 200 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as C-CS-7, exhausting through stacks V-CCS-7 and V-CHX-7.
- (pq) One (1) blending/packaging operation, identified as A-BL-1, constructed in 1993, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-BL-1, exhausting to the interior.
- (qr) One (1) bulk handling operation, identified as A-BH-1, constructed in 1995, with a maximum capacity of 1,600 pounds per hour of various metal oxide products, equipped with an integral dust collector, identified as A-BH-1, exhausting to the interior.
- (rs) Six (6) ball milling units, identified as A-BM-1 to A-BM-6, constructed in 1973, each with a maximum capacity of 7,500 pounds per batch (500 pounds per hour) each of various metal oxide products, each equipped with an integral cartridge dust collector, identified as A-BM-1 to A-BM-6, exhausting to the interior.
- (st) Three (3) fired bead screening units, identified as B-FB-1, constructed in 1989, each with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, a common control shared by the screening units, identified as B-FB-1, exhausting to the interior.
- (tu) One (1) blending unit, identified as B-GB-1, constructed in 1984, with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-GB-1, exhausting to the interior.
- (uv) One (1) wet ball milling operation, identified as B-WB-1, constructed in 1980, with a maximum capacity of 10,000 pounds per batch (666.7 pounds per hour) of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-WB-1, exhausting to the interior.

- (~~w~~**w**) One (1) ball mill operation, utilizing a wet batch process, identified as B-BM-1, constructed in 1992, with a maximum capacity of 580 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-BM-1, exhausting to the interior.
- (~~w~~**x**) One (1) indirect-fired calciner, identified as A-CS-11, approved in 2017 for construction, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as A-DC-11 and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stacks V-ACS-2 and V-AHX-1.

The cartridge dust collector is ~~only~~ integral when processing metal oxide products **(as determined in 2017)** and ~~An integral determination has not been made for the cartridge dust collector when processing nitrate based products (as determined in 2018).~~
Therefore, ~~at this time the cartridge dust collector is not considered integral when processing nitrate based products.~~

- (y) **One (1) 4-foot by 30-foot indirect-fired calciner unit, identified as A-CS-12, approved in 2018 for construction, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as A-DC-12 and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through a stack.**

The cartridge dust collector is integral when processing metal oxide products and nitrate based products.

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 also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour which include:

- (23) **One (1) natural gas burner #12 for indirect calciner A-CS-12, approved in 2018 for construction, with a maximum heat input capacity of 3.3 million British thermal units per hour.**

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

- (a) ~~Two (2)~~**One (1)** electric calciners, identified as A-CS-3 ~~and A-CS-4~~, constructed prior to 1970, ~~each~~ with a maximum capacity of 600 pounds per hour of various metal oxide products, ~~each~~ equipped with an integral cartridge dust collector, identified as A-DC-~~44~~, exhausting through vent V-ACS-3.
- (b) One (1) electric calciner, identified as A-CS-4, constructed prior to 1970, **and approved in 2018 for modification to use nitrate based products**, with a maximum capacity of 600 pounds per hour of various metal oxide products **or 300 pounds per hour of nitrate based products**, equipped with an integral cartridge dust collector, identified as A-DC-4, exhausting through vent V-ACS-3, **and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through a stack.**

The cartridge dust collector is integral when processing metal oxide products

and nitrate based products.

- (bc) One (1) indirect-fired calciner, identified as A-CS-2, constructed in 1995, with a maximum capacity of 1,200 pounds per hour of various metal oxide products, equipped with an **integral** cartridge dust collector for particulate control, identified as A-DC-1, exhausting through stacks V-ACS-2 and V-AHX-1.
- (ed) One (1) 20-foot dryer, identified as A-SD-1, constructed in 1973, with a maximum capacity of 3,000 pounds per hour of various metal oxide products, equipped with parallel cyclones and an integral cartridge dust collector, identified as A-SD-1, exhausting through stack V-BSD-1.
- (de) One (1) ball milling unit, identified as A-BM-7, constructed in 1973, with a maximum capacity of 21,000 pounds per batch (1,400 pounds per hour) of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-BM-7, exhausting to the interior.
- (ef) One (1) batch operation, identified as A-GB-1, constructed in 1973, with a maximum capacity of 1500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-GB-1, exhausting to the interior.
- (fg) One (1) weigh up operation, identified as A-WU-1, constructed in 1970, with a maximum capacity of 100 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-WU-1, exhausting through stack V-AWU-1.
- (gh) One (1) 17.5-foot dryer, identified as B-SD-1, constructed in 1984, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with parallel cyclones and an integral cartridge dust collector, identified as B-SD-1, exhausting through stack V-BSD-1.
- (hi) One (1) 9.5-foot anhydrous spray dryer, identified as B-SD-2, constructed in 1984, with a maximum capacity of 580 pounds per hour of various metal oxide products, equipped with a cyclone and an integral cartridge dust collector, identified as B-SD-2, exhausting through stack V-BSD-1.
- (ij) One (1) 5-foot by 40-foot direct-fired calciner, identified as B-C-1, constructed in 1970, with a maximum capacity of 1,500 pounds per hour of various metal oxide products, equipped with a baghouse or cartridge dust collector for particulate control, identified as B-C-1, exhausting through stack V-BCS-1.

This dust collector is not considered integral.

- (jk) One (1) 16-foot spray dryer, identified as C-SD-1, constructed before 1970, with a maximum capacity of 1,500 pounds per hour of various metal oxide products, equipped with three (3) parallel cyclone separators and a cartridge dust collector for particulate control, identified as C-SD-1, exhausting through stack V-CSD-1.

This dust collector is not considered integral.

- (kl) Four (4) milling units, identified as C-GB-1, constructed in 1984, each with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, a common control shared by the milling units, identified as C-GB-1, exhausting to the interior.
- (lm) One (1) batch operation, identified as C-WU-1, constructed in 1980, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with one

(1) integral cabinet dust collector, identified as C-WU-1, exhausting to the interior.

- (~~mn~~) One (1) batch operation, identified as C-GB-2, constructed in 1984, with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as C-GB-2, exhausting to the interior.
- (~~no~~) One (1) 3-foot by 26-foot indirect-fired calciner unit, identified as C-CS-6, constructed in 1996 and modified in 2015 to use nitrate based products, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as **DC-CS-6** and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stacks V-CCS-6 and V-CHX-6.

