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

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

To:	Interested Parties
Date:	July 2, 2024
From:	Jenny Acker, Chief Permits Branch Office of Air Quality
Source Name:	Linde Advanced Material Technologies Inc
Permit Level:	FESOP Significant Permit Revision (Minor PSD/EO)
Permit Number:	097-47553-00060
Source Location:	1245 and 1415 Main St Indianapolis, IN 46224 and 1500 and 1550 Polco St Indianapolis, IN 46222
Type of Action Taken:	Revisions to permit requirements

Notice of Decision: Approval - Effective Immediately

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the matter referenced above.

The final decision is available on the IDEM website at: http://www.in.gov/apps/idem/caats/
To view the document, choose Search Option **by Permit Number**, then enter permit 47553. This search will also provide the application received date, **draft permit** public notice start and end date, and **final** permit issuance date.

The final decision is also available via IDEM's Virtual File Cabinet (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.

(continues on next page)

If you would like to request a paper copy of the permit document, please contact IDEM's Office of Records Management:

IDEM - Office of Records Management
Indiana Government Center North, Room 1207
100 North Senate Avenue
Indianapolis, IN 46204
Phone: (317) 232-8667
Fax: (317) 233-6647
Email: IDEMFILEROOM@idem.in.gov

Pursuant to IC 13-15-5-3, this permit is effective immediately, unless a petition for stay of effectiveness is filed and granted according to IC 13-15-6-3, and may be revoked or modified in accordance with the provisions of IC 13-15-7-1.

If you wish to challenge this decision, IC 4-21.5-3 and IC 13-15-6-1 require that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Indiana Office of Administrative Law Proceedings, 100 N. Senate Avenue Suite N802, Indianapolis, IN 46204, **within eighteen (18) calendar days of the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

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

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

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

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

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

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

July 2, 2024

Michael Hess
Linde Advanced Material Technologies, Inc
1500 Polco St.,
Indianapolis, IN 46224

Re: 097-47553-00060
Significant Revision to
F097-46563-00060

Dear Michael Hess:

Linde Advanced Material Technologies, Inc was issued a Federally Enforceable State Operating Permit (FESOP) Renewal No. F097-46563-00060, on April 01, 2024, for a stationary metallic and non-metallic powder manufacturing and surface coating operation located at 1245 and 1415 Main St., Indianapolis, IN 46224, 1500 and 1550 Polco St., Indianapolis, IN 46222.

On February 21, 2024, the Office of Air Quality (OAQ) received an application from the source requesting modify One (1) powder manufacturing process, identified as CSP Department EU020, and replace Operation 1, Process 3 (O1P3). Pursuant to the provisions of 326 IAC 2-8-11.1, these changes to the permit are required to be reviewed in accordance with the Significant Permit Revision (SPR) procedures of 326 IAC 2-8-11.1(f).

Pursuant to the provisions of 326 IAC 2-8-11.1, a Significant Permit Revision to this permit is hereby approved as described in the attached Technical Support Document (TSD).

Pursuant to 326 IAC 2-8-11.1, the following emission units are approved for construction at the source:

(a) One (1) natural gas combustion unit, identified as Burner 3, associated with EU020, approved in 2024 for construction, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(b) Four (4) electrically heated kilns, identified as Kiln 4, Kiln 5, Kiln 6, and Kiln 7, approved in 2024 for construction, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, utilizing a dust collector, identified as DC033, as control.

(c) Two (2) enclosed DM1 pre-kiln mills, identified as Mill 4 and Mill 5, approved in 2024 for construction, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(d) Four (4) enclosed DM4 post-kiln mills, identified as Mill 6 to Mill 9, each, approved in 2024 for construction, each with a maximum capacity of 30 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;

(e) One (1) Operation 1, Process 3 (O1P3), approved in 2024 for construction, with a maximum capacity of 55.00 pounds of ammonium bifluoride (ABF) added to the dip tank per week, located at 1415 Main Street, utilizing no control, and exhausting indoors.

This is going to replace an existing Operation 1, Process (O1P3) (constructed in 2014.)

(f) One (1) powder handling operation to convey powder to a hopper after CSP, identified as Powder Handling After CSP, with a maximum capacity of 84.90 pounds of powder fed into a kiln per hour, and utilizing ~~a~~ two (2) dust collectors, identified as DC-033 and DC-020A, as controls.

This Powder Handling After CSP is approved in 2024 to add a control.

(g) One (1) final powder handling process, identified as Final Powder Handling, with a maximum capacity of 70.77 pounds of powder screened and packaged per hour, and utilizing a dust collector, identified as DC-030, as control.

This Final Powder Handling is approved in 2024 to change control.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this permit revision 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 (Revocation), 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.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the Significant Permit Revision into the permit.

All other conditions of the permit shall remain unchanged and in effect.

Please find attached the entire FESOP as revised. The permit references the below-listed attachment(s). Since these attachments have been provided in previously issued approvals for this source, IDEM OAQ has not included a copy of these attachments with this revision:

Attachment A: New Source Performance Standards for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR Part 60, Subpart Dc]
Attachment B: National Emission Standards for Chemical Manufacturing Area Sources [40 CFR Part 63, Subpart VVVVVV]
Attachment C: National Emission Standards for Area Sources: Paints and Allied Products Manufacturing [40 CFR Part 63, Subpart CCCCCCC]

Attachment D: National Emission Standards for Area Source Standards for Plating and Polishing Operations [40 CFR Part 63, Subpart WWWWWW]
Attachment E: National Emission Standards for Stationary Reciprocating Internal Combustion Engines [40 CFR Part 63, Subpart ZZZZ]
Attachment F: National Emission Standards for Halogenated Solvent Cleaning [40 CFR Part 63, Subpart T]

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

Previously issued approvals for this source are 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.

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

If you have any questions regarding this matter, please contact Emily Skelton, 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) 232-2053 or (800) 451-6027, and ask for Emily Skelton or (317) 232-2053.

Sincerely,

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

Attachments: Revised permit and Technical Support Document.

cc: File - Marion County
Marion County Health Department
U.S. EPA, Region 5
Compliance and Enforcement Branch

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

Federally Enforceable State Operating Permit Renewal
OFFICE OF AIR QUALITY

Linde Advanced Material Technologies, Inc
1245 and 1415 Main St, Indianapolis, Indiana 46224
1500 and 1550 Polco St, Indianapolis, Indiana 46222

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

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

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 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.

Indiana statutes from IC 13 and rules from 326 IAC, quoted 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 FESOP under 326 IAC 2-8.

Operation Permit No.: F097-46563-00060 Master Agency Interest ID: 12099	
Issued by: *Original signed by:* Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: April 01, 2024 Expiration Date: April 01, 2029

Significant Permit Revision No.: F097-47553-00060	
Issued by: Madhuna Das for Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: July 2, 2024 Expiration Date: April 01, 2029

TABLE OF CONTENTS

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary manufacturer of metallic and nonmetallic powders for surface coating and polishing.

Source Address:	1245 and 1415 Main Street, Indianapolis, Indiana 46224 and 1500 and 1550 Polco Street, Indianapolis, Indiana 46222
General Source Phone Number:	327-240-2533
SIC Code:	3479 (Coating, Engraving, and Allied Services, Not Elsewhere Classified) 3999 (Manufacturing Industries, Not Elsewhere Classified)
County Location:	Marion
Source Location Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State 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 Source Determination

(a) This metallic and non-metallic powder manufacturing and surface coating operation consists of four (4) separate buildings:

Building 1 is located at 1245 Main Street, Indianapolis, Indiana 46224;
Building 2 is located at 1415 Main Street, Indianapolis, Indiana 46224;
Building 3 is located at 1550 Polco Street Indianapolis, Indiana 46222; and
Building 4 is located at 1500 Polco Street, Indianapolis, Indiana 46222

The four (4) buildings are contiguous or adjacent and have the same owner. Operations are classified under two (2) separate Standard Industrial Classification Codes (SIC). Although the SIC codes are different, all four (4) buildings provide various support relationships to one another. Since the operations are located on contiguous or adjacent properties, owned by the same company, and provide a support relationship, they will be considered one (1) source, as defined by 326 IAC 2-7-1(22).

This determination was initially made under FESOP No.: F097-7487-00060, issued on October 20, 2000.

(b) Linde Advanced Material Technologies, Inc. (source 097-00060) and Praxair Distribution, Inc. (source 097-00189) plants are not part of the same major source.

This determination was initially made under FESOP No.: F097-7487-00060, issued on October 20, 2000.

A.3 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

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

1550 Polco Street

(a) One (1) powder manufacturing process, identified as CSP Department EU020, constructed in 2014 unless otherwise specified below, located at 1550 Polco Street, exhausting outdoors, and consisting of the following:

(1) One (1) raw material handling operation, identified as Raw Material Handling CSP, with a maximum capacity of 12.37 pounds of raw material per hour, consisting of a liquid pumping operation and solid scooping operation, and utilizing no control;

(2) One (1) raw material mixing operation, identified as Raw Material Mixing CSP, in which raw materials are mixed inside of an enclosed 55-gallon drum, utilizing no control, and with no exhaust;

(3) One (1) combustion spray pyrolysis (CSP) operation, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, including the following systems:

(A) Spray drying and

(B) Powder to an oxide form converter

and utilizing the following control devices:

(C) One (1) cyclonic collection system

(D) Natural Gas Combustion Units:

(i) One (1) natural gas combustion unit, identified as Burner 1 Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(ii) One (1) natural gas combustion unit, identified as Burner 2 Associated with EU020, constructed in 2024, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(iii) One (1) natural gas combustion unit, identified as Burner 3 Associated with EU020, approved in 2024 for construction, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(E) One (1) CSP pollution control system, used to collect material not captured by the cyclonic collection system, which includes the following control devices:

(i) One (1) dust collector, identified as BAG (CSP), and

(ii) One (1) selective catalytic reduction system, identified as SCR (CSP);

(4) One (1) powder handling operation to convey powder to a hopper after CSP, identified as Powder Handling After CSP, with a maximum capacity of 84.90 pounds of powder fed into a kiln per hour, and utilizing two (2) dust collector, identified as DC-033 and DC-020A, as control.

This Powder Handling After CSP is approved in 2024 to add a control.

(5) Seven (7) kilns:

(i) One (1) electrically-heated kiln, identified as Kiln 1, permitted in 2022 to use a control, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(ii) Two (2) electrically-heated kilns, identified as Kiln 2 and Kiln 3, constructed in 2022, approved in 2023 to increase its maximum capacity, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(iii) Four (4) electrically heated kilns, identified as Kiln 4, Kiln 5, Kiln 6, and Kiln 7, approved in 2024 for construction, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, utilizing a dust collector, identified as DC033, as control.

(6) One (1) powder handling operation after the kilns, identified as Powder Handling After Kiln, with a maximum capacity of 84.90 pounds of powder conveyed to a hopper per hour, which feeds the milling process, and utilizing a dust collector, identified as DC-033, as control;

(7) Nine (9) enclosed mills:

(i) One (1) enclosed ball mill, identified as Mill 1, permitted in 2022 to use a control, with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;

(ii) Two (2) DM1 post kiln enclosed mills, identified as Mill 2 and Mill 3, constructed in 2024, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;

(iii) Two (2) enclosed DM1 pre-kiln mills, identified as Mill 4 and Mill 5, approved in 2024 for construction, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(iv) Four (4) enclosed DM4 post-kiln mills, identified as Mill 6 to Mill 9, approved in 2024 for construction, each with a maximum capacity of 30 pounds of powder milled per hour, emitting only during loading and

unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(8) One (1) powder handling operation after the mill, including three (3) screeners and 1 packaging operation, identified as Powder Handling After Mill, with a maximum capacity of 70.77 pounds of powder screened per hour and then conveyed to the blending hopper, and utilizing a dust collector, identified as DC-033, as control;

(9) Three (3) primary enclosed blenders:

(i) One (1) primary enclosed blender, identified as Blender 1, permitted in 2022 to use a control, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(ii) One (1) primary enclosed blender, identified as Blender 2, constructed in 2023, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(iii) One (1) primary enclosed blender, identified as Blender 3, approve in 2024 for construction, to be constructed in 2025, used to homogenize the mixture, utilizing a dust collector, identified as DC-033, as control, with no exhaust.

(10) One (1) final powder handling process, identified as Final Powder Handling, with a maximum capacity of 70.77 pounds of powder screened and packaged per hour, and utilizing a dust collector, identified as DC-030, as control.

This Final Powder Handling is approved in 2024 to change control.

Under NESHAP for Chemical Manufacturing Area Sources [40 CFR 63, Subpart VVVVVV], the one (1) powder manufacturing process, identified as CSP Department EU020, is considered an affected unit.

(b) Twenty-seven (27) specialty powders manufacturing operations, located at the 1550 Polco Street Specialty Powders area:

(1) Twenty-three (23) specialty powders manufacturing operations,
(i) modified in 2015 to reroute baghouses,
(ii) modified in 2016 to construct a new operation,
(iii) modified in 2018 to change the amount of dust collected by the dust collectors, and
(iv) modified in 2023 add a powder processing equipment,

each controlled by an integral baghouse and HEPA filters, identified in the table below, and exhausting indoors:

Emission Unit ID	Maximum Throughput (lb/hr)	Dust Collectors	Description
EUS-1	166.67	DC048	Powder 1 powder processing, including a blender, sieve, vertical material conveyor, crusher, mill, dust booth, three (3) screeners, and one (1) classifier (DC073). DC048 controls the classifier and the rest of

Emission Unit ID	Maximum Throughput (lb/hr)	Dust Collectors	Description
			the units.
EUS-2	166.67	DC015	One (1) blender and weigh out station for Powder 2 Bay 2
EUS-7	83.335	DC028, DC013	General processing equipment used to blend and size Powder 1. Processes include crushing, milling, blending, and screening. DC013 controls the impact mill and conveyor in Bay 5.
EUP-3	429.3	DC063	Bay 2 vacuum for Powder 2- Metal powders melted in electric furnace and placed into vacuum chamber to form a powder
EUS-3	429.3	DC064	Approved in 2018 for modification of the dust collectors and descriptive information. Bay 2 vacuum Powder 2 powder handling. DC064 controls powder handling.
---	312.5	---	Bay 5- one (1) electric furnace for Powder 3, rated at 312.5 lbs/hr
---	---	DC020	DC020 controls the electrode saw in Bay 5.
EUS-5	312.5	DC012, DC013	Powder 3 is milled and sized. DC013 controls the impact mill in Bay 5. DC012 controls powder handling in Bay 3 and Bay 4.
EUS-8B	58.4	DC040	Powder 4 handling in mill and blender prior to furnacing.
EUS-8A	58.4	DC041	Powders from Powder 4 furnaces sent through delumper, mill, two classifiers, two screeners, and magnets. Serves purpose of filling crucibles prior to Powder 4 furnaces and emptying crucibles after the furnace.
EUS-10	300	DC043, DC044, DC061, Powder 5 Baghouse	Processes oxides and metal powders for Powder 5. Supports spray dryers. Includes a bag breaking table, delumper, blenders, and five (5) screeners. DC043 controls one (1) blender, one (1) screener, four (4) filling machines, the filling station (bag breaking table), and two (2) delumpers. DC044 controls one (1) blender, one (1) screener, one (1) weigh station, one (1) delumper, and three (3) mixing tanks. DC061 controls one (1) blender, one (1) screener, three (3) mixing tanks, and one (1) hopper.

Emission Unit ID	Maximum Throughput (lb/hr)	Dust Collectors	Description
			The Powder 5 Baghouse controls the spray dryer hot exhaust.
EUP-11*	100	DC001 (Stack S001)	Powder 5 Spray Dryer 1
EUP-11A*	100	DC002 (Stack S001)	Thermal barrier coating (TBC) Spray Dryer 2
EUP-11B**	100	DC046 (Stack S046)	Powder 5 Spray Dryer 3
EUS-15A	341.66	DC026	Approved in 2018 for modification of the dust collectors and descriptive information. 2 Screeners and 2 Blenders in Powder 2 Processing for Lines 1 and 2. Line 1 and 2 screeners and blenders are controlled by DC026. DC026 is also connected to classifiers DC072 and DC071, which are associated with Lines 1 and 2, respectively.
EUS-15B	341.66	DC059	Approved in 2018 for modification of the dust collectors and descriptive information. 4 Screeners and 2 Blenders in Powder 2 Processing for Lines 3 and 4. DC059 is also connected to classifiers DC070, DC023, and DC069, which are associated with Lines 3, 4, and 5, respectively.
---	---	DC056	DC056 controls packaging.
EUS-15C	341.66	DC060	Approved in 2018 for modification of the descriptive information. 4 Screeners and 2 Blenders in Powder 2 Processing for Lines 5 and 6. DC060 is also connected to classifiers DC011 and DC068, which are both associated with Line 6.
Scale	---	DC026	Scale for Powder 2 Processing Lines 1, 2, 3, 4, and 5.
EUS-15F	341.66	DC058, DC024, Demisters	Support for Viga 250, used for Powder 2. DC058 controls dust from support operations in the West Viga

Emission Unit ID	Maximum Throughput (lb/hr)	Dust Collectors	Description
		5,6,8	250. Demister 8 is used for the West Viga 250 to remove oil used in the viga. DC024 controls dust from support operations in the East Viga 250. Demisters 5 and 6 are used for the East Viga 250 to remove oil that was used in the viga.
EUS-15G	341.66	DC021, DC057, Demister 4	Support for Viga 150, used for Powder 2. DC021 is used for support operations. DC057 is used during cleanout. Demister 4 is used to remove oil used in the viga.
EUS-15I*** (constructed in 2024)	54.94	DC032	1 blender and 1 weigh out station used for Powder 2.
EUP-17 (approved in 2023 to change control)	76.33	DC035, DC045, New Dust collector	Viga 2/5 and Viga 45, for Powder 2, support and special orders (SO) processing. Powder handling is controlled by DC045, New Dust collector, while the exhaust from the viga is controlled by DC035.
EUS-22	21.606	DC005	Powder 7 Operation: Electric furnace, five (5) mills, three (3) jaw crushers, one (1) blender, one (1) screener, one (1) de-egger, one (1) fill station, one (1) classifier, and one (1) work bench. DC005 controls all operations, including the classifier.
EUS-4A	429.3	DC007, DC054	Powder 6 Operation: Powder is weighed, mixed into a slurry, and spray dried. Following spray drying, it's screened, classified, and blended. DC007 controls two classifiers, the scale, the screeners, and general powder handling operations. DC054 controls the spray dryer.
EUS-12	100	DC014	High purity room powder handling, Chrome Oxide Fill Station, Lab, and Epoxy Super Sac.
*These units are also listed in the natural gas combustion list. EUP-11 and EUP-11A because they have natural gas burners, but also handle material. **This process does not process, use, or generate materials containing HAP and is not subject to the requirements of 40 CFR 63, Subpart CCCCCCC. ***The Dust collector DC032 is not considered integral			

(2) One (1) specialty powder manufacturing operation, identified as EUS-15D, approved in 2018 for construction, controlled by an integral baghouse, identified as DC074, in series with HEPA filters at the baghouse exhaust, and exhausting indoors.

The HEPA filters are not considered as integral to the one (1) specialty powders

manufacturing operation, identified as EUS-15D.

Emission Unit ID	Maximum Throughput (lb/hr)	Control Device	Description
EUS-15D	341.66	DC074 (Baghouse)	Support for Viga 250 #3, used for Powder 2. DC079 controls dust from support operations in the Viga 250 #3.

(3) One (1) specialty powder manufacturing operation, approved in 2018 for construction, utilizing no control, and enclosed with no exhaust.

Emission Unit ID	Maximum Throughput (lb/hr)	Description
EUS-15E	341.66	5 Screeners not controlled by a conventional dust collector. These screeners use internal components to separate/segregate manufactured powder into the desired particle size.

(4) One jet mill, identified as EUS-23, approved in 2021 for construction, that is part of the Powder 7 specialty powders manufacturing operations, connected with one classifier, with a maximum throughput of 45 lb/hr, located at 1550 Polco Street, utilizing an integral dust collector, identified as DC006, as control and exhausting outside to stack S006.

(5) One (1) specialty powder manufacturing operation, identified as EUS-15H, constructed in 2024, controlled by a baghouse, identified as DC075, in series with HEPA filters at the baghouse exhaust, and exhausting indoors.

The HEPA filters are not considered as integral to the one (1) specialty powders manufacturing operation, identified as and EUS-15H.

Emission Unit ID	Maximum Throughput (lb/hr)	Control Device	Description
EUS-15H	341.66	DC075 (Baghouse)	Used for Powder 2.

Under NESHAP for Area Sources: Paints and Allied Products Manufacturing [40 CFR 63, Subpart CCCCCCC], the specialty powders manufacturing operation (except EUP-11B) are considered affected units.

(c) Titanium Power Processes:

(i) One (1) titanium powder process, identified as Titanium Powder Process 1, constructed in 2015, located at 1550 Polco Street, utilizing a wet collector, identified as Rotoclone, as control, with a maximum of 4.00 pounds of particulate collected by the wet collector per hour, and exhausting outdoors.

(ii) One (1) titanium powder process, identified as Titanium Powder Process 2, constructed in 2015, located at 1550 Polco Street, utilizing a wet collector, identified as Rotoclone, as control, with a maximum of 4.00 pounds of particulate collected by the wet collector per hour, and exhausting outdoors.

The maximum capacity of these processes has been considered confidential information.

Under NESHAP for Area Sources: Paints and Allied Products Manufacturing [40 CFR 63, Subpart CCCCCCC], the two (2) titanium powder processes are considered affected units.

(d) One (1) coating mixing operation, identified as Sermatech Process, constructed prior to 2014, with the following maximum mixing capacities:

(1) 60.00 pounds per hour of water-based paint and
(2) 24.00 pounds per hour of solvent-based paint

located at the 1550 Polco Street Specialty Powders area, utilizing two (2) scrubbers, identified as Scrubber #1 and Scrubber #2, and exhausting indoors.

Under NESHAP for Area Sources: Paints and Allied Products Manufacturing [40 CFR 63, Subpart CCCCCCC], the one (1) coating mixing operation is considered an affected unit.

(e) One (1) polishing operation, located at 1550 Polco Street, and consisting of the following:

(1) One (1) powder handling operation, with a maximum capacity of 9152.86 pounds per hour, and including:

(A) Four (4) lens polish mixing tank loading, constructed prior to 2014 and modified in 2015, and utilizing a dust collector, identified as DC030, as control;

(B) One (1) suspension room custom blend loading, constructed prior to 2014, identified as EUS-20, and utilizing a dust collector, identified as DC032, as control;

(C) One (1) suspension room powder packaging, constructed prior to 2014, identified as EUS-18, and utilizing a dust collector, identified as DC032, as control; and

(D) Powder loading into one (1) of four (4) premix tanks operation, constructed prior to 2014, collectively identified as EUS-19, and utilizing a dust collector, identified as DC032, as control.

(2) One (1) polish mixing operation:

(A) One (1) lens polish mixing and filling operation constructed prior to 2014, utilizing a dust collector, identified as DC062, as control, and consisting of the following:

(i) Eight (8) mixing tanks,

(ii) Two (2) holding tanks,

(iii) One (1) bottle filling line, and

(iv) One (1) pail filling line,

The filling process creates a bottleneck so that only two (2) mixing tanks can be run at one time.

(B) One (1) suspension room mixing operation, constructed prior to 2014, consisting of two (2) mixing tanks with capacities of 50 gallons and 25 gallons, with a batch time of four (4) hours, and utilizing a dust collector, identified as DC032, as control.

(f) One (1) specialty ingot manufacturing process, constructed in 2016 and approved in 2018 for modification to add a lathe, located at 1550 Polco Street, and consisting of the following:

(1) One (1) material transfer point, with a maximum capacity of 275 pounds of specialty ingot per hour, utilizing a voluntary dust collector as control while transferring powder from the spray dryer to the feed tank, and exhausting indoors.

(2) One (1) feed tank.

(3) One (1) electric sintering kiln.

(4) One (1) lathe, identified as Ingot Machining Lathe, approved in 2018 for construction, with a maximum capacity of 100 pounds per hour, utilizing no control, and exhausting indoors.

(g) Eleven (11) direct heating natural gas-fired combustion units:

(1) Nine (9) natural gas-fired combustion units, constructed prior to 2014, located at 1550 Polco Street, utilizing no control, and consisting of the following:

Emission Unit ID	Unit Description	Maximum Capacity (MMBtu/hr)	Stack / Vent ID
EU001	Powder 4 Furnaces	3	001
EU002		3	002
EU003		3	003
EU004		3	004
EU005		3	005
EU006		3	006
EU007	Powder 5 Furnace	3	007
EU008	Powder 4 Furnaces	3	008
EU009		3	009

(2) Two (2) natural-gas fired combustion units, constructed prior to 2014, located at 1550 Polco Street, utilizing dust collectors as control, and consisting of the following:

Emission Unit ID	Unit Description	Maximum Capacity (MMBtu/hr)	Control Device	Stack / Vent ID
EUP-11	Powder 5 Spray Dryer 1	0.3	DC001	P-13B
EUP-11A	Powder 5 Spray Dryer 12	0.3	DC002	P-13B

(h) Four (4) natural gas-fired boilers, located at 1550 Polco Street, utilizing no control, and consisting of the following:

Emission Unit ID	Unit Description	Construction Year	Maximum Capacity (MMBtu/hr)	Stack / Vent ID
B-001	Lochinvar Boiler	1996	1.26	004
B-002	Multi-Pulse Hot Water Boiler	Approved in 2018 for construction. This unit replaces the existing B-002.	0.15	003
B-003	Ajax Boilers	1999	0.45	003
B-004			0.45	004

Under NSPS for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR 63, Subpart Dc], the one (1) natural gas-fired boiler, identified as Cleaver Brooks Boiler EU004, is considered an affected unit.

1500 Polco Street

(i) One (1) grit blasting unit:

(1) One (1) aluminum oxide grit blasting unit, identified as EU13C, approved in 2018 for construction, with a maximum capacity of 129 pounds per hour, located at 1500 Polco Street, controlled by a baghouse, identified as C13C, and exhausting to stack/vent ID 13C.

(j) One (1) metal surface coating station:

(1) One (1) plasma surface coating station, identified as EU04B, approved in 2018 for construction, with a maximum capacity of 1.00 lbs per hour, used to apply coating to metal surfaces, located at 1500 Polco Street, utilizing no control, and exhausting indoors.

(k) Three (3) natural gas-fired boilers, located at the 1500 Polco Street Powerhouse, utilizing no control, and consisting of the following:

Emission Unit ID	Unit Description	Construction Year	Maximum Capacity (MMBtu/hr)	Stack / Vent ID
EU002	Cleaver Brooks Boilers	1990	8.369	002
EU003			8.369	003
EU004		1992	14.645	004

Under NSPS for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR 63, Subpart Dc], the one (1) natural gas-fired boiler, identified as Cleaver Brooks Boiler EU004, is considered an affected unit.

1245 Main Street

(l) Twenty-two (22) grit blasting units:

(1) Thirteen (13) aluminum oxide grit blasting units, located at 1245 Main Street, each utilizing a baghouse as control, and exhausting to the Stack/Vents in the table below:

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device	Exhaust
EU09C	1994	360	C09C	09C

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device	Exhaust
EU001G	Constructed prior to 2014	600	C001G	01G
EU002G		600	C002G	02G
EU004G		600	C004G	04G
EU005G		600	C005G	05G
EU008G		600	C008G	08G
EU010G		600	C010G	10G
EU011G		600	C011G	11G
EU013G		200	C013G	13G
EU014G		600	C014G	14G
EU016G		600	C016G	16G
EU018G		600	C018G	18G
EU019G		600	C019G	19G

(2) One (1) aluminum oxide grit blasting unit, identified as, EU012G, constructed in 2015, with a maximum capacity of 50 pounds per hour, located at 1245 Main Street, utilizing a dust collector, identified as DC012G, as control, and exhausting indoors.

(3) One (1) silicon carbide grit blasting unit, identified as EU007G, constructed prior to 2014, with a maximum capacity of 360 pounds per hour, located at 1245 Main Street, utilizing a baghouse, identified as C007G, as control, and exhausting indoors.

(4) Two (2) fine grit blasting units, constructed prior to 2014, located at 1245 Main Street, each with a maximum capacity of 600 pounds per hour, each utilizing a baghouse as control, exhausting indoors, and consisting of the following:

Emission Unit ID	Control Device
EU01M	C01M
EU02M	C02M

(5) One (1) steel shot peen shot blasting cabinet, identified as EU01L, constructed in 1994, with a maximum capacity of 5.36 pounds per hour, located at 1245 Main Street, utilizing a baghouse, identified as C01L, as control, and exhausting to Stack/Vent 01L.

(6) Two (2) glass bead cabinet blasting units, constructed prior to 2014, each with a maximum capacity of 600 pounds per hour, located at 1245 Main Street, each utilizing a baghouse as control, and exhausting to the Stack/Vents in the table below:

Emission Unit ID	Control Device	Exhaust
EU01GB	C01GB	01GB
EU02GB	C02GB	02GB

(7) One (1) aluminum oxide grit blasting unit, identified as EU021G, approved in 2021 for construction, with a maximum capacity of 120 pounds per hour, located at 1245 Main Street, utilizing a dust collector, identified as DC021G, as control, and exhausting indoors.

(8) One (1) steel shot peen shot blasting cabinet, identified as EU02L, approved in 2021 for construction, with a maximum capacity of 5.36 pounds per hour, located at 1245 Main Street, utilizing a baghouse, identified as DC02L, as control, and exhausting indoors.

(m) Thirteen (13) metal surface coating stations:

(1) Six (6) detonation surface coating stations, all constructed prior to 1988, each with a maximum capacity of 32.16 pounds of coating per hour, used to apply coating to metal surfaces, each utilizing a D gun to apply coatings, located at 1245 Main Street, each utilizing an integral baghouse with HEPA filters, and identified as follows:

Emission Unit ID	Control Device ID	Stack/Vent ID
EU01A	C01A	01A
EU02A	C02A	02A
EU16A	C16A	16A
EU17A	C17A	17A
EU18A	C18A	18A
EU06A	C06A	06A

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the six (6) detonation surface coating stations are considered affected units.

(2) Two (2) High Velocity Oxy Fuel coating guns, each with a maximum capacity of 16.08 pounds of coating per hour, used to apply coating to metal surfaces, located at 1245 Main Street, each controlled by a baghouse with HEPA filters, and exhausting indoors:

Emission Unit ID	Construction Year	Control Device ID	Stack/Vent ID
EU19A*	Constructed prior to 2018	C19A**	19A
EU20A	2018	C20A	20A
* EU19A is heated by kerosene at a maximum rate of 26 gallons of kerosene per month. **The control device for EU19A was determined to be integral to the operation of this unit.			

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the two (2) High Velocity Oxy Fuel coating guns are considered affected units.

(3) Three (3) plasma surface coating stations, used to apply coating to metal surfaces, located at 1245 Main Street, each controlled by an integral baghouse with HEPA filters, and consisting of the following:

Emission Unit ID	Construction Year	Maximum Capacity (lbs of powder coating per hour)	Control Device	Stack / Vent ID
EU05B	prior to 1982	8.04	C05D	05D
EU06B		8.04	C06D	06D
EU10B		8.04	C10D	10D

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the three (3) plasma surface coating stations are considered affected units.

(4) One (1) high velocity oxy fuel coating gun, identified as EU04A, constructed in 1991, with a maximum capacity of 16.08 pounds of coating per hour, used to apply coating to metal surfaces, located at 1245 Main Street, utilizing integral baffles as control, and exhausting to Stack/Vent 04A.

(5) One (1) plasma surface coating station, identified as EU03B, constructed prior to 1982, with a maximum capacity of 8.04 pounds of powder per hour, used to apply coating to metal surfaces, located at 1245 Main Street, utilizing integral baffles as control, and exhausting to Stack/Vent 03D.

(n) One (1) physical vapor deposition coating station, identified as EU01T, constructed prior to 2017, with a maximum capacity of 0.25 pounds of coating per hour, used to apply coating to metal surfaces, utilizing physical vapor deposition (PVD) coating application method, located at 1245 Main Street, utilizing no control, and exhausting to Stack/Vent 01T.

(o) One (1) LSR1 titanium tetrachloride coating station, identified as EU01R, constructed prior to 2014, with a maximum capacity of 0.27 pounds of coating per hour, used to apply coating to metal surfaces, utilizing chemical vapor deposition (CVD) coating application method, located at 1245 Main Street, utilizing a scrubber as control, and exhausting to Stack/Vent 01R.

(p) Three (3) direct heating natural gas-fired combustion units, constructed prior to 2014, located at 1245 Main Street, utilizing no control, and exhausting indoors.

Number of Units	Unit Description	Maximum Capacity (MMBtu/hr)
Two (2)	Heaters for the Kolene tank	0.150 each
One (1)	Kiln for LSR1	0.15

1415 Main Street

(q) Twenty-four (24) grit blasting units:

(1) Nine (9) aluminum oxide grit blasting units, located at 1415 Main Street, each utilizing a baghouse as control, and exhausting to the Stack/Vents in the table below:

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device	Exhaust
EU01C	1994	360	C01C	01C
EU04C		360	C04C	04C
EU05C		360	C05C	05C
EU06C		360	C06C	06C
EU07C		360	C07C	07C
EU08C		360	C08C	08C
EU10C	1996	360	C10C	10C
EU12C	1998	360	C12C	12C

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device	Exhaust
EU16C	2017	600	C16C	16C

(2) One (1) aluminum oxide robotic grit blasting unit, identified as EU03C, constructed in 1994, with a maximum capacity of 360 pounds per hour, located at 1415 Main Street, utilizing a baghouse, identified as C03C, as control, and exhausting to Stack/Vent 03C.

(3) One (1) fine grit blasting unit, identified as EU01M, constructed in 2015, with a maximum capacity of 600 pounds per hour, located at 1415 Main Street, utilizing a dust collector, identified as C01M, as control, and exhausting indoors.

(4) Two (2) Operation 1, Process 1 aluminum oxide grit blasting units, each utilizing a baghouse with HEPA filters as control, located at 1415 Main Street, exhausting indoors, and consisting of the following:

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device
O1P1-EUG6	Constructed prior to 2014	173	O1P1-CG6
O1P1-EUG7	2016	81	O1P1-CG7

(5) Four (4) Operation 2, Process 1 aluminum oxide grit blasting units, each utilizing a baghouse with HEPA filters as control, located at 1415 Main Street, exhausting indoors, and consisting of the following:

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device
O2P1-EUG1	Constructed prior to 2014	224	Baghouse with HEPA Filter O2P1-CG1/2
O2P1-EUG2		224	
O2P1-EUG3		81	Baghouse with HEPA Filter O2P1-CG3/4
O2P1-EUG5	2015	50	Dust Collector O2P1-CG5

(6) Two (2) Operation 2, Process 3 calcined alumina grit blasting units, constructed prior to 2014, each with a maximum capacity of 221 pounds per hour, each utilizing a baghouse with HEPA filters as control, located at 1415 Main Street, exhausting indoors, and consisting of the following:

Emission Unit ID	Control Device
O2P3-EUG1	O2P3-CG1
O2P3-EUG2	O2P3-CG2

(7) One (1) silicon carbide grit blasting unit, identified as EU11C, approved in 2019 for construction, with a maximum capacity of 180 pounds per hour, using a baghouse, identified as C11C, as control, and exhausting indoors.

(8) One (1) aluminum oxide grit blasting unit, identified as EU21, constructed in 2024, with a maximum capacity of 50 pounds per hour, located at 1415 Main Street, controlled by a baghouse, identified as C21, and exhausting inside the building.

(r) One (1) Operation 2 Process 3, identified as O2P3 EUG3, constructed in 2019, consisting of one (1) abrasive dry ice blasting unit, with a maximum dry ice throughput of 1,000 pounds per week, with a residual powder total of 0.5 pounds per part, using a shared dust collector as control, identified as CG2, and exhausting indoors.

(s) Two (2) aluminum oxide wet grit blasting units, located at 1415 Main Street, utilizing mist collectors as control, and exhausting indoors:

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Mist Collector ID
EU14C	Constructed prior to 2014	600	C14C
EU15C	Approved in 2018 for construction	600	C15C

(t) One (1) pack diffusion process, identified as Pack Diffusion Process, constructed in 2017, located at 1415 Main Street, and including the following:

(1) One (1) pack station, with a total powder throughput of 100 pounds per hour, utilizing a scrubber as control, and exhausting outdoors.

(2) One (1) unpack station, with a total powder throughput of 100 pounds per hour, utilizing a scrubber as control, and exhausting outdoors.

(3) One (1) abrasive blasting unit, using dry ice as the abrasive material and one (1) air blasting unit, using no abrasive material, with a total powder residual of 0.5 pounds per part, utilizing a dust collector as control, and exhausting indoors.

(u) One (1) Operation 1, Process 1 (O1P1), constructed prior to 2014, approved in 2023 to remove a control, with a maximum capacity of 39,795 pounds of waste particulate collected per year, located at 1415 Main Street, utilizing two (2) integral dust collectors with HEPA filters, identified as DCC1-CV and DCC4-CV, as control, and exhausting indoors.

(v) One (1) Operation 2, Process 1 (O2P1), constructed prior to 2014, located at 1415 Main Street, consisting of six (6) Q-Salt tanks each with a maximum capacity of 10.6 gallons, utilizing no control, and exhausting indoors.

(w) One (1) Operation 2, Process 2 (O2P2), constructed prior to 2014, located at 1415 Main Street, exhausting indoors, and consisting of the following:

(1) One (1) slurry masking process, with a maximum capacity of less than 12 pounds of material per hour, manually applied using a brush, and utilizing no control; and

(2) One (1) dry masking process, constructed in 2017, with a maximum capacity of 10 tons of material per year, and ventilating to a down-draft table with cartridge filters.

(x) One (1) Operation 2, Process 4 (O2P4), constructed prior to 2014, modified in 2016, and modified in 2017, located at 1415 Main Street, with a maximum activator compound consumption of less than 1 pound per hour, utilizing a water scrubber as control, and exhausting indoors.

(y) Three (3) grinders, constructed prior to 2014, located at 1415 Main Street, each with a maximum capacity of 100 pounds per hour, each utilizing dust collectors with HEPA filters as control, exhausting indoors, and consisting of the following:

Emission Unit ID	Control Device
Bader Grinder #2	C03C
Bader Grinder #3	C07B
Bader Grinder #4	C08B

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the three (3) grinders are considered affected units.

(z) Ten (10) metal surface coating stations:

(1) One (1) low pressure plasma spray (LPPS) coating station, identified as EU01S, constructed prior to 2014, with a maximum capacity of 44.09 pounds of coating per hour, used to apply coating to metal surfaces, located at 1415 Main Street, utilizing a dust collector, identified as C01S, during cleanout, and exhausting to Stack/Vent 01S.

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the one (1) low pressure plasma spray (LPPS) coating station, identified as EU01S, is considered an affected unit.

(2) Eight (8) plasma surface coating stations used to apply coating to metal surfaces, located at 1415 Main Street, each controlled by an integral baghouse with HEPA filters, and consisting of the following:

Emission Unit ID	Construction Year	Maximum Capacity (lbs of powder coating per hour)	Control Device	Stack / Vent ID
EU01B	1994	16.08	C01B	01B
EU02B		16.08	C02B	02B
EU05B		16.08	C05B	05B
EU06B		16.08	C06B	06B
EU07B*		16.08	C07B	07B
			Baffles**	
EU08B^		16.08	C08B	08B
EU09B		16.08	C09B	09B
EU11B	2009	16.08	C11B	11B
*Cubicle 07B, approved in 2018 for modification, will use the integral baghouse with HEPA filters when spraying HAP-containing materials, but will use baffles when using materials with combustible dust concerns. **Baffles are not an integral control device. ^EU08B is heated by kerosene at a maximum rate of 26 gallons of kerosene per month.				

