NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

Preliminary Findings Regarding the Renewal and Significant Modification of a Part 70 Operating Permit

for Powder Processing Technology, LLC in Porter County

Part 70 Operating Permit Renewal No.: T 127-43111-00021
Significant Source Modification No.: 127-43157-00021

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 source modification and renewal of its Part 70 Operating Permit issued on May 10, 2016. If approved by IDEM’s Office of Air Quality (OAQ), this proposed permit would allow Powder Processing Technology, LLC to make certain changes at its existing source. Powder Processing Technology, LLC has applied to add a new emission unit to the permit, increase the capacities of some existing units and to allow several existing calciners and kilns for the ability to process nitrate-based products.

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 have been sent to:

Porter County Public Library System
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 application and preliminary findings is also available via IDEM’s Virtual File Cabinet (VFC). To access 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 posted on IDEM’s website (https://www.in.gov/idem/5474.htm) 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 T 127-43111-00021 and SSM 127-43157-00021 in all correspondence.

**Comments should be sent to:**

Olajumoke Kayode  
IDEM, Office of Air Quality  
100 North Senate Avenue  
MC 61-53 IGCN 1003  
Indianapolis, Indiana 46204-2251  
(800) 451-6027, ask for Olajumoke Kayode or (317) 234-5373  
Or dial directly: (317) 234-5373  
Fax: (317) 232-6749 attn: Olajumoke Kayode  
E-mail: okayode@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](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](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 and will also be sent to the local library indicated above, 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 Olajumoke Kayode of my staff at the above address.

Iryn Calilung, Section Chief  
Permits Branch  
Office of Air Quality
Dear Mr. Loquist:

Powder Processing Technology, LLC was issued a Part 70 Operating Permit Renewal No. 127-36185-00021 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 August 3, 2020. 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) electric tunnel kiln, identified as C-Kiln, approved in 2021 for construction, with a maximum capacity 125 pounds per hour of various metal oxide products or 100 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

(b) One (1) 15-inch by 26-foot electric calciner unit, identified as C-CS-7 (#7 calciner), constructed in 1996, and approved in 2021 to process nitrate-based products, with a maximum capacity of 200 pounds per hour of various metal oxide products or 125 pounds per hour of nitrate-based products, equipped with the following control:

(i) an integral cartridge dust collector, identified as C-CS-7, exhausting through stack V-CCS-7 when processing non nitrate-based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stacks V-AHX-1.
(c) One (1) lab type pilot facility, identified as B-PS-1, which includes the following:

(I) Three (3) ball mills, identified as Lab Ball Mill 1, Lab Ball Mill 2 and Lab Ball Mill 3, constructed in 2010, and using no control.

(II) One (1) spray dryer (7-foot diameter), identified as Lab Spray Dryer, constructed in 2010, and using no control.

(III) Two (2) lab calciners, identified as Lab Calciner 1 and Lab Calciner 2, constructed in 2010, and approved in 2021 to process nitrate-based products, each with a maximum capacity of 20 pounds per hour of metal-based products, and Lab Calciner 1 having a maximum capacity of 20 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

These lab calciners are lab/batch operations and have a maximum operation limit of 2,000 hours per year.

(IV) Two (2) small elevator kilns, identified as Lab Elevator Kiln 1 and Lab Elevator Kiln 2, constructed in 2010, and approved in 2021 to process nitrate-based products, each with a maximum capacity of 50 pounds per hour of metal-based products, or 50 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stack V-AHX-1.

These lab elevator kilns are lab/batch operations and have a maximum operation limit of 2,000 hours per year.

(V) One (1) shuttle kiln, identified as Lab Shuttle Kiln, constructed in 2010, and approved in 2021 to process nitrate-based products, with a maximum capacity of 400 pounds per hour of metal-based products, or 400 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stack V-AHX-1.

This lab shuttle kiln is a lab/batch operation and has a maximum operation limit of 2,000 hours per year.

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.
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.

For the purposes of this permitting action, the Significant Permit Modification has been combined with the current Part 70 Operating Permit Renewal. Therefore, operation is not approved until the Part 70 Operating Permit Renewal has been issued.

A copy of the permit is available on the Internet at: http://www.in.gov/ai/appfiles/idem-caats/. A copy of the application and permit is also available via IDEM’s Virtual File Cabinet (VFC). To access VFC, please go to: https://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: https://www.in.gov/idem/airpermit/public-participation/; and the Citizens' Guide to IDEM on the Internet at: https://www.in.gov/idem/resources/citizens-guide-to-idem/.

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

If you have any questions regarding this matter, please contact Olajumoke Kayode, 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) 234-5373 or (800) 451-6027, and ask for Olajumoke Kayode or (317) 234-5373.

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
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.: 127-43157-00021
Master Agency Interest ID.: 11586

Issued by:
Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Issuance Date:
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SECTION A  SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.4 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

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

The Permittee owns and operates a stationary 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:

**Eight (8) Calciners:**

(a) One (1) electric calciner, identified as A-CS-3 (#9 Calciner), 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-1, exhausting through stack V-ACS-2.

(b) One (1) electric calciner, identified as A-CS-4 (#10 Calciner), 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 the following control:

   (i) an integral cartridge dust collector, identified as A-DC-4, exhausting through stack V-ACS-3 when processing non-nitrate-based products, and

   (ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

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 (#2 Calciner), 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 stack V-ACS-2.
(d) One (1) 5-foot by 40-foot direct-fired calciner, identified as B-C-1 (#5 Calciner), 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.

(e) One (1) 3-foot by 26-foot indirect-fired calciner unit, identified as C-CS-6 (#6 Calciner), 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 the following control:

(i) an integral cartridge dust collector for particulate control, identified as DC-CS-6, exhausting through stack V-CCS-6 when processing non nitrate-based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

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).

(f) One (1) 15-inch by 26-foot electric calciner unit, identified as C-CS-7 (#7 Calciner), constructed in 1996, and approved in 2021 to process nitrate-based products, with a maximum capacity of 200 pounds per hour of various metal oxide products or 125 pounds per hour of nitrate-based products, equipped with the following control:

(i) an integral cartridge dust collector, identified as C-CS-7, exhausting through stack V-CCS-7 when processing non nitrate-based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stacks V-AHX-1.

The dust collector for the calciner C-CS-7 (#7 Calciner) is integral when processing metal oxide products, but not integral when processing nitrate-based products.

(g) One (1) indirect-fired calciner, identified as A-CS-11 (#11 Calciner), constructed in 2017, 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 the following control:

(i) an integral cartridge dust collector for particulate control, identified as A-DC-11, exhausting through stack V-CCS-11 when processing non nitrate-based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack 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).

(h) One (1) 4-foot by 30-foot indirect-fired calciner unit, identified as A-CS-12 (#12 Calciner), constructed in 2018, 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 the
following control:

(i) an integral cartridge dust collector for particulate control, identified as A-DC-12, exhausting through stack V-CCS-12 when processing non nitrate-based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

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

Six (6) Dryers:

(i) One (1) 20-foot spray dryer, identified as A-SD-1 (A-Dryer), 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.

(j) One (1) 17.5-foot spray dryer, identified as B-SD-1 (B-Dryer) 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.

(k) One (1) 9.5-foot anhydrous spray dryer, identified as B-SD-2 (SRF Dryer), 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.

(l) One (1) 16-foot spray dryer, identified as C-SD-1 (C-Dryer), 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.

(m) One (1) APV dryer, identified as D-Dryer, constructed in 2016, and approved in 2021 to increase maximum capacity to 500 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 outdoors.

This dust collector is not considered integral.

(n) One (1) Flinn and Dreffein rotary dryer, identified as #8 Calciner, constructed in 2016, and approved in 2021 to increase maximum capacity to 500 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 outdoors.

This dust collector is not considered integral.

Three (3) Batch Operations:

(o) 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 indoors.

(p) One (1) batch operation, identified as C-WU-1 (R-15), 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 indoors.

(q) One (1) batch operation, identified as C-GB-2 (R-12), 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 indoors.

Other Powder Processing Operations:

(r) 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.

(s) Five (5) ball milling units, identified as A-BM-1 to A-BM-5, 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-5, exhausting indoors.

(t) One (1) blending unit, identified as B-GB-1 (Ribbon Blender), 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 indoors.

(u) One (1) electric tunnel kiln, identified as C-Kiln, approved in 2021 for construction, with a maximum capacity 125 pounds per hour of various metal oxide products or 100 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.
(v) One (1) lab type pilot facility, identified as B-PS-1, which includes the following:

(1) Three (3) ball mills, identified as Lab Ball Mill 1, Lab Ball Mill 2 and Lab Ball Mill 3, constructed in 2010, and using no control.

(2) One (1) spray dryer (7-foot diameter), identified as Lab Spray Dryer, constructed in 2010, and using no control.

(3) Two (2) lab calciners, identified as Lab Calciner 1 and Lab Calciner 2, constructed in 2010, and approved in 2021 to process nitrate-based products, each with a maximum capacity of 20 pounds per hour of metal-based products, and Lab Calciner 1 having a maximum capacity of 20 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

These lab calciners are lab/batch operations and have a maximum operation limit of 2,000 hours per year.

(4) Two (2) small elevator kilns, identified as Lab Elevator Kiln 1 and Lab Elevator Kiln 2, constructed in 2010, and approved in 2021 to process nitrate-based products, each with a maximum capacity of 50 pounds per hour of metal-based products, or 50 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

These lab elevator kilns are lab/batch operations and have a maximum operation limit of 2,000 hours per year.

(5) One (1) shuttle kiln, identified as Lab Shuttle Kiln, constructed in 2010, and approved in 2021 to process nitrate-based products, with a maximum capacity of 400 pounds per hour of metal-based products, or 400 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

This lab shuttle kiln is a lab/batch operation and has a maximum operation limit of 2,000 hours per year.

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) Forty-eight (48) 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, identified as HWH1, 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, identified as AM1 through AM3, each with a maximum heat input capacity per unit of 0.08 million British thermal units per hour.
(4) One (1) air heater, identified as AM4, with a maximum heat input capacity of 0.05 million British thermal units per hour.

(5) One (1) air makeup unit, identified as AM5, with a maximum heat input capacity of 1.65 million British thermal units per hour.

(6) Eighteen (18) space heaters, identified as SH1 through SH18, with a maximum heat input capacity per unit of 0.3 million British thermal units per hour.

(7) One (1) space heater, identified as SH19, with a maximum heat input capacity of 0.1 million British thermal units per hour.

(8) Two (2) roof top heaters, identified as RTH1 and RTH2, each with a maximum heat input capacity per unit of 0.1 million British thermal units per hour.

(9) Two (2) roof top heaters, identified as RTH3 and RTH4, each with a maximum heat input capacity per unit of 0.144 million British thermal units per hour.

(10) One (1) roof top heater, identified as RTH5, with a maximum heat input capacity of 0.0180 million British thermal units per hour.

(11) One (1) roof top heater, identified as RTH6, with a maximum heat input capacity of 0.08 million British thermal units per hour.

(12) One (1) space heater, identified as SH45, with a maximum heat input capacity of 0.625 million British thermal units per hour.

(13) One (1) space heater, identified as SH46, 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, constructed in 2017, 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, constructed in 2018, with a maximum heat input capacity of 3.3 million British thermal units per hour.

(24) Four (4) natural gas-fired hot water heaters, identified as HWH1 through HW4, permitted in 2020, each with a maximum heat input capacity of 0.2 MMBtu per hour, using no control, and exhausting indoors.

(b) 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, constructed in 2010, 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 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 outdoors.

(f) Vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids.

(g) Filling drums, pails or other packaging containers with lubricating oils, waxes, and greases.

(h) Application of oils, greases, lubricants or other nonvolatile materials applied as temporary protective coatings.
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.

Infrared cure equipment.

Activities associated with the treatment of wastewater streams with an oil and grease content less than or equal to 1 percent by volume.

Forced and induced draft cooling tower system not regulated under a NESHAP.

Replacement or repair of electrostatic precipitators, bags in baghouses and filters in other air filtration equipment.

Blowdown for any of the following: sight glass, boiler, compressors; pumps; and cooling tower.

Filter or coalescer media changeout.

A laboratory as defined in 326 IAC 2-7-1(21)(H).

Paved and unpaved road and parking with public access.

### 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, T127-43111-00021, 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 5
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 or Northwest Regional Office within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

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

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

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

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

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

   (A) A description of the emergency;
(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

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

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) The Permittee seeking to establish the occurrence of an emergency shall make records available upon request to ensure that failure to implement a PMP did not cause or contribute to an exceedance of any limitations on emissions. However, IDEM, OAQ may require that the Preventive Maintenance Plans required under 326 IAC 2-7-4(c)(8) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-7 and any other applicable rules.

(g) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

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

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

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

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, IDEM, OAQ shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable
requirement until the permit is reissued. The permit shield shall continue in effect so long as the Permittee is in compliance with the compliance order.

(c) No permit shield shall apply to any permit term or condition that is determined after issuance of this permit to have been based on erroneous information supplied in the permit application. Erroneous information means information that the Permittee knew to be false, or in the exercise of reasonable care should have been known to be false, at the time the information was submitted.

(d) Nothing in 326 IAC 2-7-15 or in this permit shall alter or affect the following:

(1) The provisions of Section 303 of the Clean Air Act (emergency orders), including the authority of the U.S. EPA under Section 303 of the Clean Air Act;

(2) The liability of the Permittee for any violation of applicable requirements prior to or at the time of this permit's issuance;

(3) The applicable requirements of the acid rain program, consistent with Section 408(a) of the Clean Air Act; and

(4) The ability of U.S. EPA to obtain information from the Permittee under Section 114 of the Clean Air Act.

(e) This permit shield is not applicable to any change made under 326 IAC 2-7-20(b)(2) (Sections 502(b)(10) of the Clean Air Act changes) and 326 IAC 2-7-20(c)(2) (trading based on State Implementation Plan (SIP) provisions).

(f) This permit shield is not applicable to modifications eligible for group processing until after IDEM, OAQ, has issued the modifications. [326 IAC 2-7-12(c)(7)]

(g) This permit shield is not applicable to minor Part 70 permit modifications until after IDEM, OAQ, has issued the modification. [326 IAC 2-7-12(b)(8)]

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

(a) All terms and conditions of permits established prior to T127-43111-00021 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

(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

(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
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 5
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.

(f) This condition does not apply to emission trades of SO₂ or NOₓ under 326 IAC 21.

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 317-233-8590 (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

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 by using ambient air quality modeling pursuant to 326 IAC 1-7-4. 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(c).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(d).

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:
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 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.13 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) CAM Response to excursions or exceedances.

(a) 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)(a)(2) 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.
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.14 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.15 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) Pursuant to 326 IAC 2-6-3(a)(1) and 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 IGECN 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.16 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.17 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.18 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:

Eight (8) Calciners:

(a)  One (1) electric calciner, identified as A-CS-3 (#9 Calciner), 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-1, exhausting through stack V-ACS-2.

(b)  One (1) electric calciner, identified as A-CS-4 (#10 Calciner), 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 the following control:

(i)  an integral cartridge dust collector, identified as A-DC-4, exhausting through stack V-ACS-3 when processing non-nitrate-based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

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 (#2 Calciner), 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 stack V-ACS-2.

(d)  One (1) 5-foot by 40-foot direct-fired calciner, identified as B-C-1 (#5 Calciner), 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.

(e)  One (1) 3-foot by 26-foot indirect-fired calciner unit, identified as C-CS-6 (#6 Calciner), 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 the following control:

(i)  an integral cartridge dust collector for particulate control, identified as DC-CS-6, exhausting through stack V-CCS-6 when processing non-nitrate-based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

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).

(f)  One (1) 15-inch by 26-foot electric calciner unit, identified as C-CS-7 (#7 Calciner), constructed in 1996, and approved in 2021 to process nitrate-based products, with a
maximum capacity of 200 pounds per hour of various metal oxide products or 125 pounds per hour of nitrate-based products, equipped with the following control:

(i) an integral cartridge dust collector, identified as C-CS-7, exhausting through stack V-CCS-7 when processing non nitrate-based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stacks V-AHX-1.

The dust collector for the calciner C-CS-7 (#7 Calciner) is integral when processing metal oxide products, but not integral when processing nitrate-based products.

(g) One (1) indirect-fired calciner, identified as A-CS-11 (#11 Calciner), constructed in 2017, 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 the following control:

(i) an integral cartridge dust collector for particulate control, identified as A-DC-11, exhausting through stack V-CCS-11 when processing non nitrate-based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack 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).

(h) One (1) 4-foot by 30-foot indirect-fired calciner unit, identified as A-CS-12 (#12 Calciner), constructed in 2018, 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 the following control:

(i) an integral cartridge dust collector for particulate control, identified as A-DC-12, exhausting through stack V-CCS-12 when processing non nitrate-based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

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

Six (6) Dryers:

(i) One (1) 20-foot spray dryer, identified as A-SD-1 (A-Dryer), 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.

(j) One (1) 17.5-foot spray dryer, identified as B-SD-1 (B-Dryer) 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.
(k) One (1) 9.5-foot anhydrous spray dryer, identified as B-SD-2 (SRF Dryer), 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.

(l) One (1) 16-foot spray dryer, identified as C-SD-1 (C-Dryer), 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.

(m) One (1) APV dryer, identified as D-Dryer, constructed in 2016, and approved in 2021 to increase maximum capacity to 500 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 outdoors.

This dust collector is not considered integral.

(n) One (1) Flinn and Dreffein rotary dryer, identified as #8 Calciner, constructed in 2016, and approved in 2021 to increase maximum capacity to 500 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 outdoors.

This dust collector is not considered integral.

Three (3) Batch Operations:

(o) 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 indoors.

(p) One (1) batch operation, identified as C-WU-1 (R-15), 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 indoors.

(q) One (1) batch operation, identified as C-GB-2 (R-12), 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 indoors.

Other Powder Processing Operations:

(r) 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.

(s) Five (5) ball milling units, identified as A-BM-1 to A-BM-5, 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-5, exhausting indoors.
One (1) blending unit, identified as B-GB-1 (Ribbon Blender), 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 indoors.

One (1) electric tunnel kiln, identified as C-Kiln, approved in 2021 for construction, with a maximum capacity 125 pounds per hour of various metal oxide products or 100 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1.