The cartridge dust collector is ~~only~~ integral when processing metal oxide products (**as determined in 2015**) and ~~An integral determination has not been made for the cartridge dust collector when processing nitrate based products (as determined in 2018). Therefore, at this time the cartridge dust collector is not considered integral when processing nitrate based products.~~

- (~~op~~) One (1) 15-inch by 26-foot electric calciner unit, identified as C-CS-7, constructed in 1996, with a maximum capacity of 200 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as C-CS-7, exhausting through stacks V-CCS-7 and V-CHX-7.
- (~~pq~~) One (1) blending/packaging operation, identified as A-BL-1, constructed in 1993, with a maximum capacity of 2,000 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-BL-1, exhausting to the interior.
- (~~qr~~) One (1) bulk handling operation, identified as A-BH-1, constructed in 1995, with a maximum capacity of 1,600 pounds per hour of various metal oxide products, equipped with an integral dust collector, identified as A-BH-1, exhausting to the interior.
- (~~rs~~) Six (6) ball milling units, identified as A-BM-1 to A-BM-6, constructed in 1973, each with a maximum capacity of 7,500 pounds per batch (500 pounds per hour) each of various metal oxide products, each equipped with an integral cartridge dust collector, identified as A-BM-1 to A-BM-6, exhausting to the interior.
- (~~st~~) Three (3) fired bead screening units, identified as B-FB-1, constructed in 1989, each with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, a common control shared by the screening units, identified as B-FB-1, exhausting to the interior.
- (~~tu~~) One (1) blending unit, identified as B-GB-1, constructed in 1984, with a maximum capacity of 500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-GB-1, exhausting to the interior.
- (~~uv~~) One (1) wet ball milling operation, identified as B-WB-1, constructed in 1980, with a maximum capacity of 10,000 pounds per batch (666.7 pounds per hour) of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-WB-1, exhausting to the interior.
- (~~vw~~) One (1) ball mill operation, utilizing a wet batch process, identified as B-BM-1, constructed in 1992, with a maximum capacity of 580 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as B-BM-1, exhausting to the interior.

- (wx) One (1) indirect-fired calciner, identified as A-CS-11, approved in 2017 for construction, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as A-DC-11 and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stacks V-ACS-2 and V-AHX-1.

The cartridge dust collector is ~~only~~ integral when processing metal oxide products **(as determined in 2017)** and ~~An integral determination has not been made for the cartridge dust collector when processing nitrate based products~~ **(as determined in 2018)**. ~~Therefore, at this time the cartridge dust collector is not considered integral when processing nitrate based products.~~

- (y) One (1) 4-foot by 30-foot indirect-fired calciner unit, identified as A-CS-12, approved in 2018 for construction, with a maximum capacity of 1,200 pounds per hour of various metal oxide products or 600 pounds per hour of nitrate based products, equipped with a cartridge dust collector for particulate control, identified as A-DC-12 and an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through a stack.

The cartridge dust collector is integral when processing metal oxide products and nitrate based products.

(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 NOx Emission Offset Minor Limit [326 IAC 2-3]

In order to render the requirements of 326 IAC 2-3 not applicable and pursuant to Significant Source Modification 127-35470-00021, issued on June 2, 2015, ~~and~~ Significant Source Modification 127-38110-00021, **issued on May 17, 2017, and revised in Significant Source Modification 127-39352-00021**, the Permittee shall comply with the following:

- (a) The NOx emissions after control from the indirect-fired calciner, identified as A-CS-11, shall not exceed ~~9.34~~ **5.50** pounds per hour, when processing nitrate based catalyst powder.
- (b) The NOx emissions after control from the indirect-fired calciner, identified as C-CS-6, shall not exceed ~~9.34~~ **4.50** pounds per hour, when processing nitrate based catalyst powder.
- (c) **The NOx emissions after control from the indirect-fired calciner, identified as A-CS-4, shall not exceed 3.00 pounds per hour, when processing nitrate based catalyst powder.**
- (d) **The NOx emissions after control from the indirect-fired calciner, identified as A-CS-12, shall not exceed 5.50 pounds per hour, when processing nitrate based catalyst powder.**

Compliance with these limits, combined with the potential to emit NOx from all other emission units at this source, shall limit the source-wide total potential to emit of NOx to less than 100 tons per 12 consecutive month period and shall render 326 IAC 2-3 (Emission Offset) not applicable.

D.1.2 Particulate [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Particulate Emissions Limitations for Manufacturing Process), the particulate emission rate from the facilities listed below, shall be limited as specified when operating at the respective process weight rate:

| Emission Units | Process Weight Rate (lb/hr) | Process Weight Rate (ton/hr) | Allowable PM Emission Rate (lb/hr) |
|--|-----------------------------|------------------------------|------------------------------------|
| Indirect fired calciner, A-CS-11 (Nitrate based products) | 600 | 0.30 | 1.83 |
| 5' x 40' direct-fired calciner, B-C-1 | 1500 | 0.75 | 3.38 |
| 3' x 26' indirect fired calciner, C-CS-6 (Nitrate based products) | 600 | 0.30 | 1.83 |

The pounds per hour allowable particulate emission rates were calculated with the following equation:

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

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

D.1.4 NOx Control

In order to comply with Condition D.1.1, the UltraCat hot gas filtration system, controlling NOx emissions from the calciners (A-CS-11, ~~and C-CS-6~~, **A-CS-4, and A-CS-12**) shall operate at all times that ~~either of the calciners (A-CS-11, and C-CS-6~~, **A-CS-4, and A-CS-12**) are in operation and processing nitrate based catalyst powder.

D.1.5 Particulate Control [326 IAC 2-7-6(6)]

- In order to comply with Condition D.1.2, the cyclones and dust collectors for calciner B-C-1, ~~and calciners A-CS-11 and C-CS-6~~ when processing nitrate based powders, shall be in operation and control emissions at all times that the facilities are in operation.
- In order to assure that 326 IAC 6-3-2 and 326 IAC 2-2 do not apply, the integral control devices (~~except when processing nitrate based powders~~) for particulate control shall be in operation and control emissions from the metal oxide **and nitrate based products** manufacturing operations at all times that the facilities are in operation.

D.1.6 Testing Requirements [326 IAC 2-1.1-11] [326 IAC 2-7-6(1),(6)]

- NOx
To demonstrate compliance with Condition D.1.1, the Permittee shall perform NOx emissions testing, after controls, while processing nitrate based catalyst powder in one of the ~~two three~~ (23) calciners (A-CS-11, ~~and C-CS-6~~, **and A-CS-12**) 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.

The calciner not tested will be tested during the next compliance demonstration test in five years then testing will alternate between the ~~two three~~ (23) calciners (A-CS-11, ~~and C-CS-6~~, **and A-CS-12**) every five years after.

D.1.7 Parametric Monitoring

| Emission Unit | Control ID | Pressure Drop Range (inches of H ₂ O) |
|--|---------------------|---|
| Electric calciners A-CS-3 and A-CS-4 | A-DC- 14 | 1.0 - 6.0 |
| Indirect fired calciner A-CS-2 | A-DC-1 | 1.0 - 6.0 |
| Dryer A-SD-1 | A-SD-1 | 1.0 - 6.0 |
| Dryer B-SD-1 | B-SD-1 | 1.0 - 6.0 |
| Anhydrous spray dryer B-SD-2 | B-SD-2 | 1.0 - 6.0 |
| Direct-fired calciner B-C-1 | B-C-1 | 1.0 - 6.0 |
| Spray dryer C-SD-1 | C-SD-1 | 1.0 - 6.0 |
| Indirect-fired calciner C-CS-6 | DC-CS-6 | 1.0 - 6.0 |
| Indirect-fired calciner A-CS-11 | A-DC-11 | 1.0 - 6.0 |
| Indirect-fired calciner A-CS-12 | A-DC-12 | 1.0 - 6.0 |

D.1.10 UltraCat Hot Gas Filtration System Monitoring Requirements [40 CFR 64]

Pursuant to 40 CFR 64,

- (a) The Permittee shall record the pressure drop across the UltraCat Hot Gas Filtration System used in conjunction with the calciners (A-CS-11,~~and C-CS-6, A-CS-4, and A-CS-12~~) at least once per day when ~~either of the calciners (A-CS-11, and C-CS-6, A-CS-4, and A-CS-12)~~ is in operation and processing nitrate based catalyst powder. When for any one reading, the pressure drop across the UltraCat Hot Gas Filtration System is outside the normal range the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 1.0 and 6.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C – Response to Excursions and Exceedances contains the Permittee's obligation with regard to the reasonable response required by this condition. A pressure reading that is outside the above mentioned range is not a deviation from this permit. Failure to take a reasonable response shall be considered a deviation from this permit.