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the eight (8) plasma surface coating stations are considered affected units.

(3) One (1) plasma surface coating station, identified as EU12B, constructed in 2013, with a maximum capacity of 16.08 pounds of powder per hour, used to

apply coating to metal surfaces, located at 1415 Main Street, utilizing an integral baghouse with HEPA filters, identified as C12B, and exhausting to Stack/Vent 12B.

(aa) Nineteen (19) direct heating natural gas-fired combustion units, constructed prior to 2018, located as 1415 Main Street, utilizing no control, and exhausting outdoors:

Emission Unit ID	Unit Description	Maximum Capacity (MMBtu/hr)
RTU-A2	Carrier roof top units	0.360
RTU-A3		0.360
RTU-F		0.115
RTU-C1		0.250
RTU-E1		0.525
RTU-B2		0.525
RTU-A5		0.525
RTU-A6		0.525
ACPR4-1		0.133
ACPR4-2		0.115
RTU-00	Trane roof top units	0.587
ACPR1-1		0.117
ACPR1-2		0.117
RTU-B1	York roof top units	0.3
RTU-A-1		0.3
RTU-A7		0.699
RTU-E1	Aaon roof top units	0.18
RTU-D2		0.54
RTU-C1		0.27

(ab) Six (6) degreasers located at 1415 Main Street:

(1) Three (3) conveyorized vapor degreasers, utilizing no control, and exhausting indoors:

Number of Units	Emission Unit ID	Construction Year	Maximum Capacity (gallons per year)	Solvent
Two (2)	Operation 2 Degreasers	Constructed prior to 2014	145	Novec 72DE
One (1)	Operation 1 Degreaser	Constructed in 2016 and modified in 2017	500	

(2) Three (3) open top vapor degreasers, utilizing no control, and exhausting indoors:

Emission Unit ID	Construction Year	Maximum Capacity (gallons per year)	Solvent
LPPS Vapor Degreaser	Constructed in 2013 and approved in 2018 for modification to change solvent and approved in 2023 for modification to change solvent	660	TMC-377
Tribomet Line Vapor Degreaser 1*	2017	660	PCE**
Tribomet Line Vapor Degreaser 2*	Constructed in 2024	260	PCE**
*Under NESHAP for Halogenated Solvent Cleaning [40 CFR 63, Subpart T], the one (1) Tribomet Line Vapor Degreaser is considered an affected unit. **PCE = Perchloroethylene			

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

1550 Polco Street

(a) Two (2) grinding and cutting operations:

(1) One (1) machine shop, identified as Building 1550 Maintenance Shop, constructed prior to 2018, with a maximum capacity of 100 pounds of metal per hour, located at 1550 Polco Street, utilizing no control, exhausting indoors, and consisting of the following:

(A) Three (3) arc welding stations, each with a maximum capacity of 2.4 pounds of electrode per hour;
(B) One (1) chop saw;
(C) Two (2) grinders;
(D) One (1) belt sander;
(E) One (1) wet cutting saw;
(F) One (1) vertical band saw;
(G) One (1) lathe; and
(H) One (1) roller.

(2) One (1) crucible cutting operation, identified as Specialty Powders Crucible Cutting (CC019), constructed prior to 2014, with a maximum capacity of 5 pounds of granite per hour, located at 1550 Polco Street, utilizing a dust collector, identified as DC019, as control, and exhausting indoors.

1500 Polco Street

(b) One (1) epoxy kit operation, identified as EUS-12, constructed in 1985, located at 1550 Polco Street, with a maximum capacity of:

(1) 56.0 pounds of epoxy kits containing acetone per hour and
(2) 50 pounds of vermiculate for use in packaging per hour, utilizing a dust collectors with HEPA filters, identified as DC014, to control vermiculate pouring

and exhausting indoors.

(c) Three (3) 3D printers, each with a maximum consumption of 1.83 tons per year of nickel-based powder products, identified as NI-202 products, located at 1500 Polco Street, utilizing no control, and exhausting indoors.

Number of Units	Construction Year
One (1)	Approved in 2018 for construction
Two (2)	2017

(d) Three (3) grinding and cutting operations:

(1) One (1) machine shop, identified as Building 1500 Machine Shop, constructed prior to 2018, with a maximum capacity of 100 pounds of metal per hour, located at 1500 Polco Street, exhausting indoors, and consisting of the following:

(A) One (1) band saw utilizing no control;
(B) One (1) chop saw utilizing a dust collector as control;
(C) Four (4) wheel grinders utilizing no control;
(D) Six (6) drill presses utilizing a dust collector as control;
(E) Four (4) lathes, using cutting fluids, and utilizing no control;
(F) Two (2) surface grinders utilizing no control;
(G) One (1) press utilizing no control;
(H) One (1) belt sander utilizing no control;
(I) Two (2) wire electrical discharge machining (EDM) cutting machines utilizing no control; and
(J) One (1) computer numerical control (CNC) mill, using cutting fluids and lubricants, and utilizing no control.

(2) One (1) fabrication shop, identified as Building 1500 Fabrication Shop, with a maximum capacity of 50 pounds of metal per hour, located at 1500 Polco Street, exhausting indoors, and consisting of the following:

(A) One (1) shear utilizing no control;
(B) One (1) drill press utilizing no control;
(C) One (1) lathe, using cutting fluids, and utilizing no control;
(D) One (1) press utilizing no control;
(E) Two (2) press brakes utilizing no control;
(F) One (1) cutter/grinder utilizing no control;
(G) Two (2) punch presses utilizing no control; and
(H) One (1) engraver utilizing no control.

(3) One (1) maintenance welding shop, identified as Maintenance Welding Shop, constructed in 2017, with a maximum capacity of 5 pounds of metal per hour, located at 1500 Polco Street, utilizing no control, exhausting outdoors through a fume extraction system, and consisting of the following:

(A) One (1) MIG welding station, with a maximum capacity of 3 pounds of electrode per hour;
(B) One (1) arc welding station, with a maximum capacity of 2.4 pounds of electrode per hour;
(C) One (1) plasma flame cutting stations, each with a maximum cutting capacity of 300 inches of 0.5 inch thick metal per minute; and
(D) One (1) wheel grinder with a maximum capacity of 5 pounds of metal per hour.

(e) One (1) carpenter shop, identified as Carpentry Shop, constructed prior to 2018, each tool with a maximum capacity of 50 pounds of wood per hour, located at 1500 Polco Street, utilizing a dust collector, identified as Carpenter Shop Dust Collector, as control, exhausting indoors, and consisting of the following tools:

(A) One (1) band saw utilizing no control;
(B) One (1) drill press utilizing no control;
(C) One (1) belt sander utilizing no control;
(D) One (1) circular saw utilizing a dust collector as control; and
(E) One (1) table saw utilizing a dust collector as control.

(f) Two (2) emergency generators, utilizing no control, and exhausting indoors:

Location	Emission Unit ID	Maximum Capacity (HP)	Fuel Type	Date Installed	Date Manufactured	Engine Type
1500 Polco Street	Generac	207	Diesel	1999	1999	6 cylinder
1500 Polco Street - Power House	ONAN/ Cummins	168	Diesel	1975	1975	6 cylinder

Under NESHAP for Stationary reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ], the two (2) emergency generators are considered affected units.

1245 Main Street

(g) One (1) grit reclassifier, identified as EU020G, constructed in 2015, with a maximum capacity of 400 pounds of aluminum oxide per hour, located at 1245 Main Street, utilizing a dust collector, identified as DC020G, as control, and exhausting indoors.

(h) Seventeen (17) grinding and cutting operations:

(1) One (1) maintenance shop, identified as Building 1245 Maintenance Shop, constructed prior to 2018, with a maximum capacity of 100 pounds of metal per hour, located at 1245 Main Street, utilizing no control, exhausting indoors, and consisting of the following:

(A) Three (3) band saws,
(B) Two (2) drill presses,
(C) Four (4) lathes, using cutting fluid,
(D) One (1) shear,
(E) Two (2) grinders,
(F) One (1) belt sander,
(G) One (1) MIG welding station with a maximum capacity of 3 pounds of electrode per hour, and
(H) One (1) arc welding station with a maximum capacity of 2.4 pounds of electrode per hour.

(2) Fifteen (15) grinders, identified as Building 1245 Various Grinders, constructed prior to 2014, with a maximum capacity of 100 pounds of metal per hour, located at 1245 Main Street, exhausting indoors, and consisting of the following:

(A) Two (2) wheel grinders, located near EU01M and EU06C, and each

utilizing a portable voluntary dust collector as control;
(B) Two (2) grinders utilizing no control;
(C) Three (3) brush grinders, located near EU16C and EU10G, and utilizing no control;
(D) Seven (7) outside diameter (OD) grinders, each utilizing a dust collector as control; and
(E) Two (2) surface grinders utilizing no control.

(3) One (1) grinder, identified as Brown and Sharp Grinder, constructed in 2015, with a maximum capacity of 3 pounds of metal per hour, located at 1245 Main Street, utilizing a dust collector as control, and exhausting to the indoors.

(i) Five (5) finishing units:

(1) Three (3) polishers, constructed prior to 2014, located at 1245 Main Street, utilizing a dust collector, identified as DC016A, as control, and exhausting indoors.

(2) One (1) hone process, constructed prior to 2015, located at 1245 Main Street, utilizing a dust collector, identified as DC016A, as control, and exhausting indoors.

(3) One (1) downdraft table for handheld equipment, identified as Maxflo DD23, approved in 2015 for construction, located at 1245 Main Street near the aluminum oxide grit blasting units, utilizing no control, and exhausting indoors.

(j) One (1) cold cleaner degreaser, constructed prior to 2014, located at 1245 Main Street, utilizing no control, and exhausting indoors:

Emission Unit ID	Maximum Capacity (gallons per year)	Solvent
Maintenance Parts Washer	145	Safety Kleen Premium Gold Solvent

1415 Main Street

(k) Six (6) grinding and cutting operations:

(1) One (1) maintenance shop, identified as Maintenance Shop #1, constructed prior to 2018, with a maximum capacity of 100 pounds of metal per hour, located at 1415 Main Street, utilizing no control, exhausting indoors, and consisting of the following:

(A) One (1) horizontal band saw;
(B) One (1) shear;
(C) Two (2) drill presses;
(D) One (1) vertical band saw;
(E) One (1) mobile circular saw;
(F) One (1) belt sander;
(G) One (1) wheel grinder
(H) One (1) MIG welding station, with a maximum capacity of 3 pounds of electrode per hour;
(I) One (1) arc welding station, with a maximum capacity of 2.4 pounds of electrode per hour;
(J) One (1) lathe, using cutting fluids; and
(K) One (1) circular cutting saw.

(2) One (1) maintenance shop, identified as Maintenance Shop #2, constructed prior to 2018, with a maximum capacity of 100 pounds of metal per hour, located at 1415 Main Street, utilizing no control, exhausting indoors, and consisting of the following:

(A) One (1) drill press,
(B) One (1) vertical band saw,
(C) One (1) belt sander, identified as JET belt sander,
(D) Two (2) wheel grinders.

(3) Four (4) vented tables used for insignificant grinding, identified as Building 1415 Vented Tables, constructed prior to 2015, with a total maximum capacity of 50 pounds of metal per hour, located at 1415 Main Street, utilizing no control, and exhausting indoors.

(l) One (1) finishing unit:

(1) One (1) downdraft table for handheld equipment, constructed in 2015, identified as DTH800, approved in 2015 for construction, located at 1415 Main Street near Operation 1, Process 1 (O1P1), utilizing no control, and exhausting indoors.

(m) Two (2) cold cleaner degreasers, constructed prior to 2014, located at 1415 Main Street, utilizing no control, and exhausting indoors:

Emission Unit ID	Maximum Capacity (gallons per year)	Solvent
Maintenance Parts Washer	145	Safety Kleen Premium Gold Solvent
Operation 1 and 2 Machine Shop Parts Washer	145	Safety Kleen solvent

All Locations

(n) Various downdraft tables throughout the facility used for small-scale production and maintenance, permitted in 2019, with a maximum production rate of 2,000 pounds per hour, using filter cartridges as control, and exhausting indoors.

This stationary source also includes the following insignificant activities which are not specifically regulated, as defined in 326 IAC 2-7-1(21):

1550 Polco Street

(a) One (1) isopropyl alcohol (IPA) room supporting EUS-22, identified as IPA Room, constructed prior to 2014, with a maximum isopropyl alcohol usage of 0.67 pounds per hour, located at 1550 Polco Street, utilizing no control, and exhausting indoors.

1500 Polco Street

(b) One (1) small scale coating operation, identified as Scale Coating, approved in 2017 for construction, with a maximum capacity of the following:

Material	Material Usage (gallons per year)
ST570A (Part 1)	6.87
ST570A (Part 2)	6.87

ST1740	13.74

located at 1500 Polco Street in the Research and Development Section, utilizing dry filters as control, and exhausting indoors.

1245 Main Street

(c) One (1) electrolytic stripping operation, constructed prior to 2014, located at 1245 Main Street, utilizing no control, exhausting indoors, and consisting of the following:

(1) One (1) electrolytic stripping tank containing sodium hydroxide, soda ash, water, and tartaric acid;
(2) One (1) nitric acid stripping tank;
(3) One (1) immersion fluid tank; and
(4) One (1) Kolene tank.

(d) One (1) titanium nitrate cleaning operation, identified as Crest Cleaning Line, constructed prior to 2014, located at 1245 Main Street, utilizing no control, exhausting indoors, and consisting of the following:

(1) One (1) Turco 4181 tank,
(2) One (1) phosphoric acid tank, and
(3) Three (3) water rinse tanks.

(e) One (1) manual degreasing operation, identified as Manual Degreasing, constructed prior to 2014, with a maximum capacity of 145 gallons per year, utilizing wipes to apply the following solvents:

(1) Methyl ethyl ketone (MEK),
(2) Isopropyl alcohol (IPA), and
(3) ZeroTri Heavy-Duty Degreaser Aerosol

located at 1245 Main Street, utilizing no control, and exhausting indoors.

(f) One (1) lubricant application processes, constructed prior to 2014, located at 1245 Main Street, utilizing no control, and exhausting indoors:

Emission Unit ID	Maximum Capacity (gallons of lubricant/year)
Molydag application process	10

(g) Four (4) electric cure ovens, identified as EUC01 through EUC04, approved in 2021 for construction, located at 1245 Main Street, uncontrolled, with EUC01 exhausting to stack SC01, and EUC02 through EUC04 exhausting indoors.

The four (4) electric cure ovens do not produce any emissions.

(h) One (1) vacuum sealer, identified as VS1, approved in 2021 for construction, with a maximum throughput of 55 gallons per year of solvent, located at 1245 Main Street, uncontrolled and exhausting indoors.

(i) One (1) parts washer, identified as PW1, approved in 2021 for construction, with a maximum throughput of 5 gallons per year of solvent, located at 1245 Main Street, uncontrolled and exhausting indoors.

1415 Main Street

(j) Three (3) Tribomet lines consisting of the following:

(1) Two (2) Tribomet lines, identified as Lines #1 and #2, constructed prior to 2014 and 2017, both including a series of 16 dip tanks, located at 1415 Main Street, utilizing a composite mesh pad system with mist eliminator as control, and exhausting indoors.

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the two (2) Tribomet lines, identified as Lines #1 and #2, are considered affected units.

(2) One Tribomet nickel sulfate plating line, identified as Line #3, constructed in 2024, including a series of 10 dip tanks, located at 1415 Main Street, utilizing a scrubber as control, and exhausting indoors.

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the Tribomet nickel sulfate plating line, identified as Line #3, is considered an affected unit.

(k) One (1) Operation 1, Process 3 (O1P3), approved in 2024 for construction, with a maximum capacity of 55.00 pounds of ammonium bifluoride (ABF) added to the dip tank per week, located at 1415 Main Street, utilizing no control, and exhausting indoors.

(l) Two (2) stripping operations consisting of the following:

(1) One (1) hydrochloric acid stripping operation, constructed prior to 2014 and approved in 2018 for modification to add an additional hydrochloric acid tank, located at 1415 Main Street, utilizing a scrubber as control, exhausting outdoors, and consisting of:

(A) Three (3) hydrochloric acid tanks, each with a maximum capacity of 30 gallons,
(B) Two (2) water rinse tanks and
(C) One (1) caustic tank.

(2) One (1) nitric acid stripping operation, constructed prior to 2014, located at 1415 Main Street, utilizing a scrubber as control, exhausting outdoors, and consisting of the following:

(A) One (1) 150-gallon acid stripping tank and
(B) One (1) water rinse tank.

(m) Two (2) lubricant application processes, constructed prior to 2014, located at 1415 Main Street, utilizing no control, and exhausting indoors:

Emission Unit ID	Maximum Capacity (gallons of lubricant/year)
DP Lubricant application process	55

General Source

(n) Combustion source flame safety purging on startup.

(o) Production related activities, including the following:

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

(2) Cleaners and solvents the combined use of which does not exceed 145 gallons per 12 months, characterized as follows:

(A) Having a vapor pressure equal to or less than 2.0 kPa; 15 mm Hg or 0.3 psi measured at 38.0 Celsius or;

(B) Having a vapor pressure equal to or less than 0.7 kPa; 5 mm Hg or 0.1 psi measured at 20.0 Celsius.

(3) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment and welding equipment.

(4) Closed loop heating and cooling systems.

(p) Solvent recycling systems with batch capacity less than or equal to 100 gallons.

(q) Water-based activities, including the following:

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

(2) Any operation using aqueous solutions containing less than 1% by weight of VOCs excluding HAPs, including an aqueous line with:
(A) De- wax tank: 200 F, 250 gallons per year
(B) Soy Gold Oil: 190 F, 500 gallons per year
(C) Cleansafe 686: 140-160 F, 3,000 gallons per year
(D) Double counterflow rinse 140 F, 500 gallons per year.

(3) Water based adhesives that are less than or equal to 5% by volume of VOCs excluding HAPs.

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

(r) Repair activities, including the following:

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

(2) Heat exchanger cleaning and repair.

(3) Process vessel degassing and cleaning to prepare for internal repairs.

(s) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures or vehicles at the source where air emissions from those activities would not be associated with any production process.

(t) Equipment used to collect any material that might be released during a malfunction, process upset or spill cleanup including catch tanks, temporary liquid separators, tanks and fluid handling equipment.

(u) Blowdown for any of the following: sight glass, boiler, compressor, pumps, and cooling tower.

(v) Filter or coalescer media changeout.

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

(x) Six (6) new wax/ dewax tanks, constructed in 2024.

(y) Electric Grieve oven model # WRC888.

(z) Paved and unpaved roads and parking lots with public access.

A.5 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

SECTION B GENERAL CONDITIONS

B.1 Definitions [326 IAC 2-8-1]

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 2-8-4(2)][326 IAC 2-1.1-9.5][IC 13-15-3-6(a)]

(a) This permit, F097-46563-00060, is issued for a fixed term of ten (10) 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, 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 2-8-6] [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 2-8-4(4)]

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 2-8-4(5)(D)]

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

B.7 Duty to Provide Information [326 IAC 2-8-4(5)(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 2-8-3(d)][326 IAC 2-8-4(3)(C)(i)][326 IAC 2-8-5(a)(1)]

(a) A certification required by this permit meets the requirements of 326 IAC 2-8-5(a)(1) if:

(1) it contains a certification by an "authorized individual", as defined by 326 IAC 2-1.1-1(1), 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) An "authorized individual" is defined at 326 IAC 2-1.1-1(1).

B.9 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

(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

(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 2-8-4(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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.10 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.11 Preventive Maintenance Plan [326 IAC 1-6-3][326 IAC 2-8-4(9)]

(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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(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.12 Emergency Provisions [326 IAC 2-8-12]

(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 except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describe the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone Number: 1-800-451-6027 (ask for Office of Air Quality, Compliance and Enforcement Branch), or
Telephone Number: 317-233-0178 (ask for Office of Air Quality, Compliance and Enforcement Branch)
Facsimile Number: 317-233-6865

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

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

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

The notice fulfills the requirement of 326 IAC 2-8-4(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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(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 2-8-3(c)(6) 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 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) 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.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

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

(a) All terms and conditions of permits established prior to F097-46563-00060 and issued pursuant to permitting programs approved into the state implementation plan have been either:

(1) incorporated as originally stated,

(2) revised, or

(3) deleted.

(b) All previous registrations and permits are superseded by this permit.

B.14 Termination of Right to Operate [326 IAC 2-8-9][326 IAC 2-8-3(h)]

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 2-8-3(h) and 326 IAC 2-8-9.

B.15 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)][326 IAC 2-8-7(a)][326 IAC 2-8-8]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a Federally Enforceable State 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 2-8-4(5)(C)] The notification by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(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 2-8-8(a)]

(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 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(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 2-8-8(c)]

B.16 Permit Renewal [326 IAC 2-8-3(h)]

(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 2-8-3. 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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

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

(b) A timely renewal application is one that is:

(1) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(2) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(c) If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 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 2-8-3(g), in writing by IDEM, OAQ any additional information identified as being needed to process the application.

B.17 Permit Amendment or Revision [326 IAC 2-8-10][326 IAC 2-8-11.1]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.18 Operational Flexibility [326 IAC 2-8-15][326 IAC 2-8-11.1]

(a) The Permittee may make any change or changes at the source that are described in 326 IAC 2-8-15(b) and (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 approval required by 326 IAC 2-8-11.1 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 2-8-15(b)(1) and (c). 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 2-8-15(b)(1) and (c).

(b) Emission Trades [326 IAC 2-8-15(b)]
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 2-8-15(b).

(c) Alternative Operating Scenarios [326 IAC 2-8-15(c)]
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 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.

(d) Backup fuel switches specifically addressed in, and limited under, Section D of this permit shall not be considered alternative operating scenarios. Therefore, the notification requirements of part (a) of this condition do not apply.

B.19 Source Modification Requirement [326 IAC 2-8-11.1]

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

B.20 Inspection and Entry [326 IAC 2-8-5(a)(2)][IC 13-14-2-2][IC 13-17-3-2][IC 13-30-3-1]

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 FESOP 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, at reasonable times, 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, at reasonable times, 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, at reasonable times, 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.21 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.22 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16][326 IAC 2-1.1-7]

(a) The Permittee shall pay annual fees to IDEM, OAQ no later than 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) 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.23 Credible Evidence [326 IAC 2-8-4(3)][326 IAC 2-8-5][62 FR 8314] [326 IAC 1-1-6]

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

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emission Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

(1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one hundred (100) tons per twelve (12) consecutive month period.

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (PSD), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided that the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

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 thirty percent (30%) 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).

C.6 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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(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.

Testing Requirements [326 IAC 2-8-4(3)]

C.7 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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(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.8 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 2-8-4(1)][326 IAC 2-8-5(a)(1)]

C.9 Compliance Monitoring [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(1)]

(a) For new units:
Unless otherwise specified in the approval for the new emission unit(s), compliance monitoring for new emission units shall be implemented on and after the date of initial start-up.

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

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

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

The notification which shall be submitted by the Permittee does require a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

C.10 Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)][326 IAC 2-8-5(a)(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 2-8-4][326 IAC 2-8-5(a)(1)]

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

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

(a) The Permittee shall maintain the most recently submitted written emergency reduction plans (ERPs) consistent with safe operating procedures.

(b) Upon direct notification by IDEM, OAQ that a specific air pollution episode level is in effect, the Permittee shall immediately put into effect the actions stipulated in the approved ERP for the appropriate episode level. [326 IAC 1-5-3]

C.12 Risk Management Plan [326 IAC 2-8-4] [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 [326 IAC 2-8-4] [326 IAC 2-8-5]

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

(a) The Permittee shall take reasonable response steps to restore operation of the emissions unit (including any control device and associated capture system) to its normal or usual manner of operation as expeditiously as practicable in accordance with good air pollution control practices for minimizing excess emissions.

(b) The response shall include minimizing the period of any startup, shutdown or malfunction. The response may include, but is not limited to, the following:

(1) initial inspection and evaluation;

(2) recording that operations returned or are returning to normal without operator action (such as through response by a computerized distribution control system); or

(3) any necessary follow-up actions to return operation to normal or usual manner of operation.

(c) A determination of whether the Permittee has used acceptable procedures in response to an excursion or exceedance will be based on information available, which may include, but is not limited to, the following:

(1) monitoring results;

(2) review of operation and maintenance procedures and records; and/or

(3) inspection of the control device, associated capture system, and the process.

(d) Failure to take reasonable response steps shall be considered a deviation from the permit.

(e) The Permittee shall record the reasonable response steps taken.

C.14 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4][326 IAC 2-8-5]

(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 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.15 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

(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 FESOP.

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

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

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

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

C.16 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

(a) The Permittee shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Proper notice submittal under Section B - Emergency Provisions satisfies the reporting requirements of this paragraph. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported except that a deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. This report shall be submitted not later than thirty (30) days after the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include a certification that meets the requirements of 326 IAC 2-8-5(a)(1) by an "authorized individual" as defined by 326 IAC 2-1.1-1(1). A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(b) The address for report submittal is:

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

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ on or before the date it is due.

(d) Reporting periods are based on calendar years, unless otherwise specified in this permit. For the purpose of this permit “calendar year” means the twelve (12) month period from January 1 to December 31 inclusive.

Stratospheric Ozone Protection

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

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

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

1550 Polco Street

(a) One (1) powder manufacturing process, identified as CSP Department EU020, constructed in 2014 unless otherwise specified below, located at 1550 Polco Street, exhausting outdoors, and consisting of the following:

(1) One (1) raw material handling operation, identified as Raw Material Handling CSP, with a maximum capacity of 12.37 pounds of raw material per hour, consisting of a liquid pumping operation and solid scooping operation, and utilizing no control;

(2) One (1) raw material mixing operation, identified as Raw Material Mixing CSP, in which raw materials are mixed inside of an enclosed 55-gallon drum, utilizing no control, and with no exhaust;

(3) One (1) combustion spray pyrolysis (CSP) operation, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, including the following systems:

(A) Spray drying and

(B) Powder to an oxide form converter

and utilizing the following control devices:

(C) One (1) cyclonic collection system

(D) Natural Gas Combustion Units:

(i) One (1) natural gas combustion unit, identified as Burner 1 Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(ii) One (1) natural gas combustion unit, identified as Burner 2 Associated with EU020, constructed in 2024, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(iii) One (1) natural gas combustion unit, identified as Burner 3 Associated with EU020, approved in 2024 for construction, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(E) One (1) CSP pollution control system, used to collect material not captured by the cyclonic collection system, which includes the following control devices:

(i) One (1) dust collector, identified as BAG (CSP), and

(ii) One (1) selective catalytic reduction system, identified as SCR (CSP);

(4) One (1) powder handling operation to convey powder to a hopper after CSP, identified as Powder Handling After CSP, with a maximum capacity of 84.90 pounds of powder fed into a kiln per hour, and utilizing two (2) dust collector, identified as DC-033 and DC-020A, as control.

This Powder Handling After CSP is approved in 2024 to add a control.

(5) Seven (7) kilns:

(i) One (1) electrically-heated kiln, identified as Kiln 1, permitted in 2022 to use a control, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(ii) Two (2) electrically-heated kilns, identified as Kiln 2 and Kiln 3, constructed in 2022, approved in 2023 to increase its maximum capacity, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(iii) Four (4) electrically heated kilns, identified as Kiln 4, Kiln 5, Kiln 6, and Kiln 7, approved in 2024 for construction, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, utilizing a dust collector, identified as DC033, as control.

(6) One (1) powder handling operation after the kilns, identified as Powder Handling After Kilns, with a maximum capacity of 84.90 pounds of powder conveyed to a hopper per hour, which feeds the milling process, and utilizing a dust collector, identified as DC-033, as control;

(7) Nine (9) enclosed mills:

(i) One (1) enclosed ball mill, identified as Mill 1, permitted in 2022 to use a control, with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;

(ii) Two (2) DM1 post kiln enclosed mills, identified as Mill 2 and Mill 3, constructed in 2024, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;

(iii) Two (2) enclosed DM1 pre-kiln mills, identified as Mill 4 and Mill 5, approved in 2024 for construction, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(iv) Four (4) enclosed DM4 post-kiln mills, identified as Mill 6 to Mill 9, approved in 2024 for construction, each with a maximum capacity of 30 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(8) One (1) powder handling operation after the mill, including three (3) screeners and 1 packaging operation, identified as Powder Handling After Mill, with a maximum capacity of 70.77 pounds of powder screened per hour and then conveyed to the blending hopper, and utilizing a dust collector, identified as DC-033, as control;

(9) Three (3) primary enclosed blenders:

(i) One (1) primary enclosed blender, identified as Blender 1, permitted in 2022 to use a control, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(ii) One (1) primary enclosed blender, identified as Blender 2, constructed in 2023, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(iii) One (1) primary enclosed blender, identified as Blender 3, approve in 2024 for construction, to be constructed in 2025, used to homogenize the mixture, utilizing a dust collector, identified as DC-033, as control, with no exhaust.

(10) One (1) final powder handling process, identified as Final Powder Handling, with a maximum capacity of 70.77 pounds of powder screened and packaged per hour, and utilizing a dust collector, identified as DC-030, as control.

This Final Powder Handling is approved in 2024 to change control.

Under NESHAP for Chemical Manufacturing Area Sources [40 CFR 63, Subpart VVVVVV], the one (1) powder manufacturing process, identified as CSP Department EU020, is considered an affected unit.

(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 2-8-4(1)]

D.1.1 PSD Minor Limits (PM) [326 IAC 2-2]

In order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM Limit (lbs/hr)
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	2.28
Enclosed Mills 1 to 9	1.14

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

D.1.2 PSD Minor and FESOP Limits (PM10 and PM2.5) [326 IAC 2-2] [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4 and in order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	2.28	2.28
Enclosed Mills 1 to 9	0.46	0.46

Compliance with these limits, combined with the potential to emit PM10 and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM10 and PM2.5 to less than one hundred (100) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.3 Particulate Matter (PM) [326 IAC 6.5-1-2(a)]

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the following emission units shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

Emission Unit
One (1) powder manufacturing process, identified as CSP Department EU020
Raw Material Handling CSP
Raw Material Mixing CSP
Combustion Spray Pyrolysis (CSP) operation
Burners 1, 2 and 3 Associated with EU020
Powder Handling After CSP
Powder Handling After Kilns
Enclosed Mills (Mills 1 to 9)
Powder Handling After Mills
Final Powder Handling

D.1.4 FESOP Limits (NOx) [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4 and in order to render 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following:

Emission Unit	NOx Limit after control (lbs/hr)
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	13.57

Compliance with this limit, combined with the potential to emit NOx from all other emission units at this source, shall limit the source-wide total potential to emit of NOx to less than one hundred (100) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

D.1.5 Preventive Maintenance Plan [326 IAC 1-6-3]

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 2-8-4(1)]

D.1.6 Emissions Control (PM, PM10, PM2.5, NOx)

(a) In order to comply with Conditions D.1.1, D.1.2, and D.1.3, the control device for particulate control listed in the table below shall be in operation and control emissions from the following unit at all times this facility is in operation:

Emission Unit	Control Device
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	BAG (CSP)

(b) In order to comply with Condition D.1.3, the control device for particulate control listed in the table below shall be in operation and control emissions from the following units at all times these facilities are in operation:

Emission Unit	Control Device
One (1) powder manufacturing process, identified as CSP Department EU020	
Powder Handling After CSP	DC-033
Powder Handling After Kilns 1 to 7	DC-033
Enclosed Mills 1 to 9	DC-033
Powder Handling After Mills	DC-030
Final Powder Handling	DC-030

(c) In order to comply with Condition D.1.4, the selective catalytic system, identified as SCR (CSP), controlling NOx emissions from the one (1) combustion spray pyrolysis (CSP) operation shall operate at all times that the one (1) combustion spray pyrolysis (CSP) operation is in operation.

D.1.7 Testing Requirements

(a) To demonstrate compliance with Condition D.1.4, the Permittee shall perform NOx emissions testing from the following:

Emission Unit	Control Device
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	selective catalytic system SCR (CSP)

using the batch composition which would generate the highest NOx loading to the control equipment utilizing methods as approved by the Commissioner and shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(b) The Permittee shall use the measured outlet emission rate (in lb/hr).

(c) 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 2-8-4(1)][326 IAC 2-8-5(a)(1)]

D.1.8 Dust Collector Inspections

The Permittee shall perform quarterly inspections of the control device controlling particulate emissions listed in the table below from the emission unit listed in the table below to verify that it is being operated and maintained in accordance with the manufacturer's specifications.

Emission Unit ID	Control Device ID
One (1) powder manufacturing process, identified as CSP Department EU020	
Combustion spray pyrolysis (CSP) operation	BAG (CSP)
Powder Handling After CSP	DC-033
Powder Handling After Kilns 1 to 7	DC-033
Enclosed Mills 1 to 9	DC-033
Powder Handling After Mills	DC-030
Final Powder Handling	DC-030

Inspections required by this condition shall not be performed in consecutive months. All defective dust collectors shall be replaced.

D.1.9 Selective Catalytic Reduction System Monitoring Requirements

(a) Pressure drop:
The Permittee shall record the pressure drop across the one (1) selective catalytic reduction system, identified as SCR (CSP), used in conjunction with the one (1) combustion spray pyrolysis (CSP) operation, at least once per day when the one (1) combustion spray pyrolysis (CSP) operation is in operation. When for any one reading, the pressure drop across the one (1) selective catalytic reduction system, identified as SCR (CSP), is outside the normal range the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 6.0 and 14.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. A pressure reading that is outside the above mentioned range is not a deviation from this permit.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

(b) Temperature:

(i) A continuous monitoring system shall be calibrated, maintained, and operated on the one (1) selective catalytic reduction system, identified as SCR (CSP), used in conjunction with the one (1) combustion spray pyrolysis (CSP) operation for measuring operating temperature.

For the purpose of this condition, continuous means no less than once per every fifteen (15) minutes. The output of this system shall be recorded as a 3-hour rolling average.

(ii) 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.1.4.

(iii) On and after the date the stack test results are available, the Permittee shall operate the one (1) selective catalytic reduction system, identified as SCR (CSP), at or above the 3-hour average minimum inlet temperature as observed during the compliant stack test. When for any one reading, the temperature is below the

temperature established in most recent compliant stack test, the Permittee shall take reasonable response steps. A reading that is below the temperature as established in most recent compliant stack test is not a deviation from this permit.

(c) Ammonia injection rate:

(i) A continuous monitoring system shall be calibrated, maintained, and operated on the one (1) selective catalytic reduction system, identified as SCR (CSP), used in conjunction with the one (1) combustion spray pyrolysis (CSP) operation 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.

(ii) The Permittee shall determine the one-hour average injection rates from the most recent valid stack test that demonstrates compliance with limits in Condition D.1.2.

(iii) On and after the date the stack test results are available, the Permittee shall inject ammonia at or above the one-hour average injection rates as observed during the compliant stack test. When for any one reading the one-hour injection rate falls below the above mentioned one-hour injection rate, the Permittee shall take a response step. A one-hour average that is outside the appropriate injection rate is not a deviation from this permit.

(d) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.1.10 Record Keeping Requirements

(a) To document the compliance status with Condition D.1.8, the Permittee shall maintain records of the dates and results of the inspections required under Condition D.1.8.

(b) To document the compliance status with Condition D.1.9(a), the Permittee shall maintain daily records of the pressure drop across the one (1) selective catalytic reduction system, identified as SCR (CSP), controlling the one (1) combustion spray pyrolysis (CSP). The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

(c) To document the compliance status with Condition D.1.9(b), the Permittee shall maintain continuous temperature records for the one (1) selective catalytic reduction system, identified as SCR (CSP), and the 3-hour average temperature used to demonstrate compliance during the most recent compliant stack test.

(d) To document the compliance status with Condition D.1.9(c), the Permittee shall maintain records of the one-hour average ammonia injection rate into the one (1) selective catalytic reduction system, identified as SCR (CSP), used in conjunction with the one (1) combustion spray pyrolysis (CSP).

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

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

1550 Polco Street

(b) Twenty-seven (27) specialty powders manufacturing operations, located at the 1550 Polco Street Specialty Powders area:

(1) Twenty-three (23) specialty powders manufacturing operations,
(i) modified in 2015 to reroute baghouses,
(ii) modified in 2016 to construct a new operation,
(iii) modified in 2018 to change the amount of dust collected by the dust collectors, and
(iv) modified in 2023 add a powder processing equipment,

each controlled by an integral baghouse and HEPA filters, identified in the table below, and exhausting indoors:

Emission Unit ID	Maximum Throughput (lb/hr)	Dust Collectors	Description
EUS-1	166.67	DC048	Powder 1 powder processing, including a blender, sieve, vertical material conveyor, crusher, mill, dust booth, three (3) screeners, and one (1) classifier (DC073). DC048 controls the classifier and the rest of the units.
EUS-2	166.67	DC015	One (1) blender and weigh out station for Powder 2 Bay 2
EUS-7	83.335	DC028, DC013	General processing equipment used to blend and size Powder 1. Processes include crushing, milling, blending, and screening. DC013 controls the impact mill and conveyor in Bay 5.
EUP-3	429.3	DC063	Bay 2 vacuum for Powder 2- Metal powders melted in electric furnace and placed into vacuum chamber to form a powder
EUS-3	429.3	DC064	Approved in 2018 for modification of the dust collectors and descriptive information. Bay 2 vacuum Powder 2 powder handling. DC064 controls powder handling.
---	312.5	---	Bay 5- one (1) electric furnace for Powder 3, rated at 312.5 lbs/hr
---	---	DC020	DC020 controls the electrode saw in Bay 5.
EUS-5	312.5	DC012, DC013	Powder 3 is milled and sized. DC013 controls the impact mill in Bay 5. DC012 controls powder handling in Bay 3 and Bay 4.
EUS-8B	58.4	DC040	Powder 4 handling in mill and

				blender prior to furnacing.
	EUS-8A	58.4	DC041	Powders from Powder 4 furnaces sent through delumper, mill, two classifiers, two screeners, and magnets. Serves purpose of filling crucibles prior to Powder 4 furnaces and emptying crucibles after the furnace.
	EUS-10	300	DC043, DC044, DC045, Powder 5 Baghouse	Processes oxides and metal powders for Powder 5. Supports spray dryers. Includes a bag breaking table, delumper, blenders, and five (5) screeners. DC043 controls one (1) blender, one (1) screener, four (4) filling machines, the filling station (bag breaking table), and two (2) delumpers. DC044 controls one (1) blender, one (1) screener, one (1) weigh station, one (1) delumper, and three (3) mixing tanks. DC045 controls one (1) blender, one (1) screener, three (3) mixing tanks, and one (1) hopper. The Powder 5 Baghouse controls the spray dryer hot exhaust.
	EUP-11*	100	DC001 (Stack S001)	Powder 5 Spray Dryer 1
	EUP-11A*	100	DC002 (Stack S001)	Thermal barrier coating (TBC) Spray Dryer 2
	EUP-11B**	100	DC046 (Stack S046)	Powder 5 Spray Dryer 3
	EUS-15A	341.66	DC026	Approved in 2018 for modification of the dust collectors and descriptive information. 2 Screeners and 2 Blenders in Powder 2 Processing for Lines 1 and 2. Line 1 and 2 screeners and blenders are controlled by DC026. DC026 is also connected to classifiers DC072 and DC071, which are associated with Lines 1 and 2, respectively.
	EUS-15B	341.66	DC059	Approved in 2018 for modification of the dust collectors and descriptive information. 4 Screeners and 2 Blenders in Powder 2 Processing for Lines 3 and 4. DC059 is also connected to

				classifiers DC070, DC023, and DC069, which are associated with Lines 3, 4, and 5, respectively.
	---	---	DC056	DC056 controls packaging.
	EUS-15C	341.66	DC060	Approved in 2018 for modification of the descriptive information. 4 Screeners and 2 Blenders in Powder 2 Processing for Lines 5 and 6. DC060 is also connected to classifiers DC011 and DC068, which are both associated with Line 6.
	Scale	---	DC026	Scale for Powder 2 Processing Lines 1, 2, 3, 4, and 5.
	EUS-15F	341.66	DC058, DC024, Demisters 5,6,8	Support for Viga 250, used for Powder 2. DC058 controls dust from support operations in the West Viga 250. Demister 8 is used for the West Viga 250 to remove oil used in the viga. DC024 controls dust from support operations in the East Viga 250. Demisters 5 and 6 are used for the East Viga 250 to remove oil that was used in the viga.
	EUS-15G	341.66	DC021, DC057, Demister 4	Support for Viga 150, used for Powder 2. DC021 is used for support operations. DC057 is used during cleanout. Demister 4 is used to remove oil used in the viga.
	EUS-15I (constructed in 2024)	56.94	DC032	1 blender and 1 weigh out station used for Powder 2.
	EUP-17 (approved in 2023 to change control)	8.33	DC035, DC045, New Dust collector	Viga 2/5 and Viga 45, for Powder 2, support and special orders (SO) processing. Powder handling is controlled by DC045, New Dust collector, while the exhaust from the viga is controlled by DC035.
	EUS-22	21.606	DC005	Powder 7 Operation: Electric furnace, five (5) mills, three (3) jaw crushers, one (1) blender, one (1) screener, one (1) de-egger, one (1) fill station, one (1) classifier, and one (1) work bench. DC005 controls all operations, including the classifier.
	EUS-4A	429.3	DC007, DC054	Powder 6 Operation: Powder is weighed, mixed into a slurry, and spray dried. Following spray drying, it's screened, classified, and blended. DC007 controls two classifiers, the scale, the screeners, and general powder handling operations. DC054

			controls the spray dryer.
EUS-12	100	DC014	High purity room powder handling, Chrome Oxide Fill Station, Lab, and Epoxy Super Sac.
*These units are also listed in the natural gas combustion list. EUP-11 and EUP-11A because they have natural gas burners, but also handle material. **This process does not process, use, or generate materials containing HAP and is not subject to the requirements of 40 CFR 63, Subpart CCCCCCC.			