One (1) lab type pilot facility, identified as B-PS-1, which includes the following:

1. Three (3) ball mills, identified as Lab Ball Mill 1, Lab Ball Mill 2 and Lab Ball Mill 3, constructed in 2010, and using no control.
2. One (1) spray dryer (7-foot diameter), identified as Lab Spray Dryer, constructed in 2010, and using no control.
3. Two (2) lab calciners, identified as Lab Calciner 1 and Lab Calciner 2, constructed in 2010, and approved in 2021 to process nitrate-based products, each with a maximum capacity of 20 pounds per hour of metal-based products, and Lab Calciner 1 having a maximum capacity of 20 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1. These lab calciners are lab/batch operations and have a maximum operation limit of 2,000 hours per year.
4. Two (2) small elevator kilns, identified as Lab Elevator Kiln 1 and Lab Elevator Kiln 2, constructed in 2010, and approved in 2021 to process nitrate-based products, each with a maximum capacity of 50 pounds per hour of metal-based products, or 50 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1. These lab elevator kilns are lab/batch operations and have a maximum operation limit of 2,000 hours per year.
5. One (1) shuttle kiln, identified as Lab Shuttle Kiln, constructed in 2010, and approved in 2021 to process nitrate-based products, with a maximum capacity of 400 pounds per hour of metal-based products, or 400 pounds per hour of nitrate-based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate-based products, exhausting through stack V-AHX-1. This lab shuttle kiln is a lab/batch operation and has a maximum operation limit of 2,000 hours per year.

Insignificant Activities
Forty-eight (48) 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, identified as HWH1, 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, identified as AM1 through AM3, each with a maximum heat input capacity per unit of 0.08 million British thermal units per hour.

4. One (1) air heater, identified as AM4, with a maximum heat input capacity of 0.05 million British thermal units per hour.

5. One (1) air makeup unit, identified as AM5, with a maximum heat input capacity of 1.65 million British thermal units per hour.

6. Eighteen (18) space heaters, identified as SH1 through SH18, with a maximum heat input capacity per unit of 0.3 million British thermal units per hour.

7. One (1) space heater, identified as SH19, with a maximum heat input capacity of 0.1 million British thermal units per hour.

8. Two (2) roof top heaters, identified as RTH1 and RTH2, each with a maximum heat input capacity per unit of 0.1 million British thermal units per hour.

9. Two (2) roof top heaters, identified as RTH3 and RTH4, each with a maximum heat input capacity per unit of 0.144 million British thermal units per hour.

10. One (1) roof top heater, identified as RTH5, with a maximum heat input capacity of 0.0180 million British thermal units per hour.

11. One (1) roof top heater, identified as RTH6, with a maximum heat input capacity of 0.08 million British thermal units per hour.

12. One (1) space heater, identified as SH45, with a maximum heat input capacity of 0.625 million British thermal units per hour.

13. One (1) space heater, identified as SH46, 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, constructed in 2017, 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, constructed in 2018, with a maximum heat input capacity of 3.3 million British thermal units per hour.

(24) Four (4) natural gas-fired hot water heaters, identified as HWH1 through HW4, permitted in 2020, each with a maximum heat input capacity of 0.2 MMBtu per hour, using no control, and exhausting indoors.

(d) One (1) pilot spray dryer, constructed in 2010, 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 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 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.1.1 PSD Minor Limit - PM, PM10 and PM2.5 [326 IAC 2-2]

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the PM, PM10 and PM2.5 emissions after control from the facilities listed below
shall not exceed the specified limit:

<table>
<thead>
<tr>
<th>Emission unit</th>
<th>Control</th>
<th>PM Limit (pounds per hour)</th>
<th>PM10 Limit (pounds per hour)</th>
<th>PM2.5 Limit (pounds per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (B-C-1) (#5 calciner)</td>
<td>cartridge dust collector B-C-1</td>
<td>3.38</td>
<td>3.38</td>
<td>3.38</td>
</tr>
<tr>
<td>Spray Dryer (C-SD-1) (C-Dryer)</td>
<td>cartridge dust collector C-SD-1</td>
<td>3.38</td>
<td>3.38</td>
<td>3.38</td>
</tr>
</tbody>
</table>

Compliance with these limits, combined with the potential to emit PM, PM10, and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM, PM10, and PM2.5 to less than 250 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (PSD)) not applicable.

D.1.2 NOx Emission Offset Limit [326 IAC 2-3]

In order to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable and pursuant to the following:

1. Significant Source Modification 127-35470-00021, issued on June 2, 2015,
2. Significant Source Modification 127-38110-00021, issued on May 17, 2017,
3. Significant Source Modification 127-39352-00021, issued on May 1, 2018, and
4. Part 70 Renewal 127-43111-00021,

(a) the NOx emissions after control (UltraCat Hot Gas Filtration System) from the following facilities listed below shall not exceed the specified limits:

<table>
<thead>
<tr>
<th>Emission unit/control</th>
<th>NOx Limit (pounds per hour)</th>
<th>NOx Limit (hours of operation per 12 consecutive month period)</th>
<th>NOx Emissions (tons per 12 consecutive month period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (A-CS-11) (#11 Calciner)</td>
<td>4.00</td>
<td>6,257</td>
<td>12.50</td>
</tr>
<tr>
<td>Calciner (C-CS-6) (#6 Calciner)</td>
<td>4.00</td>
<td>6,257</td>
<td>12.50</td>
</tr>
<tr>
<td>Calciner (C-CS-7) (#7 Calciner)</td>
<td>0.75</td>
<td>2,000</td>
<td>0.75</td>
</tr>
<tr>
<td>Calciner (A-CS-4) (#10 Calciner)</td>
<td>1.76</td>
<td>6,257</td>
<td>5.50</td>
</tr>
<tr>
<td>Calciner (A-CS-12) (#12 Calciner)</td>
<td>4.00</td>
<td>2,000</td>
<td>4.00</td>
</tr>
<tr>
<td>Electric Tunnel kiln (C-Klin)</td>
<td>0.56</td>
<td>6,257</td>
<td>1.75</td>
</tr>
<tr>
<td>Lab Calciner 1</td>
<td>0.46</td>
<td>2,000</td>
<td>0.46</td>
</tr>
<tr>
<td>Lab Elevator Kiln 1</td>
<td>0.64</td>
<td>2,000</td>
<td>0.64</td>
</tr>
<tr>
<td>Lab Elevator Kiln 2</td>
<td>0.64</td>
<td>2,000</td>
<td>0.64</td>
</tr>
<tr>
<td>Lab Shuttle Kiln</td>
<td>1.75</td>
<td>2,000</td>
<td>1.75</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>40.49</strong></td>
</tr>
</tbody>
</table>

(b) The total maximum natural gas usage for the following fifty-two (52) natural gas-fired combustion units shall not exceed 173.00 MMCF per twelve (12) consecutive month period at 100 lb per MMCF, with compliance determined at the end of each month.
### Process and Space Heaters and boilers

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control</th>
<th>Nickel Limit (pounds per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AM1 - AM5</td>
<td>#2 (A-CS-2) Duct Heater</td>
<td></td>
</tr>
<tr>
<td>SH1 - SH19</td>
<td>#6 (C-CS-6) Pilot Dryer</td>
<td></td>
</tr>
<tr>
<td>RTH1 - RTH6</td>
<td>#5 (B-C-1) Pilot Dryer</td>
<td></td>
</tr>
<tr>
<td>SH45 - SH46</td>
<td>#11 (A-CS-11) APV Dryer</td>
<td></td>
</tr>
<tr>
<td>HW1 - HW4</td>
<td>A (A-SD-1) F&amp;D Dryer</td>
<td></td>
</tr>
<tr>
<td>C-HB-1</td>
<td>B (B-SD-1)</td>
<td></td>
</tr>
<tr>
<td>HWH1</td>
<td>C (C-SD-1)</td>
<td></td>
</tr>
<tr>
<td>SRF (B-SD-2)</td>
<td>#12 (A-CS-12)</td>
<td></td>
</tr>
</tbody>
</table>

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 50 tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-3 (Emission Offset) not applicable.

### D.1.3 Hazardous Air Pollutant (HAP) Minor Limits [326 IAC 20][40 CFR 63]

In order to render the source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA), the total emissions of Single HAP (Nickel) after control from the following units shall be limited as specified below:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control</th>
<th>Nickel Limit (pounds per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (B-C-1) (#5 Calciner)</td>
<td>cartridge dust collector B-C-1</td>
<td>0.338</td>
</tr>
<tr>
<td>Spray Dryer (C-SD-1) (C-Dryer)</td>
<td>cartridge dust collector C-SD-1</td>
<td>0.338</td>
</tr>
</tbody>
</table>

Compliance with these limits, combined with the potential to emit HAP from all other emission units at the source, shall limit the source-wide potential to emit single HAP to less than 10 tons per twelve (12) consecutive month period and the source-wide potential to emit total HAPs to less than 25 tons per twelve (12) consecutive month period, and shall render the source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA).

### D.1.4 Particulate Emission Limitations [326 IAC 6-3-2]

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

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Process Weight Rate (ton/hr)</th>
<th>PM Emission Limitation (lbs/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (B-C-1) (#5 Calciner)</td>
<td>0.75</td>
<td>3.38</td>
</tr>
<tr>
<td>Spray-Dryer (C-SD-1) (C-Dryer)</td>
<td>0.75</td>
<td>3.38</td>
</tr>
<tr>
<td>APV Dryer (D-Dryer)</td>
<td>0.25</td>
<td>1.62</td>
</tr>
<tr>
<td>Finn and Dreffein Rotary Dryer (#8 Calciner)</td>
<td>0.25</td>
<td>1.62</td>
</tr>
<tr>
<td>Lab Shuttle Kiln</td>
<td>0.20</td>
<td>1.39</td>
</tr>
</tbody>
</table>
### Emission Unit

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Process Weight Rate (ton/hr)</th>
<th>PM Emission Limitation (lbs/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric Tunnel Kiln (C-Klin)</td>
<td>0.06</td>
<td>0.64</td>
</tr>
</tbody>
</table>

The pounds per hour limitations 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:

\[ E = 4.10 \cdot P^{0.67} \]

Where \( E \) = rate of emission in pounds per hour; and \( P \) = process weight rate in tons per hour

### D.1.5 Preventive Maintenance Plan [326 IAC 2-7-5(12)]

A Preventive Maintenance Plan is required for these facilities and their 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.1.6 NOx Control

In order to comply with Condition D.1.2, the UltraCat Hot Gas Filtration System, controlling NOx emissions from the facilities listed below, shall operate at all times that the facilities are in operation and processing nitrate-based product.

<table>
<thead>
<tr>
<th>Emission unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (A-CS-11) (#11 Calciner)</td>
</tr>
<tr>
<td>Calciner (C-CS-6) (#6 Calciner)</td>
</tr>
<tr>
<td>Calciner (C-CS-7) (#7 Calciner)</td>
</tr>
<tr>
<td>Calciner (A-CS-4) (#10 Calciner)</td>
</tr>
<tr>
<td>Calciner (A-CS-12) (#12 Calciner)</td>
</tr>
<tr>
<td>Electric Tunnel kiln (C-Klin)</td>
</tr>
<tr>
<td>Lab Calciner 1</td>
</tr>
<tr>
<td>Lab Elevator Kiln 1</td>
</tr>
<tr>
<td>Lab Elevator Kiln 2</td>
</tr>
<tr>
<td>Lab Shuttle Kiln</td>
</tr>
</tbody>
</table>

#### D.1.7 Particulate and HAP Control

(a) In order to comply with Conditions D.1.1, D.1.3 and D.1.4, the following controls for particulate control shall be in operation and control emissions from the following facilities at all times that the facilities are in operation:

<table>
<thead>
<tr>
<th>Emission unit</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (B-C-1) (#5 calciner)</td>
<td>baghouse or cartridge dust collector B-C-1</td>
</tr>
<tr>
<td>Spray Dryer (C-SD-1) (C-Dryer)</td>
<td>cyclone separators and a cartridge dust collector C-SD-1</td>
</tr>
</tbody>
</table>

(b) In order to assure that the requirements of 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 following facilities are in operation:
(c) In the event that bag failure is observed in a multi-compartment baghouse, if operations will continue for ten (10) days or more after the failure is observed before the failed units will be repaired or replaced, the Permittee shall promptly notify the IDEM, OAQ of the expected date the failed units will be repaired or replaced. The notification shall also include the status of the applicable compliance monitoring parameters with respect to normal, and the results of any response actions taken up to the time of notification.

D.1.8 Testing Requirements [326 IAC 2-1.1-11]

(a) NOx
In order to demonstrate compliance with Condition D.1.2, the Permittee shall perform NOx emissions testing, after control, while processing nitrate-based catalyst powder on one of the following facilities on a rotating basis, utilizing methods as approved by the Commissioner

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Integral control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (A-CS-3) (#9 Calciner)</td>
<td>A-DC-1</td>
</tr>
<tr>
<td>Calciner (A-CS-4) (#10 Calciner)</td>
<td>A-DC-4</td>
</tr>
<tr>
<td>Calciner (A-CS-2) (#2 Calciner)</td>
<td>A-DC-1</td>
</tr>
<tr>
<td>Calciner (A-CS-11) (#11 Calciner)</td>
<td>A-DC-11</td>
</tr>
<tr>
<td>Calciner (C-CS-6) (#6 Calciner)</td>
<td>C-DC-6</td>
</tr>
<tr>
<td>Calciner (C-CS-7) (#7 Calciner)</td>
<td>C-CS-7</td>
</tr>
<tr>
<td>Calciner (A-CS-12) (#12 Calciner)</td>
<td>A-DC-12</td>
</tr>
<tr>
<td>Dryer (A-SD-1) (A-Dryer)</td>
<td>A-SD-1</td>
</tr>
<tr>
<td>Dryer (B-SD-1) (B-Dryer)</td>
<td>B-SD-1</td>
</tr>
<tr>
<td>Spray-Dryer (B-SD-2) (SRF-Dryer)</td>
<td>B-SD-2</td>
</tr>
<tr>
<td>Batch Operation (A-GB-1)</td>
<td>A-GB-1</td>
</tr>
<tr>
<td>Batch Operation (C-WU-1) (R-15)</td>
<td>C-WU-1</td>
</tr>
<tr>
<td>Batch Operation (C-GB-2) (R-12)</td>
<td>C-GB-2</td>
</tr>
<tr>
<td>Weigh-Up (A-WU-1)</td>
<td>A-WU-1</td>
</tr>
<tr>
<td>Ball Mills (A-BM-1 through A-BM-5)</td>
<td>A-BM-1 through A-BM-5</td>
</tr>
<tr>
<td>Blending (B-GB-1) (Ribbon Blending)</td>
<td>B-GB-1</td>
</tr>
</tbody>
</table>

This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

The emission unit not tested will be tested during the next compliance demonstration test in five years, then testing will alternate among the above-mentioned units every five years after.

(b) PM, PM10 and PM2.5 for integral control
In order to assure that the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (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 after integral control on one of the following dryers on a rotating basis, utilizing methods as approved by the Commissioner:

<table>
<thead>
<tr>
<th>Dryer (A-SD-1) (A-Dryer)</th>
<th>integral cartridge dust collector A-SD-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dryer (B-SD-1) (B-Dryer)</td>
<td>integral cartridge dust collector B-SD-1</td>
</tr>
<tr>
<td>Dryer (B-SD-2) (SRF-Dryer)</td>
<td>integral cartridge dust collector B-SD-2</td>
</tr>
</tbody>
</table>

This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

The dryer not tested will be tested during the next compliance demonstration test in five years, then testing will alternate among the above-mentioned dryers every five years after:

PM10 and PM2.5 includes filterable and condensable PM.

(c) Dryer (C-SD-1) (C-Dryer)
In order to demonstrate compliance with Conditions D.1.1, D.1.3 and D.1.4, the Permittee shall perform PM, PM10, PM2.5 and Nickel testing after control on this dryer, utilizing methods as approved by the Commissioner:

| Dryer (C-SD-1) (C-Dryer) | cartridge dust collector C-SD-1 |

This test shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

PM10 and PM2.5 includes filterable and condensable PM.

(d) Calciner B-C-1 (#5 Calciner)
In order to demonstrate compliance with Conditions D.1.1, D.1.3 and D.1.4, not later than 180 days after the issuance date of Part 70 Renewal No 127-43111-00021, the Permittee shall perform PM, PM10, PM2.5 and Nickel testing after control of the following, utilizing methods approved by the commissioner at least once every 5 years from the date of the most recent valid compliance demonstration.

| Calciner B-C-1 (#5 Calciner) | cartridge dust collector B-C-1 |

PM10 and PM2.5 includes filterable and condensable PM.

(e) 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.1.9 Parametric Monitoring

The Permittee shall record the pressure drop across the dust collectors for the emission units identified in the table below at least once per day when the associated emission unit is in operation. When, for any one reading, the pressure drop across a baghouse is outside the normal range, the Permittee shall take a reasonable response. 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 mentioned
range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.

The instruments 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.

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control ID</th>
<th>Pressure Drop Range (inches of H2O)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (B-C-1) (#5 Calciner)</td>
<td>B-C-1</td>
<td>1.0 - 6.0</td>
</tr>
<tr>
<td>Spray-Dryer (C-SD-1) (C-Dryer)*</td>
<td>C-SD-1</td>
<td>1.0 - 6.0</td>
</tr>
</tbody>
</table>

* This is also required under 40 CFR 64 (CAM) for PM, PM10 and PM2.5.

D.1.10 Broken or Failed Bag/Cartridge Detection

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

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

D.1.11 Cyclone Failure Detection

In the event that a cyclone malfunction has been observed:

Failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. The emissions unit shall be shut down no later than the completion of the processing of the material in the emission unit. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

D.1.12 UltraCat Hot Gas Filtration System Monitoring Requirements [40 CFR 64]

(a) The Permittee shall record the pressure drop across the UltraCat Hot Gas Filtration System at least once per day when the associated emission unit is in operation. When, for any one reading, the pressure drop across a baghouse is outside the normal range of 1 to 6 inches of water, the Permittee shall take a reasonable response. The normal range for each UltraCat Hot Gas Filtration System 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 mentioned range is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.
The instruments 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 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 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.1.2.

(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 average minimum inlet temperature as observed during the compliant stack test. If the 3-hour average temperature falls below the above mentioned 3-hour average temperature, the Permittee shall take a reasonable response. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the 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 3-hour average temperature reading 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 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.1.2.

(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 processing nitrate-based product. 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.

These requirements are also required under 40 CFR Part 64 for NOx for the following:

<table>
<thead>
<tr>
<th>Emission Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner A-CS-4 (#10 Calciner)</td>
</tr>
<tr>
<td>Calciner A-CS-11 (#11 Calciner)</td>
</tr>
<tr>
<td>Calciner C-CS-6 (#6 Calciner)</td>
</tr>
<tr>
<td>Calciner A-CS-12 (#12 Calciner)</td>
</tr>
</tbody>
</table>
Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)][326 IAC 2-7-19]

D.1.13 Record Keeping Requirement

(a) To document the compliance status with Condition D.1.2(a), the Permittee shall maintain records of the number of hours of operation of the following emission units each month:

<table>
<thead>
<tr>
<th>Emission unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (A-CS-11) ( #11 Calciner)</td>
</tr>
<tr>
<td>Calciner (C-CS-6) ( #6 Calciner)</td>
</tr>
<tr>
<td>Calciner (C-CS-7) ( #7 Calciner)</td>
</tr>
<tr>
<td>Calciner (A-CS-4) ( #10 Calciner)</td>
</tr>
<tr>
<td>Calciner (A-CS-12) ( #12 Calciner)</td>
</tr>
<tr>
<td>Electric Tunnel kiln (C-Kiln)</td>
</tr>
<tr>
<td>Lab Calciner 1</td>
</tr>
<tr>
<td>Lab Elevator Kiln 1</td>
</tr>
<tr>
<td>Lab Elevator Kiln 2</td>
</tr>
<tr>
<td>Lab Shuttle Kiln</td>
</tr>
</tbody>
</table>

(b) To document the compliance status with Condition D.1.2(b), the Permittee maintain monthly records of total natural gas usage for all fifty-two (52) natural gas-fired combustion units.