- (b) A continuous monitoring system shall be calibrated, maintained, and operated on the UltraCat Hot Gas Filtration System used in conjunction with the calciners (A-CS-11,~~and C-CS-6, A-CS-4, and A-CS-12~~) for measuring operating temperature. For the purpose of this condition, continuous means no less than once per every fifteen (15) minutes. The output of this system shall be recorded as a 3-hour rolling average.

- (e) A continuous monitoring system shall be calibrated, maintained, and operated on the UltraCat Hot Gas Filtration System used in conjunction with the calciners (A-CS-11,~~and C-CS-6, A-CS-4, and A-CS-12~~) for measuring the ammonia injection rate. For the purpose of this condition, continuous means no less than once per fifteen (15) minutes. The output of this system shall be recorded as a one-hour average.

D.1.11 Record Keeping Requirement

- (b) To document compliance with Condition D.1.10(a), the Permittee shall maintain daily records of pressure drop across the UltraCat Hot Gas Filtration System used in conjunction with the calciners (A-CS-11,~~and C-CS-6, A-CS-4, and A-CS-12~~). The Permittee shall include in its daily record when a pressure drop is not taken and the reason for the lack of pressure drop or flow rate data (e.g. the process did not operate that day).

- (d) To document the compliance status with Condition D.1.10(e), the Permittee shall maintain records of the one-hour average ammonia injection rate into the UltraCat Hot Gas Filtration System used in conjunction with the calciners (A-CS-11,~~and C-CS-6, A-CS-4, and A-CS-12~~).

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: Insignificant Activities

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour which include:

- (23) **One (1) natural gas burner #12 for indirect calciner A-CS-12, approved in 2018 for construction, with a maximum heat input capacity of 3.3 million British thermal units per hour.**

(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.2.2 Particulate Emissions [326 IAC 6-2-4]

Pursuant to 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating), the PM emissions from the following units shall be limited to Pt pounds per MMBtu heat input, as follows:

| Emission Unit | Pt (lb/MMBtu) |
|--|---------------|
| Burner B | 0.55 |
| Burner SRF | 0.55 |
| Burner #2 | 0.53 |
| Burner #6 | 0.49 |
| Thirty-two (32) Air Makeup, Space Heaters, Rooftop Heaters | 0.49, each |
| Burner #11 | 0.47 |
| Burner #12 | 0.46 |

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 December 6, 2017.

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 127-39352-00021. The operation of this proposed modification shall be subject to the conditions of the attached Significant Permit Modification No. 127-39354-00021.

The staff recommends to the Commissioner that the Part 70 Significant Source Modification and Significant Permit Modification 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 Air Permits page on the Internet at: <http://www.in.gov/idem/airquality/2356.htm>; and the Citizens' Guide to IDEM on the Internet at: <http://www.in.gov/idem/6900.htm>.

**Appendix A: Emissions Calculations
Modification Summary**

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Significant Source Modification No.: 127-39352-00021
Significant Permit Modification No.: 127-39354-00021
Permit Reviewer: Joshua Levering

| | | PTE of New and Modified Emission Units After Integral Control (tons/year) | | | | | | | | |
|---------------|-------------------------------------|---|-------------|-------------|-----------------|---------------|-------------|-------------|-------------|---------------------|
| | Process Description / Emission Unit | PM | PM10 | PM2.5 | SO ₂ | NOx | VOC | CO | Total HAPs | Single HAP (Hexane) |
| Modified Unit | Calciner (A-CS-4) | 0.02 | 0.02 | 0.02 | 0 | 65.70 | 0 | 0 | 1.97E-03 | 1.97E-03 |
| New Units | New Calciner (A-CS-12) | 0.04 | 0.04 | 0.04 | 0 | 131.40 | 0 | 0 | 3.94E-03 | 3.94E-03 |
| | Natural Gas Burner (A-CS-12) | 0.03 | 0.11 | 0.11 | 0.01 | 1.42 | 0.08 | 1.19 | 0.03 | 0.03 |
| | Total | 0.09 | 0.17 | 0.17 | 0.01 | 198.52 | 0.08 | 1.19 | 0.03 | 0.03 |

| | | Limited Potential to Emit of the Modification (tons/year) | | | | | | | | |
|---------------|-------------------------------------|---|-------------|-------------|-----------------|--------------|-------------|-------------|-------------|---------------------|
| | Process Description / Emission Unit | PM | PM10 | PM2.5 | SO ₂ | NOx | VOC | CO | Total HAPs | Single HAP (Hexane) |
| Modified Unit | Calciner (A-CS-4) | 0.02 | 0.02 | 0.02 | 0 | 13.14 | 0 | 0 | 1.97E-03 | 1.97E-03 |
| New Units | New Calciner (A-CS-12)* | 0.04 | 0.04 | 0.04 | 0 | 24.09 | 0 | 0 | 3.94E-03 | 3.94E-03 |
| | Natural Gas Burner (A-CS-12) | 0.03 | 0.11 | 0.11 | 0.01 | 1.42 | 0.08 | 1.19 | 0.03 | 0.03 |
| | Total | 0.09 | 0.17 | 0.17 | 0.01 | 38.65 | 0.08 | 1.19 | 0.03 | 0.03 |

*NOx limited to render 326 IAC 2-3 not applicable.

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

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Significant Source Modification No.: 127-39352-00021
Significant Permit Modification No.: 127-39354-00021
Permit Reviewer: Joshua Levering

| Unit ID | Heat Input Capacity (MMBtu/hr) |
|---------------|--------------------------------|
| #12 (A-CS-12) | 3.30 |
| Total | 3.30 |

| Heat Input Capacity MMBtu/hr | HHV mmBtu mmscf | Potential Throughput MMCF/yr |
|---------------------------------|-----------------------|---------------------------------|
| 3.30 | 1020 | 28.3 |

| Emission Factor in lb/MMCF | Pollutant | | | | | | |
|-------------------------------|-----------|-------|---------------|------|-------------|------|------|
| | PM* | PM10* | direct PM2.5* | SO2 | NOx | VOC | CO |
| | 1.9 | 7.6 | 7.6 | 0.6 | 100 | 5.5 | 84 |
| | | | | | **see below | | |
| Potential Emission in tons/yr | 0.03 | 0.11 | 0.11 | 0.01 | 1.42 | 0.08 | 1.19 |

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

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

| Emission Factor in lb/MMcf | HAPs - Organics | | | | |
|-------------------------------|-----------------|-----------------|--------------|-----------|-----------|
| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
| | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 2.976E-05 | 1.700E-05 | 1.063E-03 | 2.551E-02 | 4.818E-05 |

| Emission Factor in lb/MMcf | HAPs - Metals | | | | |
|-------------------------------|---------------|-----------|-----------|-----------|-----------|
| | Lead | Cadmium | Chromium | Manganese | Nickel |
| | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 7.085E-06 | 1.559E-05 | 1.984E-05 | 5.385E-06 | 2.976E-05 |

| | | |
|---------------------|--------------|---------------|
| Total HAPs = | 0.03 | |
| Single HAP = | 0.026 | Hexane |