(2) One (1) specialty powders manufacturing operation, identified as EUS-15D, approved in 2018 for construction, controlled by an integral baghouse, identified as DC074, in series with HEPA filters at the baghouse exhaust, and exhausting indoors.

The HEPA filters are not considered as integral to the one (1) specialty powders manufacturing operation, identified as EUS-15D.

Emission Unit ID	Maximum Throughput (lb/hr)	Control Device	Description
EUS-15D	341.66	DC074 (Baghouse)	Support for Viga 250 #3, used for Powder 2. DC079 controls dust from support operations in the Viga 250 #3.

(3) One (1) specialty powder manufacturing operation, approved in 2018 for construction, utilizing no control, and enclosed with no exhaust.

Emission Unit ID	Maximum Throughput (lb/hr)	Description
EUS-15E	341.66	5 Screeners not controlled by a conventional dust collector. These screeners use internal components to separate/segregate manufactured powder into the desired particle size.

(4) One jet mill, identified as EUS-23, approved in 2021 for construction, that is part of the Powder 7 specialty powders manufacturing operations, connected with one classifier, with a maximum throughput of 45 lb/hr, located at 1550 Polco Street, utilizing an integral dust collector, identified as DC006, as control and exhausting outside to stack S006.

(5) One (1) specialty powder manufacturing operation, identified as EUS-15H, constructed in 2024, controlled by a baghouse, identified as DC075, in series with HEPA filters at the baghouse exhaust, and exhausting indoors.

The HEPA filters are not considered as integral to the one (1) specialty powders manufacturing operation, identified as and EUS-15H.

Emission Unit ID	Maximum Throughput (lb/hr)	Control Device	Description
EUS-15H	341.66	DC075 (Baghouse)	Used for Powder 2.

Under NESHAP for Area Sources: Paints and Allied Products Manufacturing [40 CFR 63, Subpart CCCCCCC], the specialty powders manufacturing operation (except EUP-11B) are

considered affected units.

(c) Titanium Power Processes:

(i) One (1) titanium powder process, identified as Titanium Powder Process 1, constructed in 2015, located at 1550 Polco Street, utilizing a wet collector, identified as Rotoclone, as control, with a maximum of 4.00 pounds of particulate collected by the wet collector per hour, and exhausting outdoors.

(ii) One (1) titanium powder process, identified as Titanium Powder Process 2, constructed in 2024, located at 1550 Polco Street, utilizing a wet collector, identified as Rotoclone, as control, with a maximum of 4.00 pounds of particulate collected by the wet collector per hour, and exhausting outdoors.

The maximum capacity of these processes has been considered confidential information.

Under NESHAP for Area Sources: Paints and Allied Products Manufacturing [40 CFR 63, Subpart CCCCCCC], the (2) titanium powder processes are considered affected units.

(d) One (1) coating mixing operation, identified as Sermatech Process, constructed prior to 2014, with the following maximum mixing capacities:

(1) 60.00 pounds per hour of water-based paint and
(2) 24.00 pounds per hour of solvent-based paint

located at the 1550 Polco Street Specialty Powders area, utilizing two (2) scrubbers, identified as Scrubber #1 and Scrubber #2, and exhausting indoors.

Under NESHAP for Area Sources: Paints and Allied Products Manufacturing [40 CFR 63, Subpart CCCCCCC], the one (1) coating mixing operation is considered an affected unit.

(e) One (1) polishing operation, located at 1550 Polco Street, and consisting of the following:

(1) One (1) powder handling operation, with a maximum capacity of 9152.86 pounds per hour, and including:

(A) Four (4) lens polish mixing tank loading, constructed prior to 2014 and modified in 2015, and utilizing a dust collector, identified as DC030, as control;

(B) One (1) suspension room custom blend loading, constructed prior to 2014, identified as EUS-20, and utilizing a dust collector, identified as DC032, as control;

(C) One (1) suspension room powder packaging, constructed prior to 2014, identified as EUS-18, and utilizing a dust collector, identified as DC032, as control; and

(D) Powder loading into one (1) of four (4) premix tanks operation, constructed prior to 2014, collectively identified as EUS-19, and utilizing a dust collector, identified as DC032, as control.

(2) One (1) polish mixing operation:

(A) One (1) lens polish mixing and filling operation constructed prior to 2014, utilizing a dust collector, identified as DC062, as control, and consisting of the

following:

(i) Eight (8) mixing tanks,

(ii) Two (2) holding tanks,

(iii) One (1) bottle filling line, and

(iv) One (1) pail filling line,

The filling process creates a bottleneck so that only two (2) mixing tanks can be run at one time.

(B) One (1) suspension room mixing operation, constructed prior to 2014, consisting of two (2) mixing tanks with capacities of 50 gallons and 25 gallons, with a batch time of four (4) hours, and utilizing a dust collector, identified as DC032, as control.

(f) One (1) specialty ingot manufacturing process, constructed in 2016 and approved in 2018 for modification to add a lathe, located at 1550 Polco Street, and consisting of the following:

(1) One (1) material transfer point, with a maximum capacity of 275 pounds of specialty ingot per hour, utilizing a voluntary dust collector as control while transferring powder from the spray dryer to the feed tank, and exhausting indoors.

(2) One (1) feed tank.

(3) One (1) electric sintering kiln.

(4) One (1) lathe, identified as Ingot Machining Lathe, approved in 2018 for construction, with a maximum capacity of 100 pounds per hour, utilizing no control, and exhausting indoors.

1500 Polco Street

(i) One (1) grit blasting unit:

(1) One (1) aluminum oxide grit blasting unit, identified as EU13C, approved in 2018 for construction, with a maximum capacity of 129 pounds per hour, located at 1500 Polco Street, controlled by a baghouse, identified as C13C, and exhausting to stack/vent ID 13C.

1245 Main Street

(l) Twenty-two (22) grit blasting units:

(1) Thirteen (13) aluminum oxide grit blasting units, located at 1245 Main Street, each utilizing a baghouse as control, and exhausting to the Stack/Vents in the table below:

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device	Exhaust
EU09C	1994	360	C09C	09C
EU001G	Constructed prior to 2014	600	C001G	01G
EU002G		600	C002G	02G

EU004G		600	C004G	04G
EU005G		600	C005G	05G
EU008G		600	C008G	08G
EU010G		600	C010G	10G
EU011G		600	C011G	11G
EU013G		200	C013G	13G
EU014G		600	C014G	14G
EU016G		600	C016G	16G
EU018G		600	C018G	18G
EU019G		600	C019G	19G

(2) One (1) aluminum oxide grit blasting unit, identified as, EU012G, constructed in 2015, with a maximum capacity of 50 pounds per hour, located at 1245 Main Street, utilizing a dust collector, identified as DC012G, as control, and exhausting indoors.

(3) One (1) silicon carbide grit blasting unit, identified as EU007G, constructed prior to 2014, with a maximum capacity of 360 pounds per hour, located at 1245 Main Street, utilizing a baghouse, identified as C007G, as control, and exhausting indoors.

(4) Two (2) fine grit blasting units, constructed prior to 2014, located at 1245 Main Street, each with a maximum capacity of 600 pounds per hour, each utilizing a baghouse as control, exhausting indoors, and consisting of the following:

Emission Unit ID	Control Device
EU01M	C01M
EU02M	C02M

(5) One (1) steel shot peen shot blasting cabinet, identified as EU01L, constructed in 1994, with a maximum capacity of 5.36 pounds per hour, located at 1245 Main Street, utilizing a baghouse, identified as C01L, as control, and exhausting to Stack/Vent 01L.

(6) Two (2) glass bead cabinet blasting units, constructed prior to 2014, each with a maximum capacity of 600 pounds per hour, located at 1245 Main Street, each utilizing a baghouse as control, and exhausting to the Stack/Vents in the table below:

Emission Unit ID	Control Device	Exhaust
EU01GB	C01GB	01GB
EU02GB	C02GB	02GB

(7) One (1) aluminum oxide grit blasting unit, identified as EU021G, approved in 2021 for construction, with a maximum capacity of 120 pounds per hour, located at 1245 Main Street, utilizing a dust collector, identified as DC021G, as control, and exhausting indoors.

(8) One (1) steel shot peen shot blasting cabinet, identified as EU02L, approved in 2021 for construction, with a maximum capacity of 5.36 pounds per hour, located at 1245 Main Street, utilizing a baghouse, identified as DC02L, as control, and exhausting indoors.

1415 Main Street

(q) Twenty-three (23) grit blasting units:

(1) Nine (9) aluminum oxide grit blasting units, located at 1415 Main Street, each utilizing a baghouse as control, and exhausting to the Stack/Vents in the table below:

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device	Exhaust
EU01C	1994	360	C01C	01C
EU04C		360	C04C	04C
EU05C		360	C05C	05C
EU06C		360	C06C	06C
EU07C		360	C07C	07C
EU08C		360	C08C	08C
EU10C	1996	360	C10C	10C
EU12C	1998	360	C12C	12C
EU16C	2017	600	C16C	16C

(2) One (1) aluminum oxide robotic grit blasting unit, identified as EU03C, constructed in 1994, with a maximum capacity of 360 pounds per hour, located at 1415 Main Street, utilizing a baghouse, identified as C03C, as control, and exhausting to Stack/Vent 03C.

(3) One (1) fine grit blasting unit, identified as EU01M, constructed in 2015, with a maximum capacity of 600 pounds per hour, located at 1415 Main Street, utilizing a dust collector, identified as C01M, as control, and exhausting indoors.

(4) Five (5) Operation 1, Process 1 aluminum oxide grit blasting units, each utilizing a baghouse with HEPA filters as control, located at 1415 Main Street, exhausting indoors, and consisting of the following:

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device
O1P1-EUG6	Constructed prior to 2014	173	O1P1-CG6
O1P1-EUG7	2016	81	O1P1-CG7

(5) Four (4) Operation 2, Process 1 aluminum oxide grit blasting units, each utilizing a baghouse with HEPA filters as control, located at 1415 Main Street, exhausting indoors, and consisting of the following:

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device
O2P1-EUG1	Constructed prior to 2014	224	Baghouse with HEPA Filter O2P1-CG1/2
O2P1-EUG2		224	
O2P1-EUG3		81	Baghouse with HEPA Filter O2P1-CG3/4
O2P1-EUG5	2015	50	Dust Collector O2P1-CG5

(6) Two (2) Operation 2, Process 3 calcined alumina grit blasting units, constructed prior to 2014, each with a maximum capacity of 221 pounds per hour, each utilizing a baghouse with HEPA filters as control, located at 1415 Main Street, exhausting indoors, and consisting of the following:

Emission Unit ID	Control Device
O2P3-EUG1	O2P3-CG1
O2P3-EUG2	O2P3-CG2

(7) One (1) silicon carbide grit blasting unit, identified as EU11C, approved in 2019 for construction, with a maximum capacity of 180 pounds per hour, using a baghouse, identified as C11C, as control, and exhausting indoors.

(8) One (1) aluminum oxide grit blasting unit, identified as EU21, constructed in 2024, with a maximum capacity of 50 pounds per hour, located at 1415 Main Street, controlled by a baghouse, identified as C21, and exhausting inside the building.

(r) One (1) Operation 2 Process 3, identified as O2P3 EUG3, constructed in 2019, consisting of one (1) abrasive dry ice blasting unit, with a maximum dry ice throughput of 1,000 pounds per week, with a residual powder total of 0.5 pounds per part, using a shared dust collector as control, identified as CG2, and exhausting indoors.

(s) Two (2) aluminum oxide wet grit blasting units, located at 1415 Main Street, utilizing mist collectors as control, and exhausting indoors:

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Mist Collector ID
EU14C	Constructed prior to 2014	600	C14C
EU15C	Approved in 2018 for construction	600	C15C

(t) One (1) pack diffusion process, identified as Pack Diffusion Process, constructed in 2017, located at 1415 Main Street, and including the following:

(1) One (1) pack station, with a total powder throughput of 100 pounds per hour, utilizing a scrubber as control, and exhausting outdoors.

(2) One (1) unpack station, with a total powder throughput of 100 pounds per hour, utilizing a scrubber as control, and exhausting outdoors.

(3) One (1) abrasive blasting unit, using dry ice as the abrasive material and one (1) air blasting unit, using no abrasive material, with a total powder residual of 0.5 pounds per part, utilizing a dust collector as control, and exhausting indoors.

(u) One (1) Operation 1, Process 1 (O1P1), constructed prior to 2014, with a maximum capacity of 39,795 pounds of waste particulate collected per year, located at 1415 Main Street, utilizing two (2) integral dust collectors with HEPA filters, identified as DCC1-CV and DCC4-CV, as control, and exhausting indoors.

(v) One (1) Operation 2, Process 1 (O2P1), constructed prior to 2014, located at 1415 Main Street, consisting of six (6) Q-Salt tanks each with a maximum capacity of 10.6 gallons, utilizing no control, and exhausting indoors.

(w) One (1) Operation 2, Process 2 (O2P2), constructed prior to 2014, located at 1415 Main Street, exhausting indoors, and consisting of the following:

(1) One (1) slurry masking process, with a maximum capacity of less than 12 pounds of material per hour, manually applied using a brush, and utilizing no control; and

(2) One (1) dry masking process, constructed in 2017, with a maximum capacity of 10 tons of material per year, and ventilating to a down-draft table with cartridge filters.

(x) One (1) Operation 2, Process 4 (O2P4), constructed prior to 2014, modified in 2016, and modified in 2017, located at 1415 Main Street, with a maximum activator compound consumption of less than 1 pound per hour, utilizing a water scrubber as control, and exhausting indoors.

(y) Three (3) grinders, constructed prior to 2014, located at 1415 Main Street, each with a maximum capacity of 100 pounds per hour, each utilizing dust collectors with HEPA filters as control, exhausting indoors, and consisting of the following:

Emission Unit ID	Control Device
Bader Grinder #2	C03C
Bader Grinder #3	C07B
Bader Grinder #4	C08B

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the three (3) grinders are considered affected units.

INSIGNIFICANT ACTIVITIES:

1550 Polco Street

(a) Two (2) grinding and cutting operations:

(1) One (1) machine shop, identified as Building 1550 Maintenance Shop, constructed prior to 2018, with a maximum capacity of 100 pounds of metal per hour, located at 1550 Polco Street, utilizing no control, exhausting indoors, and consisting of the following:

(A) Three (3) arc welding stations, each with a maximum capacity of 2.4 pounds of electrode per hour;
(B) One (1) chop saw;
(C) Two (2) grinders;
(D) One (1) belt sander;
(E) One (1) wet cutting saw;
(F) One (1) vertical band saw;
(G) One (1) lathe; and
(H) One (1) roller.

(2) One (1) crucible cutting operation, identified as Specialty Powders Crucible Cutting (CC019), constructed prior to 2014, with a maximum capacity of 5 pounds of granite per hour, located at 1550 Polco Street, utilizing a dust collector, identified as DC019, as control, and exhausting indoors.

1500 Polco Street

(b) One (1) epoxy kit operation, identified as EUS-12, constructed in 1985, located at 1550 Polco Street, with a maximum capacity of:

(1) 56.0 pounds of epoxy kits containing acetone per hour and

(2) 50 pounds of vermiculate for use in packaging per hour, utilizing a dust collectors with HEPA filters, identified as DC014, to control vermiculate pouring

and exhausting indoors.

(c) Three (3) 3D printers, each with a maximum consumption of 1.83 tons per year of nickel-based powder products, identified as NI-202 products, located at 1500 Polco Street, utilizing no control, and exhausting indoors.

Number of Units	Construction Year
One (1)	Approved in 2018 for construction
Two (2)	2017

(d) Three (3) grinding and cutting operations:

(1) One (1) machine shop, identified as Building 1500 Machine Shop, constructed prior to 2018, with a maximum capacity of 100 pounds of metal per hour, located at 1500 Polco Street, exhausting indoors, and consisting of the following:

(A) One (1) band saw utilizing no control;
(B) One (1) chop saw utilizing a dust collector as control;
(C) Four (4) wheel grinders utilizing no control;
(D) Six (6) drill presses utilizing a dust collector as control;
(E) Four (4) lathes, using cutting fluids, and utilizing no control;
(F) Two (2) surface grinders utilizing no control;
(G) One (1) press utilizing no control;
(H) One (1) belt sander utilizing no control;
(I) Two (2) wire electrical discharge machining (EDM) cutting machines utilizing no control; and
(J) One (1) computer numerical control (CNC) mill, using cutting fluids and lubricants, and utilizing no control.

(2) One (1) fabrication shop, identified as Building 1500 Fabrication Shop, with a maximum capacity of 50 pounds of metal per hour, located at 1500 Polco Street, exhausting indoors, and consisting of the following:

(A) One (1) shear utilizing no control;
(B) One (1) drill press utilizing no control;
(C) One (1) lathe, using cutting fluids, and utilizing no control;
(D) One (1) press utilizing no control;
(E) Two (2) press brakes utilizing no control;
(F) One (1) cutter/grinder utilizing no control;
(G) Two (2) punch presses utilizing no control; and
(H) One (1) engraver utilizing no control.

(3) One (1) maintenance welding shop, identified as Maintenance Welding Shop, constructed in 2017, with a maximum capacity of 5 pounds of metal per hour, located at 1500 Polco Street, utilizing no control, exhausting outdoors through a fume extraction system, and consisting of the following:

(A) One (1) MIG welding station, with a maximum capacity of 3 pounds of electrode per hour;
(B) One (1) arc welding station, with a maximum capacity of 2.4 pounds of electrode per hour;
(C) One (1) plasma flame cutting stations, each with a maximum cutting capacity

of 300 inches of 0.5 inch thick metal per minute; and

(D) One (1) wheel grinder with a maximum capacity of 5 pounds of metal per hour.

(e) One (1) carpenter shop, identified as Carpentry Shop, constructed prior to 2018, each tool with a maximum capacity of 50 pounds of wood per hour, located at 1500 Polco Street, utilizing a dust collector, identified as Carpenter Shop Dust Collector, as control, exhausting indoors, and consisting of the following tools:

(A) One (1) band saw utilizing no control;
(B) One (1) drill press utilizing no control;
(C) One (1) belt sander utilizing no control;
(D) One (1) circular saw utilizing a dust collector as control; and
(E) One (1) table saw utilizing a dust collector as control.

(f) Two (2) emergency generators, utilizing no control, and exhausting indoors:

Location	Emission Unit ID	Maximum Capacity (HP)	Fuel Type	Date Installed	Date Manufactured	Engine Type
1500 Polco Street	Generac	207	Diesel	1999	1999	6 cylinder
1500 Polco Street - Power House	ONAN/ Cummins	168	Diesel	1975	1975	6 cylinder

Under NESHAP for Stationary reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ], the two (2) emergency generators are considered affected units.

1245 Main Street

(g) One (1) grit reclassifier, identified as EU020G, constructed in 2015, with a maximum capacity of 400 pounds of aluminum oxide per hour, located at 1245 Main Street, utilizing a dust collector, identified as DC020G, as control, and exhausting indoors.

(h) Seventeen (17) grinding and cutting operations:

(1) One (1) maintenance shop, identified as Building 1245 Maintenance Shop, constructed prior to 2018, with a maximum capacity of 100 pounds of metal per hour, located at 1245 Main Street, utilizing no control, exhausting indoors, and consisting of the following:

(A) Three (3) band saws,
(B) Two (2) drill presses,
(C) Four (4) lathes, using cutting fluid,
(D) One (1) shear,
(E) Two (2) grinders,
(F) One (1) belt sander,
(G) One (1) MIG welding station with a maximum capacity of 3 pounds of electrode per hour, and
(H) One (1) arc welding station with a maximum capacity of 2.4 pounds of electrode per hour.

(2) Fifteen (15) grinders, identified as Building 1245 Various Grinders, constructed prior to 2014, with a maximum capacity of 100 pounds of metal per hour, located at 1245 Main

Street, exhausting indoors, and consisting of the following:

(A) Two (2) wheel grinders, located near EU01M and EU06C, and each utilizing a portable voluntary dust collector as control;
(B) Two (2) grinders utilizing no control;
(C) Three (3) brush grinders, located near EU16C and EU10G, and utilizing no control;
(D) Seven (7) outside diameter (OD) grinders, each utilizing a dust collector as control; and
(E) Two (2) surface grinders utilizing no control.

(3) One (1) grinder, identified as Brown and Sharp Grinder, constructed in 2015, with a maximum capacity of 3 pounds of metal per hour, located at 1245 Main Street, utilizing a dust collector as control, and exhausting to the indoors.

(i) Five (5) finishing units:

(1) Three (3) polishers, constructed prior to 2014, located at 1245 Main Street, utilizing a dust collector, identified as DC016A, as control, and exhausting indoors.

(2) One (1) hone process, constructed prior to 2015, located at 1245 Main Street, utilizing a dust collector, identified as DC016A, as control, and exhausting indoors.

(3) One (1) downdraft table for handheld equipment, identified as Maxflo DD23, approved in 2015 for construction, located at 1245 Main Street near the aluminum oxide grit blasting units, utilizing no control, and exhausting indoors.

1415 Main Street

(k) Six (6) grinding and cutting operations:

(1) One (1) maintenance shop, identified as Maintenance Shop #1, constructed prior to 2018, with a maximum capacity of 100 pounds of metal per hour, located at 1415 Main Street, utilizing no control, exhausting indoors, and consisting of the following:

(A) One (1) horizontal band saw;
(B) One (1) shear;
(C) Two (2) drill presses;
(D) One (1) vertical band saw;
(E) One (1) mobile circular saw;
(F) One (1) belt sander;
(G) One (1) wheel grinder
(H) One (1) MIG welding station, with a maximum capacity of 3 pounds of electrode per hour;
(I) One (1) arc welding station, with a maximum capacity of 2.4 pounds of electrode per hour;
(J) One (1) lathe, using cutting fluids; and
(K) One (1) circular cutting saw.

(2) One (1) maintenance shop, identified as Maintenance Shop #2, constructed prior to 2018, with a maximum capacity of 100 pounds of metal per hour, located at 1415 Main Street, utilizing no control, exhausting indoors, and consisting of the following:

(A) One (1) drill press,
(B) One (1) vertical band saw,

(C) One (1) belt sander, identified as JET belt sander,
(D) Two (2) wheel grinders.

(3) Four (4) vented tables used for insignificant grinding, identified as Building 1415 Vented Tables, constructed prior to 2015, with a total maximum capacity of 50 pounds of metal per hour, located at 1415 Main Street, utilizing no control, and exhausting indoors.

(l) One (1) finishing unit:

(1) One (1) downdraft table for handheld equipment, constructed in 2015, identified as DTH800, approved in 2015 for construction, located at 1415 Main Street near Operation 1, Process 1 (O1P1), utilizing 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 2-8-4(1)]

D.2.1 PSD Minor Limits (PM) [326 IAC 2-2]

In order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM Limit (lbs/hr)
1550 Polco Street	
One (1) Titanium Powder Process 1	0.80
One (1) Titanium Powder Process 2	0.80
1500 Polco Street	
One (1) grit blasting unit	
EU13C	0.50
1245 Main Street	
Twenty-two (22) grit blasting units	
EU09C	0.50
EU001G	0.50
EU002G	0.50
EU004G	0.50
EU005G	0.50
EU008G	0.50
EU010G	0.50
EU011G	0.50
EU013G	0.50
EU014G	0.50
EU016G	0.50
EU018G	0.50
EU019G	0.50
EU012G	0.50
EU007G	0.50
EU01M	0.50
EU02M	0.50
EU01L	0.50

Emission Unit	PM Limit (lbs/hr)
EU01GB	0.50
EU02GB	0.50
EU021G	0.50
EU02L	0.50
1415 Main Street	
Twenty-two (22) grit blasting units	
EU01C	0.50
EU04C	0.50
EU05C	0.50
EU06C	0.50
EU07C	0.50
EU08C	0.50
EU10C	0.50
EU12C	0.50
EU16C	0.50
EU03C	0.50
EU01M	0.50
O1P1-EUG6	0.50
O1P1-EUG7	0.50
O2P1-EUG1	0.50
O2P1-EUG2	0.50
O2P1-EUG3	0.50
O2P1-EUG5	0.50
O2P3-EUG1	0.50
O2P3-EUG2	0.50
EU11C	0.50
One (1) wet grit blasting unit	
EU15C	0.50
Three (3) grinders	
Bader Grinder #2	0.10
Bader Grinder #3	0.10
Bader Grinder #4	0.10

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

D.2.2 FESOP Limits (PM10 and PM2.5) [326 IAC 2-2] [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4 and in order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
1550 Polco Street		
One (1) Titanium Powder Process 1	0.80	0.80
One (1) Titanium Powder Process 2	0.80	0.80

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
1500 Polco Street		
One (1) grit blasting unit		
EU13C	0.09	0.09
1245 Main Street		
Twenty-two (22) grit blasting units		
EU09C	0.09	0.09
EU001G	0.09	0.09
EU002G	0.09	0.09
EU004G	0.09	0.09
EU005G	0.09	0.09
EU008G	0.09	0.09
EU010G	0.09	0.09
EU011G	0.09	0.09
EU013G	0.09	0.09
EU014G	0.09	0.09
EU016G	0.09	0.09
EU018G	0.09	0.09
EU019G	0.09	0.09
EU012G	0.09	0.09
EU007G	0.09	0.09
EU01M	0.09	0.09
EU02M	0.09	0.09
EU01L	0.09	0.09
EU01GB	0.09	0.09
EU02GB	0.09	0.09
EU021G	0.09	0.09
EU02L	0.09	0.09
1415 Main Street		
Twenty-two (22) grit blasting units		
EU01C	0.09	0.09
EU04C	0.09	0.09
EU05C	0.09	0.09
EU06C	0.09	0.09
EU07C	0.09	0.09
EU08C	0.09	0.09
EU10C	0.09	0.09
EU12C	0.09	0.09
EU16C	0.09	0.09
EU03C	0.09	0.09
EU01M	0.09	0.09
O1P1-EUG6	0.09	0.09
O1P1-EUG7	0.09	0.09
O2P1-EUG1	0.09	0.09
O2P1-EUG2	0.09	0.09
O2P1-EUG3	0.09	0.09

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
O2P1-EUG5	0.09	0.09
O2P3-EUG1	0.09	0.09
O2P3-EUG2	0.09	0.09
EU11C	0.09	0.09
EU21	0.09	0.09
One (1) wet grit blasting unit		
EU15C	0.09	0.09
Three (3) grinders		
Bader Grinder #2	0.10	0.10
Bader Grinder #3	0.10	0.10
Bader Grinder #4	0.10	0.10

Compliance with these limits, combined with the potential to emit PM10 and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM10 and PM2.5 to less than one hundred (100) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

D.2.3 Particulate Matter (PM) [326 IAC 6.5-1-2(a)]

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the following emission units shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

Emission Unit
1550 Polco Street
Twenty seven (27) specialty powders manufacturing operations
EUS-1
EUS-2
EUS-7
EUP-3
EUS-3
EUS-5
EUS-8B
EUS-8A
EUS-10
EUP-11
EUP-11A
EUP-11B
EUS-15A
EUS-15B
EUS-15C
Scale
EUS-15F
EUS-15G
EUS-15H
EUS-15I
EUP-17
EUS-22

Emission Unit
EUS-4A
EUS-12
EUS-15D
EUS-23
One (1) Titanium powder process 1
One (1) Titanium powder process 2
One (1) coating mixing operation Sermatech Process
One (1) polishing operation
Four (4) lens polish mixing tank loading
Suspension room custom blend loading (EUS-20)
Suspension room powder packaging (EUS-18)
Powder loading (EUS-19)
One (1) specialty ingot manufacturing process
One (1) material transfer point
Ingot Machining Lathe
1500 Polco Street
One (1) grit blasting unit
EU13C
1245 Main Street
Twenty-two (22) grit blasting units
EU09C
EU001G
EU002G
EU004G
EU005G
EU008G
EU010G
EU011G
EU013G
EU014G
EU016G
EU018G
EU019G
EU012G
EU007G
EU01M
EU02M
EU01L
EU01GB
EU02GB
EU021G
EU02L
1415 Main Street
Twenty-three (23) grit blasting units
EU01C

Emission Unit
EU04C
EU05C
EU06C
EU07C
EU08C
EU10C
EU12C
EU16C
EU03C
EU01M
O1P1-EUG6
O1P1-EUG7
O2P1-EUG1
O2P1-EUG2
O2P1-EUG3
O2P1-EUG5
O2P3-EUG1
O2P3-EUG2
EU11C
One (1) dry ice blasting unit
O2P3 EUG3
One (1) wet grit blasting unit
EU15C
One (1) pack diffusion process (Pack Diffusion Process)
One (1) pack station
One (1) unpack station
One (1) abrasive blasting unit and one (1) air blasting unit
One (1) Operation 1, Process 1 (O1P1)
One (1) Operation 2, Process 1 (O2P1)
One (1) Operation 2, Process 2 (O2P2) - Dry Masking Process
Three (3) grinders
Bader Grinder #2
Bader Grinder #3
Bader Grinder #4
INSIGNIFICANT ACTIVITIES:
1550 Polco Street
Two (2) grinding and cutting operations
1500 Polco Street
One (1) epoxy kit operation (EUS-12)
Three (3) 3D printers
Three (3) grinding and cutting operations
One (1) carpenter shop
Two (2) emergency generators
1245 Main Street
Grit reclassifier (EU020G)

Emission Unit
Seventeen (17) grinding and cutting operations
Five (5) finishing units
1415 Main Street
Six (6) grinding and cutting operations
One (1) finishing unit

D.2.4 Preventive Maintenance Plan [326 IAC 1-6-3]

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 2-8-4(1)]

D.2.5 Particuale Emissions Control

(a) In order to comply with Conditions D.2.1, D.2.2, and D.2.3, the control devices for particulate control listed in the table below shall be in operation and control emissions from the following units at all times these facilities are in operation:

Emission Unit	Control Device ID
1550 Polco Street	
One (1) Titanium Powder Process 1	Rotoclone (Wet Collector)
One (1) Titanium Powder Process 2	Wet Collector
1500 Polco Street	
One (1) grit blasting unit	
EU13C	C13C
1245 Main Street	
Twenty-two (22) grit blasting units	
EU09C	C09C
EU001G	C001G
EU002G	C002G
EU004G	C004G
EU005G	C005G
EU008G	C008G
EU010G	C010G
EU011G	C011G
EU013G	C013G
EU014G	C014G
EU016G	C016G
EU018G	C018G
EU019G	C019G
EU012G	DC012G
EU007G	C007G
EU01M	C01M
EU02M	C02M
EU01L	C01L
EU01GB	C01GB
EU02GB	C02GB

Emission Unit	Control Device ID
EU021G	DC021G
EU02L	DC02L
1415 Main Street	
Twenty-two (22) grit blasting units	
EU01C	C01C
EU04C	C04C
EU05C	C05C
EU06C	C06C
EU07C	C07C
EU08C	C08C
EU10C	C10C
EU12C	C12C
EU16C	C16C
EU03C	C03C
EU01M	C01M
O1P1-EUG6	O1P1-CG6
O1P1-EUG7	O1P1-CG7
O2P1-EUG1	O2P1-CG1/2
O2P1-EUG2	
O2P1-EUG3	O2P1-CG3/4
O2P1-EUG5	O2P1-CG5
O2P3-EUG1	O2P3-CG1
O2P3-EUG2	O2P3-CG2
EU11C	C11C
One (1) wet grit blasting unit	
EU15C	C15C
Three (3) grinders	
Bader Grinder #2	C03C
Bader Grinder #3	C07B
Bader Grinder #4	C08B

(b) In order to comply with Condition D.2.3, the control devices for particulate control listed in the table below shall be in operation and control emissions from the following units at all times these facilities are in operation:

Emission Unit	Control Device ID
1550 Polco Street	
Twenty-seven (27) specialty powders manufacturing operations	
EUS-1	DC048
EUS-2	DC015
EUS-7	DC028, DC013
EUP-3	DC063
EUS-3	DC064
EUS-5	DC012, DC013
EUS-8B	DC040
EUS-8A	DC041

Emission Unit	Control Device ID
EUS-10	DC043, DC044, DC045, Powder 5 Baghouse
EUP-11	DC001
EUP-11A	DC002
EUP-11B	DC046
EUS-15A	DC026
EUS-15B	DC059
EUS-15C	DC060
Scale	DC026
EUS-15F	DC058, DC024, Demisters 5,6,8
EUS-15G	DC021, DC057, Demister 4
EUS-15I	DC032
EUP-17	DC035, DC045, Demister 3
EUS-22	DC005
EUS-4A	DC007, DC054
EUS-12	DC014
EUS-15D	DC074 (Baghouse)
EUS-15H	DC075 (Baghouse)
EUS-23	DC006
One (1) coating mixing operation Sermatech Process	Scrubber #1 and Scrubber #2
One (1) polishing operation	
Four (4) lens polish mixing tank loading	DC030
Suspension room custom blend loading (EUS-20)	DC032
Suspension room powder packaging (EUS-18)	
Powder loading (EUS-19)	
Lens Polish mixing and filling operation	
Suspension Room mixing	
1415 Main Street	
Operation 1, Process 1 (O1P1)	DCC1-CV, DCC4-CV
One (1) Dry Ice Blasting Unit (O2P3-EUG3)	CG2

Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]

D.2.6 Baghouse, Dust Collector, and Scrubber Inspections

The Permittee shall perform quarterly inspections of the control device controlling particulate emissions listed in the table below from the emission unit listed in the table below to verify that it is being operated and maintained in accordance with the manufacturer's specifications.

Emission Unit	Control Device ID
1550 Polco Street	
Twenty-seven (27) specialty powders manufacturing operations	
EUS-1	DC048
EUS-2	DC015
EUS-7	DC028, DC013
EUP-3	DC063
EUS-3	DC064
EUS-5	DC012, DC013

Emission Unit	Control Device ID
EUS-8B	DC040
EUS-8A	DC041
EUS-10	DC043, DC044, DC045, Powder 5 Baghouse
EUP-11	DC001
EUP-11A	DC002
EUP-11B	DC046
EUS-15A	DC026
EUS-15B	DC059
EUS-15C	DC060
Scale	DC026
EUS-15F	DC058, DC024, Demisters 5,6,8
EUS-15G	DC021, DC057, Demister 4
EUS-15I	DC032
EUP-17	DC035, DC045, Demister 3
EUS-22	DC005
EUS-4A	DC007, DC054
EUS-12	DC014
EUS-15D	DC074 (Baghouse)
EUS-15H	DC075 (Baghouse)
EUS-23	DC006
One (1) coating mixing operation Sermatech Process	Scrubber #1 and Scrubber #2
One (1) polishing operation	
Four (4) lens polish mixing tank loading	DC030
Suspension room custom blend loading (EUS-20)	DC032
Suspension room powder packaging (EUS-18)	
Powder loading (EUS-19)	
Lens Polish mixing and filling operation	
Suspension Room mixing	
1500 Polco Street	
One (1) grit blasting unit	
EU13C	C13C
1245 Main Street	
Twenty-two (22) grit blasting units	
EU09C	C09C
EU001G	C001G
EU002G	C002G
EU004G	C004G
EU005G	C005G
EU008G	C008G
EU010G	C010G
EU011G	C011G
EU013G	C013G
EU014G	C014G
EU016G	C016G
EU018G	C018G

Emission Unit	Control Device ID
EU019G	C019G
EU012G	DC012G
EU007G	C007G
EU01M	C01M
EU02M	C02M
EU01L	C01L
EU01GB	C01GB
EU02GB	C02GB
EU021G	DC021G
EU02L	DC02L
1415 Main Street	
Twenty-three (23) grit blasting units	
EU01C	C01C
EU04C	C04C
EU05C	C05C
EU06C	C06C
EU07C	C07C
EU08C	C08C
EU10C	C10C
EU12C	C12C
EU16C	C16C
EU03C	C03C
EU01M	C01M
O1P1-EUG6	O1P1-CG6
O1P1-EUG7	O1P1-CG7
O2P1-EUG1	O2P1-CG1/2
O2P1-EUG2	
O2P1-EUG3	O2P1-CG3/4
O2P1-EUG5	O2P1-CG5
O2P3-EUG1	O2P3-CG1
O2P3-EUG2	O2P3-CG2
EU11C	C11C
One (1) wet grit blasting unit	
EU15C	C15C
Operation 1, Process 1 (O1P1)	DCC1-CV, DCC4-CV
Three (3) grinders	
Bader Grinder #2	C03C
Bader Grinder #3	C07B
Bader Grinder #4	C08B

Inspections required by this condition shall not be performed in consecutive months. All defective bags and dust collectors shall be replaced.

D.2.7 Broken or Failed Bag Detection

(a) For a single compartment baghouses 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 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).

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.2.8 Scrubber Failure Detection

In the event that a scrubber malfunction has been observed:

(a) For a scrubber controlling emissions from a process operated continuously, a failed unit and the associated process will be shut down immediately until the failed unit has have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For a scrubber 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).

D.2.9 Wet Collector Monitoring

(a) Wet Collector – Pressure Drop:
The Permittee shall record the pressure drop across the wet collector, identified as Rotoclone, used in conjunction with the two (2) titanium powder processes, identified as Titanium Powder Process 1 and Titanium Powder Process 2, at least once per day when the two (2) titanium powder processes, identified as Titanium Powder Process 1 and Titanium Powder Process 2, is in operation. When for any one reading, the pressure drop across the wet collector, identified as Rotoclone, is outside the normal range the Permittee shall take a reasonable response. The normal range for this unit is a pressure drop between 5.0 and 12.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test.