(c) To document the compliance status with Condition D.1.9, the Permittee shall maintain daily records of the pressure drop across the dust collectors controlling the particulate emissions from the emission units identified in in Condition D.1.9. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

(d) To document compliance with Condition D.1.12(a), the Permittee shall maintain daily records of pressure drop across the UltraCat Hot Gas Filtration System. 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).

(e) To document the compliance status with Conditions D.1.12(b), D.1.12(c), and D.1.12(d), the Permittee shall maintain continuous temperature records for the UltraCat Hot Gas Filtration System and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test.

(f) To document the compliance status with Condition D.1.12(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 emission units identified in in Condition D.1.12(e).

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

D.1.14 Reporting Requirements

A quarterly summary of the information to document the compliance status with Conditions D.1.2(a) and D.1.2(b) shall be submitted using the reporting forms located at the end of this permit, or the equivalent, not later than thirty (30) days after the end of the quarter being reported.
Section C - General Reporting contains the Permittee’s obligation with regard to the reporting required by this condition.

The report 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).
### Emissions Unit Description:

**Insignificant Activities:**

(a) Forty-eight (48) 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, identified as HWH1, 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, identified as AM1 through AM3, each with a maximum heat input capacity per unit of 0.08 million British thermal units per hour.

4. One (1) air heater, identified as AM4, with a maximum heat input capacity of 0.05 million British thermal units per hour.

5. One (1) air makeup unit, identified as AM5, with a maximum heat input capacity of 1.65 million British thermal units per hour.

6. Eighteen (18) space heaters, identified as SH1 through SH18, with a maximum heat input capacity per unit of 0.3 million British thermal units per hour.

7. One (1) space heater, identified as SH19, with a maximum heat input capacity of 0.1 million British thermal units per hour.

8. Two (2) roof top heaters, identified as RTH1 and RTH2, each with a maximum heat input capacity per unit of 0.1 million British thermal units per hour.

9. Two (2) roof top heaters, identified as RTH3 and RTH4, each with a maximum heat input capacity per unit of 0.144 million British thermal units per hour.

10. One (1) roof top heater, identified as RTH5, with a maximum heat input capacity of 0.0180 million British thermal units per hour.

11. One (1) roof top heater, identified as RTH6, with a maximum heat input capacity of 0.08 million British thermal units per hour.

12. One (1) space heater, identified as SH45, with a maximum heat input capacity of 0.625 million British thermal units per hour.

13. One (1) space heater, identified as SH46, 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.
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.

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.

One (1) natural gas-fired burner #11 for indirect calciner A-CS-11, constructed in 2017, with a maximum heat input capacity of 3.20 million British thermal units per hour.

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.

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.

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.

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.

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

Four (4) natural gas-fired hot water heaters, identified as HWH1 through HW4, permitted in 2020, each with a maximum heat input capacity of 0.2 MMBtu per hour, using no control, and exhausting indoors.

(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 [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 the PM emission limit (Pt) in pounds per MMBtu heat input as specified in the following table:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Pt (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burner C</td>
<td>0.69</td>
</tr>
<tr>
<td>Burner #5</td>
<td>0.69</td>
</tr>
<tr>
<td>Burner A</td>
<td>0.65</td>
</tr>
<tr>
<td>Heating Boiler (C-HB-1)</td>
<td>0.59</td>
</tr>
<tr>
<td>Hot Water Heater (HWH1)</td>
<td>0.58</td>
</tr>
</tbody>
</table>

#### 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 the PM emission limit (Pt) in pounds per MMBtu heat input as specified in the following table:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Pt (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burner B</td>
<td>0.55</td>
</tr>
<tr>
<td>Burner SRF</td>
<td>0.55</td>
</tr>
<tr>
<td>Burner #2</td>
<td>0.53</td>
</tr>
</tbody>
</table>
D.2.3 Preventive Maintenance Plan  [326 IAC 2-7-5(12)]

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

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Pt (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burner #6</td>
<td>0.49</td>
</tr>
<tr>
<td>Thirty-two (32) Air Makeup, Space Heaters, Rooftop Heaters</td>
<td>0.49, each</td>
</tr>
<tr>
<td>Burner #11</td>
<td>0.47</td>
</tr>
<tr>
<td>Burner #12</td>
<td>0.46</td>
</tr>
<tr>
<td>Four (4) hot water heaters (HW1 to HW4)</td>
<td>0.45, each</td>
</tr>
</tbody>
</table>
SECTION E.1  NESHAP

Emissions Unit Description:

Insignificant Activities:

(b) 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].

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

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


(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 5
Air and Radiation Division, Air Enforcement Branch - Indiana (AE-17J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590


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
<table>
<thead>
<tr>
<th></th>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(9)</td>
<td>40 CFR 63.6640(a), (b), (e), and (f)</td>
<td></td>
</tr>
<tr>
<td>(10)</td>
<td>40 CFR 63.6645(a)(5)</td>
<td></td>
</tr>
<tr>
<td>(11)</td>
<td>40 CFR 63.6650</td>
<td></td>
</tr>
<tr>
<td>(12)</td>
<td>40 CFR 63.6655</td>
<td></td>
</tr>
<tr>
<td>(13)</td>
<td>40 CFR 63.6660</td>
<td></td>
</tr>
<tr>
<td>(14)</td>
<td>40 CFR 63.6665</td>
<td></td>
</tr>
<tr>
<td>(15)</td>
<td>40 CFR 63.6670</td>
<td></td>
</tr>
<tr>
<td>(16)</td>
<td>40 CFR 63.6675</td>
<td></td>
</tr>
<tr>
<td>(17)</td>
<td>Table 2d (item 5) to 40 CFR 63, Subpart ZZZZ</td>
<td></td>
</tr>
<tr>
<td>(18)</td>
<td>Table 6 (item 9) to 40 CFR 63, Subpart ZZZZ</td>
<td></td>
</tr>
<tr>
<td>(19)</td>
<td>Table 8 to 40 CFR 63, Subpart ZZZZ</td>
<td></td>
</tr>
</tbody>
</table>
Source Name: Powder Processing Technology, LLC.
Source Address: 5103 Evans Avenue, Valparaiso, Indiana 46383
Part 70 Permit No.: T127-43111-00021

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:
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.: T127-43111-00021

This form consists of 2 pages

☐ This is an emergency as defined in 326 IAC 2-7-1(12)
  • The Permittee must notify the Office of Air Quality (OAQ), within four (4) 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:
<table>
<thead>
<tr>
<th>If any of the following are not applicable, mark N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Date/Time Emergency started:</strong></td>
</tr>
<tr>
<td><strong>Date/Time Emergency was corrected:</strong></td>
</tr>
<tr>
<td><strong>Was the facility being properly operated at the time of the emergency?</strong></td>
</tr>
<tr>
<td><strong>Type of Pollutants Emitted:</strong> TSP, PM-10, SO2, VOC, NOx, CO, Pb, other:</td>
</tr>
<tr>
<td><strong>Estimated amount of pollutant(s) emitted during emergency:</strong></td>
</tr>
<tr>
<td><strong>Describe the steps taken to mitigate the problem:</strong></td>
</tr>
<tr>
<td><strong>Describe the corrective actions/response steps taken:</strong></td>
</tr>
<tr>
<td><strong>Describe the measures taken to minimize emissions:</strong></td>
</tr>
<tr>
<td><strong>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:</strong></td>
</tr>
</tbody>
</table>

Form Completed by: ________________________________

Title / Position: ________________________________

Date: ________________________________

Phone: ________________________________
**INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT**  
**OFFICE OF AIR QUALITY**  
**COMPLIANCE AND ENFORCEMENT BRANCH**

**Part 70 Quarterly Report**

- **Source Name:** Powder Processing Technology, LLC  
- **Source Address:** 5103 Evans Avenue, Valparaiso, Indiana 46383  
- **Part 70 Permit No.:** T127-43111-00021  
- **Facility:**
  - Calciner (A-CS-11) (#11 Calciner)  
  - Calciner (C-CS-6) (#6 Calciner)

**Parameter:** Hours of operation  
**Limit:** Each shall not exceed 6,257 hours per twelve (12) consecutive month period

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- **Calciner (A-CS-11) (#11 Calciner)**
- **Calciner (C-CS-6) (#6 Calciner)**

- **□ No deviation occurred in this quarter.**
- **□ Deviation/s occurred in this quarter.**
  - Deviation has been reported on:
  - Submitted by: ____________________________
  - Title / Position: _________________________
  - Signature: _______________________________
  - Date: ______________________
  - Phone: _________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Powder Processing Technology, LLC
Source Address: 5103 Evans Avenue, Valparaiso, Indiana 46383
Part 70 Permit No.: T127-43111-00021
Facility:

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<tr>
<td>Calciner (A-CS-4) (#10 Calciner)</td>
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<td>Electric Tunnel kiln (C-Kiln)</td>
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Parameter: Hours of operation
Limit: Each shall not exceed 6,257 hours per twelve (12) consecutive month period

QUARTER : ___________    YEAR: ___________

Calciner (A-CS-4) (#10 Calciner)

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Electric Tunnel kiln (C-Kiln)

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☐ Deviation/s occurred in this quarter.
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Submitted by: __________________________________________
Title / Position: _______________________________________
Signature: ____________________________________________
Date: ________________________________________________
Phone: _______________________________________________
INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
Part 70 Quarterly Report

Source Name: Powder Processing Technology, LLC
Source Address: 5103 Evans Avenue, Valparaiso, Indiana 46383
Part 70 Permit No.: T127-43111-00021

Facility:

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<tr>
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QUARTER: ______________________ YEAR: ______________________

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Calciner (A-CS-12) (#12 Calciner)

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Submitted by: ________________________________
Title / Position: ________________________________
Signature: ________________________________
Date: ________________________________
Phone: ________________________________
### Part 70 Quarterly Report

**Source Name:** Powder Processing Technology, LLC  
**Source Address:** 5103 Evans Avenue, Valparaiso, Indiana 46383  
**Part 70 Permit No.:** T127-43111-00021  

#### Facility:
- Lab Calciner 1
- Lab Elevator Kiln 1

#### Parameter: Hours of operation  
**Limit:** Each shall not exceed 2,000 hours per twelve (12) consecutive month period

#### Lab Calciner 1

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#### Lab Elevator Kiln 1

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  Deviation has been reported on:

Submitted by: ________________________________  
Title / Position: ________________________________  
Signature: ________________________________  
Date: ________________________________  
Phone: ________________________________
## Part 70 Quarterly Report

Source Name: Powder Processing Technology, LLC  
Source Address: 5103 Evans Avenue, Valparaiso, Indiana 46383  
Part 70 Permit No.: T127-43111-00021  
Facility:

- [ ] Lab Elevator Kiln 2  
- [ ] Lab Shuttle Kiln

Parameter: Hours of operation  
Limit: Each shall not exceed 2,000 hours per twelve (12) consecutive month period

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Submitted by:  
Title / Position:  
Signature:  
Date:  
Phone:  

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH

Part 70 Quarterly Report

Source Name: Powder Processing Technology, LLC
Source Address: 5103 Evans Avenue, Valparaiso, Indiana 46383
Part 70 Permit No.: T127-43111-00021
Facility: Fifty-two (52) natural gas-fired combustion units
Parameter: Total natural gas usage
Limit: Shall not exceed 173.00 MMCF per twelve (12) consecutive month period

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☐ No deviation occurred in this quarter.

☐ Deviation/s occurred in this quarter.
  Deviation has been reported on:

Submitted by: __________________________
Title / Position: ________________________
Signature: ______________________________
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.: T127-43111-00021

Months: ___________ to ____________  Year: ______________

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C - General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

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<td>Response Steps Taken:</td>
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Form Completed by: _______________________________________________________
Title / Position: ___________________________________________________________
Date: ___________________________________________________________________
Phone: _________________________________________________________________
Indiana Department of Environmental Management
Office of Air Quality

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

Source Description and Location

<table>
<thead>
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<th>Source Name:</th>
<th>Powder Processing Technology, LLC</th>
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<tr>
<td>Source Location:</td>
<td>5103 Evans Avenue, Valparaiso, Indiana 46383</td>
</tr>
<tr>
<td>County:</td>
<td>Porter (Washington)</td>
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<tr>
<td>SIC Code:</td>
<td>3499 (Fabricated Metal Products, N.E.C)</td>
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<tr>
<td>Permit Renewal No.:</td>
<td>T 127-43111-00021</td>
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<tr>
<td>Significant Modification No.:</td>
<td>SSM 127-43157-00021</td>
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<tr>
<td>Permit Reviewer:</td>
<td>Olajumoke Kayode</td>
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On August 3, 2020, Powder Processing Technology, LLC submitted an application to the Office of Air Quality (OAQ) requesting to renew its operating permit. OAQ has reviewed the operating permit renewal application from Powder Processing Technology, LLC relating to the operation of a stationary metal oxide product manufacturing source. Powder Processing Technology, LLC was issued its third Part 70 Operating Permit Renewal (T 127-36185-00021) on May 10, 2016.

In addition, as part of the renewal application, Powder Processing Technology, LLC is proposing to modify several existing emission units.

This TSD covers both the renewal and the review of the modified emission units.

Existing Approvals

The source was issued Part 70 Operating Permit Renewal No. T 127-36185-00021 on May 10, 2016. The source has since received the following approvals:

<table>
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<th>Permit Type</th>
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<tr>
<td>Significant Source Modification</td>
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<td>Significant Permit Modification</td>
<td>127-38141-00021</td>
<td>June 5, 2017</td>
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<td>127-39352-00021</td>
<td>April 11, 2018</td>
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<td>127-39354-00021</td>
<td>May 1, 2018</td>
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<tr>
<td>Administrative Amendment</td>
<td>127-43437-00021</td>
<td>December 14, 2020</td>
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All terms and conditions of previous permits issued pursuant to permitting programs approved into the State Implementation Plan have been either incorporated as originally stated, revised, or deleted by this permit. All previous registrations and permits are superseded by this permit.

Emission Units and Pollution Control Equipment

Powder Processing Technology, LLC has requested that some emission unit IDs be updated in this renewal to reference new asset numbers. The listing of units has also been re-arranged to group similar units.

The source consists of the following permitted emission units:

Eight (8) Calciners:
(a) One (1) electric calciner, identified as A-CS-3 (#9 calciner), 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-41, exhausting through vent stack V-ACS-32.

(b) One (1) electric calciner, identified as A-CS-4 (#10 calciner), 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 the following control:

(i) an integral cartridge dust collector, identified as A-DC-4, exhausting through vent V-ACS-3, exhausting through stack V-ACS-3 when processing non-nitrate based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stack V-AHX-1.

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 (#2 calciner), 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.

(d) One (1) 5-foot by 40-foot direct-fired calciner, identified as B-C-1 (#5 calciner), 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.

(e) One (1) 3-foot by 26-foot indirect-fired calciner unit, identified as C-CS-6 (#6 calciner), 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 the following control:

(i) an integral cartridge dust collector for particulate control, identified as DC-CS-6, exhausting through stack V-CCS-6 when processing non-nitrate based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stacks V-CCHS-6 and V-CHX-6.V-AHX-1.

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).

(f) One (1) 15-inch by 26-foot electric calciner unit, identified as C-CS-7 (#7 calciner), 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.

(g) One (1) indirect-fired calciner, identified as A-CS-11 (#11 calciner), constructed in 2017, 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 the following control:

(i) an integral cartridge dust collector for particulate control, identified as A-DC-11, exhausting through stack V-CCS-11 when processing non-nitrate based products, and

(ii) 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 integral when processing metal oxide products (as determined in 2017) and when processing nitrate based products (as determined in 2018).

(h) One (1) 4-foot by 30-foot indirect-fired calciner unit, identified as A-CS-12 (#12 calciner), constructed in 2018, 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 the following control:

(i) an integral cartridge dust collector for particulate control, identified as A-DC-12, exhausting through stack V-CCS-12 when processing non-nitrate based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stack V-AHX-1.

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

Four (4) Dryers:

(i) One (1) 20-foot spray dryer, identified as A-SD-1 (A-Dryer), 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.

(j) One (1) 17.5-foot spray dryer, identified as B-SD-1 (B-Dryer) 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.

(k) One (1) 9.5-foot anhydrous spray dryer, identified as B-SD-2 (SRF Dryer), 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.

(l) One (1) 16-foot spray dryer, identified as C-SD-1 (C-Dryer), 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.

Three (3) Batch Operations:

(m) One (1) batch operation, identified as A-GB-1, constructed in 1973, with a maximum capacity of 1,500 pounds per hour of various metal oxide products, equipped with an integral cartridge dust collector, identified as A-GB-1, exhausting to the interior indoors.

(n) One (1) batch operation, identified as C-WU-1 (R-15), 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 indoors.

(o) One (1) batch operation, identified as C-GB-2 (R-12), 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 indoors.

Other Powder Processing Operations:
(p) 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 to the interior indoors.

(q) Six (5) ball milling units, identified as A-BM-1 to A-BM-6 5, 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 5, exhausting to the interior indoors.

(r) One (1) blending unit, identified as B-GB-1 (Ribbon Blender), 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 indoors.

### Emission Units and Pollution Control Equipment Removed From the Source

The source has removed the following emission units:

(a) 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.

(b) 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.

(c) 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.

(d) 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.

(e) One (1) ball milling unit, identified as A-BM-6, constructed in 1973, 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-6, exhausting to the interior.

(f) 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.

(g) 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.

(h) 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.
Insignificant Activities

The source also consists of the following insignificant activities:

(a) Forty eight (48) 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, identified as HWH1, 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, identified as AM1 through AM3, each with a maximum heat input capacity per unit of 0.08 million British thermal units per hour.

4. One (1) air heater, identified as AM4, with a maximum heat input capacity of 0.05 million British thermal units per hour.

5. One (1) air makeup unit, identified as AM5, with a maximum heat input capacity of 1.65 million British thermal units per hour.

6. Eighteen (18) space heaters, identified as SH1 through SH18, with a maximum heat input capacity per unit of 0.3 million British thermal units per hour.

7. One (1) space heater, identified as SH19, with a maximum heat input capacity of 0.1 million British thermal units per hour.

8. Two (2) roof top heaters, identified as RTH1 and RTH2, each with a maximum heat input capacity per unit of 0.1 million British thermal units per hour.

9. Two (2) roof top heaters, identified as RTH3 and RTH4, each with a maximum heat input capacity per unit of 0.144 million British thermal units per hour.