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

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/1,000 MMBtu

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

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

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

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Significant Source Modification No.: 127-39352-00021
Significant Permit Modification No.: 127-39354-00021
Permit Reviewer: Joshua Levering

POTENTIAL EMISSIONS - BEFORE CONTROLS & BEFORE INTEGRAL

| Emission Unit / Process | POTENTIAL TO EMIT (ton/yr) | | | | | | | | Single HAP (Nickel) |
|--|----------------------------|------------------|-------------------|-----------------|---------------|-------------|--------------|---------------|------------------------|
| | PM | PM ₁₀ | PM _{2.5} | SO ₂ | NOx | VOC | CO | Tot. HAP's | |
| Powder Manufacturing | 1011.7 | 745.9 | 745.9 | 0.0 | 459.9 | 0.0 | 0.0 | 101.2 | 101.17 |
| Natural Gas Combustion* | 0.31 | 1.25 | 1.25 | 0.10 | 16.45 | 0.90 | 13.82 | 0.31 | 0.0003 |
| Emergency Generators | 0.01 | 0.01 | 0.01 | 1.46E-04 | 0.78 | 0.03 | 0.10 | 0.02 | 0.00 |
| Totals | 1012.01 | 747.15 | 747.15 | 0.10 | 477.14 | 0.93 | 13.92 | 101.50 | 101.17 |
| PSD Major Threshold | 250 | 250 | 250 | 250 | NA | NA | 250 | NA | NA |
| Emission Offset Major Threshold | NA | NA | NA | NA | 100 | 100 | NA | NA | NA |

*Natural gas combustion includes boiler, process heat, heaters, calciner and spray dryer burners, duct heater, and dryers

POTENTIAL EMISSIONS - BEFORE CONTROLS & AFTER INTEGRAL

| Emission Unit / Process | POTENTIAL TO EMIT (ton/yr) | | | | | | | | Single HAP (Nickel) |
|---------------------------|----------------------------|------------------|-------------------|-----------------|---------------|-------------|--------------|-------------|------------------------|
| | PM | PM ₁₀ | PM _{2.5} | SO ₂ | NOx | VOC | CO | Tot. HAP's | |
| Powder Manufacturing * | 6.00 | 4.95 | 4.95 | 0.00 | 459.90 | 0.00 | 0.00 | 0.60 | 0.60 |
| Natural Gas Combustion | 0.31 | 1.25 | 1.25 | 0.10 | 16.45 | 0.90 | 13.82 | 0.31 | 0.0003 |
| Emergency Generators | 0.01 | 0.01 | 0.01 | 1.46E-04 | 0.78 | 0.03 | 0.10 | 0.02 | 0.00 |
| Totals | 6.32 | 6.21 | 6.21 | 0.10 | 477.14 | 0.93 | 13.92 | 0.93 | 0.60 |
| TV Major Threshold | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 25.0 | 10.0 |

*Control is integral for metal oxide processes, except calciner B-C-1. The control is also integral when processing the nitrate powder in calciners (A-CS-11, C-CS-6, A-CS-4, and A-CS-12).

LIMITED EMISSIONS

| Emission Unit / Process | POTENTIAL TO EMIT (ton/yr) | | | | | | | | Single HAP (Nickel) |
|--|----------------------------|------------------|-------------------|-----------------|--------------|-------------|--------------|-------------|------------------------|
| | PM | PM ₁₀ | PM _{2.5} | SO ₂ | NOx* | VOC | CO | Tot. HAP's | |
| Powder Manufacturing** | 20.76 | 4.95 | 0.60 | 0.00 | 81.03 | 0.00 | 0.00 | 0.60 | 0.60 |
| Natural Gas Combustion | 0.31 | 1.25 | 1.25 | 0.10 | 16.45 | 0.90 | 13.82 | 0.31 | 0.0003 |
| Emergency Generators | 0.01 | 0.01 | 0.01 | 1.46E-04 | 0.78 | 0.03 | 0.10 | 0.02 | 0.000 |
| Totals | 21.08 | 6.21 | 1.86 | 0.10 | 98.27 | 0.93 | 13.92 | 0.93 | 0.60 |
| TV Major Threshold | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 25.0 | 10.0 |
| PSD Major Threshold | 250 | 250 | 250 | 250 | NA | NA | 250 | NA | NA |
| Emission Offset Major Threshold | NA | NA | NA | NA | 100 | 100 | NA | NA | NA |

* Limited to render 326 IAC 2-3 (Emission Offset) not applicable to this source.

**The PTE is after consideration of integral control devices, and after 326 IAC 6-3-2 allowable emission limits for unit (B-C-1) without integral control devices.