The instrument used for determining the pressure shall comply with Section C - Instrument Specifications, of this permit, shall be subject to approval by IDEM, OAQ, and shall be calibrated or replaced at least once every six (6) months.

(b) Wet Collector – Water Level:
Daily inspections shall be performed to verify that the water level in the water reservoir meet the manufacturer’s recommended level. To monitor the performance of the water reservoir, the water level in the water reservoir shall be maintained weekly at a level where surface agitation indicates impact of the air flow. Water shall be kept free of solids and floating material that reduces the capture efficiency of the water reservoir. To monitor the performance of the wet collector, identified as Rotoclone, weekly inspections of the water reservoir shall be conducted to verify placement and configuration meet

recommendations of the manufacturer. If a condition exists which should result in a response, the Permittee shall take a reasonable response.

(c) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.2.10 Wet Collector Failure Detection

In the event that wet collector failure 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).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.2.11 Record Keeping Requirements

(a) To document the compliance status with Condition D.2.6, the Permittee shall maintain records of the dates and results of the inspections required under Condition D.2.6**.**

(b) To document the compliance status with Condition D.2.9(a), the Permittee shall maintain daily records of the pressure drop across the wet collector, identified as Rotoclone, controlling the two (2) titanium powder processes, identified as Titanium Powder Process 1 and Titanium Powder Process 2. The Permittee shall include in its daily record when a pressure drop reading is not taken and the reason for the lack of a pressure drop reading (e.g., the process did not operate that day).

(c) To document the compliance status with Condition D.2.9(b), the Permittee shall maintain a log of daily and weekly observations of the water level in the water reservoirs**.** The Permittee shall include in its daily record when a water reservoir level reading is not taken and the reason for the lack of a water reservoir level reading (e.g., the process did not operate that day).

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

SECTION D.3 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

1500 Polco Street

(j) One (1) metal surface coating station:

(1) One (1) plasma surface coating station, identified as EU04B, approved in 2018 for construction, with a maximum capacity of 1.00 lbs per hour, used to apply coating to metal surfaces, located at 1500 Polco Street, utilizing no control, and exhausting indoors.

1245 Main Street

(m) Thirteen (13) metal surface coating stations:

(1) Six (6) detonation surface coating stations, all constructed prior to 1988, each with a maximum capacity of 32.16 pounds of coating per hour, used to apply coating to metal surfaces, each utilizing a D gun to apply coatings, located at 1245 Main Street, each utilizing an integral baghouse with HEPA filters, and identified as follows:

Emission Unit ID	Control Device ID	Stack/Vent ID
EU01A	C01A	01A
EU02A	C02A	02A
EU16A	C16A	16A
EU17A	C17A	17A
EU18A	C18A	18A
EU06A	C06A	06A

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the six (6) detonation surface coating stations are considered affected units.

(2) Two (2) High Velocity Oxy Fuel coating guns, each with a maximum capacity of 16.08 pounds of coating per hour, used to apply coating to metal surfaces, located at 1245 Main Street, each controlled by a baghouse with HEPA filters, and exhausting indoors:

Emission Unit ID	Construction Year	Control Device ID	Stack/Vent ID
EU19A*	Constructed prior to 2018	C19A**	19A
EU20A	2018	C20A	20A
* EU19A is heated by kerosene at a maximum rate of 26 gallons of kerosene per month. **The control device for EU19A was determined to be integral to the operation of this unit.			

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the two (2) High Velocity Oxy Fuel coating guns are considered affected units.

(3) Three (3) plasma surface coating stations, used to apply coating to metal surfaces, located at 1245 Main Street, each controlled by an integral baghouse with HEPA filters, and consisting of the following:

Emission Unit ID	Construction Year	Maximum Capacity (lbs of powder coating per hour)	Control Device	Stack / Vent ID
EU05B	prior to 1982	8.04	C05D	05D
EU06B		8.04	C06D	06D
EU10B		8.04	C10D	10D

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the three (3) plasma surface coating stations are considered affected units.

(4) One (1) high velocity oxy fuel coating gun, identified as EU04A, constructed in 1991, with a maximum capacity of 16.08 pounds of coating per hour, used to apply coating to metal surfaces, located at 1245 Main Street, utilizing integral baffles as control, and exhausting to Stack/Vent 04A.

(5) One (1) plasma surface coating station, identified as EU03B, constructed prior to 1982, with a maximum capacity of 8.04 pounds of powder per hour, used to apply coating to metal surfaces, located at 1245 Main Street, utilizing integral baffles as control, and exhausting to Stack/Vent 03D.

(n) One (1) physical vapor deposition coating station, identified as EU01T, constructed prior to 2017, with a maximum capacity of 0.25 pounds of coating per hour, used to apply coating to metal surfaces, utilizing physical vapor deposition (PVD) coating application method, located at 1245 Main Street, utilizing no control, and exhausting to Stack/Vent 01T.

(o) One (1) LSR1 titanium tetrachloride coating station, identified as EU01R, constructed prior to 2014, with a maximum capacity of 0.27 pounds of coating per hour, used to apply coating to metal surfaces, utilizing chemical vapor deposition (CVD) coating application method, located at 1245 Main Street, utilizing a scrubber as control, and exhausting to Stack/Vent 01R.

1415 Main Street

(z) Ten (10) metal surface coating stations:

(1) One (1) low pressure plasma spray (LPPS) coating station, identified as EU01S, constructed prior to 2014, with a maximum capacity of 44.09 pounds of coating per hour, used to apply coating to metal surfaces, located at 1415 Main Street, utilizing a dust collector, identified as C01S, during cleanout, and exhausting to Stack/Vent 01S.

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the one (1) low pressure plasma spray (LPPS) coating station, identified as EU01S, is considered an affected unit.

(2) Eight (8) plasma surface coating stations used to apply coating to metal surfaces, located at 1415 Main Street, each controlled by an integral baghouse with HEPA filters, and consisting of the following:

Emission Unit ID	Construction Year	Maximum Capacity (lbs of powder coating per hour)	Control Device	Stack / Vent ID
EU01B	1994	16.08	C01B	01B
EU02B		16.08	C02B	02B
EU05B		16.08	C05B	05B
EU06B		16.08	C06B	06B
EU07B*		16.08	C07B	07B
			Baffles**	
EU08B^		16.08	C08B	08B
EU09B		16.08	C09B	09B
EU11B	2009	16.08	C11B	11B

*Cubicle 07B, approved in 2018 for modification, will use the integral baghouse with HEPA filters when spraying HAP-containing materials, but will use baffles when using materials with combustible dust concerns.
**Baffles are not an integral control device.
^EU08B is heated by kerosene at a maximum rate of 26 gallons of kerosene per month.

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the eight (8) plasma surface coating stations are considered affected units.

(3) One (1) plasma surface coating station, identified as EU12B, constructed in 2013, with a maximum capacity of 16.08 pounds of powder per hour, used to apply coating to metal surfaces, located at 1415 Main Street, utilizing an integral baghouse with HEPA filters, identified as C12B, and exhausting to Stack/Vent 12B.

(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 2-8-4(1)]

D.3.1 PSD Minor Limits (PM) [326 IAC 2-2]

In order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM Limit (lbs/hr)
1245 Main Street	
One (1) surface coating station	
EU20A	0.23
1415 Main Street	
One (1) surface coating station	
EU07B	3.00

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 to less than two hundred fifty (250) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.3.2 FESOP Limits (PM10 and PM2.5) [326 IAC 2-2] [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4 and in order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
1245 Main Street		
One (1) surface coating station		
EU20A	0.15	0.15
1415 Main Street		
One (1) surface coating station		
EU07B	3.00	3.00

Compliance with these limits, combined with the potential to emit PM10 and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM10 and PM2.5 to less than one hundred (100) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

D.3.3 Particulate Matter Limitations Except Lake County [326 IAC 6.5-1-2(h)]

(a) Pursuant to 326 IAC 6.5-1-2(h), the emission units listed in the table below shall be controlled by a dry particulate filter, waterwash, or an equivalent control device.

Emission Unit
1245 Main Street
Six (6) surface coating stations
EU01A
EU02A
EU16A
EU17A
EU18A
EU06A
1415 Main Street
One (1) surface coating station
EU01S

(b) Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the following emission units shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

Emission Unit
1245 Main Street
Kerosene heater for EU19A
1415 Main Street
Kerosene heater for EU08B

D.3.4 Preventive Maintenance Plan [326 IAC 1-6-3]

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 2-8-4(1)]

D.3.5 Particulate Emissions Control

(a) The integral control devices for particulate control listed in the table below shall be in operation and control emissions from the following units:

Emission Unit	Control Device ID
1245 Main Street	
Six (6) surface coating stations	
EU19A	C19A
EU05B	C05D
EU06B	C06D
EU10B	C10D
EU04A	Baffles
EU03B	Baffles
1415 Main Street	
Eight (8) surface coating stations	
EU01B	C01B
EU02B	C02B
EU05B	C05B
EU06B	C06B
EU08B	C08B
EU09B	C09B
EU11B	C11B
EU12B	C12B

(b) In order to comply with Conditions D.3.1 and D.3.2, the control devices for particulate control listed in the table below shall be in operation and control emissions from the following units:

Emission Unit	Control Device ID
1245 Main Street	
One (1) surface coating station	
EU20A	C20A
1415 Main Street	
One (1) surface coating station	
EU07B	C07B and Baffles

(c) In order to comply with Condition D.3.3(a), the control devices for particulate control listed in the table below shall be in operation and control emissions from the following units:

Emission Unit
1245 Main Street
Six (6) surface coating stations
EU01A
EU02A
EU16A
EU17A
EU18A

Emission Unit
EU06A
1415 Main Street
One (1) surface coating station
EU01S

Compliance Monitoring Requirements [326 IAC 2-8-4(1)][326 IAC 2-8-5(a)(1)]

D.3.6 Monitoring

(a) Quarterly inspections:
The Permittee shall perform quarterly inspections of the control device controlling particulate emissions listed in the table below from the emission unit listed in the table below to verify that it is being operated and maintained in accordance with the manufacturer's specifications.

Emission Unit	Control Device ID	Stack/Vent ID
1245 Main Street		
Eleven (11) surface coating stations		
EU01A	C01A	01A
EU02A	C02A	02A
EU16A	C16A	16A
EU17A	C17A	17A
EU18A	C18A	18A
EU06A	C06A	06A
EU19A	C19A	19A
EU20A	C20A	20A
EU05B	C05D	05D
EU06B	C06D	06D
EU10B	C10D	10D
1415 Main Street		
Ten (10) surface coating stations		
EU01S	C01S	01S
EU01B	C01B	01B
EU02B	C02B	02B
EU05B	C05B	05B
EU06B	C06B	06B
EU07B	C07B	07B
EU08B	C08B	08B
EU09B	C09B	09B
EU11B	C11B	11B
EU12B	C12B	12B

Inspections required by this condition shall not be performed in consecutive months. All defective bags and dust collectors shall be replaced.

(b) Weekly inspections:
To monitor the performance of the baffles, identified in the table below, weekly inspections of the baffle panels shall be conducted to verify placement and configuration meet recommendations of the manufacturer.

Emission Unit	Control Device ID	Stack/Vent ID
1245 Main Street		
Two (2) surface coating stations		
EU04A	Baffles	04A
EU03B	Baffles	03D
1415 Main Street		
One (1) surface coating station		
EU07B	Baffles	07B

If a condition exists which should result in a response, the Permittee shall take a reasonable response.

(c) Monthly inspections:
Monthly inspections shall be performed of the coating emissions from the stacks, identified in the table below, and the presence of overspray on the rooftops and the nearby ground.

Emission Unit	Stack/Vent ID
1245 Main Street	
Thirteen (13) surface coating stations	
EU01A	01A
EU02A	02A
EU16A	16A
EU17A	17A
EU18A	18A
EU06A	06A
EU19A	19A
EU20A	20A
EU05B	05D
EU06B	06D
EU10B	10D
EU04A	EU04A
EU03B	03D
1415 Main Street	
Ten (10) surface coating stations	
EU01S	01S
EU01B	01B
EU02B	02B
EU05B	05B
EU06B	06B
EU07B	07B
EU08B	08B
EU09B	09B
EU11B	11B
EU12B	12B

If a condition exists which should result in a response, the Permittee shall take a reasonable response.

(d) Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. Failure to take response steps shall be considered a deviation from this permit.

D.3.7 Broken or Failed Bag Detection

(a) For a single compartment baghouses 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 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).

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.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

D.3.8 Record Keeping Requirements

(a) To document the compliance status with Condition D.3.6(a), the Permittee shall maintain records of the dates and results of the inspections required under Condition D.3.6(a).

(b) To document the compliance status with Condition D.3.6(b), the Permittee shall maintain a log of weekly baffle inspections.

(d) To document the compliance status with Condition D.3.6(c), the Permittee shall maintain a log of monthly stack inspections.

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

SECTION D.4 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

1550 Polco Street

(g) Eleven (11) direct heating natural gas-fired combustion units:

(1) Nine (9) natural gas-fired combustion units, constructed prior to 2014, located at 1550 Polco Street, utilizing no control, and consisting of the following:

Emission Unit ID	Unit Description	Maximum Capacity (MMBtu/hr)	Stack / Vent ID
EU001	Powder 4 Furnaces	3	001
EU002		3	002
EU003		3	003
EU004		3	004
EU005		3	005
EU006		3	006
EU007	Powder 5 Furnace	3	007
EU008	Powder 4 Furnaces	3	008
EU009		3	009

(2) Two (2) natural-gas fired combustion units, constructed prior to 2014, located at 1550 Polco Street, utilizing dust collectors as control, and consisting of the following:

Emission Unit ID	Unit Description	Maximum Capacity (MMBtu/hr)	Control Device	Stack / Vent ID
EUP-11	Powder 5 Spray Dryer 1	0.3	DC001	P-13B
EUP-11A	Powder 5 Spray Dryer 12	0.3	DC002	P-13B

(h) Four (4) natural gas-fired boilers, located at 1550 Polco Street, utilizing no control, and consisting of the following:

Emission Unit ID	Unit Description	Construction Year	Maximum Capacity (MMBtu/hr)	Stack / Vent ID
B-001	Lochinvar Boiler	1996	1.26	004
B-002	Multi-Pulse Hot Water Boiler	Approved in 2018 for construction. This unit replaces the existing B-002.	0.15	003
B-003	Ajax Boilers	1999	0.45	003
B-004			0.45	004

Under NSPS for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR 63, Subpart Dc], the one (1) natural gas-fired boiler, identified as Cleaver Brooks Boiler EU004, is considered an affected unit.

1500 Polco Street

(k) Three (3) natural gas-fired boilers, located at the 1500 Polco Street Powerhouse, utilizing no control, and consisting of the following:

Emission Unit ID	Unit Description	Construction Year	Maximum Capacity (MMBtu/hr)	Stack / Vent ID
EU002	Cleaver Brooks Boilers	1990	8.369	002
EU003			8.369	003
EU004		1992	14.645	004

Under NSPS for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR 63, Subpart Dc], the one (1) natural gas-fired boiler, identified as Cleaver Brooks Boiler EU004, is considered an affected unit.

1245 Main Street

(p) Three (3) direct heating natural gas-fired combustion units, constructed prior to 2014, located at 1245 Main Street, utilizing no control, and exhausting indoors.

Number of Units	Unit Description	Maximum Capacity (MMBtu/hr)
Two (2)	Heaters for the Kolene tank	0.150 each
One (1)	Kiln for LSR1	0.15

1415 Main Street

(aa) Nineteen (19) direct heating natural gas-fired combustion units, constructed prior to 2018, located as 1415 Main Street, utilizing no control, and exhausting outdoors:

Emission Unit ID	Unit Description	Maximum Capacity (MMBtu/hr)
RTU-A2	Carrier roof top units	0.360
RTU-A3		0.360
RTU-F		0.115
RTU-C1		0.250
RTU-E1		0.525
RTU-B2		0.525
RTU-A5		0.525
RTU-A6		0.525
ACPR4-1		0.133
ACPR4-2		0.115
RTU-00	Trane roof top units	0.587
ACPR1-1		0.117
ACPR1-2		0.117
RTU-B1	York roof top units	0.3
RTU-A-1		0.3
RTU-A7		0.699
RTU-E1	Aaon roof top units	0.18
RTU-D2		0.54

RTU-C1		0.27

All Locations

(n) Various downdraft tables throughout the facility used for small-scale production and maintenance, permitted in 2019, with a maximum production rate of 2,000 pounds per hour, using filter cartridges as 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 2-8-4(1)]

D.4.1 Particulate Matter Limitations Except Lake County [326 IAC 6.5-1-2]

(a) Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the following emission units shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

Emission Unit ID
1550 Polco Street
Eleven (11) direct heating natural gas-fired combustion units
EU001
EU002
EU003
EU004
EU005
EU006
EU007
EU008
EU009
EUP-11
EUP-11A
1245 Main Street
Three (3) direct heating natural gas-fired combustion units
Two (2) Heaters for the Kolene tank
One (1) Kiln for LSR1
1415 Main Street
Nineteen (19) direct heating natural gas-fired combustion units
RTU-A2
RTU-A3
RTU-F
RTU-C1
RTU-E1
RTU-B2
RTU-A5
RTU-A6
ACPR4-1
ACPR4-2
RTU-00

Emission Unit ID
ACPR1-1
ACPR1-2
RTU-B1
RTU-A-1
RTU-A7
RTU-E1
RTU-D2
RTU-C1
All Locations
Downdraft Tables

(b) Pursuant to 326 IAC 6.5-1-2(b)(3), particulate emissions from the following emission units shall not exceed 0.01 grains per dry standard cubic foot (dscf) of natural gas burned:

Emission Unit ID
1550 Polco Street
Four (4) natural gas-fired boilers
B-001
B-002
B-003
B-004
1500 Polco Street
Three (3) natural gas-fired boilers
EU002
EU003
EU004

D.4.2 Preventive Maintenance Plan [326 IAC 1-6-3]

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.

SECTION D.5 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

1415 Main Street

(ab) Three (3) degreasers located at 1415 Main Street:

(1) Three (3) conveyorized vapor degreasers, utilizing no control, and exhausting indoors:

Number of Units	Emission Unit ID	Construction Year	Maximum Capacity (gallons per year)	Solvent
Two (2)	Operation 2 Degreasers	Constructed prior to 2014	145	Novec 72DE
One (1)	Operation 1 Degreaser	Constructed in 2016 and modified in 2017	500	

(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 2-8-4(1)]

D.5.1 Conveyorized Degreaser Control Equipment and Operating Requirements [326 IAC 8-3-4]

Pursuant to 326 IAC 8-3-4 (Conveyorized Degreaser Control Equipment and Operating Requirements), the Permittee shall:

(a) Ensure the following control equipment and operating requirements have been met:

(1) Minimize carryout emissions by:

(A) Racking parts for best drainage;

(B) Maintaining the vertical conveyor speed at less than 3.3 meters per minute (eleven (11) feet per minute);

(2) Store waste solvent only in closed containers.

(3) Prohibit the disposal or transfer of waste solvent in a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(4) Repair solvent leaks immediately, or shut down the degreaser if leaks cannot be repaired immediately.

(5) Prohibit the use of workplace fans near the degreaser opening.

(6) Prohibit visually detectable water in the solvent from exiting the water separator.

(7) Equip the degreaser with a permanent, conspicuous label that lists the operating requirements in Conditions D.5.1(a)(1 through 6).

(b) The Permittee shall ensure that the following control equipment requirements are met:

(1) Equip the degreaser's entrances and exits with downtime covers that are closed when the degreaser is not operating.

(2) Equip the degreaser with the following switches:

(A) A condenser flow switch and thermostat which shuts off sump heat if condenser coolant stops circulating or becomes too warm.

(B) A spray safety switch which shuts off spray pump if the vapor level drops more than ten (10) centimeters (four (4) inches).

(C) A vapor level control thermostat that shuts off sump heat when vapor level rises more than ten (10) centimeters (four (4) inches).

(3) Equip the degreaser with entrances and exits which silhouette workloads in such a manner that the average clearance between the articles and the degreaser opening is either less than ten (10) centimeters (four (4) inches) or less than ten percent (10%) of the width of the opening.

(4) Equip the degreaser with a drying tunnel, rotating or tumbling basket, or other equipment that prevents cleaned articles from carrying out solvent liquid or vapor.

(5) Equip the degreaser with one (1) of the following control devices:

(A) A refrigerated chiller.

(B) A carbon adsorption system with ventilation that, with the downtime covers open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic meters per minute per square meter (fifty (50) cubic feet per minute per square foot) of air-to-solvent interface area, and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.

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

(6) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser opening unless a greater ventilation rate is necessary to meet Occupational Safety and Health Administration requirements.

(7) Cover entrances and exits at all times except when processing workloads through the degreaser.

(8) Ensure that the label required under Condition D.5.1(a)(7) includes the additional operating requirements listed in Conditions D.5.1(b)(6 and 7).

D.5.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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.

SECTION D.6 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

1415 Main Street

(ab) Three (3) degreasers located at 1415 Main Street:

(2) Three (3) open top vapor degreasers, utilizing no control, and exhausting indoors:

Emission Unit ID	Construction Year	Maximum Capacity (gallons per year)	Solvent
LPPS Vapor Degreaser	Constructed in 2013 and approved in 2018 for modification to change solvent and approved in 2023 for modification to change solvent	660	TMC-377
Tribomet Line Vapor Degreaser 1*	2017	660	PCE**
Tribomet Line Vapor Degreaser 2*	Constructed in 2024	260	PCE**
*Under NESHAP for Halogenated Solvent Cleaning [40 CFR 63, Subpart T], the one (1) Tribomet Line Vapor Degreaser is considered an affected unit. **PCE = Perchloroethylene			

(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 2-8-4(1)]

D.6.1 Open To Vapor Degreaser Operation [326 IAC 8-3-3]

Pursuant to 326 IAC 8-3-3 (Open Top Vapor Degreasing Operation), the Permittee shall:

(a) Ensure the following control equipment and operating requirements are met:

(1) Equip the vapor degreaser with a cover that can be opened and closed easily without disturbing the vapor zone.

(2) Keep the cover closed at all times except when processing workloads through the degreaser.

(3) Minimize solvent carryout by:

(A) racking parts to allow complete drainage;

(B) moving parts in and out of the degreaser at less than three and three-tenths (3.3) meters per minute (eleven (11) feet per minute);

(C) degreasing the workload in the vapor zone at least thirty (30) seconds or until condensation ceases;

(D) tipping out any pools of solvent on the cleaned parts before removal;

(E) allowing parts to dry within the degreaser for at least fifteen (15) seconds or until visually dry.

(4) Prohibit the entrance into the degreaser of porous or absorbent materials, such as cloth, leather, wood or rope.

(5) Prohibit the occupation of more than one-half (1/2) of the degreaser's open top area with the workload.

(6) Prohibit the loading of the degreaser in a manner that causes the vapor level to drop more than fifty percent (50%) of the vapor depth when the workload is removed.

(7) Prohibit solvent spraying above the vapor level.

(8) Repair solvent leaks immediately, or shut down the degreaser if leaks cannot be repaired immediately.

(9) Store waste solvent only in closed containers.

(10) Prohibit the disposal or transfer of waste solvent in a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(11) Prohibit the use of workplace fans near the degreaser opening.

(12) Prohibit visually detectable water in the solvent exiting the water separator.

(13) Provide the degreaser with a permanent, conspicuous label that lists the operating requirements in Conditions D.6.1(a)(2 through 12).

(b) Ensure that the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with the following switches:

(A) A condenser flow switch and thermostat that shuts off sump heat if condenser coolant stops circulating or becomes too warm.

(B) A spray safety switch that shuts off spray pump if the vapor level drops more than ten (10) centimeters (four (4) inches).

(2) Equip the degreaser with one (1) of the following control devices:

(A) A freeboard ratio of seventy-five hundredths (0.75) or greater and a powdered cover if the degreaser opening is greater than one (1) square meter (ten and eight-tenths (10.8) square feet).

(B) A refrigerated chiller.

(C) An enclosed design in which the cover opens only when the article is actually entering or exiting the degreaser.

(D) A carbon adsorption system with ventilation that, with the cover open, achieves a ventilation rate of greater than or equal to fifteen (15) cubic

meters per minute (fifty (50) cubic feet per minute per square foot) of air-to-vapor interface area and an average of less than twenty-five (25) parts per million of solvent is exhausted over one (1) complete adsorption cycle.

(E) An alternative system of demonstrated equivalent or better control as those outlined in Conditions D.6.1(b)(2)(A through D) that is approved by the department. An alternative system shall be submitted to the U.S.EPA as a SIP revision.

(3) Prohibit the loading of the degreaser to the point where the vapor level would drop more than ten (10) centimeters (four (4) inches) when the workload is removed.

(4) Prohibit the exhaust ventilation rate from exceeding twenty (20) cubic meters per minute per square meter (sixty-five (65) cubic feet per minute per square foot) of degreaser open are unless a greater ventilation rate is necessary to meet Occupational Safety Health Administration requirements.

(5) Ensure that the label required under Condition D.6.1(a)(13) includes the additional operating requirements listed in Conditions D.6.1(b)(3 and 4).

D.6.2 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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.

SECTION D.7 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description: INSIGNIFICANT ACTIVITIES:

1245 Main Street

(j) One (1) cold cleaner degreaser, constructed prior to 2014, located at 1245 Main Street, utilizing no control, and exhausting indoors:

Emission Unit ID	Maximum Capacity (gallons per year)	Solvent
Maintenance Parts Washer	145	Safety Kleen Premium Gold Solvent

1415 Main Street

(m) Two (2) cold cleaner degreasers, constructed prior to 2014, located at 1415 Main Street, utilizing no control, and exhausting indoors:

Emission Unit ID	Maximum Capacity (gallons per year)	Solvent
Maintenance Parts Washer	145	Safety Kleen Premium Gold Solvent
Operation 1 and 2 Machine Shop Parts Washer	145	Safety Kleen solvent

(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 2-8-4(1)]

D.7.1 Cold Cleaner Degreaser Control Equipment and Operating Requirements [326 IAC 8-3-2]

Pursuant to 326 IAC 8-3-2 (Cold Cleaner Degreaser Control Equipment and Operating Requirements), the Permittee shall:

(a) Ensure the following control equipment and operating requirements are met:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases;

(5) Provide a permanent, conspicuous label that lists the operating requirements in Conditions D.5.1 (a)(3, 4, 6, and 7).

(6) Store waste solvent only in closed containers.

(7) Prohibit the disposal or transfer of waste solvent in such a manner that could allow greater than twenty percent (20%) of the waste solvent (by weight) to evaporate into the atmosphere.

(b) Ensure the following additional control equipment and operating requirements are met:

(1) Equip the degreaser with one (1) of the following control devices if the solvent is heated to a temperature of greater than forty-eight and nine-tenths (48.9) degrees Celsius (one hundred twenty (120) degrees Fahrenheit):
(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
(B) A water cover when solvent used is insoluble in, and heavier than, water.
(C) A refrigerated chiller.
(D) Carbon adsorption.
(E) An alternative system of demonstrated equivalent or better control as those outlined in Conditions D.7.1(b)(1)(A through D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

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

(3) If used, solvent spray:
(A) must be a solid, fluid stream; and
(B) shall be applied at a pressure that does not cause excessive splashing.

D.7.2 Material Requirements for Cold Cleaner Degreasers [326 IAC 8-3-8]

Pursuant to 326 IAC 8-3-8 (Material Requirements for Cold Cleaner Degreasers), the Permittee shall not operate a cold cleaning degreaser with a solvent that has a VOC composite partial vapor pressure that exceeds one (1) millimeter of mercury (nineteen-thousandths (0.019) pound per square inch) measured at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

D.7.3 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

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.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)]

D.7.4 Record Keeping Requirements

(a) To document the compliance status with Condition D.7.2, the Permittee shall maintain the following records for each purchase of solvent used in the cold cleaner degreasing operations. These records shall be retained on-site or accessible electronically for the most recent three (3) year period and shall be reasonably accessible for an additional two (2) year period.

(1) The name and address of the solvent supplier.

(2) The date of purchase (or invoice/bill dates of contract servicer indicating service date).

(3) The type of solvent purchased.

(4) The total volume of the solvent purchased.

(5) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty-eight (68) degrees Fahrenheit).

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

SECTION E.1 NSPS

Emissions Unit Description:

1500 Polco Street

(h) One (1) natural gas-fired boiler, located at 1550 Polco Street, utilizing no control, and consisting of the following:

Emission Unit ID	Unit Description	Construction Year	Maximum Capacity (MMBtu/hr)	Stack / Vent ID
B-004	Ajax Boilers	1999	0.45	004

Under NSPS for Small Industrial-Commercial-Institutional Steam Generating Units [40 CFR 63, Subpart Dc], the one (1) natural gas-fired boiler, identified as Cleaver Brooks Boiler EU004, is considered an affected unit.

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

New Source Performance Standards (NSPS) Requirements [326 IAC 2-8-4(1)]

E.1.1 General Provisions Relating to New Source Performance Standards [326 IAC 12-1] [40 CFR Part 60, Subpart A]

(a) Pursuant to 40 CFR 60.1, the Permittee shall comply with the provisions of 40 CFR Part 60, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 12-1, for the emission unit listed above, except as otherwise specified in 40 CFR Part 60, Subpart Dc.

(b) Pursuant to 40 CFR 60.4, the Permittee shall submit all required notifications and reports to:

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

E.1.2 New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units [326 IAC 12] [40 CFR Part 60, Subpart Dc]

The Permittee shall comply with the following provisions of 40 CFR Part 60, Subpart Dc (included as Attachment A to the operating permit), which are incorporated by reference as 326 IAC 12, for the emission unit listed above:

(1) 40 CFR 60.40c
(2) 40 CFR 60.41c
(3) 40 CFR 60.48c(a)(1), (a)(3), (g), and (i)

SECTION E.2 NESHAP

Emissions Unit Description:

1550 Polco Street

(a) One (1) powder manufacturing process, identified as CSP Department EU020, constructed in 2014 unless otherwise specified below, located at 1550 Polco Street, exhausting outdoors, and consisting of the following:

(1) One (1) raw material handling operation, identified as Raw Material Handling CSP, with a maximum capacity of 12.37 pounds of raw material per hour, consisting of a liquid pumping operation and solid scooping operation, and utilizing no control;

(2) One (1) raw material mixing operation, identified as Raw Material Mixing CSP, in which raw materials are mixed inside of an enclosed 55-gallon drum, utilizing no control, and with no exhaust;

(3) One (1) combustion spray pyrolysis (CSP) operation, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, including the following systems:

(A) Spray drying and

(B) Powder to an oxide form converter

and utilizing the following control devices:

(C) One (1) cyclonic collection system

(D) Natural Gas Combustion Units:

(i) One (1) natural gas combustion unit, identified as Burner 1 Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(ii) One (1) natural gas combustion unit, identified as Burner 2 Associated with EU020, constructed in 2024, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(iii) One (1) natural gas combustion unit, identified as Burner 3 Associated with EU020, approved in 2024 for construction, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(E) One (1) CSP pollution control system, used to collect material not captured by the cyclonic collection system, which includes the following control devices:

(i) One (1) dust collector, identified as BAG (CSP), and

(ii) One (1) selective catalytic reduction system, identified as SCR (CSP);

(4) One (1) powder handling operation to convey powder to a hopper after CSP, identified as Powder Handling After CSP, with a maximum capacity of 84.90 pounds of powder fed into a kiln per hour, and utilizing two (2) dust collector, identified as DC-033 and DC-020A, as control.

This Powder Handling After CSP is approved in 2024 to add a control.

(5) Seven (7) kilns:

(i) One (1) electrically-heated kiln, identified as Kiln 1, permitted in 2022 to use a control, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(ii) Two (2) electrically-heated kilns, identified as Kiln 2 and Kiln 3, constructed in 2022, approved in 2023 to increase its maximum capacity, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(iii) Four (4) electrically heated kilns, identified as Kiln 4, Kiln 5, Kiln 6, and Kiln 7, approved in 2024 for construction, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, utilizing a dust collector, identified as DC033, as control.

(6) One (1) powder handling operation after the kilns, identified as Powder Handling After Kiln, with a maximum capacity of 84.90 pounds of powder conveyed to a hopper per hour, which feeds the milling process, and utilizing a dust collector, identified as DC-033, as control;

(7) Nine (9) enclosed mills:

(i) One (1) enclosed ball mill, identified as Mill 1 permitted in 2022 to use a control, with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;

(ii) Two (2) DM1 post kiln enclosed mills, identified as Mill 2 and Mill 3, constructed in 2024, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;

(iii) Two (2) enclosed DM1 pre-kiln mills, identified as Mill 4 and Mill 5, approved in 2024 for construction, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(iv) Four (4) enclosed DM4 post-kiln mills, identified as Mill 6 to Mill 9, approved in 2024 for construction, each with a maximum capacity of 30 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(8) One (1) powder handling operation after the mill, including three (3) screeners and 1 packaging operation, identified as Powder Handling After Mill, with a maximum capacity of 70.77 pounds of powder screened per hour and then conveyed to the blending hopper, and utilizing a dust collector, identified as DC-033, as control;

(9) Three (3) primary enclosed blenders:

(i) One (1) primary enclosed blender, identified as Blender 1, permitted in 2022 to use a control, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(ii) One (1) primary enclosed blender, identified as Blender 2, constructed in 2023, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(iii) One (1) primary enclosed blender, identified as Blender 3, approve in 2024 for construction, to be constructed in 2025, used to homogenize the mixture, utilizing a dust collector, identified as DC-033, as control, with no exhaust.

(10) One (1) final powder handling process, identified as Final Powder Handling, with a maximum capacity of 70.77 pounds of powder screened and packaged per hour, and utilizing a dust collector, identified as DC-030, as control.

This Final Powder Handling is approved in 2024 to change control.

Under NESHAP for Chemical Manufacturing Area Sources [40 CFR 63, Subpart VVVVVV], the one (1) powder manufacturing process, identified as CSP Department EU020, is considered an affected unit.

(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 2-8-4(1)]

E.2.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission units listed above, except as otherwise specified in 40 CFR Part 63, Subpart VVVVVV.

(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

E.2.2 National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources [40 CFR Part 63, Subpart VVVVVV] [326 IAC 20]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart VVVVVV (included as Attachment B to the operating permit), for the emission units listed above:

(1) 40 CFR 63.111494 (a)
(2) 40 CFR 63.111494 (a)(1)
(3) 40 CFR 63.111494 (a)(2)(i)
(4) 40 CFR 63.111494 (b)
(5) 40 CFR 63.111494 (h)
(6) 40 CFR 63.11495(a)(1)
(7) 40 CFR 63.11495(a)(3)
(8) 40 CFR 63.11496(f)(1)
(9) 40 CFR 63.11496(f)(4)
(10) 40 CFR 63.11501(a), (b), (c)(1)(i)(vii)(viii), (c)(3)(ii), (d)(1)(3)(4)(8)
(11) Table 9

SECTION E.3 NESHAP

Emissions Unit Description:

1550 Polco Street

(b) Twenty-seven (27) specialty powders manufacturing operations, located at the 1550 Polco Street Specialty Powders area:

(1) Twenty-three (23) specialty powders manufacturing operations,

(i) modified in 2015 to reroute baghouses,
(ii) modified in 2016 to construct a new operation,
(iii) modified in 2018 to change the amount of dust collected by the dust collectors, and
(iv) approved in 2023 to add a powder processing equipment,

each controlled by an integral baghouse and HEPA filters, identified in the table below, and exhausting indoors:

Emission Unit ID	Maximum Throughput (lb/hr)	Dust Collectors	Description
EUS-1	166.67	DC048	Powder 1 powder processing, including a blender, sieve, vertical material conveyor, crusher, mill, dust booth, three (3) screeners, and one (1) classifier (DC073). DC048 controls the classifier and the rest of the units.
EUS-2	166.67	DC015	One (1) blender and weigh out station for Powder 2 Bay 2
EUS-7	83.335	DC028, DC013	General processing equipment used to blend and size Powder 1. Processes include crushing, milling, blending, and screening. DC013 controls the impact mill and conveyor in Bay 5.
EUP-3	429.3	DC063	Bay 2 vacuum for Powder 2- Metal powders melted in electric furnace and placed into vacuum chamber to form a powder
EUS-3	429.3	DC064	Approved in 2018 for modification of the dust collectors and descriptive information. Bay 2 vacuum Powder 2 powder handling. DC064 controls powder handling.
---	312.5	---	Bay 5- one (1) electric furnace for Powder 3, rated at 312.5 lbs/hr
---	---	DC020	DC020 controls the electrode saw in Bay 5.
EUS-5	312.5	DC012, DC013	Powder 3 is milled and sized. DC013 controls the impact mill in Bay 5. DC012 controls powder handling in Bay 3 and Bay 4.
EUS-8B	58.4	DC040	Powder 4 handling in mill and blender prior to furnacing.

	EUS-8A	58.4	DC041	Powders from Powder 4 furnaces sent through delumper, mill, two classifiers, two screeners, and magnets. Serves purpose of filling crucibles prior to Powder 4 furnaces and emptying crucibles after the furnace.
	EUS-10	300	DC043, DC044, DC045, Powder 5 Baghouse	Processes oxides and metal powders for Powder 5. Supports spray dryers. Includes a bag breaking table, delumper, blenders, and five (5) screeners. DC043 controls one (1) blender, one (1) screener, four (4) filling machines, the filling station (bag breaking table), and two (2) delumpers. DC044 controls one (1) blender, one (1) screener, one (1) weigh station, one (1) delumper, and three (3) mixing tanks. DC045 controls one (1) blender, one (1) screener, three (3) mixing tanks, and one (1) hopper. The Powder 5 Baghouse controls the spray dryer hot exhaust.
	EUP-11*	100	DC001 (Stack S001)	Powder 5 Spray Dryer 1
	EUP-11A*	100	DC002 (Stack S001)	Thermal barrier coating (TBC) Spray Dryer 2
	EUP-11B**	100	DC046 (Stack S046)	Powder 5 Spray Dryer 3
	EUS-15A	341.66	DC026	Approved in 2018 for modification of the dust collectors and descriptive information. 2 Screeners and 2 Blenders in Powder 2 Processing for Lines 1 and 2. Line 1 and 2 screeners and blenders are controlled by DC026. DC026 is also connected to classifiers DC072 and DC071, which are associated with Lines 1 and 2, respectively.
	EUS-15B	341.66	DC059	Approved in 2018 for modification of the dust collectors and descriptive information. 4 Screeners and 2 Blenders in Powder 2 Processing for Lines 3 and 4. DC059 is also connected to classifiers DC070, DC023, and DC069, which are associated with Lines 3, 4, and 5, respectively.
	---	---	DC056	DC056 controls packaging.