10. One (1) roof top heater, identified as RTH5, with a maximum heat input capacity of 0.0180 million British thermal units per hour.

11. One (1) roof top heater, identified as RTH6, with a maximum heat input capacity of 0.08 million British thermal units per hour.

12. One (1) space heater, identified as SH45, with a maximum heat input capacity of 0.625 million British thermal units per hour.

13. One (1) space heater, identified as SH46, 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, constructed in 2017, 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, constructed in 2018, with a maximum heat input capacity of 3.3 million British thermal units per hour.

(24) Four (4) natural gas-fired hot water heaters, identified as HWH1 through HW4, permitted in 2020, each with a maximum heat input capacity of 0.2 MMBtu per hour, using no control, and exhausting indoors.

(b) 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, constructed in 2010 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 (D-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 (#8 Calciner), 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.

"Integral Part of the Process" Determination

(a) In the Part 70 Operating Permit No. 127-8479-00021, issued on December 16, 1998, IDEM, OAQ determined that all existing dust collectors at the time of issuance of Part 70 Operating Permit No. 127-8479-00021* are an integral part of only the metal oxide manufacturing processes.

* This excludes the dust collector B-C-1 for calciner B-C-1 (#5 calciner) because the control device for this calciner was installed at a later date to comply with 326 IAC 6-3-2.

(b) In the Significant Source Modification No. 127-38110-00021, issued on May 17, 2017, IDEM, OAQ determined that the dust collector (A-DC-11) is an integral part the calciner A-CS-11 (#11 calciner).

(c) In Significant Source Modification No. 127-39352-00021, issued on April 11, 2018, IDEM, OAQ determined that the dust collector (A-DC-12) is an integral part of the calciner A-CS-12 (#12 calciner).
In addition, IDEM, OAQ re-evaluated the integral control for existing calciners, and determined that dust collectors for the following calciners are integral when processing both metal oxide and nitrate based products:

<table>
<thead>
<tr>
<th>Calciner ID</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>A-CS-12 (#12 calciner)</td>
<td>A-DC-12</td>
</tr>
<tr>
<td>A-CS-4 (#10 calciner)</td>
<td>A-DC-4</td>
</tr>
<tr>
<td>C-CS-6 (#6 calciner)</td>
<td>C-DC-6</td>
</tr>
<tr>
<td>A-CS-11(#11 calciner)</td>
<td>A-DC-11</td>
</tr>
</tbody>
</table>

IDEM, OAQ is not re-evaluating these existing integral justifications at this time. Therefore, the potential to emit particulates from the calciners mentioned above will continue to be calculated after the respective dust collectors for purposes of determining permitting level and applicability of 326 IAC 2-2 and 326 IAC 6-3. Operating conditions in the proposed permit will specify that the respective dust collectors shall operate at all times when the calciners are in operation, and processing either metal oxide or nitrate based powder.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

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

County Attainment Status

The source is located in Porter County.

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>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.</td>
</tr>
<tr>
<td>CO</td>
<td>Unclassifiable or attainment effective November 15, 1990.</td>
</tr>
<tr>
<td>O₃</td>
<td>Serious non attainment effective September 23, 2019, for the 2008 8-hour ozone standard.</td>
</tr>
<tr>
<td>O₃</td>
<td>Unclassifiable or attainment effective August 3, 2018, for the 2015 8-hour ozone standard.</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>Unclassifiable or attainment effective April 15, 2015, for the 2012 annual PM₂.₅ standard.</td>
</tr>
<tr>
<td>PM₂.₅</td>
<td>Unclassifiable or attainment effective December 13, 2009, for the 2006 24-hour PM₂.₅ standard.</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>Unclassifiable effective November 15, 1990.</td>
</tr>
<tr>
<td>NO₂</td>
<td>Unclassifiable or attainment effective January 29, 2012, for the 2010 NO₂ standard.</td>
</tr>
<tr>
<td>Pb</td>
<td>Unclassifiable or attainment effective December 31, 2011, for the 2008 lead standard.</td>
</tr>
</tbody>
</table>

(a) Ozone Standards

U.S. EPA, in the Federal Register Notice 84 FR 44238 dated August 23, 2019, designated Porter County as serious nonattainment for the 2008 8-hour ozone standard effective September 23, 2019. A rulemaking is in process to revise the 326 IAC 1-4 attainment status designations for the 2008 8-hour ozone standard for Lake and Porter County. The OAQ will rely on the serious nonattainment designation under 40 CFR 81.315 until the rulemaking for 326 IAC 1-4 is effective. Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) 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 NOx emissions are considered when
evaluating the rule applicability relating to ozone. Therefore, VOC and NOx 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$_{2.5}$, SO$_2$, and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
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_4q18.pdf](http://www.supremecourt.gov/opinions/13pdf/12-1146_4q18.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.
### Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

<table>
<thead>
<tr>
<th>Unrestricted Potential Emissions (ton/year)</th>
<th>(\text{PM}^1)</th>
<th>(\text{PM}_{10}^1)</th>
<th>(\text{PM}_{2.5}^{1,2})</th>
<th>(\text{SO}_2)</th>
<th>(\text{NO}_x)</th>
<th>(\text{VOC})</th>
<th>(\text{CO})</th>
<th>Single HAP(^3)</th>
<th>Total HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total PTE of Entire Source Excluding Fugitive Emissions*</td>
<td>366.53</td>
<td>365.27</td>
<td>365.27</td>
<td>0.10</td>
<td>559.23</td>
<td>0.95</td>
<td>14.20</td>
<td>36.62 (Nickel)</td>
<td>36.96</td>
</tr>
<tr>
<td>Title V Major Source Thresholds</td>
<td>NA</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td>50</td>
<td>50</td>
<td>100</td>
<td>10</td>
<td>25</td>
</tr>
<tr>
<td>PSD Major Source Thresholds</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>-</td>
<td>-</td>
<td>250</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Emission Offset Major Source Thresholds</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

\(^1\)Under the Part 70 Permit program (40 CFR 70), PM\(_{10}\) and PM\(_{2.5}\), not particulate matter (PM), are each considered as a "regulated air pollutant."

\(^2\)PM\(_{2.5}\) listed is direct PM\(_{2.5}\).

\(^3\)Single highest source-wide HAP

*Fugitive HAP emissions are always included in the source-wide emissions.

The total source-wide PTE reflects the potential to emit after consideration of integral dust collectors at the source.

Appendix A of this TSD reflects the detailed unrestricted potential emissions of the source.

(a) The potential to emit (as defined in 326 IAC 2-7-1(30)) of PM\(_{10}\) and PM\(_{2.5}\) is each equal to or greater than one hundred (100) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

(b) The potential to emit (as defined in 326 IAC 2-7-1(30)) of NO\(_x\) is equal to or greater than fifty (50) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7 and will be issued a Part 70 Operating Permit Renewal.

(c) The potential to emit (as defined in 326 IAC 2-7-1(30)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(30)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. The source will be issued a Part 70 Operating Permit Renewal.

### Part 70 Permit Conditions

This source is subject to the requirements of 326 IAC 2-7, because the source met the following:

(a) Emission limitations and standards, including those operational requirements and limitations that assure compliance with all applicable requirements at the time of issuance of Part 70 permits.

(b) Monitoring and related record keeping requirements which assume that all reasonable information is provided to evaluate continuous compliance with the applicable requirements.

### Description of Proposed Modification to an Existing Source

In addition to the renewal application, Powder Processing Technology, LLC has requested the following:

(a) To add a new emission unit:
One (1) electric tunnel kiln, identified as C-Kiln, approved in 2021 for construction, with a maximum capacity 125 pounds per hour of various metal oxide products or 100 pounds per hour of nitrate based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stack V-AHX-1.

(b) To increase the capacities of the APV dryer and the Finn & Dreiffein rotary dryer from 200 pounds per hour to 500 pounds per hour, with no changes in the heat input capacities of each of the associated natural gas-fired burners:

(1) One (1) APV dryer, identified as D-dryer, constructed in 2016, processing a slurry based alumina oxide mixture that is very low in solids, and approved in 2021 to increase with a maximum capacity of less than 200 to 500 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 outdoors.

This dust collector is not considered integral.

(2) One (1) Flinn and Dreffein rotary dryer, identified as #8 Calciner, constructed in 2016, and approved in 2021 to increase with a maximum capacity of less than 200 to 500 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 outdoors.

This dust collector is not considered integral.

(c) To allow the following existing calciners and kilns for the ability to process nitrate-based products. All units processing nitrate based products will exhaust to and be controlled by the ultraCat hot gas filtration system for NOx control.

(1) One (1) 15-inch by 26-foot electric calciner unit, identified as C-CS-7 (#7 calciner), constructed in 1996, and approved in 2021 to process nitrate-based products, with a maximum capacity of 200 pounds per hour of various metal oxide products or 125 pounds per hour of nitrate based products, equipped with the following control:

(i) an integral cartridge dust collector, identified as C-CS-7, exhausting through stack V-CCS-7 when processing non-nitrate based products, and

(ii) an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stacks V-CCS-7 and V-CHX-7 V-AHX-1.

The dust collector for the calciner C-CS-7 is integral when processing metal oxide products, but not integral when processing nitrate-based products.
(2) One (1) lab type pilot facility, identified as B-PS-1, which includes the following:

(I) Three (3) ball mills, identified as Lab Ball Mill 1, Lab Ball Mill 2 and Lab Ball Mill 3, constructed in 2010, and using no control.

(II) One (1) spray dryer (7 foot diameter), identified as Lab Spray Dryer, constructed in 2010, and using no control.

(III) Two (2) lab calciners, identified as as Lab Calciner 1 and Lab Calciner 2, constructed in 2010, and approved in 2021 to process nitrate-based products, each with a maximum capacity of 20 pounds per hour of metal based products, and Lab Calciner 1 having a maximum capacity of 20 pounds per hour of nitrate based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stack V-AHX-1.

These lab calciners are lab/batch operations and have a maximum operation limit of 2,000 hours per year.

(IV) Two (2) small elevator kilns, identified as Lab Elevator Kiln 1 and Lab Elevator Kiln 2, constructed in 2010, and approved in 2021 to process nitrate-based products, each with a maximum capacity of 50 pounds per hour of metal based products, or 50 pounds per hour of nitrate based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stack V-AHX-1.

These lab elevator kilns are lab/batch operations and have a maximum operation limit of 2,000 of hours per year.

(V) One (1) shuttle kiln, identified as Lab Shuttle Kiln, constructed in 2010, and approved in 2021 to process nitrate-based products, with a maximum capacity of 400 pounds per hour of metal based products, or 400 pounds per hour of nitrate based products, equipped with an UltraCat hot gas filtration system for NOx control when using nitrate based products, exhausting through stack V-AHX-1.

This lab shuttle kiln is a lab/batch operation and has a maximum operation limit of 2,000 hours per year.

| 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. This table reflects the PTE before controls. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.
Appendix A of this TSD reflects the detailed potential emissions of the modification.

(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 (NOx) at equal to or greater than 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.

For the purposes of this permitting action, in lieu of issuing a separate Significant Permit Modification, the approval to operate will be with the current Part 70 Operating Permit Renewal. Therefore, operation is not approved until the Part 70 Operating Permit Renewal has been issued.

Permit Level Determination – PSD and 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 modification, and only to the extent that the effect of the control equipment is made practically enforceable in the permit. If the control equipment has been determined to be integral, the table reflects the potential to emit (PTE) after consideration of the integral control device.
### Project Emissions (ton/year)

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>PM</th>
<th>PM$_{10}$</th>
<th>PM$_{2.5}^1$</th>
<th>SO$_2$</th>
<th>NO$_x$</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lab Elevator Kiln 1</td>
<td>0.38</td>
<td>0.38</td>
<td>0.38</td>
<td>-</td>
<td>0.64</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lab Elevator Kiln 2</td>
<td>0.38</td>
<td>0.38</td>
<td>0.38</td>
<td>-</td>
<td>0.64</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Lab Shuttle Kiln</td>
<td>3.00</td>
<td>3.00</td>
<td>3.00</td>
<td>-</td>
<td>1.75</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Total for Modification</strong></td>
<td><strong>15.64</strong></td>
<td><strong>14.47</strong></td>
<td><strong>14.47</strong></td>
<td>-</td>
<td><strong>5.99</strong></td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>PSD Major Source Thresholds</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>-</td>
<td>-</td>
<td>250</td>
</tr>
<tr>
<td>Emission Offset Major Source Thresholds</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>50</td>
<td>50</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

$^1$PM$_{2.5}$ listed is direct PM$_{2.5}$.

The project emission from the calciner, C-CS-7 reflects the total PTE increase after consideration of the integral dust collector for the calciner, C-CS-7.

The source opted to take limit(s) in order to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable to this modification. See Technical Support Document (TSD) State Rule Applicability - Entire Source section, 326 IAC 2-2 (PSD) and 326 IAC 2-3 (Emission Offset) for more information regarding the limit(s).

(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$_x$ is less than the Emission Offset major source threshold. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

### Emission Calculations

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

### Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this Part 70 permit renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.
| Potential To Emit of the Entire Source After Issuance of Renewal (tons/year) |
|---------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|                                | PM¹              | PM₁₀¹           | PM₂₅¹.²         | SO₂             | NOₓ             | VOC             | CO              | Single HAP³      | Total HAPs      |
| Total PTE of Entire Source Excluding Fugitive Emissions* | 74.67            | 20.69           | 20.69           | 0.10            | 49.92           | 0.95            | 14.20           | 5.09 (Nickel)   | 5.42            |
| Title V Major Source Thresholds | NA               | 100             | 100             | 100             | 50              | 50              | 100             | 10              | 25              |
| PSD Major Source Thresholds    | 250              | 250             | 250             | 250             | -               | -               | 250             | --              | --              |
| Emission Offset Major Source Thresholds | -               | -               | -               | -               | 50              | 50              | -               | --              | --              |

¹Under the Part 70 Permit program (40 CFR 70), PM₁₀ and PM₂₅, not particulate matter (PM), are each considered as a “regulated air pollutant.”
²PM₂₅ listed is direct PM₂₅.
³Single highest source-wide HAP.
*Fugitive HAP emissions are always included in the source-wide emissions.
The total source-wide PTE reflects the potential to emit after consideration of integral dust collectors at the source.

Appendix A of this TSD reflects the detailed potential to emit of the entire source after issuance.

The source opted to take limit(s) in order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-3 (Emission Offset) not applicable to this source and to render the source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA). See Technical Support Document (TSD) State Rule Applicability - Entire Source section, 326 IAC 2-2 (PSD), and 326 IAC 2-3 (Emission Offset), and 326 IAC 20 (Hazardous Air Pollutants) for more information regarding the limit(s).

(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 NOx and VOC, each a nonattainment regulated pollutant, is not emitted at a rate of 50 tons per year or more.

(c) This source is not a major source of HAP, as defined in 40 CFR 63.2, because HAP 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).

Federal Rule Applicability

Federal rule applicability for this source has been reviewed as follows:

New Source Performance Standards (NSPS):

(a) The requirements for the New Source Performance Standards for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Db and 326 IAC 12 are not included in the permit for the natural gas-fired boiler, identified as C-HB-1, and the natural gas-fired water heaters, because these units have input heat capacity less than 29 megawatts (100 MMBtu per hour).
(b) The requirements for the New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc and 326 IAC 12 are not included in the permit for the natural gas-fired boiler, identified as C-HB-1, and the natural gas-fired water heaters, because input heat capacity less than 2.9 megawatts (10 MMBtu per hour).

(c) The requirements of the New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60, Subpart JJJJ and 326 IAC 12, are not included in the permit for the natural gas-fired emergency generator, constructed in 1975, because this generator was constructed before July 1, 2007.

(d) The requirements of the New Source Performance Standard for Calciners and Dryers in Mineral Industries, 40 CFR 60, Subpart UUU and 326 IAC 12, are not included in the permit for this source, because this source commenced construction prior to April 23, 1986 and does not meet the definition of a mineral processing plant in 40 CFR 60.731.

This source does not process concentrates or any mixtures of which the majority is greater than fifty (50) percent of the following minerals or a combination of these minerals: alumina, ball clay, bentonite, diatomite, feldspar, fire clay, fuller's earth, gypsum, industrial sand, kaolin, lightweight aggregate, magnesium compounds, perlite, roofing granules, talc, titanium dioxide, and vermiculite.

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

**National Emission Standards for Hazardous Air Pollutants (NESHAP):**

(a) The natural gas-fired emergency generator, constructed in 1975, is still subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines, 40 CFR 63, Subpart ZZZZ, which is incorporated by reference as 326 IAC 20-82, because the natural gas-fired emergency generator is considered an existing stationary reciprocating internal combustion engine (RICE) (construction commenced before June 12, 2006) at an area source of HAP emissions.

The natural gas-fired emergency generator is subject to the following portions of Subpart ZZZZ:

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) to 40 CFR 63, Subpart ZZZZ
18. Table 6 (item 9) to 40 CFR 63, Subpart ZZZZ
19. Table 8 to 40 CFR 63, Subpart ZZZZ

The requirements of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated as 326 IAC 20-1, apply to the natural gas-fired emergency generator except as otherwise specified in 40 CFR 63, Subpart ZZZZ.
This is an existing applicable requirement and no change has been made in this renewal.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers and Process Heaters, 40 CFR 63, Subpart DDDDD and 326 IAC 20-95 are not included in the permit for the natural gas-fired boiler, identified as C-HB-1, and the natural gas-fired water heaters, since this source is not a major source of HAP emissions as described in 40 CFR 63.7485.

c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Industrial, Commercial, and Institutional Boilers Area Sources, 40 CFR 63, Subpart JJJJJJ, are not included in the permit for the natural gas-fired boiler, identified as C-HB-1, and the natural gas-fired water heaters, since pursuant to 40 CFR 63.11195, gas-fired boilers are not subject to this subpart or any of its requirements.

d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Chemical Manufacturing Area Sources, 40 CFR 63, Subpart VVVVVV, are not included in the permit for this source, since source does not manufacture chemicals. This source processes raw materials, which are mixed and dried into a fine powder without altering the original chemical composition. This process does not include any chemical reactions, recovery, separation, or purification.

e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Area Source Standards for Nine Metal Fabrication and Finishing Source Categories, 40 CFR 63, Subpart XXXXXX, are not included in the permit for this source, since this source does not manufacture fabricated metal products.

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

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 NOx under the Acid Rain Program.