Appendix A: Emission Calculations

Powder Manufacturing Operations

Company Name: Powder Processing Technology, LLC

Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383

Significant Source Modification No.: 127-39352-00021

Significant Permit Modification No.: 127-39354-00021

Permit Reviewer: Joshua Levering

| PTE BEFORE CONTROL & BEFORE INTEGRAL | | | | | | | | | PTE BEFORE CONTROL AND AFTER INTEGRAL | | | | |
|--------------------------------------|-----------------------|-----------------------------|-----------------------------|---|------|-----------------|-------------------------------|----------|---------------------------------------|--------------------|-----------------|-------------------------------|----------|
| Process | Unit ID | Process Weight Rate (lb/hr) | Emission Factor PM (lb/ton) | Emission Factor PM ₁₀ (lb/ton) | Note | PTE PM (ton/yr) | PTE PM ₁₀ (ton/yr) | HAP (Ni) | Control ID | Control Efficiency | PTE PM (ton/yr) | PTE PM ₁₀ (ton/yr) | HAP (Ni) |
| Calciner | A-CS-3 | 600 | 15 | 15 | a | 19.71 | 19.71 | 1.97 | A-DC-4 | 99.9% | 0.02 | 0.02 | 0.002 |
| Calciner | A-CS-4 ² | 600 | 15 | 15 | a | 19.71 | 19.71 | 1.97 | A-DC-4 | 99.9% | 0.02 | 0.02 | 0.002 |
| Calciner | A-CS-2 | 1200 | 15 | 15 | a | 39.42 | 39.42 | 3.94 | A-DC-1 | 99.9% | 0.04 | 0.04 | 0.004 |
| Calciner | A-CS-11 ² | 1200 | 15 | 15 | a | 39.42 | 39.42 | 3.94 | A-DC-11 | 99.9% | 0.04 | 0.04 | 0.004 |
| Dryer | A-SD-1 | 3000 | 28 | 6.5 | b | 183.96 | 42.71 | 18.40 | A-SD-1 | 99.9% | 0.18 | 0.04 | 0.018 |
| Ball Mill | A-BM-7 | 1400 | 2.4 | 0.31 | c | 7.36 | 0.95 | 0.74 | A-BM-7 | 99.9% | 0.01 | 0.00 | 0.001 |
| Batch Operation | A-GB-1 | 1500 | 0.01 | 0.004 | d | 0.03 | 0.01 | 0.00 | A-GB-1 | 99.9% | 0.00 | 0.00 | 0.000 |
| Weigh-Up | A-WU-1 | 100 | 0.01 | 0.004 | d | 0.00 | 0.00 | 0.00 | A-WU-1 | 99.9% | 0.00 | 0.00 | 0.000 |
| Dryer | B-SD-1 | 2000 | 28 | 6.5 | b | 122.64 | 28.47 | 12.26 | B-SD-1 | 99.9% | 0.12 | 0.03 | 0.012 |
| Spray-Dryer | B-SD-2 | 580 | 90 | 90 | e | 114.32 | 114.32 | 11.43 | B-SD-2 | 99.9% | 0.11 | 0.11 | 0.011 |
| Calciner | B-C-1 ¹ | 1500 | 15 | 15 | a | 49.28 | 49.28 | 4.93 | B-C-1 | 99.9% | 0.05 | 0.05 | 0.005 |
| Spray-Dryer | C-SD-1 | 1500 | 90 | 90 | e | 295.65 | 295.65 | 29.57 | C-SD-1 | 99.9% | 0.30 | 0.30 | 0.030 |
| Milling | C-GB-1 ³ | 2000 | 2.4 | 0.31 | c | 10.51 | 1.36 | 1.05 | C-GB-1 | 99.9% | 0.01 | 0.00 | 0.001 |
| Batch Operation | C-WU-1 | 2000 | 0.01 | 0.004 | d | 0.04 | 0.02 | 0.00 | C-WU-1 | 99.9% | 0.00 | 0.00 | 0.000 |
| Batch Operation | C-GB-2 | 500 | 0.01 | 0.004 | d | 0.01 | 0.00 | 0.00 | C-GB-2 | 99.9% | 0.00 | 0.00 | 0.000 |
| Calciner | C-CS-6 ² | 1200 | 15 | 15 | a | 39.42 | 39.42 | 3.94 | C-DC-6 | 99.9% | 0.04 | 0.04 | 0.004 |
| Calciner | C-CS-7 | 200 | 15 | 15 | a | 6.57 | 6.57 | 0.66 | C-CS-7 | 99.9% | 0.01 | 0.01 | 0.001 |
| Blend/Pkg. | A-BL-1 | 2000 | 0.06 | 0.03 | f | 0.26 | 0.13 | 0.03 | A-BL-1 | 99.9% | 0.00 | 0.00 | 0.000 |
| Bulk Hdlg. | A-BH-1 | 1600 | 0.06 | 0.03 | f | 0.21 | 0.11 | 0.02 | A-BH-1 | 99.9% | 0.00 | 0.00 | 0.000 |
| Ball Mill | A-BM-1-6 ⁴ | 3000 | 2.4 | 0.31 | c | 15.77 | 2.04 | 1.58 | A-BM-1-6 | 99.9% | 0.02 | 0.00 | 0.002 |
| Bead Screening | B-FB-1 ⁵ | 1500 | 0.30 | 0.30 | g | 0.99 | 0.99 | 0.10 | B-FB-1 | 99.9% | 0.00 | 0.00 | 0.000 |
| Blending | B-GB-1 | 500 | 1.1 | 1.1 | h | 1.20 | 1.20 | 0.12 | B-GB-1 | 99.9% | 0.00 | 0.00 | 0.000 |
| Wet Ball Mill | B-WB-1 | 666.7 | 0.0 | 0.0 | i | 0.00 | 0.00 | 0.00 | B-WB-1 | 99.9% | 0.00 | 0.00 | 0.000 |
| Wet Ball Mill | B-BM-1 | 580 | 0.0 | 0.0 | i | 0.00 | 0.00 | 0.00 | B-BM-1 | 99.9% | 0.00 | 0.00 | 0.000 |
| Pilot Spray Dryer ⁵ | - | 40 | -- | -- | -- | 0.39 | 0.39 | 0.04 | Dust Collector | 99.9% | 0.00 | 0.00 | 0.000 |
| Pilot Spray Dryer ⁵ | - | 100 | -- | -- | -- | 0.39 | 0.39 | 0.04 | Dust Collector | 99.9% | 0.00 | 0.00 | 0.000 |
| APV Dryer | -- | 200 | 5.7 | 4.8 | j | 2.50 | 2.10 | 0.25 | NA | NA | 2.50 | 2.10 | 0.250 |
| F&D Dryer | -- | 200 | 5.7 | 4.8 | j | 2.50 | 2.10 | 0.25 | NA | NA | 2.50 | 2.10 | 0.250 |
| Calciner | A-CS-12 ² | 1200 | 15 | 15 | a | 39.42 | 39.42 | 3.94 | A-DC-12 | 99.9% | 0.04 | 0.04 | 0.004 |
| Totals | | | | | | 1011.69 | 745.89 | 101.17 | Totals | | | | |
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**Appendix A: Emission Calculations
Nitrate Powder Processing**

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Significant Source Modification No.: 127-39352-00021
Significant Permit Modification No.: 127-39354-00021
Permit Reviewer: Joshua Levering

Uncontrolled PTE and Before Integral Control

| Process | Unit ID | Process Weight Rate (lb/hr) | Emission Factor (lb/ton) | Note | PTE PM Before Integral Control (ton/yr) | Emission Factor (lb/ton) | Note | PTE PM ₁₀ Before Integral Control (ton/yr) | PTE PM _{2.5} Before Integral Control (ton/yr) | Emission Factor (%) | Note | PTE NOx (ton/yr) |
|---------------|---------|-----------------------------|--------------------------|------|---|--------------------------|------|---|--|---------------------|------|------------------|
| Calciner | A-CS-11 | 600.00 | 15.00 | a | 19.71 | 15.00 | a | 19.71 | 19.71 | 5.00% | b | 131.40 |
| Calciner | C-CS-6 | 600.00 | 15.00 | a | 19.71 | 15.00 | a | 19.71 | 19.71 | 5.00% | b | 131.40 |
| Calciner | A-CS-4 | 300.00 | 15.00 | a | 9.86 | 15.00 | a | 9.86 | 9.86 | 5.00% | b | 65.70 |
| New Calciner | A-CS-12 | 600.00 | 15.00 | a | 19.71 | 15.00 | a | 19.71 | 19.71 | 5.00% | b | 131.40 |
| Totals | | | | | 68.99 | | | 68.99 | 68.99 | | | 459.90 |

Notes

- a) Calciner (SCC 3-05-019-05); AP42, 11.21-4, Phosphate Rock Processing
b) NOx emissions based on maximum of 5% of NOx emitted from nitrate based catalyst powder

Methodology

Emission Rate in tons/yr = (lbs/hr)*(ton/2000lb)*(Emiss. Fact.)(lb/ton)*(8760 hr/yr)*(ton/2000 lb)

Particulate After Integral Control PTE and Limited NOx PTE

| Process | Unit ID | Process Weight Rate (lb/hr) | Existing PM Control Efficiency (%) | After Integral Control PTE PM (ton/yr) | After Integral Control PTE PM ₁₀ (ton/yr) | After Integral Control PTE PM _{2.5} (ton/yr) | NOx Control Efficiency (%) | Controlled PTE NOx (ton/yr) | Limited PTE NOx (lb/hr) | Limited PTE NOx (ton/yr) |
|---------------|---------|-----------------------------|------------------------------------|--|--|---|----------------------------|-----------------------------|-------------------------|--------------------------|
| Calciner | A-CS-11 | 600.00 | 99.90% | 0.02 | 0.02 | 0.02 | 95.00% | 6.57 | 5.50 | 24.09 |
| Calciner | C-CS-6 | 600.00 | 99.90% | 0.02 | 0.02 | 0.02 | 95.00% | 6.57 | 4.50 | 19.71 |
| Calciner | A-CS-4 | 300.00 | 99.90% | 0.01 | 0.01 | 0.01 | 95.00% | 3.29 | 3.00 | 13.14 |
| New Calciner | A-CS-12 | 600.00 | 99.90% | 0.02 | 0.02 | 0.02 | 95.00% | 6.57 | 5.50 | 24.09 |
| Totals | | | | 0.07 | 0.07 | 0.07 | | 23.00 | 18.50 | 81.03 |