EUS-15C	341.66	DC060	Approved in 2018 for modification of the descriptive information. 4 Screeners and 2 Blenders in Powder 2 Processing for Lines 5 and 6. DC060 is also connected to classifiers DC011 and DC068, which are both associated with Line 6.
Scale	---	DC026	Scale for Powder 2 Processing Lines 1, 2, 3, 4, and 5.
EUS-15F	341.66	DC058, DC024, Demisters 5,6,8	Support for Viga 250, used for Powder 2. DC058 controls dust from support operations in the West Viga 250. Demister 8 is used for the West Viga 250 to remove oil used in the viga. DC024 controls dust from support operations in the East Viga 250. Demisters 5 and 6 are used for the East Viga 250 to remove oil that was used in the viga.
EUS-15G	341.66	DC021, DC057, Demister 4	Support for Viga 150, used for Powder 2. DC021 is used for support operations. DC057 is used during cleanout. Demister 4 is used to remove oil used in the viga.
EUS-15I (constructed in 2024)	56.94	DC032	1 blender and 1 weigh out station used for Powder 2.
EUP-17 (approved in 2023 to change control)	8.33	DC035, DC045, New Dust collector	Viga 2/5 and Viga 45, for Powder 2, support and special orders (SO) processing. Powder handling is controlled by DC045, New Dust collector, while the exhaust from the viga is controlled by DC035.
EUS-22	21.606	DC005	Powder 7 Operation: Electric furnace, five (5) mills, three (3) jaw crushers, one (1) blender, one (1) screener, one (1) de-egger, one (1) fill station, one (1) classifier, and one (1) work bench. DC005 controls all operations, including the classifier.
EUS-4A	429.3	DC007, DC054	Powder 6 Operation: Powder is weighed, mixed into a slurry, and spray dried. Following spray drying, it's screened, classified, and blended. DC007 controls two classifiers, the scale, the screeners, and general powder handling operations. DC054 controls the spray dryer.
EUS-12	100	DC014	High purity room powder handling, Chrome Oxide Fill Station, Lab, and Epoxy Super Sac.
*These units are also listed in the natural gas combustion list. EUP-11 and EUP-11A because they have natural gas burners, but also handle material. **This process does not process, use, or generate materials containing HAP and is not subject to the requirements of 40 CFR 63, Subpart CCCCCCC.			

(2) One (1) specialty powders manufacturing operation, identified as EUS-15D, approved in 2018 for construction, controlled by an integral baghouse, identified as DC074, in series with HEPA filters at the baghouse exhaust, and exhausting indoors.

The HEPA filters are not considered as integral to the one (1) specialty powders manufacturing operation, identified as EUS-15D.

Emission Unit ID	Maximum Throughput (lb/hr)	Control Device	Description
EUS-15D	341.66	DC074 (Baghouse)	Support for Viga 250 #3, used for Powder 2. DC079 controls dust from support operations in the Viga 250 #3.

(3) One (1) specialty powders manufacturing operation, approved in 2018 for construction, utilizing no control, and enclosed with no exhaust.

Emission Unit ID	Maximum Throughput (lb/hr)	Description
EUS-15E	341.66	5 Screeners not controlled by a conventional dust collector. These screeners use internal components to separate/segregate manufactured powder into the desired particle size.

(4) One jet mill, identified as EUS-23, approved in 2021 for construction, that is part of the Powder 7 specialty powders manufacturing operations, connected with one classifier, with a maximum throughput of 45 lb/hr, located at 1550 Polco Street, utilizing an integral dust collector, identified as DC006, as control and exhausting outside to stack S006.

(5) One (1) specialty powders manufacturing operation, identified as EUS-15H, constructed in 2024, controlled by a baghouse, identified as DC075, in series with HEPA filters at the baghouse exhaust, and exhausting indoors.

The HEPA filters are not considered as integral to the one (1) specialty powders manufacturing operation, identified as and EUS-15H.

Emission Unit ID	Maximum Throughput (lb/hr)	Control Device	Description
EUS-15H	341.66	DC075 (Baghouse)	Used for Powder 2.

Under NESHAP for Area Sources: Paints and Allied Products Manufacturing [40 CFR 63, Subpart CCCCCCC], the specialty powders manufacturing operation (except EUP-11B) are considered affected units.

(c) Titanium Power Processes:

(i) One (1) titanium powder process, identified as Titanium Powder Process 1, constructed in 2015, located at 1550 Polco Street, utilizing a wet collector, identified as Rotoclone, as control, with a maximum of 4.00 pounds of particulate collected by the wet collector per hour, and exhausting outdoors.

(ii) One (1) titanium powder process, identified as Titanium Powder Process 2, approve in 2023 for construction, located at 1550 Polco Street, utilizing a wet collector, identified as Rotoclone, as control, with a maximum of 4.00 pounds of particulate collected by the wet collector per hour, and exhausting outdoors.

Under NESHAP for Area Sources: Paints and Allied Products Manufacturing [40 CFR 63, Subpart CCCCCCC], the two (2) titanium powder processes are considered affected units.

(d) One (1) coating mixing operation, identified as Sermatech Process, constructed prior to 2014, with the following maximum mixing capacities:

(1) 60.00 pounds per hour of water-based paint and
(2) 24.00 pounds per hour of solvent-based paint

located at the 1550 Polco Street Specialty Powders area, utilizing two (2) scrubbers, identified as Scrubber #1 and Scrubber #2, and exhausting indoors.

Under NESHAP for Area Sources: Paints and Allied Products Manufacturing [40 CFR 63, Subpart CCCCCCC], the one (1) coating mixing operation is considered an affected unit.

(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 2-8-4(1)]

E.3.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission units listed above, except as otherwise specified in 40 CFR Part 63, Subpart CCCCCCC.

(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

E.3.2 National Emission Standards for Hazardous Air Pollutants for Area Sources: Paints and Allied Products Manufacturing [40 CFR Part 63, Subpart CCCCCCC] [326 IAC 20]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart CCCCCCC (included as Attachment C to the operating permit), for the emission units listed above:

(1) 40 CFR 63.11599(a) & (b)
(2) 40 CFR 63.11600
(3) 40 CFR 63.11601
(4) 40 CFR 63.11602
(5) 40 CFR 63.11603(a), (b), (c)
(6) 40 CFR 63.11605
(7) 40 CFR 63.11606

(8) 40 CFR 63.11607
(9) Table 1

SECTION E.4 **NESHAP**

Emissions Unit Description:

1245 Main Street

(m) Eleven (11) metal surface coating stations:

(1) Six (6) detonation surface coating stations, all constructed prior to 1988, each with a maximum capacity of 32.16 pounds of coating per hour, used to apply coating to metal surfaces, each utilizing a D gun to apply coatings, located at 1245 Main Street, each utilizing an integral baghouse with HEPA filters, and identified as follows:

Emission Unit ID	Control Device ID	Stack/Vent ID
EU01A	C01A	01A
EU02A	C02A	02A
EU16A	C16A	16A
EU17A	C17A	17A
EU18A	C18A	18A
EU06A	C06A	06A

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the six (6) detonation surface coating stations are considered affected units.

(2) Two (2) High Velocity Oxy Fuel coating guns, each with a maximum capacity of 16.08 pounds of coating per hour, used to apply coating to metal surfaces, located at 1245 Main Street, each controlled by a baghouse with HEPA filters, and exhausting indoors:

Emission Unit ID	Construction Year	Control Device ID	Stack/Vent ID
EU19A*	Constructed prior to 2018	C19A**	19A
EU20A	2018	C20A	20A
* EU19A is heated by kerosene at a maximum rate of 26 gallons of kerosene per month. **The control device for EU19A was determined to be integral to the operation of this unit.			

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the two (2) High Velocity Oxy Fuel coating guns are considered affected units.

(3) Three (3) plasma surface coating stations, used to apply coating to metal surfaces, located at 1245 Main Street, each controlled by an integral baghouse with HEPA filters, and consisting of the following:

Emission Unit ID	Construction Year	Maximum Capacity (lbs of powder coating per hour)	Control Device	Stack / Vent ID
EU05B	prior to 1982	8.04	C05D	05D
EU06B		8.04	C06D	06D
EU10B		8.04	C10D	10D

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the three (3) plasma surface coating stations are considered affected units.

1415 Main Street

(y) Three (3) grinders, constructed prior to 2014, located at 1415 Main Street, each with a maximum capacity of 100 pounds per hour, each utilizing dust collectors with HEPA filters as control, exhausting indoors, and consisting of the following:

Emission Unit ID	Control Device
Bader Grinder #2	C03C
Bader Grinder #3	C07B
Bader Grinder #4	C08B

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the three (3) grinders are considered affected units.

(z) Ten (10) metal surface coating stations:

(1) One (1) low pressure plasma spray (LPPS) coating station, identified as EU01S, constructed prior to 2014, with a maximum capacity of 44.09 pounds of coating per hour, used to apply coating to metal surfaces, located at 1415 Main Street, utilizing a dust collector, identified as C01S, during cleanout, and exhausting to Stack/Vent 01S.

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the one (1) low pressure plasma spray (LPPS) coating station, identified as EU01S, is considered an affected unit.

(2) Eight (8) plasma surface coating stations used to apply coating to metal surfaces, located at 1415 Main Street, each controlled by an integral baghouse with HEPA filters, and consisting of the following:

Emission Unit ID	Construction Year	Maximum Capacity (lbs of powder coating per hour)	Control Device	Stack / Vent ID
EU01B	1994	16.08	C01B	01B
EU02B		16.08	C02B	02B
EU05B		16.08	C05B	05B
EU06B		16.08	C06B	06B
EU07B*		16.08	C07B	07B
			Baffles**	
EU08B^		16.08	C08B	08B
EU09B		16.08	C09B	09B
EU11B	2009	16.08	C11B	11B

*Cubicle 07B, approved in 2018 for modification, will use the integral baghouse with HEPA filters when spraying HAP-containing materials, but will use baffles when using materials with combustible dust concerns.
**Baffles are not an integral control device.
^EU08B is heated by kerosene at a maximum rate of 26 gallons of kerosene per month.

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the eight (8) plasma surface coating stations are considered affected units.

INSIGNIFICANT ACTIVITIES

1415 Main Street

(j) Three (3) Tribomet lines consisting of the following:

(1) Two (2) Tribomet lines, identified as Lines #1 and #2, constructed prior to 2014 and 2017, both including a series of 16 dip tanks, located at 1415 Main Street, utilizing a composite mesh pad system with mist eliminator as control, and exhausting indoors.

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the two (2) Tribomet lines, identified as Lines #1 and #2, are considered affected units.

(2) One Tribomet nickel sulfate plating line, identified as Line #3, constructed in 2024, including a series of 10 dip tanks, located at 1415 Main Street, utilizing a scrubber as control, and exhausting indoors.

Under NESHAP for Area Source Standards for Plating and Polishing Operations [40 CFR 63, Subpart WWWWWW], the Tribomet nickel sulfate plating line, identified as Lines #3, is considered an affected unit.

(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 2-8-4(1)]

E.4.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission units listed above, except as otherwise specified in 40 CFR Part 63, Subpart WWWWWW.

(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

E.4.2 National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations [40 CFR Part 63, Subpart WWWWWW] [326 IAC 20]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart WWWWWW (included as Attachment D to the operating permit), for the emission units listed above:

(1) 40 CFR 63.11504(a)
(2) 40 CFR 63.11505(a), (b) & (e)

(3) 40 CFR 63.11506(a)
(4) 40 CFR 63.11507(a)(2), (f)(1) & (g)
(5) 40 CFR 63.11508(a), (b), (c)(2),(8),(9), (d)(1)(2)(4)(8)
(6) 40 CFR 63.11509
(7) 40 CFR 63.11510
(8) 40 CFR 63.11511
(9) 40 CFR 63.11512
(10) Table 1

SECTION E.5 NESHAP

Emissions Unit Description:

1500 Polco Street

(f) Two (2) emergency generators, utilizing no control, and exhausting indoors:

Location	Emission Unit ID	Maximum Capacity (HP)	Fuel Type	Date Installed	Date Manufactured	Engine Type
1500 Polco Street	Generac	207	Diesel	1999	1999	6 cylinder
1500 Polco Street - Power House	ONAN/ Cummins	168	Diesel	1975	1975	6 cylinder

Under NESHAP for Stationary reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ], the two (2) emergency generators are considered affected units.

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

National Emission Standards for Hazardous Air Pollutants (NESHAP) Requirements [326 IAC 2-8-4(1)]

E.5.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission units 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

E.5.2 National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines NESHAP [40 CFR Part 63, Subpart ZZZZ] [326 IAC 20-82]

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

(1) 40 CFR 63.6580
(2) 40 CFR 63.6585(a), (c) & (d)
(3) 40 CFR 63.6590(a)(1)(iii)
(4) 40 CFR 63.6595(a)(1), (c)
(5) 40 CFR 63.6603(a)

(6) 40 CFR 63.6605
(7) 40 CFR 63.6625(e),(f),(h),(i)
(8) 40 CFR 63.6640
(9) 40 CFR 63.6645(a)(2)
(10) 40 CFR 63.6655 (a)(2),(5),(d),(e)(2)(3),(f)(2)
(11) 40 CFR 63.6660
(12) 40 CFR 63.6665
(13) 40 CFR 63.6670
(14) 40 CFR 63.6675
(15) Tables 2d, 6, 7 & 8

SECTION E.6 NESHAP

Emissions Unit Description:

1415 Main Street

(ab) Two (2) degreasers located at 1415 Main Street:

(2) Two (2) open top vapor degreasers, utilizing no control, and exhausting indoors:

Emission Unit ID	Construction Year	Maximum Capacity (gallons per year)	Solvent
Tribomet Line Vapor Degreaser 1*	2017	660	PCE**
Tribomet Line Vapor Degreaser 2*	Constructed in 2024	260	PCE**
*Under NESHAP for Halogenated Solvent Cleaning [40 CFR 63, Subpart T], the one (1) Tribomet Line Vapor Degreaser is considered an affected unit. **PCE = Perchloroethylene			

(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 2-8-4(1)]

E.6.1 General Provisions Relating to National Emission Standards for Hazardous Air Pollutants under 40 CFR Part 63 [326 IAC 20-1] [40 CFR Part 63, Subpart A]

(a) Pursuant to 40 CFR 63.1 the Permittee shall comply with the provisions of 40 CFR Part 63, Subpart A – General Provisions, which are incorporated by reference as 326 IAC 20-1, for the emission unit listed above, except as otherwise specified in 40 CFR Part 63, Subpart T.

(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

E.6.2 National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning [40 CFR Part 63, Subpart T] [326 IAC 20-6]

The Permittee shall comply with the following provisions of 40 CFR Part 63, Subpart T (included as Attachment F to the operating permit), which are incorporated by reference as 326 IAC 20-6, for the emission unit listed above:

(1) 40 CFR 63.460
(2) 40 CFR 63.461
(3) 40 CFR 63.463(a), (b), (d), (e)
(4) 40 CFR 63.466(a)(1) and (b)(1)
(5) 40 CFR 63.467(a) and (b)

(6) 40 CFR 63.468(b), (d), (f) and (h)
(7) 40 CFR 63.470
(8) 40 CFR 63.471
(9) 40 CFR 63 Subpart T Appendix A - Test of Solvent Cleaning Procedures
(10) 40 CFR 63 Subpart T Appendix B - General Provisions Applicability to Subpart T

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

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Linde Advanced Material Technologies, Inc
Source Address: 1245 and 1415 Main Street, Indianapolis, Indiana 46224, and 1500 and 1550 Polco Street, Indianapolis, Indiana 46222
FESOP Permit No.: F097-46563-00060

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:	
Email Address:	Phone:
Date:	

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

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT

Source Name: Linde Advanced Material Technologies, Inc
Source Address: 1245 and 1415 Main Street, Indianapolis, Indiana 46224, and 1500 and 1550 Polco Street, Indianapolis, Indiana 46222
FESOP Permit No.: F097-46563-00060

This form consists of 2 pages **Page 1 of 2**

□ This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) 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 2-8-12

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

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

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____

Title / Position: _____

Date: _____

Phone:_____

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE AND ENFORCEMENT BRANCH
FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Linde Advanced Material Technologies, Inc
Source Address: 1245 and 1415 Main Street, Indianapolis, Indiana 46224, and 1500 and 1550 Polco Street, Indianapolis, Indiana 46222
FESOP Permit No.: F097-46563-00060

Months: _____ to _____ Year: _____

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

☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

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

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

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

Form Completed by:_____

Title / Position: _____

Date:_____

Phone: _____

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Significant Permit Revision to a Federally Enforceable State Operating Permit (FESOP) Renewal

Source Description and Location

Source Name:	**Linde Advanced Material Technologies, Inc.**
Source Location:	**1245 and 1415 Main St., Indianapolis, IN 46224** **1500 and 1550 Polco St., Indianapolis, IN 46222**
County:	**Marion (Wayne Township)**
SIC Code:	**3479 Coating, Engraving, and Allied Services, Not Elsewhere Classified)** **3999 (Manufacturing Industries, Not Elsewhere Classified)**
Operation Permit No.:	**F 097-46563-00060**
Operation Permit Issuance Date:	**March 08, 2024**
Significant Permit Revision No.:	**097-47553-00060**
Permit Reviewer:	**Emily Skelton**

Source Definition

(a) This metallic and non-metallic powder manufacturing and surface coating operation consists of four (4) separate buildings:

Building 1 is located at 1245 Main Street, Indianapolis, Indiana 46224;
Building 2 is located at 1415 Main Street, Indianapolis, Indiana 46224;
Building 3 is located at 1550 Polco Street Indianapolis, Indiana 46222; and
Building 4 is located at 1500 Polco Street, Indianapolis, Indiana 46222

In order to consider the plants as one single source, all three of the following criteria must be met:

(1) the plants must be under common ownership or common control;

(2) the plants must have the same two-digit Standard Industrial Classification (SIC) Code or one must serve as a support facility for another; and,

(3) the plants must be located on the same, contiguous or adjacent properties.

The four (4) buildings are contiguous or adjacent and have the same owner. Operations are classified under two (2) separate Standard Industrial Classification Codes (SIC). Although the SIC codes are different, all four (4) buildings provide various support relationships to one another. Since the operations are located on contiguous or adjacent properties, owned by the same company, and provide a support relationship, they will be considered one (1) source, as defined by 326 IAC 2-7-1(22).

This determination was initially made under FESOP No.: F097-7487-00060, issued on October 20, 2000.

There is no change being made in this revision regarding initial determination.

(b) Additionally, Praxair, Inc. owns and operates Linde Advanced Material Technologies, Inc. (source 097-00060) and Praxair Distribution, Inc. (source 097-00189). IDEM, OAQ has examined whether the plants are part of the same major source. The plants are both owned by Praxair, Inc. Therefore, the plants are under common ownership and common control, meeting the first part of

the major source definition. Linde Advanced Material Technologies, Inc has the two-digit SIC Code 34 for the Major Group Fabricated Metal Products, Except Machinery and Transportation Equipment. Praxair Distribution has the two-digit SIC Code 51 for the Major Group Wholesale Trade-Nondurable Goods. The plants do not have the same two-digit SIC Code. A plant is a support facility to another plant if it dedicates 50% or more of its output to the other plant. Praxair Distribution sells gas in containers and dry ice. About 10-15% of its total output goes to Praxair Surface Technologies. This is less than 50% of its output, so Praxair Distribution does not qualify as a support facility. Linde Advanced Material Technologies, Inc does not send any of its output to Praxair Distribution. Since neither plant is a support facility and the plants do not have the same two-digit SIC Code, they do not meet the second part of the major source definition. The plants are located on contiguous properties since they share a common property boundary. The plants meet the third element of the major source definition.

The plants do not meet all three elements of the major source definition. Therefore, IDEM, OAQ finds that the Linde Advanced Material Technologies, Inc. (source 097-00060) and the Praxair Distribution, Inc. (source 097-00189) plants are not part of the same major source.

This determination was initially made under FESOP No.: F097-7487-00060, issued on October 20, 2000.

There is no change being made in this revision regarding this determination.

Existing Approvals

The source was issued FESOP Renewal No. 097-46563-00060 on April 01, 2024. There have been no subsequent approvals issued.

County Attainment Status

The source is located in Marion County.

Pursuant to amendments to Indiana Code IC 13-17-3-14, effective July 1, 2023, a federal regulation that classifies or amends a designation of attainment, nonattainment, or unclassifiable for any area in Indiana under the federal Clean Air Act is effective and enforceable in Indiana on the effective date of the federal regulation.

Pollutant	Designation
SO_2	Attainment effective May 21, 2020, for the 2010 SO2 primary 1-hour standard for Center, Perry, and Wayne townships. Unclassifiable or attainment effective April 9, 2018, for the remainder of the county. Better than national secondary standards effective March 3, 1978.
CO	Attainment effective February 18, 2000, for the part of the city of Indianapolis bounded by 11th Street on the north; Capitol Avenue on the west; Georgia Street on the south; and Delaware Street on the east. Unclassifiable or attainment effective November 15, 1990, for the remainder of Indianapolis and Marion County.
O_3	Unclassifiable or attainment effective January 16, 2018, for the 2015 8-hour ozone standard.
$PM_{2.5}$	Unclassifiable or attainment effective April 15, 2015, for the 2012 annual $PM_{2.5}$ standard.
$PM_{2.5}$	Unclassifiable or attainment effective December 13, 2009, for the 2006 24-hour $PM_{2.5}$ standard.
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Unclassifiable or attainment effective January 29, 2012, for the 2010 NO_2 standard.
Pb	Unclassifiable or attainment effective December 31, 2011, for the 2008 lead standard.

(a) Ozone Standards
Volatile organic compounds (VOC) and Nitrogen Oxides (NO_x) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality

Standards (NAAQS) for ozone. Therefore, VOC and NO_x emissions are considered when evaluating the rule applicability relating to ozone. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO_x emissions were reviewed pursuant to the requirements of Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(b) $PM_{2.5}$
Marion 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 of Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) Other Criteria Pollutants
Marion 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.

The fugitive emissions of hazardous air pollutants (HAP) are counted toward the determination of Part 70 Permit applicability and source status under Section 112 of the Clean Air Act (CAA).

Greenhouse Gas (GHG) Emissions

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

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

Source Status - Existing Source

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

	Source-Wide Emissions Prior to Revision (ton/year)								
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_X**	**VOC**	**CO**	**Single HAP[3]**	**Total HAPs**
Total PTE of Entire Source Excluding Fugitive Emissions*	180.93	98.34	98.34	0.39	96.09	37.31	25.56	5.17	24.98

	Source-Wide Emissions Prior to Revision (ton/year)								
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_X**	**VOC**	**CO**	**Single HAP[3]**	**Total HAPs**
Title V Major Source Thresholds	NA	100	100	100	100	100	100	10	25
PSD Major Source Thresholds	250	250	250	250	250	250	250	--	--

[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.

(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 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.

(c) These emissions are based on the TSD of FESOP Renewal No. 097-46563-00060, issued on April 01, 2024.

Description of Proposed Revision

The Office of Air Quality (OAQ) has reviewed an application, submitted by Linde Advanced Material Technologies, Inc on February 21, 2024, relating to the following:

(1) Addition of the following new emissions units:

(a) One (1) natural gas combustion unit, identified as Burner 3, associated with EU020, approved in 2024 for construction, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(b) Four (4) electrically heated kilns, identified as Kiln 4, Kiln 5, Kiln 6, and Kiln 7, approved in 2024 for construction, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, utilizing a dust collector, identified as DC-033, as control.

(c) Two (2) enclosed DM1 pre-kiln mills, identified as Mill 4 and Mill 5, approved in 2024 for construction, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(d) Four (4) enclosed DM4 post-kiln mills, identified as Mill 6 to Mill 9, each, approved in 2024 for construction, each with a maximum capacity of 30 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control;

(e) One (1) Operation 1, Process 3 (O1P3), approved in 2024 for construction, with a maximum capacity of 55.00 pounds of ammonium bifluoride (ABF) added to the dip tank per week, located at 1415 Main Street, utilizing no control, and exhausting indoors.

This is going to replace an existing Operation 1, Process (O1P3) (constructed in 2014.)

(2) Addition or change of controls:

(a) One (1) powder handling operation to convey powder to a hopper after CSP, identified as Powder Handling After CSP, with a maximum capacity of 84.90 pounds of powder fed into a kiln per hour, and utilizing ~~a~~ **two (2)** dust collectors, identified as DC-033 **and DC-020A**, as controls.

This Powder Handling After CSP is approved in 2024 to add a control.

(b) One (1) final powder handling process, identified as Final Powder Handling, with a maximum capacity of 70.77 pounds of powder screened and packaged per hour, and utilizing a dust collector, identified as ~~DC-033~~ **DC-030**, as control.

This Final Powder Handling is approved in 2024 to change control.

(3) Removal of the following emission unit:

(a) ~~One (1) Operation 1, Process 3 (O1P3), constructed prior to 2014, with a maximum capacity of 55.00 pounds of ammonium bifluoride (ABF) added to the dip tank per week, located at 1415 Main Street, utilizing no control, and exhausting indoors.~~

This is being replaced by a new Operation 1, Process 3 (O1P3).

(b) One (1) emergency generator, located in 1500 Polco Street:

~~BUDA~~	~~53~~	~~Propane~~	~~1966~~	~~1966~~	~~6 cylinder~~

Enforcement Issues

There are no pending enforcement actions related to this revision.

Emission Calculations

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

Permit Level Determination – FESOP Significant Permit Revision

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 2-8-11.1 (Permit Revisions). This table reflects the PTE before controls of the proposed revision. 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.

	PTE Before Controls of the New Emission Units (ton/year)								
Process / Emission Unit	**PM**	**PM_{10}**	**$PM_{2.5}$[1]**	**SO_2**	**NO_X**	**VOC**	**CO**	**Single HAP[2]**	**Total HAPs**
Burner 3 Associated with EU020	0.003	0.013	0.013	0.001	0.172	0.009	0.144	0.003	0.003
Two (2) Enclosed Pre-kiln mills	28.26	24.02	24.02	--	--	--	--	6.05	6.05
Four (4) Electrically-Heated Kilns	--	--	--	--	4.45	--	--	--	--
Four (4) Enclosed Post-Kiln Mills	19.97	16.98	16.98	--	--	--	--	4.28	4.28
Powder Handling After Mill	3.49E-03	1.67E-03	1.67E-03	--	--	--	--	8.79E-04	8.79E-04
Primary Enclosed Blender	--	--	--	--	--	--	--	--	--
Final Powder Handling	3.49E-03	1.67E-03	1.67E-03	--	--	--	--	8.79E-04	8.79E-04
Operation 1, Process 3 (O1P3)	--	--	--	--	--	--	--	0.50	0.50
Total PTE Before Controls of the New Emission Units:	**48.24**	**41.01**	**41.01**	**0.001**	**4.63**	**0.01**	**0.14**	**10.33**	**10.33**

[1]$PM_{2.5}$ listed is direct $PM_{2.5}$.

[2]Single highest HAP.

Appendix A of this TSD reflects the detailed potential emissions of the proposed revision.

Pursuant to 326 IAC 2-8-11.1(f)(1)(E), this FESOP is being revised through a FESOP Significant Permit Revision because the proposed revision is not an Administrative Amendment or Minor Permit revision and the proposed revision involves the construction of new emission units with potential to emit equal to or greater than twenty-five (25) tons per year of the following pollutants:

(i) PM, PM_{10}, or direct $PM_{2.5}$.

PTE of the Entire Source After Issuance of the FESOP Revision

The table below summarizes the after issuance source-wide potential to emit, reflecting all limits, of the emission units. Any control equipment is considered federally enforceable only after issuance of the revision, 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.

	Source-Wide Emissions After Issuance (ton/year)								
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_X**	**VOC**	**CO**	**Single HAP[3]**	**Total HAPs**
Total PTE of Entire Source Excluding Fugitives*	172.72	83.93	82.73	0.39	99.98	37.31	25.69	5.17	21.44

	Source-Wide Emissions After Issuance (ton/year)								
	PM[1]	**PM_{10}[1]**	**$PM_{2.5}$[1, 2]**	**SO_2**	**NO_X**	**VOC**	**CO**	**Single HAP[3]**	**Total HAPs**
Title V Major Source Thresholds	NA	100	100	100	100	100	100	10	25
PSD Major Source Thresholds	250	250	250	250	250	250	250	--	--

[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.

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

The source opted to take PM, PM10, PM2.5, NOx limit(s) in order to render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) 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), 326 IAC 2-8 (FESOP), and 326 IAC 20 (Hazardous Air Pollutants) for more information regarding the limit(s).

(a) This existing Title V minor stationary source will continue to be minor under 326 IAC 2-7 because the potential to emit regulated air pollutants and HAPs from the entire source will continue to be less than or limited to less than the Title V major source threshold levels. Therefore, the source is subject to the provisions of 326 IAC 2-8 (FESOP) and is an area source under Section 112 of the Clean Air Act (CAA).

(b) This existing minor PSD stationary source will continue to be minor under 326 IAC 2-2 because the potential to emit of all PSD regulated pollutants from the entire source will continue to be less than or limited to less than the PSD major source thresholds. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.

Federal Rule Applicability Determination

Due to the proposed revision, federal rule applicability has been reviewed as follows:

New Source Performance Standards (NSPS):

Electrically-heated Kiln

(a) The requirements of the New Source Performance Standard for Calciners and Dryers in Mineral Industries, 40 CFR 60.730, Subpart UUU, are still not included in the permit for the one (1) electrically-heated kiln used in the one (1) powder manufacturing process, identified as CSP Department EU020.

The electrically-heated kiln is a calciner, but this unit is not located at a mineral processing plant, as defined by 40 CFR Part 60.731.

Surface Coating and Polishing Operations (Manufacturing and Application)

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

(b) The requirements of the New Source Performance Standard for Industrial Surface Coating: Large Appliances, 40 CFR 60, Subpart SS and 326 IAC 12, are still not included in the permit, because this source does not apply surface coating to large appliances.

(c) The requirements of the New Source Performance Standard for Metal Coil Surface Coating, 40 CFR 60, Subpart TT and 326 IAC 12, are still not included in the permit, because this source does not apply organic coating to the surface of any continuous metal strip with thickness of 0.15 millimeter (mm) (0.006 in.) or more that is packaged in a roll or coil.

(d) There are no other New Source Performance Standards (40 CFR Part 60) and 326 IAC 12 included for this proposed revision.

National Emission Standards for Hazardous Air Pollutants (NESHAP):

CSP Department EU020

(a) CSP Department EU020 is still subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources, 40 CFR 63, Subpart VVVVVV, because it meets the definition of a chemical manufacturing process unit (CMPU) that is located at an area source of hazardous air pollutants, and manganese and nickel are present in the raw materials at concentrations greater than 1.0 percent and 0.1 percent by weight, respectively. The unit subject to this rule include the following:

One (1) powder manufacturing process, identified as CSP Department EU020

- combustion spray pyrolysis (CSP) operation
- natural gas combustion units
- electrically heated kilns
- enclosed mills
- primary enclosed blenders

This process is subject to the following portions of Subpart VVVVVV:

(1) 40 CFR 63.111494 (a)
(2) 40 CFR 63.111494 (a)(1)
(3) 40 CFR 63.111494 (a)(2)(i)
(4) 40 CFR 63.111494 (b)
(5) 40 CFR 63.111494 (h)
(6) 40 CFR 63.11495(a)(1)
(7) 40 CFR 63.11495(a)(3)
(8) 40 CFR 63.11496(f)(1)
(9) 40 CFR 63.11496(f)(4)
(10) 40 CFR 63.11501(a), (b), (c)(1)(i)(vii)(viii), (c)(3)(ii), (d)(1)(3)(4)(8)
(11) Table 9

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

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

Compliance Assurance Monitoring (CAM):

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

State Rule Applicability - Entire Source

Due to this revision, state rule applicability 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 PTE of the Entire Source After Issuance of the FESOP Revision section of this document.

PSD/EO Minor Source Limit(s)

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:

(a) **PM**

In order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM Limit (lbs/hr)
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	2.28
1550 Polco Street	
Enclosed Mills 1 to 13	**1.14**
One (1) Titanium Powder Process 1	0.80
One (1) Titanium Powder Process 2	0.80
1500 Polco Street	
One (1) grit blasting unit	
EU13C	0.50
1245 Main Street	
Twenty (20) grit blasting units	
EU09C	0.50
EU001G	0.50
EU002G	0.50
EU004G	0.50
EU005G	0.50
EU008G	0.50
EU010G	0.50
EU011G	0.50
EU013G	0.50
EU014G	0.50
EU016G	0.50
EU018G	0.50
EU019G	0.50
EU012G	0.50
EU007G	0.50
EU01M	0.50
EU02M	0.50
EU01L	0.50
EU01GB	0.50
EU02GB	0.50
EU021G	0.50

Emission Unit	PM Limit (lbs/hr)
EU02L	0.50
One (1) surface coating station	
EU20A	0.23
1415 Main Street	
Twenty-two (22) grit blasting units	
EU01C	0.50
EU04C	0.50
EU05C	0.50
EU06C	0.50
EU07C	0.50
EU08C	0.50
EU10C	0.50
EU12C	0.50
EU16C	0.50
EU03C	0.50
EU01M	0.50
O1P1-EUG1	0.50
O1P1-EUG5	0.50
O1P1-EUG6	0.50
O1P1-EUG7	0.50
O2P1-EUG1	0.50
O2P1-EUG2	0.50
O2P1-EUG3	0.50
O2P1-EUG5	0.50
O2P3-EUG1	0.50
O2P3-EUG2	0.50
EU11C	0.50
One (1) surface coating station	
EU07B	3.00
One (1) wet grit blasting unit	
EU15C	0.50
Three (3) grinders	
Bader Grinder #2	0.10
Bader Grinder #3	0.10
Bader Grinder #4	0.10

(b) **PM10 and PM2.5**
In order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	2.28	2.28
Enclosed Mills 1 to 13	**0.46**	**0.46**

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 two hundred fifty (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.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The new emission unit(s) will emit less than ten (10) tons per year for a single HAP and less than twenty-five (25) tons per year for a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 2-6 (Emission Reporting)
This source is not subject to 326 IAC 2-6 (Emission Reporting), because it is not required to have an operating permit pursuant to 326 IAC 2-7 (Part 70), it is not located in one of the Lake or Porter County townships listed under 326 IAC 2-6-1(a)(2), and its potential to emit lead is less than 5 tons per year. Therefore, this rule does not apply.

326 IAC 2-8-4 (FESOP)
FESOP applicability is discussed under the PTE of the Entire Source After Issuance of the FESOP Revision section of this document.

FESOP PM10, PM2.5, and NOx Limit(s)

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the requirements of 326 IAC 2-7 (Part 70 Permits), not applicable, the Permittee shall comply with the following:

(a) **PM10 and PM2.5**
Pursuant to 326 IAC 2-8-4 and in order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	2.28	2.28
1550 Polco Street		
Enclosed Mills 1 to 13	**0.68**	**0.68**
Titanium Powder Process 1	0.80	0.80
Titanium Powder Process 2	0.80	0.80
1500 Polco Street		
One (1) grit blasting unit		
EU13C	0.09	0.09
1245 Main Street		
Twenty (20) grit blasting units		
EU09C	0.09	0.09
EU001G	0.09	0.09
EU002G	0.09	0.09
EU004G	0.09	0.09
EU005G	0.09	0.09
EU008G	0.09	0.09
EU010G	0.09	0.09
EU011G	0.09	0.09
EU013G	0.09	0.09
EU014G	0.09	0.09
EU016G	0.09	0.09
EU018G	0.09	0.09
EU019G	0.09	0.09
EU012G	0.09	0.09

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
EU007G	0.09	0.09
EU01M	0.09	0.09
EU02M	0.09	0.09
EU01L	0.09	0.09
EU01GB	0.09	0.09
EU02GB	0.09	0.09
EU021G	0.09	0.09
EU02L	0.09	0.09
One (1) surface coating station		
EU20A	EU20A	EU20A
1415 Main Street		
Twenty-two (22) grit blasting units		
EU01C	0.09	0.09
EU04C	0.09	0.09
EU05C	0.09	0.09
EU06C	0.09	0.09
EU07C	0.09	0.09
EU08C	0.09	0.09
EU10C	0.09	0.09
EU12C	0.09	0.09
EU16C	0.09	0.09
EU03C	0.09	0.09
EU01M	0.09	0.09
O1P1-EUG1	0.09	0.09
O1P1-EUG5	0.09	0.09
O1P1-EUG6	0.09	0.09
O1P1-EUG7	0.09	0.09
O2P1-EUG1	0.09	0.09
O2P1-EUG2	0.09	0.09
O2P1-EUG3	0.09	0.09
O2P1-EUG5	0.09	0.09
O2P3-EUG1	0.09	0.09
O2P3-EUG2	0.09	0.09
EU11C	0.09	0.09
EU21	0.09	0.09
One (1) wet grit blasting unit		
EU15C	0.11	0.11
Three (3) grinders		
Bader Grinder #2	0.10	0.10
Bader Grinder #3	0.10	0.10
Bader Grinder #4	0.10	0.10
One (1) surface coating station		
EU07B	EU07B	EU07B

These are existing limits and changes are being made in this FESOP revision.

(b) **NOx**
Pursuant to 326 IAC 2-8-4 and in order to render 326 IAC 2-2 (Prevention of Significant

Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	NOx Limit (lbs/hr)
1550 Polco Street	
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	~~13.57~~ **13.57**

This is an existing limit and change is being made in this FESOP revision.

Compliance with these limits, combined with the potential to emit PM10, PM2.5, and NOx from all other emission units at this source, shall limit the source-wide total potential to emit of PM10, PM2.5, and NOx to less than 100 tons per twelve (12) consecutive month period, each, and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

FESOP HAP Limit(s)

Pursuant to 326 IAC 2-8-4 (FESOP), and in order to render the source an area source of HAP emissions under Section 112 of the Clean Air Act (CAA), and render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	Ni Limit (tons/yr)	HAPs (tons/yr)
1550 Polco Street		
Enclosed Mills 1 to 13	**0.46**	**1.14**

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) and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

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

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

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

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)
This source (located in Marion County) is located in one of the counties listed in 326 IAC 6.5, but is not one of the sources specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10. The source-wide unlimited PTE of PM is less of than 10 tons per year; therefore, the source-wide actual emissions of PM are less than 10 tons per year. This source is not subject to the requirements of 326 IAC 6.5 because the source-wide PTE of PM is less than 100 tons per year and source-wide actual emissions of PM are less than 10 tons per year.

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

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

State Rule Applicability – Individual Facilities

Due to the proposed revision, state rule applicability has been reviewed as follows:

One (1) powder manufacturing process, identified as CSP Department EU020

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The requirements of 326 IAC 6-3-2 are not applicable to any of the emission units in the one (1) powder manufacturing process, identified as CSP Department EU020, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

326 IAC 6.5 PM Limitations Except Lake County
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the following units in the one (1) powder manufacturing process, identified as CSP Department EU020, shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

Emission Unit
One (1) powder manufacturing process, identified as CSP Department EU020
Raw Material Handling CSP
Raw Material Mixing CSP
Combustion Spray Pyrolysis (CSP) operation
Burners 1, 2 **and 3** Associated with EU020
Powder Handling After CSP
Powder Handling After Kiln
Enclosed Mills 1 to 13
Powder Handling After Mills
Final Powder Handling

In order to be in compliance, the control device for particulate control listed in the table below must be in operation at all times this unit is in operation.

Emission Unit	Control Device
One (1) powder manufacturing process, identified as CSP Department EU020	
Powder Handling After CSP	DC033
Powder Handling After Kilns	
Powder Handling After Mill	
Final Powder Handling	

See Appendix A of TSD for detailed calculations.

In addition to the 326 IAC 6.5-1-2(a) limitation of shall not exceed 0.03 grain per dry standard cubic foot of exhaust air, the Combustion Spray Pyrolysis (CSP) operation also had the 326 IAC 6.5-1-2(h) requirement of shall be controlled by dry particulate filters, waterwash, or an equivalent control device and the Permittee shall operate each control device in accordance with manufacturer's specifications.

The Combustion Spray Pyrolysis (CSP) operation is not a surface coating operation. It is a powder manufacturing operation. The requirements of 326 IAC 6.5-1-2(h) have been removed from the permit for this unit.

One (1) Operation 1, Process 3 (O1P3)

326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)
The one (1) Operation 1, Process 3 (O1P3) is not subject to 326 IAC 6.5, because this emission unit does not emit particulate matter.

326 IAC 8-1-6 (VOC Rules: General Reduction Requirements for New Facilities)
Even though, this Operation 1, Process 3 (O1P3) was constructed after January 1, 1980, it is not subject to the requirements of 326 IAC 8-1-6 because its unlimited VOC potential emissions are less than twenty-five (25) tons per year.