The following table is used to identify the applicability of CAM to each emission unit and each emission limitation or standard for a specified pollutant based on the criteria specified under 40 CFR 64.2:
<table>
<thead>
<tr>
<th>Emission Unit/Pollutant</th>
<th>Control Device</th>
<th>Applicable Emission Limitation</th>
<th>Uncontrolled PTE (tons/year)</th>
<th>Controlled PTE (tons/year)</th>
<th>CAM Applicable (Y/N)</th>
<th>Large Unit (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner A-CS-3/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Calciner A-CS-4/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Calciner A-CS-4/ NOx</td>
<td>UHGFS**</td>
<td>326 IAC 2-3</td>
<td>≥50</td>
<td>&lt;50</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Calciner A-CS-2/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Calciner A-CS-11/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Calciner A-CS-11/ NOx</td>
<td>UHGFS**</td>
<td>326 IAC 2-3</td>
<td>≥50</td>
<td>&lt;50</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Dryer A-SD-1/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Batch operation A-GB-1/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Weigh-Up A-WU-1/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Dryer B-SD-1/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Spray Dryer B-SD-2/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Calciner B-C-1/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>326 IAC 2-2</td>
<td>-</td>
<td>-</td>
<td>N ¹</td>
<td>-</td>
</tr>
<tr>
<td>Calciner B-C-1/ PM*</td>
<td>DC</td>
<td>326 IAC 6-3</td>
<td>-</td>
<td>-</td>
<td>N ¹</td>
<td>-</td>
</tr>
<tr>
<td>Spray Dryer C-SD-1/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>326 IAC 2-2</td>
<td>≥100</td>
<td>&lt;100</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Spray Dryer C-SD-1/ PM*</td>
<td>DC</td>
<td>326 IAC 6-3</td>
<td>≥100</td>
<td>&lt;100</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Batch Operation C-WU-1/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Batch Operation C-GB-2/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Calciner C-CS-6/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Calciner C-CS-6/ NOx</td>
<td>UHGFS**</td>
<td>326 IAC 2-3</td>
<td>≥50</td>
<td>&lt;50</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Calciner C-CS-7/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Calciner C-CS-7/ NOx</td>
<td>UHGFS**</td>
<td>326 IAC 2-3</td>
<td>-</td>
<td>-</td>
<td>N ¹</td>
<td>-</td>
</tr>
<tr>
<td>Ball Mills A-BM-1 through 5/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Blending B-GB-1/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Calciner A-CS-12/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>N ²</td>
<td>-</td>
</tr>
<tr>
<td>Calciner A-CS-12/ NOx</td>
<td>UHGFS**</td>
<td>326 IAC 2-3</td>
<td>≥50</td>
<td>&lt;50</td>
<td>Y</td>
<td>N</td>
</tr>
<tr>
<td>Pilot Spray Dryer 1/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>326 IAC 2-2</td>
<td>-</td>
<td>-</td>
<td>N ¹</td>
<td>-</td>
</tr>
<tr>
<td>Pilot Spray Dryer 1/ PM*</td>
<td>DC</td>
<td>326 IAC 6-3</td>
<td>-</td>
<td>-</td>
<td>N ¹</td>
<td>-</td>
</tr>
<tr>
<td>Pilot Spray Dryer 2/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>326 IAC 2-2</td>
<td>-</td>
<td>-</td>
<td>N ¹</td>
<td>-</td>
</tr>
<tr>
<td>Pilot Spray Dryer 2/ PM*</td>
<td>DC</td>
<td>326 IAC 6-3</td>
<td>-</td>
<td>-</td>
<td>N ¹</td>
<td>-</td>
</tr>
<tr>
<td>APV Dryer/ PM, PM10, PM2.5</td>
<td>DC</td>
<td>326 IAC 2-2</td>
<td>-</td>
<td>-</td>
<td>N ¹</td>
<td>-</td>
</tr>
<tr>
<td>APV Dryer/ PM*</td>
<td>DC</td>
<td>326 IAC 6-3</td>
<td>-</td>
<td>-</td>
<td>N ¹</td>
<td>-</td>
</tr>
</tbody>
</table>
Under the Part 70 Permit program (40 CFR 70), PM is not a regulated air pollutant. Uncontrolled PTE (tpy) and controlled PTE (tpy) are evaluated against the Major Source Threshold for each pollutant. Major Source Threshold for regulated air 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.

**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.

N1 CAM does not apply for pollutant because the uncontrolled PTE of pollutant is less than the major source threshold.

N2 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.

**Controls:** DC = Dust Collection System, UHGFS = Ultracat Hot Gas Filtration System

Emission units without air pollution controls are not subject to CAM. Therefore, they are not listed.

**All emission units that process nitrate-based products at the source are controlled by this Ultracat Hot Gas Filtration System.**

**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 collectors (except the dust collectors for Calciner B-C-1 and Spray Dryer C-SD-1) have been previously determined to be necessary for the normal and proper operation of the Calciners and Dryers for powder processing (see the "Air Pollution Control Justification as an Integral Part of the Process" section above for more detail). Therefore, the dust collectors when processing metal oxide or nitrate-based products meet the criteria for inherent to the process for the purpose of determining CAM applicability, and are not considered as control device. Therefore, the requirements of 40 CFR Part 64.2, CAM, do not apply to these units.

Based on this evaluation, the requirements of 40 CFR Part 64, CAM, are still applicable to the following emission units:

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Pollutant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner A-CS-4 (#10 calciner)</td>
<td>NOx</td>
</tr>
<tr>
<td>Calciner A-CS-11 (#11 calciner)</td>
<td>NOx</td>
</tr>
<tr>
<td>Spray Dryer C-SD-1 (C-Dryer)</td>
<td>PM, PM10 and PM2.5</td>
</tr>
<tr>
<td>Calciner C-CS-6 (#6 calciner)</td>
<td>NOx</td>
</tr>
<tr>
<td>Calciner A-CS-12 (#12 calciner)</td>
<td>NOx</td>
</tr>
</tbody>
</table>
A CAM plan was submitted as part of a previous permit application and the Compliance Determination and Monitoring Requirements section includes a detailed description of the CAM requirements.

<table>
<thead>
<tr>
<th>State Rule Applicability - Entire Source</th>
</tr>
</thead>
</table>

State rule applicability for this source has been reviewed as follows:

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

PSD and Emission Offset applicability is discussed under the Potential to Emit After Issuance section of this document.

**PSD Minor Source Limits**

The Source-wide PTE of PM, PM10 and PM2.5 is greater than 250 tons per year after consideration of all integral dust collectors at the source, and after consideration that the dust collectors for the Calciner, identified as B-C-1 and the Spray Dryer, identified as C-SD-1 are not integral to the respective processes.

In order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following new limits:

The PM, PM10 and PM2.5 emissions after control from the following units shall be limited as specified below:

<table>
<thead>
<tr>
<th>Emission unit</th>
<th>PM Limit (pounds per hour)</th>
<th>PM10, PM2.5 Limit (pounds per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (B-C-1) (#5 Calciner)</td>
<td>3.38</td>
<td>3.38</td>
</tr>
<tr>
<td>Spray Dryer (C-SD-1) (C-Dryer)</td>
<td>3.38</td>
<td>3.38</td>
</tr>
</tbody>
</table>

Compliance with these limits, combined with the potential to emit PM, PM10 and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM, PM10 and PM2.5 to less than 250 tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

These are new limits added in this renewal.

**EO Minor Source Limits**

The source-wide NOx PTE is still greater than 50 tons per year. The source previously had EO minor limit of less than 100 tons per year, but this is being revised due to the current designation of Porter County as serious non-attainment for ozone.

In order to render the requirements of 326 IAC 2-3 (Emission Offset) not applicable, the Permittee shall comply with the following revised limits:

1. The NOx emissions after control from the following units shall be limited as specified below, when processing nitrate based catalyst powder.

<table>
<thead>
<tr>
<th>Emission unit</th>
<th>NOx Limit (pounds per hour)</th>
<th>NOx Limit (hours of operation per 12 consecutive month period)</th>
<th>NOx Emissions (tons per per 12 consecutive month period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (A-CS-11) (#11 Calciner)</td>
<td>5.50 4.00</td>
<td>6,257</td>
<td>12.50</td>
</tr>
</tbody>
</table>
The total maximum natural gas usage for the following fifty-two (52) natural gas-fired combustion units shall not exceed 173.00 MMCF per 12 consecutive month period at 100 lb per MMCF, with compliance determined at the end of each month.

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 50 tons per twelve (12) consecutive month period, and shall render the requirements of 326 IAC 2-3 (Emission Offset) not applicable.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The provisions of 326 IAC 2-4.1 apply to any owner or operator who constructs or reconstructs a major source of hazardous air pollutants (HAP), as defined in 40 CFR 63.41, after July 27, 1997, unless the major source has been specifically regulated under or exempted from regulation under a NESHAP that was issued pursuant to Section 112(d), 112(h), or 112(j) of the Clean Air Act (CAA) and incorporated under 40 CFR 63. On and after June 29, 1998, 326 IAC 2-4.1 is intended to implement the requirements of Section 112(g)(2)(B) of the Clean Air Act (CAA).
The operation of this source will now 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 2-6 (Emission Reporting)
This source is subject to the requirements of 326 IAC 2-6 (Emission Reporting), since it is required to have an operating permit under 326 IAC 2-7, Part 70 Permit Program, is located in Porter County, and emits NOx into the ambient air at levels equal to or greater than twenty-five (25) tons per year. Pursuant to 326 IAC 2-6-3(a)(1) and 326 IAC 2-6-3(a)(2), the Permittee shall submit, by July 1, an emission statement covering the previous calendar year as follows:

(a) triennially, in accordance with the compliance schedule in 326 IAC 2-6-3, and

(b) each year when 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.

The emission statement shall contain, at a minimum, the information specified in 326 IAC 2-6-4.

326 IAC 2-7-6(5) (Annual Compliance Certification)
The U.S. EPA Federal Register 79 FR 54978 notice does not exempt Title V Permittees from the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D), but the submittal of the Title V annual compliance certification to IDEM satisfies the requirement to submit the Title V annual compliance certifications to EPA. IDEM does not intend to revise any permits since the requirements of 40 CFR 70.6(c)(5)(iv) or 326 IAC 2-7-6(5)(D) still apply, but Permittees can note on their Title V annual compliance 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 5-1 (Opacity Limitations)
This source is subject to the opacity limitations specified in 326 IAC 5-1-2(1).

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

326 IAC 6-5 (Fugitive Particulate Matter Emission Limitations)
This source is not subject to the requirements of 326 IAC 6-5, because the source has potential fugitive particulate emissions of less than twenty-five (25) tons per year.

326 IAC 6.5 (Particulate Matter Limitations Except Lake County)
Pursuant to 326 IAC 6.5-1-1(a), this source (located in Porter County) is not subject to the requirements of 326 IAC 6.5 because it is not located in one of the following counties: Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo or Wayne.

326 IAC 6.8 (Particulate Matter Limitations for Lake County)
Pursuant to 326 IAC 6.8-1-1(a), this source (located in Porter County) is not subject to the requirements of 326 IAC 6.8 because it is not located in Lake County.

326 IAC 6.8-10 (Lake County: Fugitive Particulate Matter)
Pursuant to 326 IAC 6.8-10-1, this source (located in Porter County) is not subject to the requirements of 326 IAC 6.8-10 because it is not located in Lake County.

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)
This source is not subject to the requirements of 326 IAC 6-5, because the source does not emit or have the potential to emit volatile organic compounds (VOCs) at levels equal to or greater than twenty-five (25) tons per year.
326 IAC 20 (Hazardous Air Pollutants)
The Source-wide PTE of HAPS (Nickel) is greater than 25 tons per year after consideration of all integral dust collectors at the source, and after consideration that the dust collectors for the Calciner, identified as B-C-1 and the Spray Dryer, identified as C-SD-1 are not integral to the respective processes.

In order to render the source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA), the Permittee shall comply with the following limits:

The total emissions of Nickel after control from the following units shall be limited as specified below:

<table>
<thead>
<tr>
<th>Emission unit</th>
<th>Ni Limit (pounds per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (B-C-1) (#5 calciner)</td>
<td>0.338</td>
</tr>
<tr>
<td>Spray Dryer (C-SD-1) (C-Dryer)</td>
<td>0.338</td>
</tr>
</tbody>
</table>

These are new limits and indicate 10% of the particulate limits for Calciner B-C-1 and Spray Dryer C-SD-1.

Compliance with these limits, combined with the potential to emit HAP from all other emission units at the source, shall limit the source-wide potential to emit single HAP to less than 10 tons per twelve (12) consecutive month period and the source-wide potential to emit total HAPs to less than 25 tons per twelve (12) consecutive month period, and shall render the source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA).

State Rule Applicability – Individual Facilities

State rule applicability has been reviewed as follows:

Metal Oxide Manufacturing Operations

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
(1) Since the following emission units have potential emissions less than 0.551 pound per hour after consideration of the integral control device(s), pursuant to 326 IAC 6-3-1(b)(14), they are exempt from the requirements of 326 IAC 6-3-2.

However, since some of these emission units have potential emissions greater than 0.551 pound per hour prior to consideration of the integral control device(s), in order to assure the Facility(s) and/or Process(s) are not subject to the requirements of 326 IAC 6-3-2, the integral control device(s) shall be in operation and control emissions from the associated emission units at all times the emission units are in operation.

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Integral control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (A-CS-3) (#9 Calciner)</td>
<td>A-DC-1</td>
</tr>
<tr>
<td>Calciner (A-CS-4) (#10 Calciner)</td>
<td>A-DC-4</td>
</tr>
<tr>
<td>Calciner (A-CS-2) (#2 Calciner)</td>
<td>A-DC-1</td>
</tr>
<tr>
<td>Calciner (A-CS-11) (#11 Calciner)</td>
<td>A-DC-11</td>
</tr>
<tr>
<td>Calciner (C-CS-6) (#6 Calciner)</td>
<td>DC-CS-6</td>
</tr>
<tr>
<td>Calciner (C-CS-7) (#7 Calciner)</td>
<td>C-CS-7</td>
</tr>
<tr>
<td>Calciner (A-CS-12) (#12 Calciner)</td>
<td>A-DC-12</td>
</tr>
<tr>
<td>Dryer (A-SD-1) (A-Dryer)</td>
<td>A-SD-1</td>
</tr>
<tr>
<td>Dryer (B-SD-1) (B-Dryer)</td>
<td>B-SD-1</td>
</tr>
<tr>
<td>Spray-Dryer (B-SD-2) (SRF-Dryer)</td>
<td>B-SD-2</td>
</tr>
</tbody>
</table>
Pursuant to 326 IAC 6-3-1(b)(14), the two (2) elevator kilns are not subject to the requirements of 326 IAC 6-3, since the elevator kilns have potential particulate emissions less than five hundred fifty one thousandths (0.551) pound per hour.

Pursuant to 326 IAC 6-3-1(a), the requirements of 326 IAC 6-3-2 are applicable to the following emission units, since they are manufacturing processes not exempted from this rule under 326 IAC 6-3-1(b) and are not subject to a particulate matter limitation that is as stringent or more stringent than the particulate limitation established in this rule as specified in 326 IAC 6-3-1(c).

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the following emission units shall not exceed the specified pounds per hour limits when operating at the respective process weight rates. The pound per hour limitation was calculated with the following equation:

\[ E = 4.10 P^{0.67} \]

where \( E \) = rate of emission in pounds per hour and \( P \) = process weight rate in tons per hour

### Summary of Process Weight Rate Limits

<table>
<thead>
<tr>
<th>Process / Emission Unit</th>
<th>P (ton/hr)</th>
<th>E (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (B-C-1) (#5 calciner)</td>
<td>0.75</td>
<td>3.38</td>
</tr>
<tr>
<td>Spray-Dryer (C-SD-1) (C-Dryer)</td>
<td>0.75</td>
<td>3.38</td>
</tr>
<tr>
<td>APV Dryer (D-Dryer)</td>
<td>0.25</td>
<td>1.62</td>
</tr>
<tr>
<td>Flinn and Dreffein Dryer (F- Dryer)</td>
<td>0.25</td>
<td>1.62</td>
</tr>
<tr>
<td>Lab Shuttle Kiln</td>
<td>0.20</td>
<td>1.39</td>
</tr>
<tr>
<td>Electric Tunnel Kiln (C-Kiln)</td>
<td>0.06</td>
<td>0.64</td>
</tr>
</tbody>
</table>

The associated dust collectors shall be in operation at all times the Calciner, B-C-1 and the Spray Dryer, C-SD-1 are in operation, in order to comply with these limits.

Based on calculations, for the emission units listed below, control equipment is not needed to comply with these limits.

<table>
<thead>
<tr>
<th>Emission unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>APV Dryer (D-Dryer)</td>
</tr>
<tr>
<td>Flinn and Dreffein Dryer (F- Dryer)</td>
</tr>
<tr>
<td>Lab Shuttle Kiln</td>
</tr>
<tr>
<td>Electric Tunnel Kiln (C-Kiln)</td>
</tr>
</tbody>
</table>

Natural gas-fired boiler, hot water heaters, burners and heaters
326 IAC 6-2-2 (Particulate Matter Emission Limitations for Sources of Indirect Heating)
Pursuant to 326 IAC 6-2-1(b), for indirect heating facilities existing and in operation on, or received permit to construct, prior to September 21, 1983 and located in Porter County are subject to the requirements of 326 IAC 6-2-2.

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

\[ Pt = \frac{0.87}{Q^{0.16}} \]

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 permit shall be used.

<table>
<thead>
<tr>
<th>Facility</th>
<th>Construction Date</th>
<th>Operating Capacity (MMBtu/hr)</th>
<th>Calculated Pt (lb/MMBtu)</th>
<th>Particulate Limitation, (Pt) (lb/MMBtu)</th>
<th>PM PTE based on AP-42 (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burner C</td>
<td>Prior to 1970</td>
<td>1.40</td>
<td>0.69</td>
<td>0.6</td>
<td>0.002</td>
</tr>
<tr>
<td>Burner #5</td>
<td>1970</td>
<td>2.80</td>
<td>0.69</td>
<td>0.6</td>
<td>0.002</td>
</tr>
<tr>
<td>Burner A</td>
<td>1973</td>
<td>2.00</td>
<td>0.65</td>
<td>0.6</td>
<td>0.002</td>
</tr>
<tr>
<td>Heating Boiler</td>
<td>Prior to 1983</td>
<td>5.25</td>
<td>0.59</td>
<td>0.58</td>
<td>0.002</td>
</tr>
<tr>
<td>(C-HB-1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hot Water Heater</td>
<td>Prior to 1983</td>
<td>0.72</td>
<td>0.58</td>
<td>0.58</td>
<td>0.002</td>
</tr>
<tr>
<td>(HWH1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Where: \( Q \) = The total source capacity rating (MMBtu/hr) of all units existing at the source on June 8, 1972.

Note: Emissions units shown in strikethrough were subsequently removed from the source.