Methodology

Controlled PTE (tons/yr) = Uncontrolled PTE (tons/yr) * (1 - %CE)

Limited PTE NOx (tons/yr) = Limited PTE NOx (lb/hr) * 8,760 (hr/yr) * 1/2,000 (ton/lb)

Appendix A: Emission Calculations
326 IAC 6-3-2 Limits

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Significant Source Modification No.: 127-39352-00021
Significant Permit Modification No.: 127-39354-00021
Permit Reviewer: Joshua Levering

| Control ID | Unit ID | Emission Unit Name | Process Wt. Rate (lb/hr) | Process Wt. Rate (ton/hr) | 6-3-2 PM Allowable (lb/hr) |
|--------------------------------|---------|--------------------------------|-----------------------------|------------------------------|----------------------------------|
| B-C-1 | B-C-1 | 5' x 40' direct-fired calciner | 1500 | 0.75 | 3.38 |
| Limited Totals (lb/hr) | | | | | 3.38 |
| Limited Totals (ton/yr) | | | | | 14.81 |

Methodology

Allowable Emission Limit in lbs/hr = $4.1 * \text{Process Wt. Rate (ton/hr)}^{0.67}$

Process Wt. Rate in tons/yr = $\text{Process Wt. Rate (lbs/hr)} * (1 \text{ ton}/2000 \text{ lb})$

Natural Gas Combustion Only
MM BTU/HR <100
Insignificant Activities - Small Industrial Boilers: Indirect Heating

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Significant Source Modification No.: 127-39352-00021
Significant Permit Modification No.: 127-39354-00021
Permit Reviewer: Joshua Levering

| Unit ID | Individual Heat Input Capacity (MMBtu/hr) | # of Units | Total Heat Input Capacity (MMBtu/hr) |
|---------|---|------------|--------------------------------------|
| C-HB-1 | 5.25 | 1 | 5.250 |
| HW1 | 0.72 | 1 | 0.720 |
| | | Total | 5.970 |

| Heat Input Capacity MMBtu/hr | HHV mmBtu mmscf | Potential Throughput MMCF/yr |
|---------------------------------|-----------------------|---------------------------------|
| 5.97 | 1020 | 51.3 |

| Emission Factor in lb/MMCF | Pollutant | | | | | | |
|-------------------------------|-----------|-------|---------------|------|-------------|------|------|
| | PM* | PM10* | direct PM2.5* | SO2 | NOx | VOC | CO |
| | 1.9 | 7.6 | 7.6 | 0.6 | 100 | 5.5 | 84 |
| | | | | | **see below | | |
| Potential Emission in tons/yr | 0.05 | 0.19 | 0.19 | 0.02 | 2.56 | 0.14 | 2.15 |

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

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

| Emission Factor in lb/MMcf | HAPs - Organics | | | | |
|-------------------------------|-----------------|-----------------|--------------|-----------|-----------|
| | Benzene | Dichlorobenzene | Formaldehyde | Hexane | Toluene |
| | 2.1E-03 | 1.2E-03 | 7.5E-02 | 1.8E+00 | 3.4E-03 |
| Potential Emission in tons/yr | 5.384E-05 | 3.076E-05 | 1.923E-03 | 4.614E-02 | 8.716E-05 |

| Emission Factor in lb/MMcf | HAPs - Metals | | | | |
|-------------------------------|---------------|-----------|-----------|-----------|-----------|
| | Lead | Cadmium | Chromium | Manganese | Nickel |
| | 5.0E-04 | 1.1E-03 | 1.4E-03 | 3.8E-04 | 2.1E-03 |
| Potential Emission in tons/yr | 1.282E-05 | 2.820E-05 | 3.589E-05 | 9.742E-06 | 5.384E-05 |

| | | |
|--------------|-------|--------|
| Total HAPs = | 0.05 | |
| Single HAP = | 0.046 | Hexane |

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

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/1,000 MMBtu

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

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

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

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Significant Source Modification No.: 127-39352-00021
Significant Permit Modification No.: 127-39354-00021
Permit Reviewer: Joshua Levering

| Heat Input Capacity MMBtu/hr | HHV mmBtu mmscf | Potential Throughput MMCF/yr |
|---------------------------------|-----------------------|---------------------------------|
| 9.75 | 1020 | 83.7 |

| Unit ID | Individual Heat Input Capacity (MMBtu/hr) | # of Units | Total Heat Input Capacity (MMBtu/hr) |
|--------------|---|------------|--------------------------------------|
| AM1-AM3 | 0.08 | 3 | 0.240 |
| AM4 | 0.05 | 1 | 0.050 |
| AM5 | 1.65 | 1 | 1.650 |
| SH1-SH18 | 0.30 | 18 | 5.400 |
| SH19 | 0.10 | 1 | 0.100 |
| RTH1, RTH2 | 0.10 | 2 | 0.200 |
| RTH3, RTH4 | 0.144 | 2 | 0.288 |
| RTH5 | 0.18 | 1 | 0.180 |
| RTH6 | 0.08 | 1 | 0.080 |
| SH45 | 0.625 | 1 | 0.625 |
| SH46 | 0.938 | 1 | 0.938 |
| Total | 4.25 | 32 | 9.751 |

| Emission Factor in lb/MMCF | Pollutant | | | | | | |
|-------------------------------|-----------|-------|---------------|------|-------------|------|------|
| | PM* | PM10* | direct PM2.5* | SO2 | NOx | VOC | CO |
| | 1.9 | 7.6 | 7.6 | 0.6 | 100 | 5.5 | 84 |
| | | | | | **see below | | |
| Potential Emission in tons/yr | 0.08 | 0.32 | 0.32 | 0.03 | 4.19 | 0.23 | 3.52 |

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

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

| HAPs - Organics | | | | | |
|-------------------------------|--------------------|----------------------------|-------------------------|-------------------|--------------------|
| Emission Factor in lb/MMcf | Benzene 2.1E-03 | Dichlorobenzene 1.2E-03 | Formaldehyde 7.5E-02 | Hexane 1.8E+00 | Toluene 3.4E-03 |
| Potential Emission in tons/yr | 8.793E-05 | 5.025E-05 | 3.140E-03 | 7.537E-02 | 1.424E-04 |

| HAPs - Metals | | | | | |
|-------------------------------|-----------------|--------------------|---------------------|----------------------|-------------------|
| Emission Factor in lb/MMcf | Lead 5.0E-04 | Cadmium 1.1E-03 | Chromium 1.4E-03 | Manganese 3.8E-04 | Nickel 2.1E-03 |
| Potential Emission in tons/yr | 2.094E-05 | 4.606E-05 | 5.862E-05 | 1.591E-05 | 8.793E-05 |

| | | |
|---------------------|--------------|---------------|
| Total HAPs = | 0.08 | |
| Single HAP = | 0.075 | Hexane |