Compliance Determination and Monitoring Requirements

(a) The Compliance Determination Requirements applicable to this revision are as follows:

In order to comply with 326 IAC 6.5-1-2(a), the control device for particulate control listed in the table below shall be in operation and control emissions from the following units at all times these facilities are in operation:

Emission Unit	Control Device
One (1) powder manufacturing process, identified as CSP Department EU020	
Powder Handling After CSP	DC-033
Electrically-Heated Kilns	
Powder Handling After Kilns	
Powder Handling After Mill	
Final Powder Handling	DC-030
Enclosed Mills 1 to 13	

The electrically heated kiln and primary enclosed blender are not subject to 326 IAC 6.5 because they do not produce particulate emissions.

(2) The selective catalytic reduction system, identified as SCR (CSP), controlling NOx emissions from the one (1) combustion spray pyrolysis (CSP) operation shall operate at all times that the one (1) combustion spray pyrolysis (CSP) operation is in operation.

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

One (1) powder manufacturing process, identified as CSP Department EU020

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
Combustion spray pyrolysis (CSP) operation	BAG (CSP)	Dust collector inspections	Quarterly	Response Steps
	Selective Catalytic Reduction System (SCR-020)	Pressure Drop	Once per day	Response Steps
		Ammonia Injection Rate	Once per day	Response Steps
		Minimum Inlet Temperature	Continuous	Response Steps

These monitoring conditions are necessary because the control device must operate properly to assure compliance with the following:

(1) 326 IAC 2-2 (PSD),
(2) 326 IAC 2-8 (FESOP), and
(3) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
Powder Handling After CSP	DC033	Dust collector inspections	Quarterly	Response Steps
Powder Handling After Kilns				
Powder Handling After Mill				
Final Powder Handling	DC-030	Dust collector inspections	Quarterly	Response Steps
Enclosed Mills 1 to 13	DC-030	Dust collector inspections	Quarterly	Response Steps

These monitoring conditions are necessary because the control device must operate properly to assure compliance with 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(c) The Testing Requirements applicable to this source are as follows:

Summary of Testing Requirements					
Emission Unit	**Control Device**	**Timeframe for Testing or Date of Initial Valid Demonstration**	**Pollutant/ Parameter**	**Frequency of Testing**	**Authority**
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	Selective catalytic reduction system (SCR (CSP))	October 2023	NOx	Every five (5) years	326 IAC 2-8

These monitoring conditions are necessary because the control device must operate properly to assure compliance with the following:

(1) 326 IAC 2-2 (PSD),
(2) 326 IAC 2-8 (FESOP), and
(3) 326 IAC 6.5 (Particulate Matter Limitations Except Lake County)

(d) IDEM OAQ has determined that testing of the following emission units and control devices will continue to not be required at this time to determine compliance with the PM, PM10, and PM2.5 emission limits. IDEM has the authority to require testing at a later time if necessary to demonstrate compliance with any applicable requirement:

Emission Unit	Control Device
One (1) powder manufacturing process, identified as CSP Department EU020	
Combustion spray pyrolysis (CSP) operation	BAG (CSP)
Powder Handling After CSP	DC-033
Powder Handling After Kiln	DC-033
Powder Handling After Mill	DC-033
Enclosed Mills 1 to 13	DC-030
Final Powder Handling	DC-030

Proposed Changes

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

(1) Section A.3 has been updated to add the following new units:

1550 Polco Street

(a) One (1) powder manufacturing process, identified as CSP Department EU020, constructed in 2014, located at 1550 Polco Street, exhausting outdoors, and consisting of the following:

(1) One (1) raw material handling operation, identified as Raw Material Handling CSP, with a maximum capacity of 12.37 pounds of raw material per hour, consisting of a liquid pumping operation and solid scooping operation, and utilizing no control;

(2) One (1) raw material mixing operation, identified as Raw Material Mixing CSP, in which raw materials are mixed inside of an enclosed 55-gallon drum, utilizing no control, and with no exhaust;

(3) One (1) combustion spray pyrolysis (CSP) operation, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, including the following systems:

(A) Spray drying and

(B) Powder to an oxide form converter

and utilizing the following control devices:

(C) One (1) cyclonic collection system

(D) Natural Gas Combustion Units:

(i) One (1) natural gas combustion unit, identified as Burner 1 Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(ii) One (1) natural gas combustion unit, identified as Burner 2 Associated with EU020, constructed in 2024, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(iii) One (1) natural gas combustion unit, identified as Burner 3 Associated with EU020, approved in 2024 for construction, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(E) One (1) CSP pollution control system, used to collect material not captured by the cyclonic collection system, which includes the following control devices:

(i) One (1) dust collector, identified as BAG (CSP), and

(ii) One (1) selective catalytic reduction system, identified as SCR (CSP);

(4) One (1) powder handling operation to convey powder to a hopper after CSP, identified as Powder Handling After CSP, with a maximum capacity of 84.90 pounds of powder fed into a kiln per hour, and utilizing ~~a~~ **two (2)** dust collector, identified as DC-033 **and DC-020A**, as control.

This Powder Handling After CSP is approved in 2024 to add a control.

(5) ~~Three (3)~~ **Seven (7)** kilns:

(i) One (1) electrically-heated kiln, identified as Kiln 1, permitted in 2022 to use a control, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(ii) Two (2) electrically-heated kilns, identified as Kiln 2 and Kiln 3, constructed in 2022, approved in 2023 to increase its maximum capacity, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(iii) Four (4) electrically heated kilns, identified as Kiln 4, Kiln 5, Kiln 6, and Kiln 7, approved in 2024 for construction, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, utilizing a dust collector, identified as DC033, as control.

(6) One (1) powder handling operation after the kilns, identified as Powder Handling After Kiln, with a maximum capacity of 84.90 pounds of powder conveyed to a hopper per hour, which feeds the milling process, and utilizing a dust collector, identified as DC-033, as control;

(7) ~~Three (3)~~ **Nine (9)** enclosed mills:

(i) One (1) enclosed **ball** mill, identified as Mill 1 permitted in 2022 to use a control, with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, ~~detailed in (7) and (9)~~, and utilizing a dust collector, identified as DC- ~~033~~ **030**, as control;

(ii) Two (2) **DM1 post kiln** enclosed mills, identified as Mill 2 and Mill 3, constructed in 2024, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading

powder handling operations, ~~detailed in (7) and (9)~~, and utilizing a dust collector, identified as DC-~~033~~ **030**, as control;

(iii) Two (2) enclosed DM1 pre-kiln mills, identified as Mill 4 and Mill 5, approved in 2024 for construction, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(iv) Four (4) enclosed DM4 post-kiln mills, identified as Mill 6 to Mill 9, approved in 2024 for construction, each with a maximum capacity of 30 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(8) One (1) powder handling operation after the mill**, including three (3) screeners and 1 packaging operation**, identified as Powder Handling After Mill, with a maximum capacity of 70.77 pounds of powder screened per hour and then conveyed to the blending hopper, and utilizing a dust collector, identified as DC-033, as control;

(9) ~~Two (2)~~ **Three (3)** primary enclosed blenders:

(i) One (1) primary enclosed blender, identified as Blender 1, permitted in 2022 to use a control, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(ii) One (1) primary enclosed blender, identified as Blender 2, constructed in 2023, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(iii) One (1) primary enclosed blender, identified as Blender 3, approve in 2024 for construction, to be constructed in 2025, used to homogenize the mixture, utilizing a dust collector, identified as DC-033, as control, with no exhaust.

(10) One (1) final powder handling process, identified as Final Powder Handling, with a maximum capacity of 70.77 pounds of powder screened and packaged per hour, and utilizing a dust collector, identified as ~~DC-033~~ **DC-030**, as control.

This Final Powder Handling is approved in 2024 to change control.

(2) Section A.4 has been updated to add the following new units, and remove an emergency generator:

A.4 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)][326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

1415 Main Street

...

(k) One (1) Operation 1, Process 3 (O1P3), ~~constructed prior to 2014~~ **approved in 2024 for construction**, with a maximum capacity of 55.00 pounds of ammonium bifluoride (ABF) added to the dip tank per week, located at 1415 Main Street, utilizing no control, and exhausting indoors.

1500 Polco Street

...

(f) Three (3) emergency generators, utilizing no control, and exhausting indoors:

Location	Emission Unit ID	Maximum Capacity (HP)	Fuel Type	Date Installed	Date Manufactured	Engine Type
1500 Polco Street	Generac	207	Diesel	1999	1999	6 cylinder
	~~BUDA~~	~~53~~	~~Propane~~	~~1966~~	~~1966~~	~~6 cylinder~~
1500 Polco Street - Power House	ONAN/ Cummins	168	Diesel	1975	1975	6 cylinder

(3) Section D.1 has been updated to add the following new units:

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

1550 Polco Street

(a) One (1) powder manufacturing process, identified as CSP Department EU020, constructed in 2014, located at 1550 Polco Street, exhausting outdoors, and consisting of the following:

(1) One (1) raw material handling operation, identified as Raw Material Handling CSP, with a maximum capacity of 12.37 pounds of raw material per hour, consisting of a liquid pumping operation and solid scooping operation, and utilizing no control;

(2) One (1) raw material mixing operation, identified as Raw Material Mixing CSP, in which raw materials are mixed inside of an enclosed 55-gallon drum, utilizing no control, and with no exhaust;

(3) One (1) combustion spray pyrolysis (CSP) operation, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, including the following systems:

(A) Spray drying and

(B) Powder to an oxide form converter

and utilizing the following control devices:

(C) One (1) cyclonic collection system

(D) Natural Gas Combustion Units:

(i) One (1) natural gas combustion unit, identified as Burner 1 Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(ii) One (1) natural gas combustion unit, identified as Burner 2 Associated with EU020, constructed in 2024, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(iii) One (1) natural gas combustion unit, identified as Burner 3 Associated with EU020, approved in 2024 for construction, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(E) One (1) CSP pollution control system, used to collect material not captured by the cyclonic collection system, which includes the following control devices:

(i) One (1) dust collector, identified as BAG (CSP), and

(ii) One (1) selective catalytic reduction system, identified as SCR (CSP);

(4) One (1) powder handling operation to convey powder to a hopper after CSP, identified as Powder Handling After CSP, with a maximum capacity of 84.90 pounds of powder fed into a kiln per hour, and utilizing ~~a~~ **two (2)** dust collector, identified as DC-033 **and DC-020A**, as control.

This Powder Handling After CSP is approved in 2024 to add a control.

(5) ~~Three (3)~~ **Seven (7)** kilns:

(i) One (1) electrically-heated kiln, identified as Kiln 1, permitted in 2022 to use a control, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(ii) Two (2) electrically-heated kilns, identified as Kiln 2 and Kiln 3, constructed in 2022, approved in 2023 to increase its maximum capacity, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(iii) Four (4) electrically heated kilns, identified as Kiln 4, Kiln 5, Kiln 6, and Kiln 7, approved in 2024 for construction, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, utilizing a dust collector, identified as DC033, as control.

(6) One (1) powder handling operation after the kilns, identified as Powder Handling After Kiln, with a maximum capacity of 84.90 pounds of powder conveyed to a hopper per hour, which feeds the milling process, and utilizing a dust collector, identified as DC-033, as control;

(7) ~~Three (3)~~ **Nine (9)** enclosed mills:

(i) One (1) enclosed **ball** mill, identified as Mill 1 permitted in 2022 to use a control, with a maximum capacity of 84.90 pounds of powder milled

per hour, emitting only during loading and unloading powder handling operations, ~~detailed in (7) and (9)~~, and utilizing a dust collector, identified as DC- ~~033~~ **030**, as control;

(ii) Two (2) **DM1 post kiln** enclosed mills, identified as Mill 2 and Mill 3, constructed in 2024, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, ~~detailed in (7) and (9)~~, and utilizing a dust collector, identified as DC-~~033~~ **030**, as control;

(iii) Two (2) enclosed DM1 pre-kiln mills, identified as Mill 4 and Mill 5, approved in 2024 for construction, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(iv) Four (4) enclosed DM4 post-kiln mills, identified as Mill 6 to Mill 9, approved in 2024 for construction, each with a maximum capacity of 30 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(8) One (1) powder handling operation after the mill**, including three (3) screeners and 1 packaging operation**, identified as Powder Handling After Mill, with a maximum capacity of 70.77 pounds of powder screened per hour and then conveyed to the blending hopper, and utilizing a dust collector, identified as DC-033, as control;

(9) ~~Two (2)~~ **Three (3)** primary enclosed blenders:

(i) One (1) primary enclosed blender, identified as Blender 1, permitted in 2022 to use a control, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(ii) One (1) primary enclosed blender, identified as Blender 2, constructed in 2023, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(iii) One (1) primary enclosed blender, identified as Blender 3, approve in 2024 for construction, to be constructed in 2025, used to homogenize the mixture, utilizing a dust collector, identified as DC-033, as control, with no exhaust.

(10) One (1) final powder handling process, identified as Final Powder Handling, with a maximum capacity of 70.77 pounds of powder screened and packaged per hour, and utilizing a dust collector, identified as ~~DC-033~~ **DC-030**, as control.

This Final Powder Handling is approved in 2024 to change control.

Under NESHAP for Chemical Manufacturing Area Sources [40 CFR 63, Subpart VVVVVV], the one (1) powder manufacturing process, identified as CSP Department EU020, is considered an affected unit.

(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 2-8-4(1)]

D.1.1 PSD Minor Limits (PM) [326 IAC 2-2]

In order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM Limit (lbs/hr)
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	2.28
Enclosed Mills 1 to 9	**1.14**

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

D.1.2 PSD Minor and FESOP Limits (PM10 and PM2.5) [326 IAC 2-2] [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4 and in order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following limits after control specified in the table below:

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	2.28	2.28
Enclosed Mills 1 to 9	**0.46**	**0.46**

Compliance with these limits, combined with the potential to emit PM10 and PM2.5 from all other emission units at this source, shall limit the source-wide total potential to emit of PM10 and PM2.5 to less than one hundred (100) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) and 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable.

D.1.3 Particulate Matter (PM) [326 IAC 6.5-1-2(a)]

Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the following emission units shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

Emission Unit
One (1) powder manufacturing process, identified as CSP Department EU020
Raw Material Handling CSP
Raw Material Mixing CSP
Combustion Spray Pyrolysis (CSP) operation
Burners 1, 2, **and 3** Associated with EU020
Powder Handling After CSP
Powder Handling After Kiln**s**
Enclosed Mills (1 to 9)
Powder Handling After Mill**s**
Final Powder Handling

D.1.4 FESOP Limits (NOx) [326 IAC 2-8]

Pursuant to 326 IAC 2-8-4 and in order to render 326 IAC 2-7 (Part 70 Permits) not applicable, the Permittee shall comply with the following:

Emission Unit	NOx Limit after control (lbs/hr)
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	~~13.70~~ **13.57**

Compliance with this limit, combined with the potential to emit NOx from all other emission units at this source, shall limit the source-wide total potential to emit of NOx to less than one hundred (100) tons per twelve (12) consecutive month period and shall render the requirements of 326 IAC 2-7 (Part 70 Permits) not applicable.

D.1.5 Preventive Maintenance Plan [326 IAC 1-6-3]

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 2-8-4(1)]

D.1.6 Emissions Control (PM, PM10, PM2.5, NOx)

(a) In order to comply with Conditions D.1.1, D.1.2, and D.1.3, the control device for particulate control listed in the table below shall be in operation and control emissions from the following unit at all times this facility is in operation:

Emission Unit	**Control Device**
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	BAG (CSP)

(b) In order to comply with Condition D.1.3, the control device for particulate control listed in the table below shall be in operation and control emissions from the following units at all times these facilities are in operation:

Emission Unit	Control Device
One (1) powder manufacturing process, identified as CSP Department EU020	
Powder Handling After CSP	DC-033
Powder Handling After Kiln	DC-033
Enclosed Mills ~~1,2,3~~ **1 to 9**	DC-030
Powder Handling After Mills	DC-033
Final Powder Handling	DC-030

(c) In order to comply with Condition D.1.4, the selective catalytic system, identified as SCR (CSP), controlling NOx emissions from the one (1) combustion spray pyrolysis (CSP) operation shall operate at all times that the one (1) combustion spray pyrolysis (CSP) operation is in operation.

D.1.7 Testing Requirements

(a) To demonstrate compliance with Condition D.1.4, the Permittee shall perform NOx emissions testing from the following:

Emission Unit	Control Device
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	selective catalytic system SCR (CSP)

using the batch composition which would generate the highest NOx loading to the control equipment utilizing methods as approved by the Commissioner and shall be repeated at least once every five (5) years from the date of the most recent valid compliance demonstration.

(b) The Permittee shall use the measured outlet emission rate (in lb/hr).

(c) 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 2-8-4(1)][326 IAC 2-8-5(a)(1)]

D.1.8 Dust Collector Inspections

The Permittee shall perform quarterly inspections of the control device controlling particulate emissions listed in the table below from the emission unit listed in the table below to verify that it is being operated and maintained in accordance with the manufacturer's specifications.

Emission Unit ID	Control Device ID
One (1) powder manufacturing process, identified as CSP Department EU020	
Combustion spray pyrolysis (CSP) operation	BAG (CSP)
Powder Handling After CSP	DC-033
Powder Handling After Kilns	DC-033
Enclosed Mills 1~~,2,3~~ **to 9**	DC-030
Powder Handling After Mill	DC-033
Final Powder Handling	DC-030

Inspections required by this condition shall not be performed in consecutive months. All defective dust collectors shall be replaced.

(4) Section E.2 has been updated to add the following new units:

SECTION D.2 EMISSIONS UNIT OPERATION CONDITIONS

Emissions Unit Description:

...

(f) **Two (2)**- emergency generators, utilizing no control, and exhausting indoors:

Location	Emission Unit ID	Maximum Capacity (HP)	Fuel Type	Date Installed	Date Manufactured	Engine Type
1500 Polco Street	Generac	207	Diesel	1999	1999	6 cylinder
	~~BUDA~~	~~53~~	~~Propane~~	~~1966~~	~~1966~~	~~6 cylinder~~
1500 Polco Street - Power House	ONAN/ Cummins	168	Diesel	1975	1975	6 cylinder

Under NESHAP for Stationary reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ], the ~~-~~**two (2)**- emergency generators are considered affected units.

...

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

Emission Limitations and Standards [326 IAC 2-8-4(1)]

(4) Section E.2 has been updated to add the following new units:

SECTION E.2 NESHAP

Emissions Unit Description:

1550 Polco Street

(a) One (1) powder manufacturing process, identified as CSP Department EU020, constructed in 2014 unless otherwise specified below, located at 1550 Polco Street, exhausting outdoors, and consisting of the following:

(1) One (1) raw material handling operation, identified as Raw Material Handling CSP, with a maximum capacity of 12.37 pounds of raw material per hour, consisting of a liquid pumping operation and solid scooping operation, and utilizing no control;

(2) One (1) raw material mixing operation, identified as Raw Material Mixing CSP, in which raw materials are mixed inside of an enclosed 55-gallon drum, utilizing no control, and with no exhaust;

(3) One (1) combustion spray pyrolysis (CSP) operation, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, including the following systems:

(A) Spray drying and

(B) Powder to an oxide form converter

and utilizing the following control devices:

(C) One (1) cyclonic collection system

(D) Natural Gas Combustion Units:

(i) One (1) natural gas combustion unit, identified as Burner 1 Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(ii) One (1) natural gas combustion unit, identified as Burner 2 Associated with EU020, constructed in 2024, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(iii) One (1) natural gas combustion unit, identified as Burner 3 Associated with EU020, approved in 2024 for construction, with a maximum capacity of 0.40 MMBtu per hour, and utilizing the one (1) CSP pollution control system.

(E) One (1) CSP pollution control system, used to collect material not captured by the cyclonic collection system, which includes the following control devices:

(i) One (1) dust collector, identified as BAG (CSP), and

(ii) One (1) selective catalytic reduction system, identified as SCR (CSP);

(4) One (1) powder handling operation to convey powder to a hopper after CSP, identified as Powder Handling After CSP, with a maximum capacity of 84.90 pounds of powder fed into a kiln per hour, and utilizing ~~a~~ **two (2)** dust collector, identified as DC-033 **and DC-020A**, as control.

This Powder Handling After CSP is approved in 2024 to add a control.

(5) ~~Three (3)~~ **Seven (7)** kilns:

(i) One (1) electrically-heated kiln, identified as Kiln 1, permitted in 2022 to use a control, approved in 2023 to increase its maximum capacity, with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(ii) Two (2) electrically-heated kilns, identified as Kiln 2 and Kiln 3, constructed in 2022, approved in 2023 to increase its maximum capacity, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, and utilizing a dust collector, identified as DC-033, as control;

(iii) Four (4) electrically heated kilns, identified as Kiln 4, Kiln 5, Kiln 6, and Kiln 7, approved in 2024 for construction, each with a maximum capacity of six (6) batches of powder per twenty (20) hours, used to calcine powder, utilizing a dust collector, identified as DC033, as control.

(6) One (1) powder handling operation after the kilns, identified as Powder Handling After Kiln, with a maximum capacity of 84.90 pounds of powder conveyed to a hopper per hour, which feeds the milling process, and utilizing a dust collector, identified as DC-033, as control;

(7) ~~Three (3)~~ **Nine (9)** enclosed mills:

(i) One (1) enclosed **ball** mill, identified as Mill 1 permitted in 2022 to use a control, with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, ~~detailed in (7) and (9)~~, and utilizing a dust collector, identified as DC- ~~033~~ **030**, as control;

(ii) Two (2) **DM1 post kiln** enclosed mills, identified as Mill 2 and Mill 3, constructed in 2024, each with a maximum capacity of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, ~~detailed in (7) and (9)~~, and utilizing a dust collector, identified as DC-~~033~~ **030**, as control;

(iii) Two (2) enclosed DM1 pre-kiln mills, identified as Mill 4 and Mill 5, approved in 2024 for construction, each with a maximum capacity

of 84.90 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(iv) Four (4) enclosed DM4 post-kiln mills, identified as Mill 6 to Mill 9, approved in 2024 for construction, each with a maximum capacity of 30 pounds of powder milled per hour, emitting only during loading and unloading powder handling operations, and utilizing a dust collector, identified as DC-030, as control.

(8) One (1) powder handling operation after the mill**, including three (3) screeners and 1 packaging operation**, identified as Powder Handling After Mill, with a maximum capacity of 70.77 pounds of powder screened per hour and then conveyed to the blending hopper, and utilizing a dust collector, identified as DC-033, as control;

(9) ~~Two (2)~~ **Three (3)** primary enclosed blenders:

(i) One (1) primary enclosed blender, identified as Blender 1, permitted in 2022 to use a control, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(ii) One (1) primary enclosed blender, identified as Blender 2, constructed in 2023, used to homogenize the mixture, utilizing a dust collector, identifies as DC-033, as control, and with no exhaust;

(iii) One (1) primary enclosed blender, identified as Blender 3, approve in 2024 for construction, to be constructed in 2025, used to homogenize the mixture, utilizing a dust collector, identified as DC-033, as control, with no exhaust.

(10) One (1) final powder handling process, identified as Final Powder Handling, with a maximum capacity of 70.77 pounds of powder screened and packaged per hour, and utilizing a dust collector, identified as ~~DC-033~~ **DC-030**, as control.

This Final Powder Handling is approved in 2024 to change control.

Under NESHAP for Chemical Manufacturing Area Sources [40 CFR 63, Subpart VVVVVV], the one (1) powder manufacturing process, identified as CSP Department EU020, is considered an affected unit.

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

(5) Section E.5 has been updated to add the following new units:

SECTION E.5 NESHAP

Emissions Unit Description:

1500 Polco Street

(f) **Two (2)** emergency generators, utilizing no control, and exhausting indoors:

Location	Emission Unit ID	Maximum Capacity (HP)	Fuel Type	Date Installed	Date Manufactured	Engine Type
1500 Polco Street	Generac	207	Diesel	1999	1999	6 cylinder
	~~BUDA~~	~~53~~	~~Propane~~	~~1966~~	~~1966~~	~~6 cylinder~~
1500 Polco Street - Power House	ONAN/ Cummins	168	Diesel	1975	1975	6 cylinder

Under NESHAP for Stationary reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ], the ~~three (3~~) two (2) emergency generators are considered affected units.

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

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 February 21, 2024.

The construction and operation of this proposed revision shall be subject to the conditions of the attached proposed FESOP Significant Permit Revision No. 097-47553-00060. The staff recommends to the Commissioner that the FESOP Significant Permit Revision be approved.

IDEM Contact

(a) If you have any questions regarding this permit, please contact Emily Skelton, 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) 232-2053 or (800) 451-6027, and ask for Emily Skelton or (317) 232-2053.

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

(c) For additional information about air permits and how the public and interested parties can participate, refer to the IDEM Air Permits page on the Internet at: 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/.

Appendix A: Emissions Summary
Summary of Unlimited Emissions Before Integral Controls

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1410 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP No.: F097-46583-00060
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Emissions Units	Unlimited Potential to Emit (tons/year)									
	PM	PM_{10}	$PM_{2.5}$	SO_2	NOx	VOC	CO	Total HAPs	Single Worst Case HAP	
Powder Manufacturing Process: CSP Department EU020										
Raw Material Handling CSP	2.8E-04	1.3E-04	1.3E-04	---	---	---	---	---	---	
Raw Material Mixing CSP	negl.	negl.	negl.	---	---	---	---	---	---	
Combustion Spray Pyrolysis (CSP) operation	17.60	17.60	17.60	---	110.22	---	---	3.63	3.63	Nickel
Burners 1 to 3 Associated with EU020	9.2E-03	0.04	0.04	3.09E-03	0.52	0.03	0.43	9.7E-03	9.3E-03	Hexane
Powder Handling After CSP	1.9E-03	9.2E-04	9.2E-04	---	---	---	---	4.8E-04	4.8E-04	Nickel
Seven (7) Electrically-Heated Kilns 1 to 7	---	---	---	---	7.79	---	---	---	---	
Powder Handling After Kilns	1.9E-03	9.2E-04	9.2E-04	---	---	---	---	4.8E-04	4.8E-04	Nickel
Enclosed Mills 1 to 9	49.43	59.02	59.02	---	---	---	---	8.62	8.62	Nickel
Powder Handling After Mills	3.0E-03	1.7E-03	1.7E-03	---	---	---	---	9.1E-04	9.1E-04	Nickel
3 Primary Enclosed Blenders 1 to 3	---	---	---	---	---	---	---	---	---	
Final Powder Handling	3.0E-03	1.7E-03	1.7E-03	---	---	---	---	9.1E-04	9.1E-04	Nickel
Twenty-seven (27) Specialty Powders Manufacturing Operations	15.10	15.10	15.10	---	---	---	---	1.61	1.32	Chromium
Titanium Powder Processes	35.04	35.04	35.04	---	---	---	---	0.95	0.95	Chromium
Sermatech Process	1.29	1.29	1.29	---	---	1.33	---	0.06	0.06	Chromium
Forty-four (44) Grit Blasting Units	881.62	637.27	637.27	---	---	---	---	---	---	
Dry Ice Blasting Unit (CGP3 EUG3)	1.95	1.95	1.95	---	---	---	---	---	---	
Two (2) Wet Grit Blasting Units	13.14	9.20	9.20	---	---	---	---	---	---	
Polishing Operation										
Powder Handling Operation	0.14	0.07	0.07	---	---	---	---	---	---	
Powder Mixing Operation	---	---	---	---	---	17.56	---	---	---	
Specialty ingot manufacturing process										
Material Transfer Point	4.2E-03	2.0E-03	2.0E-03	---	---	---	---	---	---	
Ingot Machining Lathe	0.22	2.2E-03	2.2E-03	---	---	---	---	0.02	0.02	Lead
Pack Diffusion Process	1.95	1.95	1.95	---	---	---	---	0.24	0.24	Hydrofluoric Acid (HF)
Operation 1, Process 1 (O1P1)	0.07	0.07	0.07	---	---	---	---	---	---	
Operation 2, Process 1 (O2P1)	0.02	0.02	0.02	---	---	---	---	---	---	
Operation 2, Process 2 (O2P2)	3.5E-05	1.7E-05	1.7E-05	---	---	0.04	---	0.79	0.79	Methanol
Operation 2, Process 4 (O2P4)	---	---	---	---	---	---	---	1.57	1.57	Hydrofluoric Acid (HF)
Baxter Grinders	450.51	450.51	450.51	---	---	---	---	---	---	
Twenty-four (24) surface coating stations	105.60	105.60	105.60	---	---	---	---	77.76	49.30	Chromium
Kerosene Combustion for Surface Coating Stations	8.2E-04	4.1E-04	4.1E-04	0.02	0.01	1.1E-04	1.8E-02	2.1E-05	6.3E-07	Selenium
Physical Vapor Deposition Station (EU01T)	5.3E-04	5.3E-04	5.3E-04	---	---	---	---	---	---	
CSRT Titanium Tetrachloride Coating Station (EU01R)	---	---	---	---	---	---	---	0.91	0.91	Hydrochloric Acid (HCl)
Thirty-three (33) natural gas-fired combustion units	0.28	1.13	1.13	0.09	14.85	0.82	12.48	0.28	0.27	Hexane
Seven (7) natural gas-fired boilers	0.27	1.10	1.10	0.09	14.47	0.80	12.15	0.27	0.26	Hexane
Degreasing	---	---	---	---	---	9.02	---	4.83	4.01	Perchloroethylene (PCE)
Vacuum Sealer				---	---	0.26	---	---	---	
Epoxy Kit Operation (EU5-12)	7.6E-04	3.6E-04	3.6E-04	---	---	4.03	---	---	---	
Grit Reclassifier (EU5000)	0.01	2.9E-03	2.9E-03	---	---	---	---	---	---	
Three (3) 3D Printers	negl.	negl.	negl.	---	---	---	---	negl.	negl.	Nickel
Twenty-eight (28) grinding and cutting operations	1.50	0.03	0.03	---	---	---	---	0.12	0.12	Lead
Thirteen (13) welding and thermal cutting operations	1.70	1.70	1.70	---	---	---	---	0.08	0.08	Manganese
One (1) carpenter shop	0.12	4.9E-04	2.6E-04	---	---	---	---	---	---	
Five (5) finishing units	negl.	negl.	negl.	---	---	---	---	---	---	
Diesel Emergency Generators	0.21	0.21	0.21	0.19	2.91	0.24	0.63	2.5E-03	7.7E-04	Formaldehyde
Tribomet Lines (Lines #1 and #2)	---	---	---	---	---	---	---	1.38	0.82	Cobalt
Tribomet Line #3								0.04	0.02	
Scale Coating	---	---	---	---	---	0.03	---	1.2E-04	1.3E-04	Chromium
Operation 1, Process 3 (O1P3)	---	---	---	---	---	---	---	0.50	0.50	Hydrofluoric Acid (HF)
PPA Room Supporting EU5-22	---	---	---	---	---	2.92	---	---	---	
Stripping and Cleaning Operations	---	---	---	---	---	0.03	---	0.25	0.25	Hydrofluoric Acid (HF)
Lubricant Application Processes	---	---	---	---	---	0.21	---	0.07	0.03	Ethylene Glycol
Total without Fugitives	**1,597.80**	**1,338.91**	**1,338.91**	**0.39**	**150.76**	**37.31**	**25.69**	**104.18**	**51.62**	**Chromium**
Paved Roads	7.98	1.69	0.39	---	---	---	---	---	---	
Total with Fugitives	**1,605.78**	**1,340.51**	**1,339.31**	**0.39**	**150.76**	**37.31**	**25.69**	**104.18**	**51.62**	**Chromium**

*The baffles, baghouses, dust collectors, and HEPA filters are considered an integral part of the Specialty Powders Manufacturing Processes and the Surface Coating Processes. Therefore, the potential PM, PM10, and PM2.5 emissions from the surface coaters and the specialty powders manufacturing processes will continue to be calculated after consideration of the baffles, baghouses, dust collectors, and HEPA filters for purposes of determining permitting level and 326 IAC 5.5 applicability. However, for purposes of determining the applicability of Prevention of Significant Deterioration (PSD), potential emissions from the surface coaters and specialty powders manufacturing processes will continue to be calculated before consideration of the baffles, baghouses, dust collectors, and HEPA filters.

**Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard 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.

negl. = negligible

Appendix A: Emissions Summary
Summary of Limited Emissions

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Emissions Units	Limited Potential to Emit (tons/year)									
	PM	PM_{10}	$PM_{2.5}$	SO_2	NOx	VOC	CO	Total HAPs	Single Worst Case HAP	
Powder Manufacturing Process: CSP Department EU020										
Raw Material Handling CSP	2.8E-04	1.3E-04	1.3E-04	---	---	---	---	---	---	
Raw Material Mixing CSP	negl.	negl.	negl.	---	---	---	---	---	---	
Combustion Spray Pyrolysis (CSP) operation	10.00	10.00	10.00	---	39.44	---	---	3.63	3.63	Nickel
Burners 1 to 3 Associated with EU020	9.2E-03	0.04	0.04	3.1E-03	0.52	0.03	0.43	9.7E-03	9.3E-03	Hexane
Powder Handling After CSP	1.9E-03	9.2E-04	9.2E-04	---	---	---	---	4.8E-04	4.8E-04	Nickel
Seven (7) Electrically-Heated Kilns 1 to 7	---	---	---	---	7.79	---	---	---	---	---
Powder Handling After Kilns	1.9E-03	9.2E-04	9.2E-04	---	---	---	---	4.8E-04	4.8E-04	Nickel
Enclosed Mills 1 to 3	3.00	3.00	3.00	---	---	---	---	2.00	2.00	Nickel
Powder Handling After Mills	3.0E-03	1.7E-03	1.7E-03	---	---	---	---	9.1E-04	9.1E-04	Nickel
3 Primary Enclosed Blenders 1 to 3	---	---	---	---	---	---	---	---	---	---
Final Powder Handling	3.0E-03	1.7E-03	1.7E-03	---	---	---	---	9.1E-04	9.1E-04	Nickel
Twenty-seven (27) Specialty Powders Manufacturing Operations**	7.98	7.98	7.98	---	---	---	---	1.61	1.32	Chromium
Titanium Powder Processes[1] [2]	3.50	3.50	3.50	---	---	---	---	0.95	0.95	Chromium
Sermatech Process	1.29	1.29	1.29	---	---	1.33	---	0.06	0.06	Chromium
Forty-four (44) Grit Blasting Units[1] [3]	96.65	16.77	16.77	---	---	---	---	---	---	---
Dry Ice Blasting Unit (CGP3 EU023)	1.95	1.95	1.95							
Two (2) Wet Grit Blasting Units[1] [3]	0.48	0.48	0.48	---	---	---	---	---	---	---
Polishing Operation										
Powder Handling Operation	0.14	0.07	0.07	---	---	---	---	---	---	---
Powder Mixing Operation	---	---	---	---	---	17.56	---	---	---	---
Specialty ingot manufacturing process										
Material Transfer Point	4.2E-03	2.0E-03	2.0E-03	---	---	---	---	---	---	---
Lathe	0.22	2.2E-03	2.2E-03	---	---	---	---	0.02	0.02	Lead
Pack Diffusion Process	1.95	1.95	1.95	---	---	---	---	0.24	0.24	Hydrofluoric Acid (HF)
Operation 1, Process 1 (O1P1)	0.07	0.07	0.07	---	---	---	---	---	---	---
Operation 2, Process 1 (O2P1)	0.02	0.02	0.02	---	---	---	---	---	---	---
Operation 2, Process 2 (O2P2)	3.5E-05	1.7E-05	1.7E-05	---	---	0.04	---	0.79	0.79	Methanol
Operation 2, Process 4 (O2P4)	---	---	---	---	---	---	---	1.57	1.57	Hydrofluoric Acid (HF)
Reiter Grinders[1] [3]	1.35	1.35	1.35	---	---	---	---	---	---	---
Twenty-four (24) surface coating stations*** [4]	31.04	30.71	30.71	---	---	---	---	2.85	2.85	Cobalt
Kerosene Combustion for Surface Coating Stations	6.2E-04	4.1E-04	4.1E-04	0.02	0.01	1.1E-04	1.8E-02	2.1E-06	6.3E-07	Selenium
Physical Vapor Deposition Station (EU017)	5.3E-04	5.3E-04	5.3E-04	---	---	---	---	---	---	---
CSRT Titanium Tetrachloride Coating Station (EU019)	---	---	---	---	---	---	---	0.91	0.91	Hydrochloric Acid (HCl)
Thirty-three (33) natural gas-fired combustion units	0.28	1.13	1.13	0.09	14.85	0.82	12.48	0.28	0.27	Hexane
Seven (7) natural gas-fired boilers	0.27	1.10	1.10	0.09	14.47	0.80	12.15	0.27	0.26	Hexane
Degreasing	---	---	---	---	---	9.02	---	4.83	4.01	Perchloroethylene (PCE)
Vacuum Sealer				---	---	0.26	---	---	---	---
Epoxy Kit Operation (EU5-12)	7.6E-04	3.6E-04	3.6E-04	---	---	4.03	---	---	---	---
Grit Recirculator (EU5000)	0.01	2.9E-03	2.9E-03	---	---	---	---	---	---	---
Three (3) 3D Printers	negl.	negl.	negl.	---	---	---	---	negl.	negl.	Nickel
Twenty-eight (28) grinding and cutting operations	1.50	0.03	0.03	---	---	---	---	0.12	0.12	Lead
Thirteen (13) welding and thermal cutting operations	1.70	1.70	1.70	---	---	---	---	0.08	0.08	Manganese
One (1) carpenter shop	0.12	4.3E-04	2.6E-04	---	---	---	---	---	---	---
Five (5) finishing units	negl.	negl.	negl.	---	---	---	---	---	---	---
Diesel Emergency Generators	0.21	0.21	0.21	0.19	2.91	0.24	0.83	2.5E-03	7.7E-04	Formaldehyde
Tribomet Lines (Lines #1 and #2)	---	---	---	---	---	---	---	1.38	0.82	Cobalt
Tribomet Line #3								0.04	0.02	
Scale Coating	---	---	---	---	---	0.03	---	1.2E-04	1.3E-04	Chromium
Operation 1, Process 3 (O1P3)	---	---	---	---	---	---	---	0.50	0.50	Hydrofluoric Acid (HF)
PPA Room Supporting EU5-22	---	---	---	---	---	2.92	---	---	---	---
Stripping and Cleaning Operations	---	---	---	---	---	0.03	---	0.25	0.25	Hydrofluoric Acid (HF)
Lubricant Application Processes	---	---	---	---	---	0.21	---	0.07	0.03	Ethylene Ghycol
Total	**164.74**	**83.34**	**83.34**	**0.39**	**99.98**	**37.31**	**25.69**	**22.44**	**5.17**	**Chromium**
Paved Roads	7.98	1.60	0.39	---	---	---	---	---	---	---
Total with Fugitives*	**172.72**	**84.93**	**83.73**	**0.39**	**99.98**	**37.31**	**25.69**	**22.44**	**5.17**	**Chromium**

*Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard 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.

**The controls for these emission units have been determined to be integral to the process. Therefore, the unlimited and limited PTE for the purposes of Part 70 applicability were calculated after control.

***Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2, 326 IAC 2-3, or 326 IAC 2-7, and there is no applicable New Source Performance Standard 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.

(1) These units have 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) limitations for PM.
(2) These units have 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP) limitations for PM10 and PM2.5
(3) This unit has a 326 IAC 2-8 (FESOP) limitation for NOx.
(4) EU20A and EU07B do not have integral control devices. These units have 326 IAC 2-2 (PSD) limitations for PM and 326 IAC 2-2 (PSD) and 326 IAC 2-8 (FESOP) limitations for PM10 and PM2.5.