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

<table>
<thead>
<tr>
<th>Facility</th>
<th>Construction Date</th>
<th>Operating Capacity (MMBtu/hr)</th>
<th>Q (MMBtu/hr)</th>
<th>Calculated Pt (lb/MMBtu)</th>
<th>Particulate Limitation, (Pt) (lb/MMBtu)</th>
<th>PM PTE based on AP-42 (lb/MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Burner B</td>
<td>1984</td>
<td>1.60</td>
<td>14.37</td>
<td>0.55</td>
<td>0.55</td>
<td>0.002</td>
</tr>
<tr>
<td>Burner SRF</td>
<td>1984</td>
<td>0.6</td>
<td>14.37</td>
<td>0.55</td>
<td>0.55</td>
<td>0.002</td>
</tr>
<tr>
<td>Burner #2</td>
<td>1995</td>
<td>1.80</td>
<td>16.17</td>
<td>0.53</td>
<td>0.53</td>
<td>0.002</td>
</tr>
<tr>
<td>Burner #6</td>
<td>1996</td>
<td>1.80</td>
<td>22.22</td>
<td>0.49</td>
<td>0.49</td>
<td>0.002</td>
</tr>
<tr>
<td>Thirty-two (32) Air Makeup, Space Heaters, Rooftop Heaters</td>
<td>1996</td>
<td>4.25</td>
<td>22.22</td>
<td>0.49, each</td>
<td>0.49, each</td>
<td>0.002, each</td>
</tr>
<tr>
<td>Burner #11</td>
<td>2017</td>
<td>3.20</td>
<td>25.42</td>
<td>0.47</td>
<td>0.47</td>
<td>0.002</td>
</tr>
<tr>
<td>Burner #12</td>
<td>2018</td>
<td>3.30</td>
<td>28.72</td>
<td>0.46</td>
<td>0.46</td>
<td>0.002</td>
</tr>
<tr>
<td>Four (4) hot water heaters (HW1 to HW4)</td>
<td>Permitted in 2020</td>
<td>0.8</td>
<td>29.52</td>
<td>0.45, each</td>
<td>0.45, each</td>
<td>0.002, each</td>
</tr>
</tbody>
</table>

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.

Note: Emission units shown in strikethrough were subsequently removed from the source. The effect of removing these units on "Q" is shown in the year the boiler was removed.

### 326 IAC 7-1.1 Sulfur Dioxide Emission Limitations

The natural gas-fired boiler, hot water heaters, burners and heaters are not subject to 326 IAC 326 IAC 7-1.1 because each of these units have a potential to emit sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour.

### 326 IAC 9-1 (Carbon Monoxide Emission Limits)

The requirements of 326 IAC 9-1 do not apply to the natural gas-fired boiler, hot water heaters, burners and heaters, because this source does not operate a catalyst regeneration petroleum cracking system or a petroleum fluid coker, grey iron cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment.

### 326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)

The requirements of 326 IAC 10-3 do not apply to the natural gas-fired boiler, hot water heaters, burners and heaters, since these units are not blast furnace gas-fired boilers, Portland cement kilns, or facilities specifically listed under 326 IAC 10-3-1(a)(2).

### Emergency generator

### 326 IAC 6-2-1 (Particulate Emission Limitations for Sources of Indirect Heating)

Pursuant to 326 IAC 6-2-1, the requirements of 326 IAC 6-2 are not applicable to the emergency generator, because the emergency generator is not considered combustion for indirect heating as defined in 326 IAC 1-2-19.
326 IAC 7-1.1 Sulfur Dioxide Emission Limitations
The emergency generator is not subject to 326 IAC 7-1.1 because the emergency generator has a potential to emit sulfur dioxide (SO2) of less than 25 tons per year or 10 pounds per hour.

326 IAC 9-1 (Carbon Monoxide Emission Limits)
The requirements of 326 IAC 9-1 do not apply to the emergency generator, because this source does not operate a catalyst regeneration petroleum cracking system or a petroleum fluid coker, grey iron cupola, blast furnace, basic oxygen steel furnace, or other ferrous metal smelting equipment.

326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)
The requirements of 326 IAC 10-3 do not apply to the emergency generator, since this unit is not a blast furnace gas-fired boiler, Portland cement kiln, or facility specifically listed under 326 IAC 10-3-1(a)(2).

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 source are as follows:

IDEM, OAQ has determined that the control devices are integral to the manufacturing process for all metal oxide product manufacturing with the exception of the control device for calciner B-C-1, when processing the nitrate based catalyst powder. The cyclones and cartridge dust collectors shall be in operation and control particulate emissions at all times when one or more of the metal oxide manufacturing and nitrous powder operations are in operation.

Testing Requirements:
The following is a summary of testing requirements:
# Summary of Testing Requirements

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>Control Device</th>
<th>Timeframe for Testing or Date of Initial Valid Demonstration</th>
<th>Pollutant/Parameter</th>
<th>Frequency of Testing</th>
<th>Authority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner A-CS-11 (#11 Calciner)</td>
<td>Ultracat Hot Gas Filtration System*</td>
<td>September 15, 2020 (performed on Calciner A-CS-11)</td>
<td>NOx</td>
<td>Shall be performed alternately on one of the calciners (A-CS-11, C-CS-6 and A-CS-12) no later than five (5) years from the date of the most recent valid compliance demonstration and shall be repeated every five (5) years on the next calciner; Calciner (A-CS-4) (#10 Calciner) has been added in this list of units and rotation because it is also controlled by the Ultracat Hot Gas Filtration System</td>
<td>326 IAC 2-3</td>
</tr>
<tr>
<td>Calciner C-CS-6 (#6 Calciner)</td>
<td>Integral Dust Collector B-SD-2</td>
<td>November 9, 2016 (performed on Dryer A-SD-1)</td>
<td>PM, PM10 and PM2.5</td>
<td>Shall be performed alternately on one of the two dryers (A-SD-1 or B-SD-1) no later than five (5) years from the date of the most recent valid compliance demonstration and shall be repeated every five (5) years on the other dryer such that the time period between tests on each unit does not exceed ten (10) years; Dryer (B-SD-2) (SRF-Dryer) using the integral cartridge dust collector B-SD-2 has been added in this rotation.</td>
<td>326 IAC 2-2 326 IAC 6-3-2</td>
</tr>
<tr>
<td>Calciner A-CS-12 (#12 Calciner)</td>
<td>Integral Dust Collector B-SD-2</td>
<td>November 9, 2016 (performed on Dryer A-SD-1)</td>
<td>PM, PM10 and PM2.5</td>
<td>Shall be performed alternately on one of the two dryers (A-SD-1 or B-SD-1) no later than five (5) years from the date of the most recent valid compliance demonstration and shall be repeated every five (5) years on the other dryer such that the time period between tests on each unit does not exceed ten (10) years; Dryer (B-SD-2) (SRF-Dryer) using the integral cartridge dust collector B-SD-2 has been added in this rotation.</td>
<td>326 IAC 2-2 326 IAC 6-3-2</td>
</tr>
<tr>
<td>Calciner (A-CS-4) (#10 Calciner)</td>
<td>Dust Collector C-SD-1</td>
<td>November 9, 2016</td>
<td>PM, PM10 and PM2.5 and Nickel</td>
<td>every five (5) years</td>
<td>326 IAC 2-2 326 IAC 6-3-2</td>
</tr>
<tr>
<td>Dryer A-SD-1 (A-Dryer)</td>
<td>Integral Dust Collector A-SD-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dryer B-SD-1 (B Dryer)</td>
<td>Integral Dust Collector B-SD-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spray Dryer B-SD-2 (SRF-Dryer)</td>
<td>Integral Dust Collector B-SD-2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spray Dryer C-SD-1 (C-Dryer)</td>
<td>Dust Collector C-SD-1</td>
<td>November 9, 2016</td>
<td>PM, PM10 and PM2.5 and Nickel</td>
<td>every five (5) years</td>
<td>326 IAC 2-2 326 IAC 6-3-2</td>
</tr>
<tr>
<td>Calciner B-C-1 (#5 Calciner)</td>
<td>Dust Collector B-C-1</td>
<td>not later than 180 days after the issuance date of Part 70 Renewal No 127-43111-00021</td>
<td>PM, PM10, PM2.5, Nickel</td>
<td>every five (5) years</td>
<td>326 IAC 2-2 326 IAC 6-3-2</td>
</tr>
</tbody>
</table>
* All emission units that process nitrate-based products at the source are controlled by this Ultracat Hot Gas Filtration System.

The testing requirements are necessary for the following reasons:

(i) The dryers (A-SD-1 and B-SD-1) and spray dryers (B-SD-2 and C-SD-1) have a high PTE in relation to the other permitted units. Testing is necessary to assure that 326 IAC 2-2 (PSD) and 326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes) do not apply.

(ii) The control devices for the dryers (A-SD-1 and B-SD-1) and spray dryers (B-SD-2 and C-SD-1) must operate with a high efficiency in order to assure that 326 IAC 6-3-2 and 326 IAC 2-2 PSD do not apply.

(iii) The PTE was calculated with alternative emission factors that were not derived for metal oxide powder manufacturing and have low quality index ratings. The emission factor used for the two dryers, from Hot Mix Asphalt Plant dryers (SCC 3-05-002-05, -55 to -63), has a quality index rating of D. The emission factor used for the two spray dryers, from Detergent Spray Drying (SCC 3-01-009-01), has a quality index rating of E.

(iv) The source performed NOx testing on calciner (A-CS-11) on September 15, 2020, and testing will alternate between the following emission units every five years after:

| Calciner (A-CS-11) (#11 calciner) |
| Calciner (C-CS-6) (#6 calciner) |
| Calciner (A-CS-12) (#12 calciner) |
| Calciner A-CS-4 (#10 calciner) |

(b) The Compliance Monitoring Requirements applicable to this source are as follows:
<table>
<thead>
<tr>
<th>Emission Unit/ Control Device</th>
<th>Type of Parametric Monitoring</th>
<th>Frequency</th>
<th>Range or Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ultracat Hot Gas Filtration System for Calciner (A-CS-4); Calciner (A-CS-11); Calciner (C-CS-6); Calciner (C-CS-7); Calciner (A-CS-12); Lab Calciner 1; Lab Elevator Kilns 1 and 2; Lab Shuttle Kiln; and Electric Tunnel Kiln (C-Kiln)</td>
<td>Pressure drop monitoring</td>
<td>Daily</td>
<td>Within normal range of 1.0 to 6.0 inches of water unless a different upper or lower value is established in the most recent compliant stack test</td>
</tr>
<tr>
<td>1-hour average ammonia injection</td>
<td>Continuous</td>
<td>The value established in the most recent compliant stack test</td>
<td></td>
</tr>
<tr>
<td>3-hour average inlet temperature monitoring</td>
<td>Continuous</td>
<td>At or below 500 °F from permit issuance until stack test results are available, then at or below the value established in the most recent compliant stack test.</td>
<td></td>
</tr>
<tr>
<td>Calciner (B-C-1) (#5 calciner)</td>
<td>Pressure drop monitoring</td>
<td>Daily</td>
<td>Within normal range of 1.0 to 6.0 inches of water unless a different upper or lower value is established in the most recent compliant stack test</td>
</tr>
<tr>
<td>Spray-Dryer (C-SD-1) (C-Dryer)</td>
<td>Pressure drop monitoring</td>
<td>Daily</td>
<td>Within normal range of 1.0 to 6.0 inches of water unless a different upper or lower value is established in the most recent compliant stack test</td>
</tr>
</tbody>
</table>

These monitoring conditions are necessary because the Dust collectors and the ultracat hot gas filtration systems for the powder manufacturing operation must operate properly to assure compliance with 326 IAC 6-3 (Particulate Emissions Limitations for Manufacturing Processes), 326 IAC 2-2 (Prevention of Significant Deterioration and 326 IAC 2-3 (Emission Offset).

**Proposed Changes**

As part of this permit approval, the permit may contain new or different permit conditions and some conditions from previously issued permits/approvals may have been corrected, changed, or removed. These corrections, changes, and removals may include Title I changes.

The following changes were made to conditions contained previously issued permits/approvals (these changes may include Title I changes):

(1) IDEM, OAQ has modified description of emission units in the permit.

(2) IDEM, OAQ has revised emission limitations, compliance determination, compliance monitoring and record keeping requirements in the permit.

**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 August 3, 2020.

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 127-43157-00021.
The operation of this stationary metal oxide product manufacturing source shall be subject to the conditions of the attached proposed Part 70 Operating Permit Renewal No. 127-43111-00021.

The staff recommends to the Commissioner that the Part 70 Operating Permit Renewal and Significant Source Modification be approved.

### IDEM Contact

(a) If you have any questions regarding this permit, please contact Olajumoke Kayode, 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) 234-5373 or (800) 451-6027, and ask for Olajumoke Kayode or (317) 234-5373.

(b) A copy of the findings is available on the Internet at: [http://www.in.gov/ai/appfiles/idem-caats/](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](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](http://www.in.gov/idem/6900.htm).
## Potential Emissions - Before Control & After Integral Control

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAP</th>
<th>Worst Single HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powder Manufacturing</td>
<td>366.20</td>
<td>363.99</td>
<td>363.99</td>
<td>0.00</td>
<td>540.65</td>
<td>0.00</td>
<td>0.00</td>
<td>36.62</td>
<td>Nickel</td>
</tr>
<tr>
<td>Natural Gas Combustion</td>
<td>0.32</td>
<td>1.28</td>
<td>1.28</td>
<td>0.10</td>
<td>16.80</td>
<td>0.92</td>
<td>14.11</td>
<td>0.32</td>
<td>0.00</td>
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<tr>
<td>Emergency Generators</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.78</td>
<td>0.03</td>
<td>0.10</td>
<td>0.02</td>
<td>0.01</td>
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<tr>
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<td>365.27</td>
<td>365.27</td>
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<td>558.23</td>
<td>0.95</td>
<td>14.20</td>
<td>36.96</td>
<td>Nickel</td>
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### Potential Emissions - After Control & After Integral Control

<table>
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<tr>
<th>Emission Source</th>
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<th>SO2</th>
<th>NOx***</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAP</th>
<th>Worst Single HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powder Manufacturing******</td>
<td>74.34</td>
<td>19.41</td>
<td>19.41</td>
<td>0.00</td>
<td>40.49</td>
<td>0.00</td>
<td>0.00</td>
<td>5.09</td>
<td>Nickel</td>
</tr>
<tr>
<td>Natural Gas Combustion</td>
<td>0.32</td>
<td>1.28</td>
<td>1.28</td>
<td>0.10</td>
<td>8.65</td>
<td>0.92</td>
<td>14.11</td>
<td>0.32</td>
<td>0.00</td>
</tr>
<tr>
<td>Emergency Generators</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.78</td>
<td>0.03</td>
<td>0.10</td>
<td>0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>Total Excluding Fugitives</td>
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<td>20.69</td>
<td>20.69</td>
<td>0.10</td>
<td>49.92</td>
<td>0.95</td>
<td>14.20</td>
<td>5.42</td>
<td>Nickel</td>
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### Fugitive Emissions

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx**</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.e. Paved Roads</td>
<td>0.69</td>
<td>0.14</td>
<td>0.03</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Source-Wide Total HAP:

- **Potential to Emit (PTE) before control and after integral control:** 366.20 tons/yr
- **Potential to Emit (PTE) after issuance:** 74.34 tons/yr

Note: Gray shaded cells indicate where limits are included.

---

**Notes:**
- *PM2.5 listed is direct PM2.5
- Control is integral for metal oxide processes, except calciners 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).
- Fugitive HAP emissions are always included in the source-wide emissions.
- Natural gas combustion includes boiler, process heat, heaters, calciner and spray dryer burners, duct heater, and driers.

---

**Limited Emissions - After Control and After Integral:**

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>PM</th>
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<th>PM2.5</th>
<th>SO2</th>
<th>NOx***</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAP</th>
<th>Worst Single HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Powder Manufacturing******</td>
<td>74.34</td>
<td>19.41</td>
<td>19.41</td>
<td>0.00</td>
<td>40.49</td>
<td>0.00</td>
<td>0.00</td>
<td>5.09</td>
<td>Nickel</td>
</tr>
<tr>
<td>Natural Gas Combustion</td>
<td>0.32</td>
<td>1.28</td>
<td>1.28</td>
<td>0.10</td>
<td>8.65</td>
<td>0.92</td>
<td>14.11</td>
<td>0.32</td>
<td>0.00</td>
</tr>
<tr>
<td>Emergency Generators</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
<td>0.78</td>
<td>0.03</td>
<td>0.10</td>
<td>0.02</td>
<td>0.01</td>
</tr>
<tr>
<td>Total Excluding Fugitives</td>
<td>74.67</td>
<td>20.69</td>
<td>20.69</td>
<td>0.10</td>
<td>49.92</td>
<td>0.95</td>
<td>14.20</td>
<td>5.42</td>
<td>Nickel</td>
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</table>

### Fugitive Emissions

<table>
<thead>
<tr>
<th>Emission Source</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx**</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAP</th>
</tr>
</thead>
<tbody>
<tr>
<td>i.e. Paved Roads</td>
<td>0.69</td>
<td>0.14</td>
<td>0.03</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

### Source-Wide Total HAP:

- **Source-Wide Total HAP:** 5.42 tons/yr

Note: Expect to exceed 266 IAC 2-3-3 Emission Offset not applicable to this source.