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

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/1,000 MMBtu

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

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

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

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Significant Source Modification No.: 127-39352-00021
Significant Permit Modification No.: 127-39354-00021
Permit Reviewer: Joshua Levering

| Unit ID | Heat Input Capacity (MMBtu/hr) |
|---------------|--------------------------------|
| #2 (A-CS-2) | 1.80 |
| #6 (C-CS-6) | 1.80 |
| #5 (B-C-1) | 2.80 |
| #11 (A-CS-11) | 3.20 |
| A (A-SD-1) | 2.00 |
| B (B-SD-1) | 1.60 |
| C (C-SD-1) | 1.4 |
| SRF (B-SD-2) | 0.6 |
| #12 (A-CS-12) | 3.3 |
| Total | 18.50 |

| Heat Input Capacity MMBtu/hr | HHV mmBtu mmscf | Potential Throughput MMCF/yr |
|---------------------------------|-----------------------|---------------------------------|
| 18.50 | 1020 | 158.9 |

| Pollutant | | | | | | | |
|-------------------------------|------------|--------------|----------------------|------------|---------------------------|------------|----------|
| Emission Factor in lb/MMCF | PM* 1.9 | PM10* 7.6 | direct PM2.5* 7.6 | SO2 0.6 | NOx 100 **see below | VOC 5.5 | CO 84 |
| Potential Emission in tons/yr | 0.15 | 0.60 | 0.60 | 0.05 | 7.94 | 0.44 | 6.67 |

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

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

| HAPs - Organics | | | | | |
|-------------------------------|--------------------|----------------------------|-------------------------|-------------------|--------------------|
| Emission Factor in lb/MMcf | Benzene 2.1E-03 | Dichlorobenzene 1.2E-03 | Formaldehyde 7.5E-02 | Hexane 1.8E+00 | Toluene 3.4E-03 |
| Potential Emission in tons/yr | 1.668E-04 | 9.533E-05 | 5.958E-03 | 1.430E-01 | 2.701E-04 |

| HAPs - Metals | | | | | |
|-------------------------------|-----------------|--------------------|---------------------|----------------------|-------------------|
| Emission Factor in lb/MMcf | Lead 5.0E-04 | Cadmium 1.1E-03 | Chromium 1.4E-03 | Manganese 3.8E-04 | Nickel 2.1E-03 |
| Potential Emission in tons/yr | 3.972E-05 | 8.739E-05 | 1.112E-04 | 3.019E-05 | 1.668E-04 |

| | | |
|---------------------|--------------|---------------|
| Total HAPs = | 0.15 | |
| Single HAP = | 0.143 | Hexane |

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

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/1,000 MMBtu

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

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Insignificant Activities - Natural Gas Combustion Only
MM BTU/HR <100
Duct Heater for Ultracat Hot Gas Filtration System and Small Dryers

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Significant Source Modification No.: 127-39352-00021
Significant Permit Modification No.: 127-39354-00021
Permit Reviewer: Joshua Levering

| Unit ID | Individual Heat Input Capacity (MMBtu/hr) | # of Units | Total Heat Input Capacity (MMBtu/hr) |
|-------------|---|------------|--------------------------------------|
| Duct Heater | 2.200 | 1 | 2.200 |
| Pilot Dryer | 0.200 | 1 | 0.200 |
| Pilot Dryer | 0.496 | 1 | 0.496 |
| APV Dryer | 0.700 | 1 | 0.700 |
| F&D Dryer | 0.496 | 1 | 0.496 |
| | | Total | 4.092 |

| Heat Input Capacity MMBtu/hr | HHV mmBtu mmscf | Potential Throughput MMCF/yr |
|---------------------------------|-----------------------|---------------------------------|
| 4.09 | 1020 | 35.1 |

| | Pollutant | | | | | | |
|-------------------------------|------------|--------------|----------------------|------------|---------------------------|------------|----------|
| Emission Factor in lb/MMCF | PM* 1.9 | PM10* 7.6 | direct PM2.5* 7.6 | SO2 0.6 | NOx 100 **see below | VOC 5.5 | CO 84 |
| Potential Emission in tons/yr | 0.03 | 0.13 | 0.13 | 0.01 | 1.76 | 0.10 | 1.48 |

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

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

| | HAPs - Organics | | | | |
|-------------------------------|--------------------|----------------------------|-------------------------|-------------------|--------------------|
| Emission Factor in lb/MMcf | Benzene 2.1E-03 | Dichlorobenzene 1.2E-03 | Formaldehyde 7.5E-02 | Hexane 1.8E+00 | Toluene 3.4E-03 |
| Potential Emission in tons/yr | 3.690E-05 | 2.109E-05 | 1.318E-03 | 3.163E-02 | 5.974E-05 |

| | HAPs - Metals | | | | |
|-------------------------------|-----------------|--------------------|---------------------|----------------------|-------------------|
| Emission Factor in lb/MMcf | Lead 5.0E-04 | Cadmium 1.1E-03 | Chromium 1.4E-03 | Manganese 3.8E-04 | Nickel 2.1E-03 |
| Potential Emission in tons/yr | 8.786E-06 | 1.933E-05 | 2.460E-05 | 6.677E-06 | 3.690E-05 |

| | | |
|---------------------|--------------|---------------|
| Total HAPs = | 0.03 | |
| Single HAP = | 0.032 | Hexane |

Methodology

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

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/1,000 MMBtu

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

The five highest organic and metal HAPs emission factors are provided above. Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
Reciprocating Internal Combustion Engines - Natural Gas
2-Stroke Lean-Burn (2SLB) Engines
Emergency Generator 1975

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Significant Source Modification No.: 127-39352-00021
Significant Permit Modification No.: 127-39354-00021
Permit Reviewer: Joshua Levering

| | |
|---|------|
| Maximum Heat Input Capacity (MMBtu/hr) | 0.99 |
| Maximum Hours Operated per Year (hr/yr) | 500 |
| Potential Fuel Usage (MMBtu/yr) | 495 |
| High Heat Value (MMBtu/MMscf) | 1020 |
| Potential Fuel Usage (MMcf/yr) | 0.49 |

| Criteria Pollutants | Pollutant | | | | | | |
|-------------------------------|-----------|----------|----------|----------|----------|----------|----------|
| | PM* | PM10* | PM2.5* | SO2 | NOx | VOC | CO |
| Emission Factor (lb/MMBtu) | 3.84E-02 | 4.83E-02 | 4.83E-02 | 5.88E-04 | 3.17E+00 | 1.20E-01 | 3.86E-01 |
| Potential Emissions (tons/yr) | 0.01 | 0.01 | 0.01 | 0.000 | 0.78 | 0.03 | 0.10 |

*PM emission factor is for filterable PM-10. PM10 emission factor is filterable PM10 + condensable PM.

PM2.5 emission factor is filterable PM2.5 + condensable PM.