Shaded cells indicate limits.

Appendix A: Emissions Summary
SPR

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Emissions Units		Unlimited Potential to Emit (tons/year)									
		PM	PM_{10}	$PM_{2.5}$	SO_2	NOx	VOC	CO	Total HAPs	Single Worst Case HAP	
Powder Manufacturing Process: CSP Department EU020											
	Burner 3 Associated with EU020	0.003	0.013	0.013	0.001	0.172	0.009	0.144	0.003	0.003	Hexane
	Powder Handling After CSP	--	--	--	--	--	--	--	--	--	--
	Four (4) Electrically-Heated Kilns 4 to 7	--	--	--	--	4.45	--	--	--	--	
	Two (2) Enclosed Pre-Kiln Mills 4 to 5	28.26	24.02	24.02					6.05	6.05	
	Four (4) Enclosed Post-Kiln Mills 6 to 9	19.97	16.98	16.98	--	--	--	--	4.28	4.28	Nickel
	Powder Handling After Mills	1.74E-03	8.34E-04	8.34E-04	--	--	--	--	4.40E-04	4.40E-04	Nickel
	Primary Enclosed Blender	--	--	--	--	--	--	--	--	--	
	Final Powder Handling	1.74E-03	8.34E-04	8.34E-04	--	--	--	--	4.40E-04	4.40E-04	Nickel
Operation 1, Process 3 (O1P3)		--	--	--	--	--	--	--	0.50	0.50	Hydrofluoric Acid (HF)
Total without Fugitives		**48.24**	**41.01**	**41.01**	**0.00**	**4.63**	**0.01**	**0.14**	**10.33**	**10.33**	**Nickel**

Emissions Units		Limited Potential to Emit (tons/year)									
		PM	PM_{10}	$PM_{2.5}$	SO_2	NOx	VOC	CO	Total HAPs	Single Worst Case HAP	
Powder Manufacturing Process: CSP Department EU020											
	Burner 3 Associated with EU020	0.003	0.013	0.013	0.001	0.172	0.009	0.144	0.003	0.003	Hexane
	Powder Handling After CSP	--	--	--	--	--	--	--	--	--	--
	Four (4) Electrically-Heated Kilns 4 to 7	--	--	--	--	4.45	--	--	--	--	
	Two (2) Enclosed Pre-Kiln Mills 4 to 5										
	Four (4) Enclosed Post-Kiln Mills 6 to 9	5.00	2.00	2.00	--	--	--	--	1.00	1.00	Nickel
	Powder Handling After Mills	1.74E-03	8.34E-04	8.34E-04	--	--	--	--	4.40E-04	4.40E-04	Nickel
	Primary Enclosed Blender	--	--	--	--	--	--	--	--	--	
	Final Powder Handling	1.74E-03	8.34E-04	8.34E-04	--	--	--	--	4.40E-04	4.40E-04	Nickel
Operation 1, Process 3 (O1P3)		--	--	--	--	--	--	--	0.50	0.50	Hydrofluoric Acid (HF)
Total without Fugitives		**5.01**	**2.01**	**2.01**	**0.00**	**4.63**	**0.01**	**0.14**	**1.00**	**1.00**	**Nickel**

Appendix A: Emissions Summary
Combustion Spray Pyrolysis (CSP) Operation

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Calculation of Process Rates and Masses

Batch Time (hours) = 20

Batch	Number of Batches	Solution Weight		Solids Weight		Weight Water Evaporated in Dryer		Oxides Weight	
		Weight for All Batches (kg)	Process Rate for all Batches (kg/hr)	For all Batches (kg)	For all Batches per Hour (kg/hr)	For all Batches (kg)	Process Rate for all Batches (kg/hr)	For all Batches (kg)	Process Rate for all Batches (kg/hr)
Batches 1, 2, 3, 4, 5, and 6	6	1732.57	86.63	907.84	30.26	824.73	41.24	308.32	15.42

METHODOLOGY FOR DETERMING PROCESS RATES AND MASSES:
Weight per batch for Solutions, Solids, and Oxides fare based on stoichiometry. Assume 100% evaporation of water and 100% conversion to oxides.
Weight Water Evaporated for all batches (kg) = Solution Weight for all Batches (kg) - Solid Weight for all Batches (kg/batch)
Weight per hour (kg/hr) = Weight (kg/batches) / Batch Time (hours)

Abatement System Calculations:

Percent Product Captured in Collection System[1] 95%
Percent of Solids to Abatement System[2] 80.3%
Percent of Oxides to Abatement System[2] 19.6%
Batch Time (hours) = 20

Batch	Solids Weight (kg)	Oxides Weight (kg)	Fraction Oxides to Solids	Solids to Abatement (kg)	Oxides to Abatement (kg)	[3]Water to Abatement (kg)	[4]NO Formed (kg)	[4]NO_2 Formed (kg)	% NO/ NO2 Generated in CSP vs Kiln	[4]NO to Abatement (kg)	[4]NO_2 to Abatement (kg)
Batches 1, 2, 3, 4, 5, and 6	907.84	308.32	0.34	36.45	3.02	824.73	32.325	198.27	99%	32.00175	196.2873

Batch	Solids to Abatement (kg/hr)	Oxides to Abatement (kg/hr)	[5]Weight % Mn in Solids	[5]Weight % Ni in Solids	[5]Weight % Total HAPs in Solids	[5]Weight % Mn in Oxides	[5]Weight % Ni in Oxides	[5]Weight % Total HAPs in Oxides
Batches 1, 2, 3, 4, 5, and 6	1.8	0.15	8.13%	16.37%	16.37%	23.53%	51.18%	51.18%

Batch	Mn to Abatement (kg/hr)	Ni to Abatement (kg/hr)	Total HAPs to Abatement (kg/hr)	Water to Abatement (kg/hr)	NO to Abatement (kg/hr)	NO_2 to Abatement (kg/hr)	NOx to Abatement (kg/hr)	PM/PM10/ PM2.5 to Abatement (lbs/hr)	Mn to Abatement (lbs/hr)	Ni to Abatement (lbs/hr)	Total HAPs to Abatement (lbs/hr)	NOx to Abatement (lbs/hr)
Batches 1, 2, 3, 4, 5, and 6	0.18	0.38	0.38	41.24	1.60	9.81	11.41	4.02	0.41	0.83	0.83	25.16

Batch	Uncontrolled PM/PM10/ PM2.5 Emissions (tons/yr)	Uncontrolled Mn HAP Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Uncontrolled Total HAP Emissions (tons/yr)	Uncontrolled NOx Emissions (tons/yr)	Dust Collector Control Efficiency	Controlled PM/PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn Emissions (tons/yr)	Controlled Ni Emissions (tons/yr)	Controlled Total HAP Emissions (tons/yr)	SCR Control Efficiency	Controlled NOx Emissions (tons/yr)
Batches 1, 2, 3, 4, 5, and 6	**17.60**	**1.77**	**3.63**	**3.63**	**110.22**	99.5%	**0.09**	**0.01**	**0.018**	**0.02**	**90%**	**11.02**
PM, PM10, and PM2.5 Limitations								**326 2-8 FESOP Required control efficiency**			**18.4%**	**89.94**
	lb/hr	**ton/yr**									**lb/hr**	**ton/yr**
PSD and FESOP Required limitations	2.28	10.00						**326 2-8 FESOP Required limitations**			**13.57**	**59.44**

326 IAC 6.5			
Dust Collector	**Airflow (acfm)**	**Controlled PM Emissions**	**Able to Comply with 326 IAC 6.5**
DC-020A	4,000	0.0006	YES

[1]The product in the dryer is captured by a collection system. Any product not captured goes to the abatement system.
[2]Based on a similar process, it is known that in the 5% air escaping, a smaller percentage of the solids and oxides are present in the escaped air than what is present in the captured product. 80.3% of the total solids and 19.6% of oxides will be in the 5% air to abatement.
[3]Assume 100% evaporation of water in dryers.
[4]NO and NO_2 generated per batch is based on a similar process at another Praxair facility. This value is based on an air flow rate of 1,000 cfm and known air compositions of 480 ppm NO and 1,920 ppm NO_2.
[5]Based on worst-case HAP contents of batches.

METHODOLOGY FOR ABATEMENT SYSTEM CALCS:
Solids and oxides weights from "Process Rates and Masses" above.
Fraction Oxides to Solids = Theoretical Oxides Weight (kg) / Theoretical Solids Weight (kg)
Solids to Abatement (kg) = Solids Weight (kg) x (1- Percent Captured in Collection System) x Percent of Solids to Capture System

NO/NO2 to Abatement (kg) = NO/NO2 Formed (kg) x % NO/NO2 Generated in CSP vs. Kiln
*Note: 99% of the nitrates are reacted in the CSP, and the remaining 1% is reacted in the kiln.
Solids/Oxides/Water/NO/NO2 to Abatement (kg/hr) = Solids/Oxides/Water/NO/NO2 to Abatement (kg) / Batch Time (hours)
HAP to Abatement (kg/hr) = [Solids to Abatement (kg/hr) x Weight % HAP in Solids] + [Oxides to Abatement (kg/hr) x Weight % HAP in Oxides]
NOx to Abatement (kg/hr) = NO to Abatement (kg/hr) + NO2 to Abatement (kg/hr)
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr
Emissions to Abatement (lbs/hr) = Emissions to Abatement (kg/hr) x (2.20462 lbs/kg)
Uncontrolled Emissions (tons/yr) = Emissions to Abatement (lbs/hr) x (8,760 hrs/yr) / (2,000 lbs/ton)
Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) x (1-Control Efficiency)

Appendix A: Emissions Summary
Combustion Spray Pyrolysis (CSP) Operation

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Calculation of Process Rates and Masses

Batch Time (hours) = 20

Batch	Number of Batches	Solution Weight		Solids Weight		Weight Water Evaporated in Dryer		Oxides Weight	
		Weight for All Batches (kg)	Process Rate for all Batches (kg/hr)	For all Batches (kg)	For all Batches per Hour (kg/hr)	For all Batches (kg)	Process Rate for all Batches (kg/hr)	For all Batches (kg)	Process Rate for all Batches (kg/hr)
Batches 5 and 6	2	1155.04	57.75	605.23	30.26	549.82	27.49	205.55	10.28

METHODOLOGY FOR DETERMING PROCESS RATES AND MASSES:
Weight per batch for Solutions, Solids, and Oxides fare based on stoichiometry. Assume 100% evaporation of water and 100% conversion to oxides.
Weight Water Evaporated for all batches (kg) = Solution Weight for all Batches (kg) - Solid Weight for all Batches (kg/batch)
Weight per hour (kg/hr) = Weight (kg/batches) / Batch Time (hours)

Abatement System Calculations:

Percent Product Captured in Collection System[1] 95%
Percent of Solids to Abatement System[2] 80.3%
Percent of Oxides to Abatement System[2] 19.6%
Batch Time (hours) = 20

Batch	Solids Weight (kg)	Oxides Weight (kg)	Fraction Oxides to Solids	Solids to Abatement (kg)	Oxides to Abatement (kg)	[3]Water to Abatement (kg)	[4]NO Formed (kg)	[4]NO_2 Formed (kg)	% NO/ NO2 Generated in CSP vs Kiln	[4]NO to Abatement (kg)	[4]NO_2 to Abatement (kg)
Batches 5 and 6	605.23	205.55	0.34	24.30	2.01	549.82	21.55	132.18	99%	21.3345	130.8582

Batch	Solids to Abatement (kg/hr)	Oxides to Abatement (kg/hr)	[5]Weight % Mn in Solids	[5]Weight % Ni in Solids	[5]Weight % Total HAPs in Solids	[5]Weight % Mn in Oxides	[5]Weight % Ni in Oxides	[5]Weight % Total HAPs in Oxides
Batches 5 and 6	1.2	0.10	8.13%	16.37%	16.37%	23.53%	51.18%	51.18%

Batch	Mn to Abatement (kg/hr)	Ni to Abatement (kg/hr)	Total HAPs to Abatement (kg/hr)	Water to Abatement (kg/hr)	NO to Abatement (kg/hr)	NO_2 to Abatement (kg/hr)	NOx to Abatement (kg/hr)	PM/PM10/ PM2.5 to Abatement (lbs/hr)	Mn to Abatement (lbs/hr)	Ni to Abatement (lbs/hr)	Total HAPs to Abatement (lbs/hr)	NOx to Abatement (lbs/hr)
Batches 5 and 6	0.12	0.25	0.25	27.49	1.066725	6.54291	7.609635	2.68	0.27	0.55	0.55	16.78

Batch	Uncontrolled PM/PM10/ PM2.5 Emissions (tons/yr)	Uncontrolled Mn HAP Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Uncontrolled Total HAP Emissions (tons/yr)	Uncontrolled NOx Emissions (tons/yr)	Dust Collector Control Efficiency	Controlled PM/PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn Emissions (tons/yr)	Controlled Ni Emissions (tons/yr)	Controlled Total HAP Emissions (tons/yr)	SCR Control Efficiency	Controlled NOx Emissions (tons/yr)
Batches 5 and 6	**11.73**	**1.18**	**2.42**	**2.42**	**73.48**	99.5%	**0.06**	**0.01**	**0.012**	**0.01**	**90%**	**7.35**
PM, PM10, and PM2.5 Limitations								**326 2-8 FESOP Required control efficiency**			**18.4%**	**59.96**
	lb/hr	**ton/yr**									**lb/hr**	**ton/yr**
PSD and FESOP Required limitations	2.28	10.00						**326 2-8 FESOP Required limitations**			**13.70**	**59.99**

326 IAC 6.5			
Dust Collector	**Airflow (acfm)**	**Controlled PM Emissions**	**Able to Comply with 326 IAC 6.5**
DC-020A	4,000	0.0004	YES

[1]The product in the dryer is captured by a collection system. Any product not captured goes to the abatement system.
[2]Based on a similar process, it is known that in the 5% air escaping, a smaller percentage of the solids and oxides are present in the escaped air than what is present in the captured product. 80.3% of the total solids and 19.6% of oxides will be in the 5% air to abatement.
[3]Assume 100% evaporation of water in dryers.
[4]NO and NO_2 generated per batch is based on a similar process at another Praxair facility. This value is based on an air flow rate of 1,000 cfm and known air compositions of 480 ppm NO and 1,920 ppm NO_2.
[5]Based on worst-case HAP contents of batches.

METHODOLOGY FOR ABATEMENT SYSTEM CALCS:
Solids and oxides weights from "Process Rates and Masses" above.
Fraction Oxides to Solids = Theoretical Oxides Weight (kg) / Theoretical Solids Weight (kg)
Solids to Abatement (kg) = Solids Weight (kg) x (1- Percent Captured in Collection System) x Percent of Solids to Capture System

NO/NO2 to Abatement (kg) = NO/NO2 Formed (kg) x % NO/NO2 Generated in CSP vs. Kiln
*Note: 99% of the nitrates are reacted in the CSP, and the remaining 1% is reacted in the kiln.
Solids/Oxides/Water/NO/NO2 to Abatement (kg/hr) = Solids/Oxides/Water/NO/NO2 to Abatement (kg) / Batch Time (hours)
HAP to Abatement (kg/hr) = [Solids to Abatement (kg/hr) x Weight % HAP in Solids] + [Oxides to Abatement (kg/hr) x Weight % HAP in Oxides]
NOx to Abatement (kg/hr) = NO to Abatement (kg/hr) + NO2 to Abatement (kg/hr)
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr
Emissions to Abatement (lbs/hr) = Emissions to Abatement (kg/hr) x (2.20462 lbs/kg)
Uncontrolled Emissions (tons/yr) = Emissions to Abatement (lbs/hr) x (8,760 hrs/yr) / (2,000 lbs/ton)
Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) x (1-Control Efficiency)

Appendix A: Emissions Summary
EU020 - Three (3) Kilns

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Batch Time (hours) = 20

[1]NO Formed (kg)	[4]NO_2 Formed (kg)	[2]% NO/ NO2 Generated in Kiln vs. CSP	[4]NO Emissions (kg)	[4]NO_2 Emissions (kg)	NO Emissions (kg/hr)	NO_2 Emissions (kg/hr)	NOx Emissions (kg/hr)	NOx Emissions (lbs/hr)	NOx Emissions (tons/yr)
32.325	198.27	1%	0.32325	1.9827	0.02	0.10	0.12	0.25	1.11
								Total for 3 Kilns:	**3.34**

[1]NO and NO_2 generated per batch is based on a similar process at another Praxair facility. This value is based on an air flow rate of 1,000 cfm and known air compositions of 480 ppm NO and 1,920 ppm NO_2.

[2]Note: 99% of the nitrates are reacted in the CSP, and the remaining 1% is reacted in the kiln.

METHODOLOGY FOR ABATEMENT SYSTEM CALCS:

NO/NO2 Emissions (kg) = NO/NO2 Formed (kg) x % NO/NO2 Generated in Kiln vs. CSP
NO/NO2 Emissions (kg/hr) = NO/NO2 Emissions (kg) / Batch Time (hours)
NOx Emissions (kg/hr) = NO Emissions (kg/hr) + NO2 Emissions (kg/hr)
Uncontrolled NOx Emissions (tons/yr) = NOx Emissions (lbs/hr) x (8,760 hrs/yr) / (2,000 lbs/ton)

Appendix A: Emissions Summary
EU020 - Four (4) Kilns

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Batch Time (hours) = 20

[1]NO Formed (kg)	[4]NO_2 Formed (kg)	[2]% NO/ NO2 Generated in Kiln vs. CSP	[4]NO Emissions (kg)	[4]NO_2 Emissions (kg)	NO Emissions (kg/hr)	NO_2 Emissions (kg/hr)	NOx Emissions (kg/hr)	NOx Emissions (lbs/hr)	NOx Emissions (tons/yr)
32.325	198.27	1%	0.32325	1.9827	0.02	0.10	0.12	0.25	1.11
								Total for 4 Kilns:	**4.45**

[1]NO and NO_2 generated per batch is based on a similar process at another Praxair facility. This value is based on an air flow rate of 1,000 cfm and known air compositions of 480 ppm NO and 1,920 ppm NO_2.

[2]Note: 99% of the nitrates are reacted in the CSP, and the remaining 1% is reacted in the kiln.

METHODOLOGY FOR ABATEMENT SYSTEM CALCS:

NO/NO2 Emissions (kg) = NO/NO2 Formed (kg) x % NO/NO2 Generated in Kiln vs. CSP
NO/NO2 Emissions (kg/hr) = NO/NO2 Emissions (kg) / Batch Time (hours)
NOx Emissions (kg/hr) = NO Emissions (kg/hr) + NO2 Emissions (kg/hr)
Uncontrolled NOx Emissions (tons/yr) = NOx Emissions (lbs/hr) x (8,760 hrs/yr) / (2,000 lbs/ton)

Appendix A: Emissions Summary
Enclosed Mills 1 to 3

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Batch	Powder Handling after Kiln Throughput (lbs/hr)	PM Emissions Handling after Kiln (lbs/hr)	Milling Throughput (lbs/hr)
Batches 1, 2, 3, 4, 5, and 6	127.35	0.00044	127.35

Batch	Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	[1]Mn Composition (Weight %)	[1]Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Batches 1, 2, 3, 4, 5, and 6	127.35	76.00	64.60	21.20	18.02	12.03%	25.19%	2.55	4.54	4.54

Batch	[2]Controlled PM Emissions (tons/yr)	[2]Controlled PM10/PM2.5 Emissions (tons/yr)	[2]Controlled Mn Emissions (tons/yr)	[2]Controlled Ni Emissions (tons/yr)	[2]Total Controlled HAP Emissions (tons/yr)
Batches 1, 2, 3, 4, 5, and 6	1.06	0.90	0.13	0.23	0.35

[1]See "Powder Handling after CSP" to determine HAP Composition (Weight %)

[2]The milling operation is completely enclosed. Any emissions from milling would be during loading and unloading. Unloading and loading is already accounted for in "Powder Handling after Kiln" and Powder Handling After Milling" calculations.

METHODOLOGY:

Throughput (lbs/hr) = Powder Handling after Kiln Throughput (lbs/hr) - [Handling after Kiln PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]
Emission factors for PM and PM10/2.5 from WebFIRE, SCC 3-05-00802 for Crushing, Grinding, & Milling during Ceramic Clay/Tile Manufacture
Total HAPs are based on worst-case HAP.
Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
Pre-kiln Enclosed Mills

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Process	Milling Throughput (lbs/hr)
Two (2) enclosed pre-kiln mills 4 and 5	169.80
Total	169.80

Process	Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	[1]Mn Composition (Weight %)	[1]Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Ten (10) Enclosed Kiln Mills	169.80	76.00	64.60	28.26	24.02	12.03%	25.19%	3.40	6.05	6.05

Process	[2]Controlled PM Emissions (tons/yr)	[2]Controlled PM10/PM2.5 Emissions	[2]Controlled Mn Emissions (tons/yr)	[2]Controlled Ni Emissions (tons/yr)	[2]Total Controlled HAP Emissions (tons/yr)
10 Enclosed Post Kiln Mills	1.41	1.20	0.17	0.30	0.47

[1]See "Powder Handling after CSP" to determine HAP Composition (Weight %)

[2]The milling operation is completely enclosed. Any emissions from milling would be during loading and unloading. Unloading and loading is already accounted for in "Powder Handling after Kiln" and Powder Handling After Milling" calculations.

METHODOLOGY:

Throughput (lbs/hr) = Powder Handling after Kiln Throughput (lbs/hr) - [Handling after Kiln PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]
Emission factors for PM and PM10/2.5 from WebFIRE, SCC 3-05-00802 for Crushing, Grinding, & Milling during Ceramic Clay/Tile Manufacture
Total HAPs are based on worst-case HAP.
Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
Post-Kiln Enclosed Mills

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Process	Milling Throughput (lbs/hr)
Four (4) Enclosed Post Kiln Mills 6 to 9	120.00
Total	120.00

Process	Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	[1]Mn Composition (Weight %)	[1]Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Ten (10) Enclosed Kiln Mills	120.00	76.00	64.60	19.97	16.98	12.03%	25.19%	2.40	4.28	4.28

Process	[2]Controlled PM Emissions (tons/yr)	[2]Controlled PM10/PM2.5 Emissions	[2]Controlled Mn Emissions (tons/yr)	[2]Controlled Ni Emissions (tons/yr)	[2]Total Controlled HAP Emissions (tons/yr)
10 Enclosed Post Kiln Mills	1.00	0.85	0.12	0.21	0.33

Limtis for all Enclosed Mills 1-9

PM Limitations		
	lb/hr	ton/yr
PSD and FESOP Required limitations	1.14	5.00

Haps		
	lb/hr	ton/yr
PSD and FESOP Required limitations	0.46	2.00

PM10 and PM2.5 Limitations		
	lb/hr	ton/yr
PSD and FESOP Required limitations	0.68	3.00

[1]See "Powder Handling after CSP" to determine HAP Composition (Weight %)

[2]The milling operation is completely enclosed. Any emissions from milling would be during loading and unloading. Unloading and loading is already accounted for in "Powder Handling after Kiln" and Powder Handling After Milling" calculations.

METHODOLOGY:

Throughput (lbs/hr) = Powder Handling after Kiln Throughput (lbs/hr) - [Handling after Kiln PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]
Emission factors for PM and PM10/2.5 from WebFIRE, SCC 3-05-00802 for Crushing, Grinding, & Milling during Ceramic Clay/Tile Manufacture
Total HAPs are based on worst-case HAP.
Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
Burner Associated with EU020

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Heat Input Capacity MMBtu/hr	
Burner #1	0.4
Burner #2	0.4
Total:	**0.80**

Potential Throughput

MMCF/yr: 6.87

	Pollutant						
	PM*	**PM10***	**PM2.5**	**SO_2**	**NOx**	**VOC**	**CO**
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.01	0.03	0.03	0.00	0.34	0.02	0.29
Control Efficiency (%)	99.5%	99.5%	99.5%	0%	90%	0%	0%
Controlled Emissions in tons/yr	0.00	0.00	0.00	0.00	0.03	0.02	0.29

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

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

	HAPs - Organics				
	Benzene	**Dichlorobenzene**	**Formaldehyde**	**Hexane**	**Toluene**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	7.21E-06	4.12E-06	2.58E-04	6.18E-03	1.17E-05

	HAPs - Metals				
	Lead	**Cadmium**	**Chromium**	**Manganese**	**Nickel**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.72E-06	3.78E-06	4.81E-06	1.31E-06	7.21E-06

The five highest organic and metal HAPs emission factors are provided above. **Total HAPs:** **6.48E-03**

METHODOLOGY

Note: The CSP Burner is routed to an abatement system with a dust collector (particulate control eff = 99.5%) and an SCR (NOx control eff = 90%).
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Controlled Emissions (tons/yr) = Emissions (tons/yr) x (1- Control Efficiency)
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (29
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
Burner Associated with EU020

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Heat Input Capacity MMBtu/hr	
Burner #3	0.4
Total:	**0.40**

Potential Throughput

MMCF/yr
3.44

	Pollutant						
	PM*	**PM10***	**PM2.5**	**SO_2**	**NOx**	**VOC**	**CO**
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.00	0.01	0.01	0.00	0.17	0.01	0.14
Control Efficiency (%)	99.5%	99.5%	99.5%	0%	90%	0%	0%
Controlled Emissions in tons/yr	0.00	0.00	0.00	0.00	0.02	0.01	0.14

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

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

	HAPs - Organics				
	Benzene	**Dichlorobenzene**	**Formaldehyde**	**Hexane**	**Toluene**
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	3.61E-06	2.06E-06	1.29E-04	3.09E-03	5.84E-06

	HAPs - Metals				
	Lead	**Cadmium**	**Chromium**	**Manganese**	**Nickel**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	8.59E-07	1.89E-06	2.40E-06	6.53E-07	3.61E-06

The five highest organic and metal HAPs emission factors are provided above. **Total HAPs:** **3.24E-03**

METHODOLOGY

Note: The CSP Burner is routed to an abatement system with a dust collector (particulate control eff = 99.5%) and an SCR (NOx control eff = 90%).
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supplement D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Controlled Emissions (tons/yr) = Emissions (tons/yr) x (1- Control Efficiency)
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (29
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
EU020 - Raw Material Handling CSP

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Processes	Throughput (lbs/hr)*	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)
4 Batchs	12.37	0.0069	0.0033	0.0002	0.0001
2 Batchs	6.19	0.0069	0.0033	0.0001	0.0000
	18.56		**Total:**	**0.0003**	**0.0001**

METHODOLOGY:

*The throughput is based on the batch weights for dry materials. There are a total of 6 batches with a combined total weight of 18.56 pounds. None of the dry materials contain HAPs.

**Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer

Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
EU020 Powder Handling After CSP

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Percent Product Captured in Collection System[1] 95%
Batch Time (hours) = 20

Batch	Solids Weight (kg)	Oxides Weight (kg)	Total Powder (kg)	Total Powder Captured (kg)	Powder Throughput (lbs/hr)	Weight % Mn in Solids	Weight % Ni in Solids	Weight % Mn in Oxides	Weight % Ni in Oxides	Weight % Mn in Powder	Weight % Ni in Powder
Batches 1, 2, 3, 4, 5, and 6	907.84	308.32	1216.16	1155.35	127.36	8.13%	16.37%	23.53%	51.18%	12.03%	25.19%

[1]The powder product is captured by a collection system. Any product not captured goes to the abatement system.
[2]See "Emission Calculations for CSP" for reference in determining manganese and nickel compositions.
See "Emission Calculations for CSP" for reference in determining powder from CSP.

Batch	Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	Mn Composition (Weight %)	Ni Composition (Weight %)	Uncontrolled Mn HAP Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Batches 1, 2, 3, 4, 5, and 6	127.36	0.0069	0.0033	0.0019	0.0009	12.03%	25.19%	2.32E-04	4.85E-04	4.85E-04

Batch	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn HAP Emissions (tons/yr)	Controlled Ni Emissions (tons/yr)	Total Controlled HAP Emissions (tons/yr)
Batches 1, 2, 3, 4, 5 and 6	99.9%	0.000002	0.000001	2.32E-07	4.85E-07	4.85E-07

326 IAC 6.5			
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
DC-033	4,000	0.0000	YES

METHODOLOGY:
Powder Throughput (lbs/hr) = Total Powder Captured (kg) x (2.20462 lbs/kg) / Batch Time
Weight % HAP in powder = [(Solids Weight (kg) x Weight % HAP in Solids) + (Oxides Weight (kg) x Weight % HAP in Oxides)] / (Solids Weight (kg) + Oxides Weight (kg))
Total HAPs are based on worst-case HAP.
*Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr
Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)
Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

*Note: Emissions are controlled by a dust collector with a control efficiency of 99.9%.

Appendix A: Emissions Summary
EU020- Powder Handling After Kiln

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Batch	Powder Handling after CSP Throughput (lbs/hr)	PM Emissions Handling after CSP (lbs/hr)	Powder Handling after Kiln Throughput (lbs/hr)
Batches 1, 2, 3,4 ,5 and 6	127.36	0.00044	127.35

Batch	Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	[1]Mn Composition (Weight %)	[1]Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Batches 1, 2, 3, 4, 5, and 6	127.35	0.0069	0.0033	0.0019	0.0009	12.03%	25.19%	2.32E-04	4.85E-04	4.85E-04

Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn Emissions (tons/yr)	Controlled Ni Emissions (tons/yr)	Controlled HAP Emissions (tons/yr)
99.9%	0.0000	0.00000	0.00	0.00	0.00

326 IAC 6.5			
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
DC033	4,000	0.00	YES

[1]See "Powder Handling after CSP" to determine HAP Composition (Weight %)

METHODOLOGY:
Throughput (lbs/hr) = Powder Handling after CSP Throughput (lbs/hr) - [CSP PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]
*Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer
Total HAPs are based on worst-case HAP.
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr
Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)
Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

*Note: Emissions are controlled by a dust collector with a control efficiency of 99.9%.

Appendix A: Emissions Summary
EU020- Powder Handling After Mill

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Batch	Milling Throughput (lbs/hr)	Milling PM Emissions (lbs/hr)	Powder Handling after Milling Throughput (lbs/hr)
Batches 1, 2, 3, 4, 5 ,and 6	127.35	4.84	122.51

Batch	Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	[1]Mn Composition (Weight %)	[1]Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Batches 1, 2, 3, 4, 5, and 6	122.51	0.0069	0.0033	1.85E-03	8.85E-04	12.03%	25.19%	2.23E-04	4.66E-04	4.66E-04

[1]See "Powder Handling after CSP" to determine HAP Composition (Weight %)

Batch	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn HAP Emissions (tons/yr)	Controlled Ni HAP Emissions (tons/yr)	Controlled Total HAP Emissions (tons/yr)
Batches 1, 2, 3 and 4	99.9%	1.85E-06	8.85E-07	2.23E-07	4.66E-07	4.66E-07

326 IAC 6.5			
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
DC033	4,000	0.00	YES

METHODOLOGY:

Throughput (lbs/hr) = Milling Throughput (lbs/hr) - [Milling PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]
*Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer
Total HAPs are based on worst-case HAP.
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr
Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)
Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

*Note: Emissions are controlled by a dust collector with a control efficiency of 99.9%.

Appendix A: Emissions Summary
EU020- Powder Handling After Mill

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Process	Milling Throughput (lbs/hr)	Milling PM Emissions (lbs/hr)	Powder Handling after Milling Throughput (lbs/hr)
Handling After Mill	120.00	4.56	115.44

Process	Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	[1]Mn Composition (Weight %)	[1]Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Handling After Mill	115.44	0.0069	0.0033	1.74E-03	8.34E-04	12.03%	25.19%	2.10E-04	4.40E-04	4.40E-04

[1]See "Powder Handling after CSP" to determine HAP Composition (Weight %)

Process	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn HAP Emissions (tons/yr)	Controlled Ni HAP Emissions (tons/yr)	Controlled Total HAP Emissions (tons/yr)
Handling After Mill	99.9%	1.74E-06	8.34E-07	2.10E-07	4.40E-07	4.40E-07

326 IAC 6.5			
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
DC033	4,000	0.00	YES

METHODOLOGY:

Throughput (lbs/hr) = Milling Throughput (lbs/hr) - [Milling PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]
*Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer
Total HAPs are based on worst-case HAP.
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr
Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)
Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

*Note: Emissions are controlled by a dust collector with a control efficiency of 99.9%.

Appendix A: Emissions Summary
EU020- Final Powder Handling

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Batch	Powder Handling after Milling Throughput (lbs/hr)	Powder Handling After Milling PM Emissions (lbs/hr)	Final Powder Handling Throughput (lbs/hr)
Batches 1, 2, 3 and 4	122.51	0.00042	122.51

Batch	Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	[1]Mn Composition (Weight %)	[1]Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Batches 1, 2, 3 and 4	122.51	0.0069	0.0033	0.0019	0.0009	12.03%	25.19%	4.66E-04	4.66E-04	4.66E-04
	122.51									

Batch	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn Emissions (tons/yr)	Controlled Ni Emissions (tons/yr)	Controlled Total HAP Emissions (tons/yr)
Batches 1, 2, 3 and 4	99.9%	1.85E-06	8.85E-07	4.66E-07	4.66E-04	4.66E-07

326 IAC 6.5			
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
DC033	4,000	0.00	YES

[1]See "Powder Handling after CSP" to determine HAP Composition (Weight %)

METHODOLOGY:

Throughput (lbs/hr) = Powder Handling after Milling Throughput (lbs/hr) - [Powder Handling after Milling PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]

*Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer

Total HAPs are based on worst-case HAP.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)

Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)

Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

*Note: Emissions are controlled by a dust collector with a control efficiency of 99.9%.

Appendix A: Emissions Summary
EU020- Final Powder Handling

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Batch	Powder Handling after Milling Throughput (lbs/hr)	Powder Handling After Milling PM Emissions (lbs/hr)	Final Powder Handling Throughput (lbs/hr)
Final Handling	115.44	0.00040	115.44

Batch	Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	[1]Mn Composition (Weight %)	[1]Ni Composition (Weight %)	Uncontrolled Mn Emissions (tons/yr)	Uncontrolled Ni Emissions (tons/yr)	Total Uncontrolled HAP Emissions (tons/yr)
Final Handling	115.44	0.0069	0.0033	0.0017	0.0008	12.03%	25.19%	4.40E-04	4.40E-04	4.40E-04
	115.44									

Batch	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)	Controlled Mn Emissions (tons/yr)	Controlled Ni Emissions (tons/yr)	Controlled Total HAP Emissions (tons/yr)
Final Handling	99.9%	1.74E-06	8.34E-07	4.40E-07	4.40E-04	4.40E-07

326 IAC 6.5			
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
DC030	4,000	0.00	YES

[1]See "Powder Handling after CSP" to determine HAP Composition (Weight %)

METHODOLOGY:

Throughput (lbs/hr) = Powder Handling after Milling Throughput (lbs/hr) - [Powder Handling after Milling PM Emissions (tons/yr) * (2,000 lbs/ton) / 8,760 hrs /yr]

*Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer

Total HAPs are based on worst-case HAP.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)

Uncontrolled HAP Emissions (tons/yr) = Uncontrolled PM Emissions (tons/yr) * HAP Composition (Weight %)

Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

*Note: Emissions are controlled by a dust collector with a control efficiency of 99.9%.