---

**Notes:**
- *PM2.5 listed is direct PM2.5
- Control is integral for metal oxide processes, except calciners 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).
- Fugitive HAP emissions are always included in the source-wide emissions.
- 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
Modification Summary

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Permit Renewal No.: 127-43111-00021
Significant Source Modification No.: 127-43157-00021
Permit Reviewer: Olajumoke Kayode

New Kiln

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Worst Case HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electric shuttle kiln (C-Kiln)</td>
<td>4.11</td>
<td>4.11</td>
<td>4.11</td>
<td>-</td>
<td>27.38</td>
<td>0.00</td>
<td>0.00</td>
<td>0.41</td>
<td>0.41 Nickel</td>
</tr>
<tr>
<td>Total</td>
<td>4.11</td>
<td>4.11</td>
<td>4.11</td>
<td>0.00</td>
<td>27.38</td>
<td>0.00</td>
<td>0.00</td>
<td>0.41</td>
<td>0.41 Nickel</td>
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</table>

Modified Units

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>PM</th>
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<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Worst Case HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (C-CS-7) (#7 Calciner)</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>-</td>
<td>0.00</td>
<td>-</td>
<td>-</td>
<td>0.001</td>
<td>0.001 Nickel</td>
</tr>
<tr>
<td>APV Dryer (D-Dryer)</td>
<td>2.50</td>
<td>2.10</td>
<td>2.10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.25</td>
<td>0.25 Nickel</td>
</tr>
<tr>
<td>Lab Calciner 1</td>
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<td>0.00</td>
<td>0.00</td>
<td>-</td>
<td>0.00</td>
<td>-</td>
<td>-</td>
<td>0.00</td>
<td>0.00 0.00</td>
</tr>
<tr>
<td>Lab Calciner 2</td>
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<td>0.00</td>
<td>0.00</td>
<td>-</td>
<td>0.00</td>
<td>-</td>
<td>-</td>
<td>0.00</td>
<td>0.00 0.00</td>
</tr>
<tr>
<td>Lab Elevator Kiln 1</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>-</td>
<td>0.00</td>
<td>-</td>
<td>-</td>
<td>0.00</td>
<td>0.00 0.00</td>
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<tr>
<td>Lab Elevator Kiln 2</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>-</td>
<td>0.00</td>
<td>-</td>
<td>-</td>
<td>0.00</td>
<td>0.00 0.00</td>
</tr>
<tr>
<td>Lab Shuttle Kiln</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>-</td>
<td>0.00</td>
<td>-</td>
<td>-</td>
<td>0.00</td>
<td>0.00 0.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emission Unit</th>
<th>PM</th>
<th>PM10</th>
<th>PM2.5</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Worst Case HAPs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner (C-CS-7) (#7 Calciner)</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>-</td>
<td>27.38</td>
<td>0.00</td>
<td>0.00</td>
<td>0.001</td>
<td>0.001 Nickel</td>
</tr>
<tr>
<td>APV Dryer (D-Dryer)</td>
<td>6.24</td>
<td>5.26</td>
<td>5.26</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>0.62</td>
<td>0.62 Nickel</td>
</tr>
<tr>
<td>Lab Calciner 1</td>
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<td>-</td>
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<td>-</td>
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<td>0.02 Nickel</td>
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<tr>
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<td>-</td>
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<td>-</td>
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<td>-</td>
<td>2.50</td>
<td>-</td>
<td>-</td>
<td>0.04</td>
<td>0.04 Nickel</td>
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<tr>
<td>Shuttle Kiln</td>
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Total

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<th>PM</th>
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<th>PM2.5</th>
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<th>NOx</th>
<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Worst Case HAPs</th>
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<td>11.53</td>
<td>10.36</td>
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Total PTE Increase of Modification

<table>
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<th>VOC</th>
<th>CO</th>
<th>Total HAPs</th>
<th>Worst Case HAPs</th>
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<tbody>
<tr>
<td>15.64</td>
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<td>14.47</td>
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<td>80.75</td>
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<td>1.56 Nickel</td>
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### PTE BEFORE CONTROL & AFTER INTEGRAL

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<tr>
<th>Process</th>
<th>Weight Rate</th>
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<th>Factor PM</th>
<th>Weight Rate</th>
<th>Emission Factor</th>
<th>Factor PM</th>
<th>Control ID</th>
<th>Control Efficiency</th>
<th>PTE PM (ton/yr)</th>
<th>PTE PM (ton/yr)</th>
<th>Control ID</th>
<th>Control Efficiency</th>
<th>PTE PM (ton/yr)</th>
<th>PTE PM (ton/yr)</th>
<th>Control ID</th>
<th>Control Efficiency</th>
<th>PTE PM (ton/yr)</th>
<th>PTE PM (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dryer A-C-4 (Drier)</td>
<td>3000</td>
<td>8.5</td>
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<td>1200</td>
<td>4.11</td>
<td>0.04</td>
<td>1200</td>
<td>4.11</td>
<td>1.31</td>
<td>1.31</td>
<td>1.31</td>
<td>1.31</td>
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<td>1.31</td>
<td>1.31</td>
<td>1.31</td>
<td>1.31</td>
<td>1.31</td>
</tr>
<tr>
<td>Dryer/Conveyor C-7-2</td>
<td>1500</td>
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<td>0.04</td>
<td>1200</td>
<td>0.01</td>
<td>0.04</td>
<td>1200</td>
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<td>0.01</td>
<td>0.01</td>
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<td>0.01</td>
</tr>
<tr>
<td>Elevator Kiln C-10-3</td>
<td>500</td>
<td>0.59</td>
<td>0.04</td>
<td>1200</td>
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<td>1.21</td>
<td>1.21</td>
<td>1.21</td>
<td>1.21</td>
<td>1.21</td>
</tr>
</tbody>
</table>

**Sources of Emission Factors**

- a) Calciner (SCC 3-03-019-05): AP42, 12.11-4, Phosphate Rock Processing
- b) Drier (SCC 3-03-024-10): AP42, 12.12-4, Metallic Mineral Processing
- c) Dry grinding without air conveying and/or air classification (SCC 3-03-024-10): AP42, 12.12-4, Metallic Mineral Processing
- d) Powder handling and transfer - all minerals except bauxite (SCC 3-03-024-04): AP42, 12.14-2, Metallic Mineral Processing
- e) Spray Drier (SCC 3-03-001-01): AP42, 12.21-4, Detergent Spray Drying
- f) Material handling and transfer - all minerals except bauxite (SCC 3-03-024-04): AP42, 12.21-4, Metallic Mineral Processing
- g) Material handling, sorting, and classification (SCC 3-03-024-04): AP42, 12.24-2, Metallic Mineral Processing
- h) Wet grinding: **Note:** AP42, 12.21-4, Metallic Mineral Processing
- i) Dry grinding: **Note:** AP42, 12.21-4, Metallic Mineral Processing
- j) Other: **Note:** AP42, 12.21-4, Metallic Mineral Processing

**Notes**

1. The controls are integral for metal oxide processes except calciner B-1.
2. Calciners A-CS-11, C-CS-6, A-CS-4, and A-CS-12 may process either metal oxide powders at 1200 lb/hr or iron oxide powder at 600 lb/hr. “PTE before control & before integral” and “PTE after control & after integral” calculated for metal oxide powder processes. “PTE after control & after integral” and “Limited PTE” calculated for iron oxide powder processes.

The process weight rate for the five (5) ball mills A-B-1 to A-B-5 is 500 pounds per hour, each.
### Uncontrolled PTE and Before Integral Control

<table>
<thead>
<tr>
<th>Process</th>
<th>Unit ID</th>
<th>Process Weight Rate (lb/hr)</th>
<th>Emission Factor (lb/ton)</th>
<th>No.</th>
<th>PTE PM&lt;sub&gt;10&lt;/sub&gt; Before Integral Control (ton/yr)</th>
<th>Emission Factor (lb/ton)</th>
<th>No.</th>
<th>PTE PM&lt;sub&gt;15&lt;/sub&gt; Before Integral Control (ton/yr)</th>
<th>Emission Factor (%)</th>
<th>Note</th>
<th>PTE NOx (lb/hr)</th>
<th>PTE NOx (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner</td>
<td>A-CS-11 (#11 Calciner)</td>
<td>600.00</td>
<td>15.00</td>
<td>a</td>
<td>19.71</td>
<td>15.00</td>
<td>a</td>
<td>19.71</td>
<td>5.00%</td>
<td>b</td>
<td>30.00</td>
<td>131.40</td>
</tr>
<tr>
<td>Calciner</td>
<td>C-CS-6 (#6 Calciner)</td>
<td>600.00</td>
<td>15.00</td>
<td>a</td>
<td>19.71</td>
<td>15.00</td>
<td>a</td>
<td>19.71</td>
<td>5.00%</td>
<td>b</td>
<td>30.00</td>
<td>131.40</td>
</tr>
<tr>
<td>Calciner</td>
<td>C-CS-7 (#7 Calciner)</td>
<td>125.00</td>
<td>15.00</td>
<td>a</td>
<td>4.11</td>
<td>15.00</td>
<td>a</td>
<td>4.11</td>
<td>5.00%</td>
<td>b</td>
<td>6.25</td>
<td>27.38</td>
</tr>
<tr>
<td>Calciner</td>
<td>A-CS-4 (#10 Calciner)</td>
<td>300.00</td>
<td>15.00</td>
<td>a</td>
<td>9.86</td>
<td>15.00</td>
<td>a</td>
<td>9.86</td>
<td>5.00%</td>
<td>b</td>
<td>15.00</td>
<td>65.70</td>
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<tr>
<td>Calciner</td>
<td>A-CS-12 (#12 Calciner)</td>
<td>600.00</td>
<td>15.00</td>
<td>a</td>
<td>19.71</td>
<td>15.00</td>
<td>a</td>
<td>19.71</td>
<td>5.00%</td>
<td>b</td>
<td>30.00</td>
<td>131.40</td>
</tr>
<tr>
<td>Lab Elevator Kiln 1</td>
<td>Lab Elevator Kiln 1</td>
<td>20.00</td>
<td>15.00</td>
<td>a</td>
<td>0.66</td>
<td>15.00</td>
<td>a</td>
<td>0.66</td>
<td>5.00%</td>
<td>b,c</td>
<td>1.00</td>
<td>1.90</td>
</tr>
<tr>
<td>Lab Elevator Kiln 2</td>
<td>Lab Elevator Kiln 2</td>
<td>50.00</td>
<td>15.00</td>
<td>a</td>
<td>1.64</td>
<td>15.00</td>
<td>a</td>
<td>1.64</td>
<td>5.00%</td>
<td>b,c</td>
<td>2.50</td>
<td>2.50</td>
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<tr>
<td>Lab Shuttle Kiln</td>
<td>Lab Shuttle Kiln</td>
<td>600.00</td>
<td>15.00</td>
<td>a</td>
<td>13.14</td>
<td>15.00</td>
<td>a</td>
<td>13.14</td>
<td>5.00%</td>
<td>b,c</td>
<td>20.00</td>
<td>20.50</td>
</tr>
<tr>
<td>Electric Tunnel Klin</td>
<td>Electric Tunnel Klin</td>
<td>125.00</td>
<td>15.00</td>
<td>a</td>
<td>4.11</td>
<td>15.00</td>
<td>a</td>
<td>4.11</td>
<td>5.00%</td>
<td>b</td>
<td>6.25</td>
<td>27.38</td>
</tr>
</tbody>
</table>

**Totals**

94.28 94.28 94.28 540.65

Notes:

1. Calciner (SCC 3-05-019-05); AP42, 11.21-4, Phosphate Rock Processing
2. NOx emissions based on maximum of 5% of NOx emitted from nitrate based catalyst powder
3. Hours of operation reduced to 2000 hours because these are lab/pilot operations and operate in batch mode

The colored cells indicate new and modified emission units included in SSF No. 127-43107-00021

### Methodology

**Emission Rate (tons/yr) = (lb/hr)/(ton/2000lb)\(^2\) (Emiss. Fact.)/(lb/ton)(8760 hr/yr)/(ton/2000 lb)**

### Particulate AfterIntegral Control PTE and Limited NOx PTE

<table>
<thead>
<tr>
<th>Process</th>
<th>Unit ID</th>
<th>Process Weight Rate (lb/hr)</th>
<th>Existing PM Control Efficiency (%)</th>
<th>After Integral Control PTE PM&lt;sub&gt;10&lt;/sub&gt; (ton/yr)</th>
<th>After Integral Control PTE PM&lt;sub&gt;15&lt;/sub&gt; (ton/yr)</th>
<th>NOx Control Efficiency (%)</th>
<th>Controlled PTE NOx (lb/hr)</th>
<th>Controlled PTE NOx (ton/yr)</th>
<th>Note</th>
<th>Limited PTE NOx (lb/hr)</th>
<th>Limited PTE NOx (ton/yr)</th>
<th>Limited Hours (hrs/yr)</th>
<th>Limited PTE NOx (ton/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner</td>
<td>A-CS-11 (#11 Calciner)</td>
<td>600.00</td>
<td>99.00%</td>
<td>0.02</td>
<td>0.02</td>
<td>95.00%</td>
<td>6.57</td>
<td>1.50</td>
<td>4.00</td>
<td>6257</td>
<td>12.50</td>
<td>40.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Calciner</td>
<td>C-CS-6 (#6 Calciner)</td>
<td>600.00</td>
<td>99.00%</td>
<td>0.02</td>
<td>0.02</td>
<td>95.00%</td>
<td>6.57</td>
<td>1.50</td>
<td>4.00</td>
<td>6257</td>
<td>12.50</td>
<td>40.00</td>
<td>40.00</td>
</tr>
<tr>
<td>Calciner</td>
<td>C-CS-7 (#7 Calciner)</td>
<td>125.00</td>
<td>99.00%</td>
<td>0.00</td>
<td>0.00</td>
<td>95.00%</td>
<td>0.55</td>
<td>0.05</td>
<td>c</td>
<td>0.46</td>
<td>2000</td>
<td>0.46</td>
<td>0.46</td>
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<tr>
<td>Calciner</td>
<td>A-CS-4 (#10 Calciner)</td>
<td>300.00</td>
<td>99.00%</td>
<td>0.01</td>
<td>0.01</td>
<td>95.00%</td>
<td>3.29</td>
<td>0.75</td>
<td>1.76</td>
<td>6257</td>
<td>5.90</td>
<td>5.90</td>
<td>5.90</td>
</tr>
<tr>
<td>Calciner</td>
<td>A-CS-12 (#12 Calciner)</td>
<td>600.00</td>
<td>99.00%</td>
<td>0.02</td>
<td>0.02</td>
<td>95.00%</td>
<td>6.57</td>
<td>1.50</td>
<td>4.00</td>
<td>2000</td>
<td>4.00</td>
<td>4.00</td>
<td>4.00</td>
</tr>
<tr>
<td>Lab Elevator Kiln 1</td>
<td>Lab Elevator Kiln 1</td>
<td>50.00</td>
<td>0.00%</td>
<td>1.94</td>
<td>1.64</td>
<td>95.00%</td>
<td>0.13</td>
<td>0.13</td>
<td>c</td>
<td>0.64</td>
<td>2000</td>
<td>0.64</td>
<td>0.64</td>
</tr>
<tr>
<td>Lab Elevator Kiln 2</td>
<td>Lab Elevator Kiln 2</td>
<td>50.00</td>
<td>0.00%</td>
<td>1.94</td>
<td>1.64</td>
<td>95.00%</td>
<td>0.13</td>
<td>0.13</td>
<td>c</td>
<td>0.64</td>
<td>2000</td>
<td>0.64</td>
<td>0.64</td>
</tr>
<tr>
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<td>Lab Elevator Kiln 2</td>
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<td>1.94</td>
<td>1.64</td>
<td>95.00%</td>
<td>0.13</td>
<td>0.13</td>
<td>c</td>
<td>0.64</td>
<td>2000</td>
<td>0.64</td>
<td>0.64</td>
</tr>
<tr>
<td>Lab Elevator Kiln 1</td>
<td>Lab Elevator Kiln 1</td>
<td>50.00</td>
<td>0.00%</td>
<td>1.94</td>
<td>1.64</td>
<td>95.00%</td>
<td>0.13</td>
<td>0.13</td>
<td>c</td>
<td>0.64</td>
<td>2000</td>
<td>0.64</td>
<td>0.64</td>
</tr>
<tr>
<td>Electric Tunnel Klin</td>
<td>Electric Tunnel Klin</td>
<td>125.00</td>
<td>0.00%</td>
<td>4.11</td>
<td>4.11</td>
<td>95.00%</td>
<td>1.37</td>
<td>0.31</td>
<td>0.56</td>
<td>6257</td>
<td>1.75</td>
<td>1.75</td>
<td>1.75</td>
</tr>
</tbody>
</table>

**Totals**

21.26 21.26 21.26 27.03 7.18 40.49

### Methodology

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

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

**5.99**

Note:

3. Processes limited to 2000 hours of operation because they are lab/batch operations

The colored cells indicate new and modified emission units included in SSF No. 127-43107-00021
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
Permit Renewal No.: 127-43111-00021
Significant Source Modification No.: 127-43157-00021
Permit Reviewer: Olajumoke Kayode

<table>
<thead>
<tr>
<th>Emission unit</th>
<th>Process Wt. Rate (lb/hr)</th>
<th>Process Wt. Rate (ton/hr)</th>
<th>6-3-2 PM Allowable (lb/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calciner B-C-1 (#5 Calciner)</td>
<td>1500</td>
<td>0.75</td>
<td>3.38</td>
</tr>
<tr>
<td>Spray Dryer C-SD-1 (C-Dryer)</td>
<td>1500</td>
<td>0.75</td>
<td>3.38</td>
</tr>
<tr>
<td>APV Dryer (D-Dryer)</td>
<td>500</td>
<td>0.25</td>
<td>1.62</td>
</tr>
<tr>
<td>F&amp;D Dryer (F-Dryer)</td>
<td>500</td>
<td>0.25</td>
<td>1.62</td>
</tr>
<tr>
<td>Shuttle Kiln</td>
<td>400</td>
<td>0.20</td>
<td>1.39</td>
</tr>
<tr>
<td>Electric Tunnel Kiln (C-Kiln)</td>
<td>125</td>
<td>0.06</td>
<td>0.64</td>
</tr>
</tbody>
</table>

Total lb/hr 12.04
Total ton/yr 52.72

Methodology
Allowable Emission Limit in lbs/hr = 4.1 * Process Wt. Rate (ton/hr)^0.67
Process Wt. Rate in tons/yr = Process Wt. Rate (lbs/hr) * (1 ton/2000 lb)
### Natural Gas Combustion Only
**MM BTU/HR <100**

**Insignificant Activities - Small Industrial Boilers: Indirect Heating**

<table>
<thead>
<tr>
<th>Company Name:</th>
<th>Powder Processing Technology, LLC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address City IN Zip:</td>
<td>5103 Evans Avenue, Valparaiso, IN 46383</td>
</tr>
<tr>
<td>Permit Renewal No.:</td>
<td>127-43111-00021</td>
</tr>
<tr>
<td>Significant Source Modification No.:</td>
<td>127-43157-00021</td>
</tr>
<tr>
<td>Permit Reviewer:</td>
<td>Olajumoke Kayode</td>
</tr>
</tbody>
</table>

#### Heat Input Capacity

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Individual Heat Input Capacity (MMBtu/hr)</th>
<th># of Units</th>
<th>Total Heat Input Capacity (MMBtu/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-HB-1</td>
<td>5.25</td>
<td>1</td>
<td>5.250</td>
</tr>
<tr>
<td>HWH1</td>
<td>0.72</td>
<td>1</td>
<td>0.720</td>
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</tbody>
</table>

**Total**: 5.970

### Emission Factors

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>1.9</td>
<td>0.05</td>
</tr>
<tr>
<td>PM10*</td>
<td>7.6</td>
<td>0.19</td>
</tr>
<tr>
<td>direct PM2.5*</td>
<td>7.6</td>
<td>0.19</td>
</tr>
<tr>
<td>SO2</td>
<td>0.6</td>
<td>0.02</td>
</tr>
<tr>
<td>NOx</td>
<td>100</td>
<td>2.56</td>
</tr>
<tr>
<td>VOC</td>
<td>5.5</td>
<td>0.14</td>
</tr>
<tr>
<td>CO</td>
<td>84</td>
<td>2.15</td>
</tr>
</tbody>
</table>

**HAPs - Organics**

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>5.384E-05</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>3.076E-05</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>1.923E-03</td>
</tr>
<tr>
<td>Hexane</td>
<td>4.614E-02</td>
</tr>
<tr>
<td>Toluene</td>
<td>8.716E-05</td>
</tr>
</tbody>
</table>

**HAPs - Metals**

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>1.282E-05</td>
</tr>
<tr>
<td>Cadmium</td>
<td>2.820E-05</td>
</tr>
<tr>
<td>Chromium</td>
<td>3.589E-05</td>
</tr>
<tr>
<td>Manganese</td>
<td>9.742E-06</td>
</tr>
<tr>
<td>Nickel</td>
<td>5.384E-05</td>
</tr>
</tbody>
</table>