Hazardous Air Pollutants (HAPs)

| Pollutant | Emission Factor (lb/MMBtu) | Potential Emissions (tons/yr) |
|------------------------|----------------------------|-------------------------------|
| Acetaldehyde | 7.76E-03 | 0.002 |
| Acrolein | 7.78E-03 | 0.002 |
| Benzene | 1.94E-03 | 0.000 |
| 1,3-Butadiene | 8.20E-04 | 0.000 |
| Ethylbenzene | 1.08E-04 | 0.000 |
| Formaldehyde | 5.52E-02 | 0.014 |
| Methanol | 2.48E-03 | 0.001 |
| Methylene Chloride | 1.47E-04 | 0.000 |
| Hexane | 4.45E-04 | 0.000 |
| Toluene | 9.63E-04 | 0.000 |
| 2,2,4-Trimethylpentane | 8.46E-04 | 0.000 |
| Total PAH** | 1.34E-04 | 0.000 |
| Total | | 1.95E-02 |

HAP pollutants consist of the twelve highest HAPs included in AP-42 Table 3.2-1.

**PAH = Polyaromatic Hydrocarbon (PAHs are considered HAPs, since they are considered Polycyclic Organic Matter)

Methodology

Emission Factors are from AP-42 (Supplement F, July 2000), Table 3.2-1

Potential Fuel Usage (MMBtu/yr) = [Maximum Heat Input Capacity (MMBtu/hr)] * [Maximum Hours Operating per Year (hr/yr)]

Potential Emissions (tons/yr) = [Potential Fuel Usage (MMBtu/yr)] * [Emission Factor (lb/MMBtu)] / [2000 lb/ton]

Abbreviations

PM = Particulate Matter

PM10 = Particulate Matter (<10 um)

SO2 = Sulfur Dioxide

NOx = Nitrous Oxides

VOC = Volatile Organic Compounds

CO = Carbon Monoxide



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

Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

February 28, 2018

Mr. Brad Monton
Powder Processing Technology LLC
5103 Evans Ave.
Valparaiso, IN 46383

Re: Public Notice
Powder Processing Technology LLC
Permit Level: Title V–Significant Source Modification
Permit Number: 127-39352-00021
Permit Level: Title V–Significant Permit Modification
Permit Number: 127-39354-00021

Dear Mr. Monton:

Enclosed is a copy of your draft Title V Significant Source Modification and Significant Permit Modification, Technical Support Document, emission calculations, and the Public Notice which will be printed in your local newspaper.

The Office of Air Quality (OAQ) has prepared two versions of the Public Notice Document. The abbreviated version will be published in the newspaper, and the more detailed version will be made available on the IDEM's website and provided to interested parties. Both versions are included for your reference. The OAQ has requested that the Chesterton Tribune in Chesterton, IN publish the abbreviated version of the public notice no later than March 2, 2018. You will not be responsible for collecting any comments, nor are you responsible for having the notice published in the newspaper.

OAQ has submitted the draft permit package to the Valparaiso Public Library, 103 Jefferson Street in Valparaiso, IN. 46383 As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Joshua Levering, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 4-6543 or dial (317) 234-6543.

Sincerely,

Vicki Biddle

Vicki Biddle
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover Letter 1/9/2017



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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

February 28, 2018

Chesterton Tribune
P. O. Box 919
Chesterton, IN 46304

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for Powder Processing Technology, Porter County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than March 2, 2018.

Please send a notarized form, clippings showing the date of publication, and the billing to the Indiana Department of Environmental Management, Accounting, Room N1345, 100 North Senate Avenue, Indianapolis, Indiana, 46204.

To ensure proper payment, please reference account # 100174737.

We are required by the Auditor's Office to request that you place the Federal ID Number on all claims. If you have any conflicts, questions, or problems with the publishing of this notice or if you do not receive complete public notice information for this notice, please call Joshua Levering at 800-451-6027 and ask for extension 4-6543 or dial 317-234-6543.

Sincerely,

Vicki Biddle

Vicki Biddle
Permit Branch
Office of Air Quality

Permit Level: Title V – Significant Source Modification
Permit Number: 127-39352-00021
Permit Level: Title V – Significant Permit Modification
Permit Number: 127-39354-00021

Enclosure

PN Newspaper Letter 1/9/2017



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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

February 28, 2018

To: Valparaiso Public Library

From: Jenny Acker, Branch Chief
Permits Branch
Office of Air Quality

Subject: **Important Information to Display Regarding a Public Notice for an Air Permit**

Applicant Name: Powder Processing Technology LLC
Permit Number: 127-39352-00021 and 127-39354-00021

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 1/9/2017



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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

Notice of Public Comment

February 28, 2018
Powder Processing Technology LLC
127-39352-00021 and 127-39354-00021

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 Letter 1/9/2017



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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD DRAFT INDIANA AIR PERMIT

February 28, 2018

A 30-day public comment period has been initiated for:

Permit Number: 127-39352-00021 and 127-39354-00021

Applicant Name: Powder Processing Technology LLC

Location: Valparaiso, Porter 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 1/9/2017

Mail Code 61-53

| | | | |
|----------------------------|---|---|--|
| IDEM Staff | VBIDDLE 2/28/2018 127-39352-00021 DRAFT | | AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING |
| Name and address of Sender |  Powder Processing Technology LLC 127-39354-00021 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 | | Brad Monton Powder Processing Technology LLC 5103 Evans Ave Valparaiso IN 46383 (Source CAATS) | | | | | | | | | | |
| 2 | | Porter County Board of Commissioners 155 Indiana Ave, Ste 205 Valparaiso IN 46383 (Local Official) | | | | | | | | | | |
| 3 | | Valparaiso Public Library 103 Jefferson St Valparaiso IN 46383-4899 (Library) | | | | | | | | | | |
| 4 | | Porter County Health Department 155 Indiana Ave, Suite 104 Valparaiso IN 46383-5502 (Health Department) | | | | | | | | | | |
| 5 | | Mr. Ed Dybel 2440 Schrage Avenue Whiting IN 46394 (Affected Party) | | | | | | | | | | |
| 6 | | Valparaiso City Council and Mayors Office 166 Lincolnway Valparaiso IN 46383-5524 (Local Official) | | | | | | | | | | |
| 7 | | Mr. Joseph Virgil 128 Kinsale Avenue Valparaiso IN 46385 (Affected Party) | | | | | | | | | | |
| 8 | | Mr. Dennis Hahney Pipefitters Association, Local Union 597 1461 East Summit St Crown Point IN 46307 (Affected Party) | | | | | | | | | | |
| 9 | | Burns Harbor Town Council 1240 N. Boo Rd Burns Harbor IN 46304 (Local Official) | | | | | | | | | | |
| 10 | | Eric & Sharon Haussman 57 Shore Drive Ogden Dunes IN 46368 (Affected Party) | | | | | | | | | | |
| 11 | | Kathy Moore Keramida Environmental, Inc. 401 North College Indianapolis IN 46202 (Consultant) | | | | | | | | | | |
| 12 | | Joseph Hero 11723 S Oakridge Drive St. John IN 46373 (Affected Party) | | | | | | | | | | |
| 13 | | Mark Coleman PO Box 85 Beverly Shores IN 46301-0085 (Affected Party) | | | | | | | | | | |
| 14 | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | |

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| Total number of pieces Listed by Sender <div>13</div> | Total number of Pieces Received at Post Office | Postmaster, Per (Name of Receiving employee) | The full declaration of value is required on all domestic and international registered mail. The maximum indemnity payable for the reconstruction of nonnegotiable documents under Express Mail document reconstructing insurance is \$50,000 per piece subject to a limit of \$50, 000 per occurrence. The maximum indemnity payable on Express mil merchandise insurance is \$500. The maximum indemnity payable is \$25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on inured and COD mail. See International Mail Manual for limitations o coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels. |
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