**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 hr/yr x 1 MCF/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

Company Name: Powder Processing Technology, LLC
Address City IN Zip: 5103 Evans Avenue, Valparaiso, IN 46383
Permit Renewal No.: 127-43111-00021
Significant Source Modification No.: 127-43157-00021
Permit Reviewer: Olajumoke Kayode

Heat Input Capacity | HHV | Potential Throughput |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>MMBtu/hr</td>
<td>mmBtu</td>
<td>MMCF/yr</td>
</tr>
<tr>
<td>AM1-AM3</td>
<td>0.08</td>
<td>3</td>
</tr>
<tr>
<td>AM4</td>
<td>0.05</td>
<td>1</td>
</tr>
<tr>
<td>AM5</td>
<td>1.65</td>
<td>1</td>
</tr>
<tr>
<td>SH1-SH18</td>
<td>0.30</td>
<td>18</td>
</tr>
<tr>
<td>SH19</td>
<td>0.10</td>
<td>1</td>
</tr>
<tr>
<td>RTH1, RTH2</td>
<td>0.10</td>
<td>2</td>
</tr>
<tr>
<td>RTH3, RTH4</td>
<td>0.144</td>
<td>2</td>
</tr>
<tr>
<td>RTH5</td>
<td>0.18</td>
<td>1</td>
</tr>
<tr>
<td>SH45</td>
<td>0.625</td>
<td>1</td>
</tr>
<tr>
<td>SH46</td>
<td>0.938</td>
<td>1</td>
</tr>
<tr>
<td>HW1-HW4</td>
<td>0.20</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>4.45</td>
<td>38.00</td>
</tr>
</tbody>
</table>

Pollutant                | Emission Factor in lb/MMCF | Potential Emission in tons/yr |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>1.9</td>
<td>0.09</td>
</tr>
<tr>
<td>PM10*</td>
<td>7.6</td>
<td>0.34</td>
</tr>
<tr>
<td>direct PM2.5*</td>
<td>7.6</td>
<td>0.34</td>
</tr>
<tr>
<td>SO2</td>
<td>0.6</td>
<td>0.03</td>
</tr>
<tr>
<td>NOx</td>
<td>100</td>
<td>4.53</td>
</tr>
<tr>
<td>VOC</td>
<td>5.5</td>
<td>0.25</td>
</tr>
<tr>
<td>CO</td>
<td>84</td>
<td>3.81</td>
</tr>
</tbody>
</table>

**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 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

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

HAPs - Organics

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>2.1E-03</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>1.2E-03</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>7.5E-02</td>
</tr>
<tr>
<td>Hexane</td>
<td>1.8E+00</td>
</tr>
<tr>
<td>Toluene</td>
<td>3.4E-03</td>
</tr>
</tbody>
</table>

Potential Emission in tons/yr = 9.515E-05 x 5.437E-05 x 3.398E-03 x 8.155E-02 x 1.540E-04

HAPs - Metals

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>5.0E-04</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.1E-03</td>
</tr>
<tr>
<td>Chromium</td>
<td>1.4E-03</td>
</tr>
<tr>
<td>Manganese</td>
<td>3.8E-04</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.1E-03</td>
</tr>
</tbody>
</table>

Potential Emission in tons/yr = 2.265E-05 x 4.984E-05 x 6.343E-05 x 1.722E-05 x 9.515E-05

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

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Heat Input Capacity (MMBlu/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>#2 (A-CS-2)</td>
<td>1.80</td>
</tr>
<tr>
<td>#5 (B-C-1)</td>
<td>1.80</td>
</tr>
<tr>
<td>#11 (A-CS-11)</td>
<td>3.20</td>
</tr>
<tr>
<td>A (A-SD-1)</td>
<td>2.00</td>
</tr>
<tr>
<td>B (B-SD-1)</td>
<td>1.60</td>
</tr>
<tr>
<td>C (C-SD-1)</td>
<td>1.4</td>
</tr>
<tr>
<td>SRF (B-SD-2)</td>
<td>0.6</td>
</tr>
<tr>
<td>#12 (A-CS-12)</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Total: 18.50

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>1.9</td>
<td>0.15</td>
</tr>
<tr>
<td>PM10*</td>
<td>7.6</td>
<td>0.60</td>
</tr>
<tr>
<td>PM2.5*</td>
<td>7.6</td>
<td>0.60</td>
</tr>
<tr>
<td>SO2</td>
<td>0.6</td>
<td>0.05</td>
</tr>
<tr>
<td>NOx</td>
<td>100</td>
<td>7.94</td>
</tr>
<tr>
<td>VOC</td>
<td>5.5</td>
<td>0.44</td>
</tr>
<tr>
<td>CO</td>
<td>84</td>
<td>6.67</td>
</tr>
</tbody>
</table>

**see below

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>2.1E-03</td>
<td>1.668E-04</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>1.2E-03</td>
<td>9.533E-05</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>7.5E-02</td>
<td>5.958E-03</td>
</tr>
<tr>
<td>Hexane</td>
<td>1.8E+00</td>
<td>1.430E-01</td>
</tr>
<tr>
<td>Toluene</td>
<td>3.4E-03</td>
<td>2.701E-04</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>5.0E-04</td>
<td>3.972E-05</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.1E-03</td>
<td>8.739E-05</td>
</tr>
<tr>
<td>Chromium</td>
<td>1.4E-03</td>
<td>1.112E-04</td>
</tr>
<tr>
<td>Manganese</td>
<td>3.8E-04</td>
<td>3.019E-05</td>
</tr>
<tr>
<td>Nickel</td>
<td>2.1E-03</td>
<td>1.668E-04</td>
</tr>
</tbody>
</table>

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 (MMBlu/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

<table>
<thead>
<tr>
<th>Unit ID</th>
<th>Individual Heat Input Capacity (MMBtu/hr)</th>
<th># of Units</th>
<th>Total Heat Input Capacity (MMBtu/hr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Duct Heater</td>
<td>2.200</td>
<td>1</td>
<td>2.200</td>
</tr>
<tr>
<td>Pilot Dryer</td>
<td>0.200</td>
<td>1</td>
<td>0.200</td>
</tr>
<tr>
<td>APV Dryer</td>
<td>0.700</td>
<td>1</td>
<td>0.700</td>
</tr>
<tr>
<td>F&amp;D Dryer</td>
<td>0.496</td>
<td>1</td>
<td>0.496</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4.092</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor in lb/MMCF</th>
<th>Potential Emission in tons/yr</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PM</strong></td>
<td>1.9</td>
<td>0.03</td>
</tr>
<tr>
<td><strong>PM10</strong></td>
<td>7.6</td>
<td>0.13</td>
</tr>
<tr>
<td><strong>PM2.5</strong></td>
<td>7.6</td>
<td>0.13</td>
</tr>
<tr>
<td><strong>SO2</strong></td>
<td>0.6</td>
<td>0.01</td>
</tr>
<tr>
<td><strong>NOx</strong></td>
<td>100</td>
<td>1.76</td>
</tr>
<tr>
<td><strong>VOC</strong></td>
<td>5.5</td>
<td>0.10</td>
</tr>
<tr>
<td><strong>CO</strong></td>
<td>84</td>
<td>1.48</td>
</tr>
</tbody>
</table>

**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**

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/mcf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>3.69E-05</td>
</tr>
<tr>
<td>Dichlorobenzene</td>
<td>2.109E-05</td>
</tr>
<tr>
<td>Formaldehyde</td>
<td>1.318E-03</td>
</tr>
<tr>
<td>Hexane</td>
<td>3.163E-02</td>
</tr>
<tr>
<td>Toluene</td>
<td>5.974E-05</td>
</tr>
</tbody>
</table>

**HAPs - Metals**

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMcf</th>
<th>Potential Emission in tons/mcf</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead</td>
<td>8.768E-06</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1.933E-05</td>
</tr>
<tr>
<td>Chromium</td>
<td>2.460E-05</td>
</tr>
<tr>
<td>Manganese</td>
<td>6.677E-06</td>
</tr>
<tr>
<td>Nickel</td>
<td>3.690E-05</td>
</tr>
</tbody>
</table>

**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: Emissions Calculations

**Natural Gas Combustion Only**

**MM BTU/HR <100**

### Company Information

**Company Name:** Powder Processing Technology, LLC  
**Address City IN Zip:** 5103 Evans Avenue, Valparaiso, IN 46383  
**Permit Renewal No.:** 127-43111-00021  
**Significant Source Modification No.:** 127-43157-00021  
**Permit Reviewer:** Olajumoke Kayode

### Emission Factors

**Limited Throughput**  
**MMCF/yr**  
173.0

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>PM*</th>
<th>PM10*</th>
<th>direct PM2.5*</th>
<th>SO2</th>
<th>NOx</th>
<th>VOC</th>
<th>CO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission Factor in lb/MMCF</td>
<td>1.9</td>
<td>7.6</td>
<td>7.6</td>
<td>0.6</td>
<td>100</td>
<td>5.5</td>
<td>84</td>
</tr>
</tbody>
</table>

**Potential Emission in tons/yr**  
0.16  
0.66  
0.66  
0.05  
8.65  
0.48  
7.27

- **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

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMcf</th>
<th>Benzene</th>
<th>Dichlorobenzene</th>
<th>Formaldehyde</th>
<th>Hexane</th>
<th>Toluene</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.1E-03</td>
<td>1.2E-03</td>
<td>7.5E-02</td>
<td>1.8E+00</td>
<td>3.4E-03</td>
</tr>
</tbody>
</table>

**Potential Emission in tons/yr**  
1.817E-04  
1.038E-04  
6.488E-03  
1.557E-01  
2.941E-04

**Total HAPs =** 0.16  
**Single HAP =** 0.156 Hexane

### HAPs - Metals

<table>
<thead>
<tr>
<th>Emission Factor in lb/MMcf</th>
<th>Lead</th>
<th>Cadmium</th>
<th>Chromium</th>
<th>Manganese</th>
<th>Nickel</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5.0E-04</td>
<td>1.1E-03</td>
<td>1.4E-03</td>
<td>3.8E-04</td>
<td>2.1E-03</td>
</tr>
</tbody>
</table>

**Potential Emission in tons/yr**  
4.325E-05  
9.515E-05  
1.211E-04  
3.287E-05  
1.817E-04

### 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
Permit Renewal No.: 127-43111-00021
Significant Source Modification No.: 127-43157-00021
Permit Reviewer: Olajumoke Kayode

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

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Emission Factor (lb/MMBtu)</th>
<th>Potential Emissions (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM*</td>
<td>3.84E-02</td>
<td>0.01</td>
</tr>
<tr>
<td>PM10*</td>
<td>4.83E-02</td>
<td>0.01</td>
</tr>
<tr>
<td>PM2.5*</td>
<td>4.83E-02</td>
<td>0.01</td>
</tr>
<tr>
<td>SO2</td>
<td>6.88E-04</td>
<td>0.01</td>
</tr>
<tr>
<td>NOx</td>
<td>3.17E+00</td>
<td>0.01</td>
</tr>
<tr>
<td>VOC</td>
<td>1.20E-01</td>
<td>0.01</td>
</tr>
<tr>
<td>CO</td>
<td>3.86E-01</td>
<td>0.01</td>
</tr>
</tbody>
</table>

*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)

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

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)
NOx = Nitrous Oxides
VOC = Volatile Organic Compounds
SO2 = Sulfur Dioxide
CO = Carbon Monoxide
## Paved Roads at Industrial Site

The following calculations determine the amount of emissions created by paved roads, based on 8,760 hours of use and AP-42, Ch 13.2.1 (1/2011).

### Vehicle Information (provided by source)

<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum number of vehicles per day</th>
<th>Number of one-way trips per day per vehicle</th>
<th>Maximum trips per day (trip/day)</th>
<th>Maximum Weight of Loaded Vehicle (tons/trip)</th>
<th>Total Weight driven per day (ton/day)</th>
<th>Maximum one-way distance (feet/trip)</th>
<th>Maximum one-way miles (miles/day)</th>
<th>Maximum one-way miles (miles/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle (entering plant) (one-way trip)</td>
<td>10.0</td>
<td>1.0</td>
<td>10.0</td>
<td>23.0</td>
<td>385</td>
<td>37.5</td>
<td>0.073</td>
<td>0.7</td>
</tr>
<tr>
<td>Vehicle (leaving plant) (one-way trip)</td>
<td>10.0</td>
<td>1.0</td>
<td>10.0</td>
<td>23.0</td>
<td>385</td>
<td>37.5</td>
<td>0.073</td>
<td>0.7</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>20.0</strong></td>
<td><strong>2.0</strong></td>
<td><strong>20.0</strong></td>
<td><strong>46.0</strong></td>
<td><strong>770</strong></td>
<td><strong>75.0</strong></td>
<td><strong>1.46</strong></td>
<td><strong>7.4</strong></td>
</tr>
</tbody>
</table>

### Average Vehicle Weight Per Trip

\[ \text{Average Vehicle Weight Per Trip} = \frac{\text{Total Weight driven per day (ton/day)}}{\text{Maximum trips per day (trip/day)}} \]

### Unmitigated Emission Factor

\[ \text{Unmitigated Emission Factor, } EF = k \times (sL)^{0.91} \times (W)^{1.02} \]  

\[ \text{where } k = 0.011, \quad sL = 9.7 \text{ g/m}^2, \quad W = 30.3 \text{ tons} \]

### Mitigated Emission Factor

\[ \text{Mitigated Emission Factor, } E_{ext} = EF \times \left[1 - \left(\frac{p}{4N}\right)\right] \]

\[ \text{where } p = 125 \text{ days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)}, \quad N = 365 \text{ days per year} \]

### Process

<table>
<thead>
<tr>
<th>Process</th>
<th>Mitigated PTE of PM (tons/yr)</th>
<th>Mitigated PTE of PM10 (tons/yr)</th>
<th>Mitigated PTE of PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle (entering plant) (one-way trip)</td>
<td>0.34</td>
<td>0.07</td>
<td>0.02</td>
</tr>
<tr>
<td>Vehicle (leaving plant) (one-way trip)</td>
<td>0.34</td>
<td>0.07</td>
<td>0.02</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>0.68</strong></td>
<td><strong>0.14</strong></td>
<td><strong>0.03</strong></td>
</tr>
</tbody>
</table>

### Abbreviations

- **PM** = Particulate Matter
- **PM10** = Particulate Matter (<10 \(\mu\)m)
- **PM2.5** = Particulate Matter (<2.5 \(\mu\)m)
- **PTE** = Potential to Emit
- **E_{ext}** = Mitigated Emission Factor (lb/mile)
- **EF** = Unmitigated Emission Factor (lb/mile)
- **b/vMT** = particle size multiplier (AP-42 Table 13.2.1-1)
- **sL** = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3
- **PM** = Particulate Matter
- **PM10** = Particulate Matter (<10 \(\mu\)m)
- **PM2.5** = Particle Matter (<2.5 \(\mu\)m)
- **PTE** = Potential to Emit
- **EF** = Unmitigated Emission Factor (lb/mile)
- **E_{ext}** = Mitigated Emission Factor (lb/mile)
May 20, 2021

Ryan Loquist
Powder Processing Technology, LLC
5103 Evans Ave
Valparaiso, IN 46383

Re: Public Notice
Powder Processing Technology, LLC
Permit Level: Title V Renewal
Title V Sig Source Mod Min PSD
Permit Number: 127-43111-00021
127-43157-00021

Dear Mr. Loquist:

Enclosed is the Notice of 30-Day Period for Public Comment for your draft air permit.

Our records indicate that you are the contact person for this application. However, if you are not the appropriate person within your company to receive this document, please forward it to the correct person. The Notice of 30-Day Period for Public Comment has also been sent to the OAQ Permits Branch Interested Parties List and, if applicable, your Consultant/Agent and/or Responsible Official/Authorized Individual.

The preliminary findings, including the draft permit, technical support document, emission calculations, and other supporting documents, are available electronically at:

IDEM’s online searchable database: [http://www.in.gov/apps/idem/caats/](http://www.in.gov/apps/idem/caats/). Choose Search Option by Permit Number, then enter permit 43111 or 43157

and

IDEM’s Virtual File Cabinet (VFC): [https://www.IN.gov/idem](https://www.IN.gov/idem). Enter VFC in the search box, then search for permit documents using a variety of criteria, such as Program area, date range, permit #, Agency Interest Number, or Source ID.

The Public Notice period will begin the date the Notice is published on the IDEM Official Public Notice website. Publication has been requested and is expected within 2-3 business days. You may check the exact Public Notice begins and ends date here: [https://www.in.gov/idem/public-notices/](https://www.in.gov/idem/public-notices/)

Please note that as of April 17, 2019, IDEM is no longer required to publish the notice in a newspaper.

OAQ has submitted the draft permit package to the Porter County Public Library System, 103 Jefferson Street in Valparaiso, IN. 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 draft permit 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 Olajumoke Kayode, 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 4-5373 or dial (317) 234-5373.

Sincerely,

Theresa Weaver

Theresa Weaver
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover Letter access via website 8/10/2020
May 20, 2021

To: Porter County Public Library System

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: 127-43111-00021; 127-43157-00021

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
- 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 Smiddle-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 updated 4/2019
Notice of Public Comment

May 20, 2021
Powder Processing Technology, LLC
127-43111-00021; 127-43157-00021

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 posted on IDEM’s Public Notice website at https://www.in.gov/idem/public-notices/.

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 Joanne Smiddie-Brush with the Air Permits Administration Section at 1-800-451-6027, ext. 3-0185 or via e-mail at JBRUSH@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.
AFFECTED STATE NOTIFICATION OF PUBLIC COMMENT PERIOD
DRAFT INDIANA AIR PERMIT

May 20, 2021

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

**Permit Number:** 127-43111-00021; 127-43157-00021
**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

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<th>IDEM Staff</th>
<th>TAWEAVER 5/20/2021 Powder Processing Technology LLC 127-43111-00021; 127-43157-00021 (draft)</th>
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<td>Name and address of Sender</td>
<td>Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204</td>
<td>Type of Mail: CERTIFICATE OF MAILING ONLY</td>
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<td>Ryan Loquist  Powder Processing Technology LLC 5103 Evans Ave Valparaiso IN 46383 (Source CAATS)</td>
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<td>Mr. Ed Dybel  900 Parker Place, Suite A Schererville IN 46325-1482 (Affected Party)</td>
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<td>Valparaiso City Council and Mayors Office 166 Lincolnway Valparaiso IN 46383-5524 (Local Official)</td>
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<td>Mr. Joseph Virgil 128 Kinsale Avenue Valparaiso IN 46385 (Affected Party)</td>
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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 mail merchandise insurance is $500. The maximum indemnity payable is $25,000 for registered mail, sent with optional postal insurance. See Domestic Mail Manual R900, S913, and S921 for limitations of coverage on insured and COD mail. See International Mail Manual for limitations of coverage on international mail. Special handling charges apply only to Standard Mail (A) and Standard Mail (B) parcels.