Appendix A: Emissions Summary
Grit Blasting

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Emission Factors for Abrasives

Abrasive	Emission Factor	
	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	0.70

Location	Grit Blaster ID	Dust Collector ID	Grit Type	Max Throughput (lbs/hr)	PM Emission Factor (lbs/lb grit)	PM10/ PM2.5 Emission Factor (lbs/lb grit)	Dust Collector Control Efficiency	Uncontrolled Potential PM Emissions (tons/yr)	Uncontrolled Potential PM10 & PM2.5 Emissions (tons/yr)	Controlled Potential PM Emissions (tons/yr)	Controlled Potential PM10 & PM2.5 Emissions (tons/yr)
1245 Main Street	EU09C	C09C	Aluminum Oxide	360	0.010	0.007	99%	15.77	11.04	0.16	0.11
	EU001G	C001G	Aluminum Oxide	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU002G	C002G	Aluminum Oxide	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU004G	C004G	Aluminum Oxide	600	0.010	0.007	99.97%	26.28	18.40	0.01	0.01
	EU005G	C005G	Aluminum Oxide	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU008G	C008G	Aluminum Oxide	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU010G	C010G	Aluminum Oxide	600	0.010	0.007	99.97%	26.28	18.40	0.01	0.01
	EU011G	C011G	Aluminum Oxide	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU013G	C013G	Aluminum Oxide	200	0.010	0.007	99%	8.76	6.13	0.09	0.06
	EU014G	C014G	Aluminum Oxide	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU016G	C016G	Aluminum Oxide	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU018G	C018G	Aluminum Oxide	600	0.041	0.0287	99%	107.75	75.42	1.08	0.75
	EU019G	C019G	Aluminum Oxide	600	0.041	0.0287	99%	107.75	75.42	1.08	0.75
	EU007G	C007G	Silicon Carbide	360	0.010	0.007	99%	15.77	11.04	0.16	0.11
	EU012G	C012G	Aluminum Oxide	50	0.010	0.007	99%	2.19	1.53	0.02	0.02
	EU01M	C01M	Fine Grit	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU02M	C02M	Fine Grit	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU01L	C01L	Shot Peen	5.36	0.004	0.86	99%	0.09	20.19	0.00	0.20
	EU01GB	C01GB	Glass Bead	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU02GB	C02GB	Glass Bead	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU021G	DC021G	Aluminum Oxide	120	0.010	0.007	99%	5.26	3.68	0.05	0.04
	EU02L	DC02L	Shot Peen	5.36	0.004	0.00344	99%	0.09	0.08	0.00	0.00
1415 Main Street	EU01C	C01C	Aluminum Oxide	360	0.010	0.007	99%	15.77	11.04	0.16	0.11
	EU04C	C04C	Aluminum Oxide	360	0.010	0.007	99%	15.77	11.04	0.16	0.11
	EU05C	C05C	Aluminum Oxide	360	0.010	0.007	99%	15.77	11.04	0.16	0.11
	EU06C	C06C	Aluminum Oxide	360	0.010	0.007	99%	15.77	11.04	0.16	0.11
	EU07C	C07C	Aluminum Oxide	360	0.010	0.007	99%	15.77	11.04	0.16	0.11
	EU08C	C08C	Aluminum Oxide	360	0.010	0.007	99%	15.77	11.04	0.16	0.11
	EU10C	C10C	Aluminum Oxide	360	0.010	0.007	99%	15.77	11.04	0.16	0.11
	EU12C	C12C	Aluminum Oxide	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	EU16C	C16C	Aluminum Oxide	600	0.010	0.007	99.7%	26.28	18.40	0.08	0.06
	EU03C	C03C	Aluminum Oxide	360	0.010	0.007	99%	15.77	11.04	0.16	0.11
	EU01M	C01M	Aluminum Oxide	600	0.010	0.007	99%	26.28	18.40	0.26	0.18
	O1P1 EUG6	CG6	Aluminum Oxide	173	0.010	0.007	99.7%	7.58	5.30	0.02	0.02
	O1P1 EUG7	CG7	Aluminum Oxide	81	0.010	0.007	99.7%	3.55	2.48	0.01	0.01
	O2P1 EUG1	CG1/2	Aluminum Oxide	224	0.010	0.007	99.7%	9.81	6.87	0.03	0.02
	O2P1 EUG2		Aluminum Oxide	224	0.010	0.007	99.7%	9.81	6.87	0.03	0.02
	O2P1 EUG3	CG3/4	Aluminum Oxide	81	0.010	0.007	99.7%	3.55	2.48	0.01	0.01
	O2P1 EUG5	CG5	Aluminum Oxide	50	0.010	0.007	99.7%	2.19	1.53	0.01	0.00
	O2P3 EUG1	CG1	Calcined Alumina	221	0.010	0.007	99.7%	9.68	6.78	0.03	0.02
	O2P3 EUG2	CG2	Calcined Alumina	221	0.010	0.007	99.7%	9.68	6.78	0.03	0.02
	EU11C	C11C	Silicon Carbide	180	0.010	0.007	99.0%	7.88	5.52	0.08	0.06
	EU21	C21	Aluminum Oxide	50	0.010	0.007	99.7%	2.19	1.53	0.01	0.00
1500 Polco Street	EU13C	C13C	Aluminum Oxide	129	0.010	0.007	99.7%	5.65	3.96	0.02	0.01
							Total PTE (tons/yr):	**881.62**	**637.27**		
									Total Controlled PTE (tons/yr):	**7.68**	**5.58**

Appendix A: Emissions Summary
Grit Blasting

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

							PSD Minor Limits		FESOP Limits	
Location	Number of Blasters	Grit Blaster ID	Control ID	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5	PSD PM Limit (lb/hr)	PSD PM Limit (ton/yr)	FESOP PM10 & PM2.5 Limit (lb/hr)	FESOP PM10 & PM2.5 Limit (ton/yr)
1245 Main Street	1	EU09C	C09C	4,000	0.0011	YES	0.50	2.17	0.09	0.38
	1	EU001G	C001G	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU002G	C002G	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU004G	C004G	4,000	0.0001	YES	0.50	2.17	0.09	0.38
	1	EU005G	C005G	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU008G	C008G	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU010G	C010G	4,000	0.0001	YES	0.50	2.17	0.09	0.38
	1	EU011G	C011G	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU013G	C013G	4,000	0.0006	YES	0.50	2.17	0.09	0.38
	1	EU014G	C014G	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU016G	C016G	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU018G	C018G	4,000	0.0072	YES	0.50	2.17	0.09	0.38
	1	EU019G	C019G	4,000	0.0072	YES	0.50	2.17	0.09	0.38
	1	EU012G	C012G	4,000	0.0001	YES	0.50	2.17	0.09	0.38
	1	EU007G	C007G	4,000	0.0011	YES	0.50	2.17	0.09	0.38
	1	EU01M	C01M	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU02M	C02M	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU01L	C01L	4,000	0.0000	YES	0.50	2.17	0.09	0.38
	1	EU01GB	C01GB	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU02GB	C02GB	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU021G	DC021G	4,000	0.0004	YES	0.50	2.17	0.09	0.38
	1	EU02L	DC02L	4,000	0.0000	YES	0.50	2.17	0.09	0.38
1415 Main Street	1	EU01C	C01C	4,000	0.0011	YES	0.50	2.17	0.09	0.38
	1	EU04C	C04C	4,000	0.0011	YES	0.50	2.17	0.09	0.38
	1	EU05C	C05C	4,000	0.0011	YES	0.50	2.17	0.09	0.38
	1	EU06C	C06C	4,000	0.0011	YES	0.50	2.17	0.09	0.38
	1	EU07C	C07C	4,000	0.0011	YES	0.50	2.17	0.09	0.38
	1	EU08C	C08C	4,000	0.0011	YES	0.50	2.17	0.09	0.38
	1	EU10C	C10C	4,000	0.0011	YES	0.50	2.17	0.09	0.38
	1	EU12C	C12C	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	EU16C	C16C	4,000	0.0005	YES	0.50	2.17	0.09	0.38
	1	EU03C	C03C	4,000	0.0011	YES	0.50	2.17	0.09	0.38
	1	EU01M	C01M	4,000	0.0018	YES	0.50	2.17	0.09	0.38
	1	O1P1 EUG6	CG6	4,000	0.0002	YES	0.50	2.17	0.09	0.38
	1	O1P1 EUG7	CG7	4,000	0.0001	YES	0.50	2.17	0.09	0.38
	1	O2P1 EUG1	CG1/2	4,000	0.0002	YES	0.50	2.17	0.09	0.38
	1	O2P1 EUG2		4,000	0.0002	YES	0.50	2.17	0.09	0.38
	1	O2P1 EUG3	CG3/4	4,000	0.0001	YES	0.50	2.17	0.09	0.38
	1	O2P1 EUG5	CG5	4,000	0.0000	YES	0.50	2.17	0.09	0.38
	1	O2P3 EUG1	CG1	4,000	0.0002	YES	0.50	2.17	0.09	0.38
	1	O2P3 EUG2	CG2	4,000	0.0002	YES	0.50	2.17	0.09	0.38
	1	EU11C	C11C	4,000	0.0005	YES	0.50	2.17	0.09	0.38
	1	EU21	C21	4000	0.0005	YES	0.50	2.17	0.09	0.38
1500 Polco Street	1	EU13C	C13C	4,000	0.0001	YES	0.50	2.17	0.09	0.38
	44					**Total PTE (tons/yr):**	---	**95.65**	---	**16.77**

Methodology
Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)
Potential PTE (ton/yr) = Max Throughput (lb/hr) x Emission Factor (lbs/lb grit) x (1- Control Efficiency) x (8,760 hr/yr) / (2,000 lbs/ton)

Notes
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
Tribomet Line #3 (Building 1415)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060

Tank ID	Materials	Amount in Tank	Units	Amount Added per Month	Units	Total Added per Year (lbs/yr)	Density (lbs/gal)	Estimated Evaporation Rate	Total Emissions (lbs/yr)	VOC Content	HCl Content (%)	Nickel Compound Content (%)	Chromium Compound Content (%)	Uncontrolled PTE VOC (tons/yr)	Uncontrolled PTE HCl (tons/yr)	Uncontrolled PTE Nickel Compounds (tons/yr)	Uncontrolled PTE Chromium Compounds (tons/yr)
2	HCl	33.068783	lbs	1	lbs	12.00	8.96	20%	2.40	0%	35%	0%	0%	0.00	0.00	0.00	0.00
	Nickel Chloride	385.80247	lbs	1	lbs	12.00	*	20%	2.40	0%	0%	100%	0%	0.00	0.00	0.00	0.00
3	Sulfuric Acid	33.068783	lbs	1	lbs	12.00	15.31	7%	0.84	0%	0%	0%	0%	0.00	0.00	0.00	0.00
5	Nickel Sulfate	275.57319	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	100%	0%	0.00	0.00	0.01	0.00
	Nickel Cloride	38.580247	lbs	1	lbs	12.00	*	20%	2.40	0%	0%	100%	0%	0.00	0.00	0.00	0.00
	Boric Acid	38.580247	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	0%	0.00	0.00	0.00	0.00
	SCBN 60/80 Grit	2.4801587	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	0%	0.00	0.00	0.00	0.00
6	Nickel Sulfate	275.57319	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	100%	0%	0.00	0.00	0.01	0.00
	Nickel Cloride	38.580247	lbs	1	lbs	12.00	*	20%	2.40	0%	0%	100%	0%	0.00	0.00	0.00	0.00
	Boric Acid	33.068783	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	0%	0.00	0.00	0.00	0.00
	TM329 Powder	22.045855	lbs	5	lbs	60.00		20%	12.00	0%	0%	0%	70%	0.00	0.00	0.00	0.00
7	Nickel Sulfate	275.57319	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	100%	0%	0.00	0.00	0.01	0.00
	Nickel Cloride	38.580247	lbs	1	lbs	12.00	*	20%	2.40	0%	0%	100%	0%	0.00	0.00	0.00	0.00
	Boric Acid	33.068783	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	0%	0.00	0.00	0.00	0.00
	TM329 Powder	22.045855	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	70%	0.00	0.00	0.00	0.00
8	Nickel Sulfate	275.57319	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	100%	0%	0.00	0.00	0.01	0.00
	Nickel Cloride	38.580247	lbs	1	lbs	12.00	*	20%	2.40	0%	0%	100%	0%	0.00	0.00	0.00	0.00
	Boric Acid	33.068783	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	0%	0.00	0.00	0.00	0.00
	TM329 Powder	22.045855	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	70%	0.00	0.00	0.00	0.00
9	Nickel Sulfate	275.57319	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	100%	0%	0.00	0.00	0.01	0.00
	Nickel Cloride	38.580247	lbs	1	lbs	12.00	*	20%	2.40	0%	0%	100%	0%	0.00	0.00	0.00	0.00
	Boric Acid	33.068783	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	0%	0.00	0.00	0.00	0.00
	TM329 Powder	22.045855	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	70%	0.00	0.00	0.00	0.00
10	Nickel Sulfate	275.57319	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	100%	0%	0.00	0.00	0.01	0.00
	Nickel Cloride	38.580247	lbs	1	lbs	12.00	*	20%	2.40	0%	0%	100%	0%	0.00	0.00	0.00	0.00
	Boric Acid	33.068783	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	0%	0.00	0.00	0.00	0.00
	TM329 Powder	22.045855	lbs	5	lbs	60.00	*	20%	12.00	0%	0%	0%	70%	0.00	0.00	0.00	0.00
												Total Uncontrolled PTE (tons/yr)		**0.00**	**0.00**	**0.04**	**0.02**
													Control Efficiency	**99.50%**	**99.50%**	**99.50%**	**99.50%**
													Total Controlled PTE (tons/yr)	**0.00**	**0.0000**	**0.0002**	**0.0001**

Methodology:

*Density not provided in SDS and/or solid material

**Tanks are changed out once every 2 years.

The Tribomet line #3 is controlled by a scrubber system with a control efficiency of 99.5%

Total Amount Added Per Year (lbs/yr)

For amounts given in lbs:

Total Amount (lbs/yr) = Amount Added per Month (lbs/month) x (12 months/yr)

Total Emissions = Amount Added per Year (lbs/yr) x Evaporation Rate (%)

Evaporation rate of 20% is a conservative engineering estimate, based on the amount that is added per month compared to the tank contents. The evaporation percentage is not an exact ratio of the amount added divided by the tank contents, because the percentage accounts for the portion of the liquid that remains on the product or is wasted.

Appendix A: Emissions Summary
Vacuum Sealer VS1

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Damisol-3500	55	9.40	100%	55	0.06	0.26
Total					**0.06**	**0.26**

Methodology
Solvent Usage (gal/yr) = Solvent Usage (gal/wk) *52
% VOC and Density (lb/gal) from MSDS sheet
VOC (gal/yr) = Solvent Usage (gal/yr) * % VOC
VOC (ton/yr) = VOC (gal/yr) * Density (lb/gal) * (1 ton/ 2000 lbs)
Solvent contains no HAPs per the SDS.

Appendix A: Emissions Summary
Degreasing/Solvent Cleaning

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Location	Emission Unit ID	Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Max Gal of Mat. Added (gal/yr)	Waste Material (gal/yr)	Pounds VOC per gallon of solvent less water	Pounds VOC per gallon of solvent	Potential VOC tons per year
Cold Cleaner Degreasers												
1245 Main Street	Maintenance Parts Washer	Safety Kleen Solvent	6.80	100.00%	0.0%	100.0%	0.0%	10.00	0.00	6.80	6.80	0.03
1415 Main Street	Maintenance Parts Washer	Safety Kleen Solvent	6.80	100.00%	0.0%	100.0%	0.0%	10.00	0.00	6.80	6.80	0.03
	Operation 1 and 2 Machine Shop Parts Washer	Safety Kleen Solvent	6.80	100.00%	0.0%	100.0%	0.0%	180.00	0.00	6.80	6.80	0.61
Conveyorized Vapor Degreasers												
1415 Main Street	Two (2) Operation 2 Degreasers	Novec 72DE	10.68	100.00%	0.0%	100.0%	0.0%	410.11	0.00	10.68	10.68	2.19
	One (1) Operation 2 Degreaser	Novec 72DE	10.68	100.00%	0.0%	100.0%	0.0%	500.0	0.0	10.68	10.68	2.67
Open Top Vapor Degreasers												
1415 Main Street	LPPS Vapor Degreaser	N-Propyl Bromide	10.89	100.00%	0.0%	91.0%	0.0%	660.00	82.00	9.91	9.91	2.86
	Tribomet Line Vapor Degreaser	PCE**	13.59	100.00%	0.0%	100.0%	0.0%	660.00	165.00	0.00	0.00	0.00
		PCE**	13.59	100.00%	0.0%	100.0%	100.0%	260.00	165.00	0.00	0.00	0.00
		Inhibitor Concentrate	10.00	100.00%	0.0%	100.0%	0.0%	20.00	0.00	10.00	10.00	0.10
Manual Degreasing												
1245 Main Street	Manual Degreasing	*MEK	6.76	100.00%	0.0%	100.0%	0.0%	140.00	0.00	6.76	6.76	0.47
	Parts Washer	HDL-125	9.40	100.00%	0.0%	100.0%	0.0%	10.00	0.00	9.40	9.40	0.05
											Total Potential Emissions (tons/yr)	**9.02**

Methodology
Pounds of VOC per Gallon Solvent less Water = (Density (lb/gal) * Weight % Organics) / (1-Volume % water)
Pounds of VOC per Gallon Solvent = (Density (lb/gal) * Weight % Organics)
Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * (Max Gal of Material (gal/yr) - Waste Material (gal/yr)) * (1 ton/2000 lbs)

Notes
*Note: Praxair uses either MEK, IPA, and ZeroTri Heavy-Duty Degreaser in the Building 1245 Manual Degreasing. Therefore, MEK was used because it was worst-case for VOCs.
** Pursuant to 40 CFR 51.100(s)(1), PCE is not a VOC; however, it is considered a HAP.

HAP Emission Calculations

Location	Emission Unit ID	Material	Density	Max Gal of Material	Waste Material	Weight %	Weight %	Weight %	Weight %	Weight %	Weight %	Benzene Emissions	1,2-Epoxybutane Emissions	p-dichloro benzene Emissions	Toluene Emissions	HF Emissions	PCE Emissions
			(Lb/Gal)	(gal/yr)	(gal/yr)	Benzene	1,2-Epoxybutane	p-dichloro benzene	Toluene	HF	PCE	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
Cold Cleaner Degreasers																	
1245 Main Street	Maintenance Parts Washer	Safety Kleen Solvent	6.80	10.00	0.00	0.00005%	0.00%	0.001%	0.004%	0.00%	0.00%	1.65E-08	0.00E+00	2.09E-07	1.25E-06	0.00E+00	0
1415 Main Street	Maintenance Parts Washer	Safety Kleen Solvent	6.80	10.00	0.00	0.00005%	0.00%	0.001%	0.004%	0.00%	0.00%	1.65E-08	0.00E+00	2.09E-07	1.25E-06	0.00E+00	0
	Operation 1 and 2 Machine Shop Parts Washer	Safety Kleen Solvent	6.80	180.00	0.00	0.00005%	0.00%	0.001%	0.004%	0.00%	0.00%	2.97E-07	0.00E+00	3.75E-06	2.25E-05	0.00E+00	0
Conveyorized Vapor Degreasers																	
1415 Main Street	Two (2) Operation 2 Degreasers	Novec 72DE	10.68	410.11	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
	One (1) Operation 2 Degreaser	Novec 72DE	10.68	500.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
Open Top Vapor Degreasers																	
1415 Main Street	LPPS Vapor Degreaser	TMC-377	10.89	660.00	82.00	0.00%	1.00%	0.00%	0.00%	25.00%	0.00%	0.00E+00	3.15E-02	0.00E+00	0.00E+00	7.87E-01	0
	Tribomet Line Vapor Degreaser	PCE**	13.59	660.00	165.00	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.36
		PCE**	13.59	260.00	165.00	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.65
		Inhibitor Concentrate	10	20.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
Manual Degreasing																	
1245 Main Street	Manual Degreasing	*MEK	6.76	140.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
	Parts Washer	HDL-125	9.40	10.00	0.00	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0
											Potential HAP Emissions (tons/yr)	**0.00E+00**	**3.15E-02**	**0.00E+00**	**0.00E+00**	**7.87E-01**	**4.01**
											Combined HAPs (tons/yr)		**4.83**				

METHODOLOGY
HAPS emission rate (tons/yr) = Density (lb/gal) * Max Gal of Material (gal/yr) * Weight % HAP * 1 ton/2000 lbs

LPPS Vapor Degreaser Prior to Modification												
Location	Emission Unit ID	Material	Density (Lb/Gal)	Weight % Volatile (H20 & Organics)	Weight % Water	Weight % Organics	Volume % Water	Max Gal of Mat. Added (gal/yr)	Waste Material (gal/yr)	Pounds VOC per gallon of solvent less water	Pounds VOC per gallon of solvent	Potential VOC tons per year
1415 Main Street	LPPS Vapor Degreaser	Novec 72DE	10.68	100.00%	0.0%	100.0%	0.0%	660.00	82.00	10.68	10.68	3.09

LPPS Vapor Degreaser Prior to Modification																	
Location	Emission Unit ID	Material	Density	Max Gal of Material	Waste Material	Weight %	Weight %	Weight %	Weight %	Weight %	Weight %	Benzene Emissions	1,2-Epoxybutane Emissions	p-dichloro benzene Emissions	Toluene Emissions	Xylene Emissions	PCE Emissions
			(Lb/Gal)	(gal/yr)	(gal/yr)	Benzene	1,2-Epoxybutane	p-dichloro benzene	Toluene	Xylene	PCE	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)	(tons/yr)
1415 Main Street	LPPS Vapor Degreaser	Novec 72DE	10.68	660.00	82.00	0.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00E+00	6.17E-02	0.00E+00	0.00E+00	0.00E+00	0

Appendix A: Emissions Summary
Building 1550 - Specialty Powders Manufacturing Operations

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Particulate Matter											
Process ID	Dust Collector	Powder Type	Throughput (lbs/hr)	Dust Collected per Year (lbs/yr)	Hours Operated per Year	Dust Collected per Hour (lbs/hr)	Dust Collector Control Efficiency	HEPA Filter Control Efficiency	Uncontrolled PM Emissions (lb/hr)	Uncontrolled PTE PM (tons/yr)	Controlled PTE PM (tons/yr)
EUS-1	DC048	Powder 1	166.67	18,000	480	37.50	99.5%	99.9%	37.69	165.08	0.83
EUS-2	DC015	Powder 2	166.67	4,077	2,446	1.67	99.5%	99.9%	1.68	7.34	0.04
EUS-7	DC028, DC013	Powder 1	83.335	857	514	1.67	99.5%	99.9%	1.68	7.34	0.04
EUP-3	DC063	Powder 2	429.3	2,500	2,952	0.85	99.5%	99.9%	0.85	3.73	0.02
EUS-3	DC064	Powder 2	429.3	3,220	750	4.29	99.5%	99.9%	4.31	18.90	0.09
EUS-5	DC012, DC013	Powder 3	312.5	20,000	800	25.00	99.5%	99.9%	25.13	110.05	0.55
EUS-8B	DC040	Powder 4	58.4	4,000	1,800	2.22	99.5%	99.9%	2.23	9.78	0.05
EUS-8A	DC041	Powder 4	58.4	24,000	3,500	6.86	99.5%	99.9%	6.89	30.19	0.15
EUS-10	DC043, DC044, DC061	Powder 5	300	15,000	4,000	3.75	99.5%	99.9%	3.77	16.51	0.08
EUP-11	DC001	Powder 5	100	75000	6,000	12.50	95.0%	0.0%	13.16	57.63	2.88
EUP-11A	DC002	Powder 5	100	5000	2,400	2.08	95.0%	0.0%	2.19	9.61	0.48
EUP-11B	DC046	Powder 5	100	30000	3,000	10.00	95.0%	99.9%	10.53	46.11	2.31
EUS-15A	DC026	Powder 2	341.66	2,500	7,320	0.34	99.5%	99.9%	0.34	1.50	0.01
EUS-15B	DC059	Powder 2	341.66	3,600	7,320	0.49	99.5%	99.9%	0.49	2.16	0.01
EUS-15C	DC060	Powder 2	341.66	3,600	7,320	0.49	99.5%	99.9%	0.49	2.16	0.01
Scale	DC026	Powder 2	341.66	1600	3,237	0.49	99.0%	99.9%	0.50	2.19	0.02
EUS-15F	DC058, DC024	Powder 2	341.66	5400	8,560	0.63	99.5%	99.9%	0.63	2.78	0.01
EUS-15G	DC021, DC057	Powder 2	341.66	1500	1,500	1.00	99.5%	99.9%	1.01	4.40	0.02
EUP-17	DC035, DC045	Powder 2	8.33	1600	4,262	0.38	99.5%	99.9%	0.38	1.65	0.01
EUS-22	DC005	Powder 7	21.606	1000	1,500	0.67	99.5%	99.9%	0.67	2.93	0.01
EUS-23	DC006	Powder 7	45	2000	1,500	1.33	99.5%	99.9%	1.34	5.87	0.03
EUS-4A	DC007	Powder 6	429.3	3,220	750	4.29	99.5%	99.9%	4.31	18.90	0.09
	DC054			30,000	5,500	5.45	99.5%	99.9%	5.48	24.01	0.12
EUS-12 (High Purity Room Powder Handling)	DC014	Powder 8	100	-	-	1.00	99.0%	99.9%	1.01	4.42	0.04
EUS-15D	DC074	Powder 2	341.66	5400	8,560	0.63	99.5%	99.9%	0.63	2.78	0.01
EUS-15E	-- [1]	Powder 2	---	--	--	---	---	---	---	---	---
EUS-15H	DC075	Powder 2	341.66	5400	8,560	0.63	99.5%	99.9%	0.63	2.78	0.01
EUS-15I	DC032	Powder 2	56.94	1500	1,500	1.00	99.5%	99.9%	1.01	4.40	0.02
									Total (tons/yr):	**565.19**	**7.96**

Controlled HAP Emissions												IAC 326 6.5	
Process ID	Dust Collector	Airflow (acfm)	Number of Units	% Cobalt	% Chromium	% Nickel	% Total HAPs**	PTE Cobalt (tons/yr)	PTE Chromium (tons/yr)	PTE Nickel (tons/yr)	Total PTE HAPs (tons/yr)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
EUS-1	DC048	4,000	1	0%	95%	0%	95%	0.00	0.78	0.00	0.78	0.0055	YES
EUS-2	DC015	4,000	1	50%	50%	50%	95%	0.02	0.02	0.02	0.03	0.0002	YES
EUS-7	DC028, DC013	4,000	1	0%	95%	0%	95%	0.00	0.03	0.00	0.03	0.0002	YES
EUP-3	DC063	4,000	1	50%	50%	50%	95%	0.01	0.01	0.01	0.02	0.0001	YES
EUS-3	DC064	4,000	1	50%	50%	50%	95%	0.05	0.05	0.05	0.09	0.0006	YES
EUS-5	DC012, DC013	4,000	1	20%	0%	0%	20%	0.11	0.00	0.00	0.11	0.0037	YES
EUS-8B	DC040	4,000	1	0%	100%	0%	100%	0.00	0.05	0.00	0.05	0.0003	YES
EUS-8A	DC041	4,000	1	0%	100%	0%	100%	0.00	0.15	0.00	0.15	0.0010	YES
EUS-10	DC043, DC044, DC061	4,000	1	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.0005	YES
EUP-11	DC001	4,000	1	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.0192	YES
EUP-11A	DC002	4,000	1	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.0032	YES
EUP-11B	DC046	4,000	1	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.0154	YES
EUS-15A	DC026	4,000	1	50%	50%	50%	95%	0.00	0.00	0.00	0.01	0.0001	YES
EUS-15B	DC059	4,000	1	50%	50%	50%	95%	0.01	0.01	0.01	0.01	0.0001	YES
EUS-15C	DC060	4,000	1	50%	50%	50%	95%	0.01	0.01	0.01	0.01	0.0001	YES
Scale	DC026	4,000	1	50%	50%	50%	95%	0.01	0.01	0.01	0.02	0.0001	YES
EUS-15F	DC058, DC024	4,000	1	50%	50%	50%	95%	0.01	0.01	0.01	0.01	0.0001	YES
EUS-15G	DC021, DC057	4,000	1	50%	50%	50%	95%	0.01	0.01	0.01	0.02	0.0001	YES
EUP-17	DC035, DC045	4,000	1	50%	50%	50%	95%	0.00	0.00	0.00	0.01	0.0001	YES
EUS-22	DC005	4,000	1	0%	44%	5%	45%	0.00	0.01	0.00	0.01	0.0001	YES
EUS-23	DC006	4,000	1	25%	5%	0%	45%	0.01	0.00	0.00	0.01	0.0002	YES
EUS-4A	DC007	4,000	1	0%	75%	20%	95%	0.00	0.07	0.02	0.09	0.0006	YES
	DC054	4,000		0%	75%	20%	95%	0.00	0.09	0.02	0.11	0.0008	YES
EUS-12 (High Purity Room Powder Handling)	DC014	4,000	1	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.0003	YES
EUS-15D	DC074	4,000	1	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.0001	YES
EUS-15E	-- [1]	4,000	1	50%	50%	50%	95%	---	---	---	---	---	---
EUS-15H	DC075	4,000	1	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.0001	YES
EUS-15I	DC032	4,000	1	50%	50%	50%	95%	0.01	0.01	0.01	0.02	0.0001	YES
			27				**Total (tons/yr):**	**0.25**	**1.32**	**0.18**	**1.61**		

Notes:

*Total HAPs were determined by subtracting the lower range % of the non-HAP materials in the MSDS from 100%.

[1] There are five screeners that are not hooked to conventional dust collectors. These units are enclosed and used to sort/segregate powder. Any emissions from this unit would be associated with the other specialty powders manufacturing operations.

This source is only subject to the pound/hour limitations. The ton/year "limits" are for calculation purposes only and are not federally enforceable limitations.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

All dust collectors have been determined to be integral.

Methodology:

Unlimited PTE for PM is calculated for 326 IAC 2-2 (PSD) purposes only. The dust collectors are integral to the processes for 326 IAC 2-7 (Part 70).

HAP PTE is based on controlled emissions because the dust collectors are integral to the processes and these HAPs are not specifically regulated by 326 IAC 2-2 (PSD).

Uncontrolled Particulate Emissions (tons/yr) = Dust Collected per Hour (lbs/hr) /(Dust Collector Control Efficiency) x (8,760 hrs/yr) / (2,000 lbs/ton)

PTE Particulate (tons/yr) = Uncontrolled Particulate Emissions (tons/yr) x (1- (Dust Collector Control Eff))

PTE HAP (tons/yr) = PTE Particulate (tons/yr) x HAP Content (%)

HAP Content is based on worst-case coatings for each powder type.

Appendix A: Emissions Summary
Titanium Powder Processes 1 and 2

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Titanium Process Emissions

Number of Processes =	**2**	
Amount to wet collector =	8.00	lbs/hr
Chromium Content =	2.70%	of particulates
Control Efficiency =	98.00%	

Potential Emissions Before Control

Uncontrolled Particulate Emissions (lb/hr) =	8.00	lbs/hr
Uncontrolled Particulate Emissions (ton/yr) =	35.04	tons/yr
Uncontrolled Chromium Emissions (ton/yr) =	0.95	tons/yr

Potential Emissions After Control

Controlled Particulate Emissions (lb/hr) =	0.16	lbs/hr
Controlled Particulate Emissions (ton/yr) =	0.70	tons/yr
Controlled Chromium Emissions (ton/yr) =	0.02	tons/yr

PSD Limits (PM, PM10, and PM2.5)

Limited Particulate after control (lb/hr) =	0.80	lbs/hr
Limited Particulate after control (ton/yr) =	3.50	tons/yr

FESOP Limits (PM10 and PM2.5)

Limited Particulate after control (lb/hr) =	0.80	lbs/hr
Limited Particulate after control (ton/yr) =	3.50	tons/yr

326 IAC 6.5			
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
Rotoclone Wet Collector	4,000	0.00	YES

Methodology

Amount to wet collector provided by source.
Uncontrolled Particulate Emissions (lb/hr) = Amount to wet collector (lbs/hr)
Uncontrolled Particulate Emissions (tons/yr) = Uncontrolled Emissions (lb/hr) * 8,760 (hr/yr) * 1/2,000 (ton/lbs)
Uncontrolled Chromium Emissions (ton/yr) = Uncontrolled Partiuclate Emissions (tons/yr) * % Chromium
Controlled Particulate Emissions (lb/hr) = Uncontrolled Particulate Emissions (lb/hr) * (1 - %CE)
Controlled Particulate Emissions (ton/yr) = Controlled Particulate Emissions (lb/hr) * 8,760 * 1/2,000 (ton/lbs)
Controlled Chromium Emissions (ton/yr) = Controlled Partiuclate Emissions (tons/yr) * % Chromium
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/h

Appendix A: Emissions Summary
Dry Ice Blasting - Operation 2 Process 3 (1415 Main Street)

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Dry Ice / Air Blasting (O2P3-EUG3)			
Residual Powder (lb/part)	**Maximum Production Rate (parts/week)**	**Uncontrolled PM Emissions (tons/yr)**	**Uncontrolled PM10/PM2.5 Emissions (tons/yr)**
0.5	150	1.95	1.95

METHODOLOGY:

Residual powder is dislodged from parts using a dry ice blasting cabinet.

Uncontrolled PM Emissions (ton/year) = Residual Powder (lb/part) * Maximum Production Rate (parts/week) * 52 weeks/year * (1 ton / 2,000 lbs)

Appendix A: Emissions Summary
Wet Grit Blasting

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Emission Factors for Abrasives

	Emission Factor	
Abrasive	lb PM / lb abrasive	lb PM10 / lb PM
Sand	0.041	0.70
Grit	0.010	0.70
Steel Shot	0.004	0.86
Other	0.010	0.70

Location	Grit Blaster ID	Dust Collector ID	Grit Type	Max Throughput (lbs/hr)	PM Emission Factor (lbs/lb grit)	PM10/ PM2.5 Emission Factor (lbs/lb grit)	PM Mitigated by Wet Blasting[1]	Control Efficiency	Potential PM Emissions (tons/yr)	Potential PM10/ PM2.5 Emissions (tons/yr)	Controlled Potential PM Emissions (tons/yr)	Controlled Potential PM10/ PM2.5 Emissions (tons/yr)
1415 Main Street	EU14C*	C14C	Aluminum Oxide	600	---	---	---	---	---	---	---	---
	EU15C	C15C	Aluminum Oxide	600	0.010	0.007	50%	99%	13.14	9.20	0.13	0.09
							Total PTE (tons/yr):		**13.14**	**9.20**		
								Total Controlled PTE (tons/yr):			**0.13**	**0.09**

							PSD Minor Limits		**FESOP Limits**	
Location	Number of Blasters	Grit Blaster ID	Dust Collector ID	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5	PSD PM, PM10, & PM2.5 Limit (lb/hr)	PSD PM, PM10, & PM2.5 Limit (ton/yr)	FESOP PM10 & PM2.5 Limit (lb/hr)	FESOP PM10 & PM2.5 Limit (ton/yr)
1415 Main Street	1	EU14C*	C14C	---	---	---	---	---	---	---
	1	EU15C	C15C	4,000	0.0009	YES	0.50	2.19	0.11	0.48
	2						**Total PTE (tons/yr):**	2.19		0.48

Methodology

Emission Factors from STAPPA/ALAPCO "Air Quality Permits", Vol. I, Section 3 "Abrasive Blasting" (1991 edition)

Potential PTE (ton/yr) = Max Throughput (lb/hr) x Emission Factor (lbs/lb grit) x (1- Control Efficiency) x (8,760 hr/yr) / (2,000 lbs/ton)

[1] Per STAPPA/ALAPCO

*No emissions from this wet grit blasting unit was determined in FESOP F097-40276-00060, issued on April 1, 2014

Appendix A: Emissions Summary
Polishing Operation: Powder Handling Operation
(Lens Polish Mixing, Suspension Room Custom Blend Loading, Suspension Room Powder Packaging, Powder Loading)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Total Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/ PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	Uncontrolled PM Emissions (lbs/hr)	Uncontrolled PM10/PM2.5 Emissions (lbs/hr)	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)
9152.86	0.0069	0.0033	0.14	0.07	0.03	0.02	99.5%	0.00	0.00

326 IAC 6.5			
Dust Collector	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
DC030 and DC032	4,000	0.0000	YES

Information from Praxair:

-The throughput is a combined throughput for Lens Polish Mixing Tank Loading, Suspension Room Custom Blend Loading, Suspension Room Powder Packaging, and Premix. There are 4 mixing tanks in Lens Polish, but the throughput is limited to two mixing tanks, based on a bottleneck created by the bottle filling line and the pail filling line. The powder handling operations are controlled by dust collectors with a control efficiency of 99.5%. There are no HAPs in the dry materials used in the Polishing Department.

METHODOLOGY:

*Handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer

Uncontrolled Emissions (tons/yr) = Powder Throughput (lbs/hr) / (2,000 lbs/ton) * EF (lbs/ton) * (8,760 hours/year) / (2,000 lbs/ton)

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
Polishing Operation: Polish Mixing Operation
(Lens Polish Mixing and Filing & Suspension Room Mixing Operation)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Material	Weight % Volatile (H20 & Organics)	Density (Lb/Gal)	Weight % Water & Exempt Solvents	Weight % Organics	Maximum Hourly Throughput (gal/hr)	Pounds VOC per gallon of coating	Emission Rate (% Material Emitted)	VOC Potential (ton/yr)
Lens Polish Mixing Tank 1:								
Material 1	66.00%	8.35	65.9%	0.10%	0.36	0.008	0.89%	0.00
Material 2	80.00%	10.01	79.0%	1.00%	6.69	0.10	0.89%	0.03
Material 3	100.00%	8.68	0.0%	100.00%	24.77	8.68	0.89%	8.40
							Potential Emissions for Lens Polish Mixing Tank 1 (tons/yr)	8.43
Lens Polish Mixing Tank 2:								
Material 1	66.00%	8.35	65.9%	0.10%	0.36	0.008	0.89%	0.00
Material 2	80.00%	10.01	79.0%	1.00%	6.69	0.10	0.89%	0.03
Material 3	100.00%	8.68	0.0%	100.00%	24.77	8.68	0.89%	8.40
							Potential Emissions for Lens Polish Mixing Tank 2 (tons/yr)	8.43
Suspension Room Mixing Tank:								
Material 3	100.00%	8.68	0.0%	100.00%	1.99	8.68	0.89%	0.67
Material 4	100.00%	8.18	1.0%	99.00%	0.12	8.10	0.89%	0.04
							Potential Emissions for Suspension Room Mixing Tank (tons/yr)	0.71
							Total Potential Emissions (tons/yr)	**17.56**

Description of Process:

Lens Polish and Suspension Room mixing operations are used to mix various lens polishes. The Suspension Room Mixing operation is a small-scale mixing operation, and the composition of the final product is different than the Lens Polish area. There are other components of the mixtures, but they do not contain VOCs or HAPs.

Max Throughput Description:

-The batch compositions were provided by the facility.

-Maximum gallons of material is based on the usage of each chemical per batch.

-There are 4 mixing tanks in Lens Polish, but the throughput is limited to two mixing tanks, based on a bottleneck created by the bottle filling line and the pail filling line.

-There are 2 suspension room batches every 8 hours (one every 4 hours).

METHODOLOGY

Based on a material balance of the raw material in and product out, the 99.03% of the raw materials remain in the final product. Therefore, 0.97% is lost. Part of the loss is due to waste material remaining on the tank due to surface tension, and the other portion is due to air emissions. The waste remaining in the mixing tank was estimated using the "Instructions for Completing Part II of EPA Form R: Summary of Residue Quantities," and a median point was chosen between water and motor oil (water = 4 cp, motor oil = 94 cp, Material 3 = 46 cp) for dish-bottom steel tanks. The weight % of the drum's capacity that would remain on the tank and be wasted is 0.0785% of the drum's capacity, based on a median between 0.034% for water and 0.191% for motor oil. The weight % of 0.0785% was subtracted from 0.97% to determine that 0.892% of the contents are emitted.

Weight % Water & Exempt Solvents = Weight % Volatile (H20 & Organics) - Weight % Organics

Material compositions are from MSDSs.

Pounds of VOC per Gallon Material = Density (lb/gal) x Weight % Organics

VOC Potential (tons/yr) = Pounds of VOC per Gallon Material (lb/gal) x Max Gal of Material per Batch (gal/hr) / Batch Time (hrs/batch) x Emission Rate (%) x (8,760 hrs/yr) x (1 ton/2000 lbs)

Appendix A: Emissions Summary
Building 1415 - Bader Grinders

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Unit ID	Control Efficiency	Outlet Grain Loading (grains/dscf)	Air Flow Rate (cfm)	PM/PM10/PM2.5 before Controls (lbs/hr)	PM/PM10/PM2.5 before Controls (tons/yr)	PM/PM10/PM2.5 after Controls (lbs/hr)	PM/PM10/PM2.5 after Controls (tons/yr)
Bader Grinder #2	99.70%	0.003	4000	34.29	150.17	0.10	0.45
Bader Grinder #3	99.70%	0.003	4000	34.29	150.17	0.10	0.45
Bader Grinder #4	99.70%	0.003	4000	34.29	150.17	0.10	0.45
				Total:	**450.51**	**Total:**	**1.35**

					PSD Minor Limits		FESOP Limits	
Emissions Units	Control Unit ID	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5	PSD PM, PM10, & PM2.5 Limit (lb/hr)	PSD PM, PM10, & PM2.5 Limit (ton/yr)	FESOP PM10, & PM2.5 Limit (lb/hr)	FESOP PM10, & PM2.5 Limit (ton/yr)
Bader Grinder #2	C03B	4,000	0.00	YES	0.10	0.45	0.10	0.45
Bader Grinder #3	C07B	4,000	0.00	YES	0.10	0.45	0.10	0.45
Bader Grinder #4	C08B	4,000	0.00	YES	0.10	0.45	0.10	0.45
				Total:	---	**1.35**	---	**1.35**

Methodology

PM10 and PM2.5 emissions assumed equal to PM emissions.

PM/PM10/PM2.5 after Controls (lbs/hr) = [Outlet Grain Loading (grains/dscf)] * [Air Flow Rate (cfm)] * [60 min/hr] * [lb/7000 grains]

PM/PM10/PM2.5 after Integral Controls (tons/yr) = [PM/PM10/PM2.5 after Controls (lbs/hr)] * [8760 hr/yr] * [ton/2000 lb]

PM/PM10/PM2.5 before Integral Controls (lbs/hr) = [PM/PM10/PM2.5 after Controls (lbs/hr)] / [1 - control efficiency]

PM/PM10/PM2.5 before Integral Controls (tons/yr) = [PM/PM10/PM2.5 after Controls (tons/yr)] / [1 - control efficiency]

This source is only subject to the pound/hour limitations. The ton/year "limits" are for calculation purposes only and are not federally enforceable limitations.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
Surface Coating at 1245 Main Street and 1415 Main Street

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

PM, PM10, and PM2.5 Emissions												PSD Limits***		FESOP Limits		6.5 Applicability		
Location	Number of Surface Coaters	Surface Coater ID	Control Device ID	Max Throughput (lbs/hr)	Amount Collected (lbs/hr)	Control Efficiency	HEPA Filter Control Efficiency	Uncontrolled Potential PM Emissions (lbs/hr)	Uncontrolled Potential PM Emissions (tons/yr)	Controlled Potential PM Emissions (tons/yr)	PSD PM, PM10, & PM2.5 Limit (lb/hr)	PSD PM, PM10, & PM2.5 Limit (ton/yr)	FESOP PM10 & PM2.5 Limit (lb/hr)	FESOP PM10 & PM2.5 Limit (ton/yr)	Density of Coating^ (lbs/gal)	Gallons of Coating Per Day (gal/day)	Applicable
Detonation Surface Coating Stations subject to NESHAP 6W																	
1245 Main Street	1	EU01A	C01A	32.16	21.7	99.97%	99.99%	21.71	95.07	2.85E-06	---	---	---	---	100	7.72	YES
	1	EU02A	C02A	32.16	21.7	99.97%	99.99%	21.71	95.07	2.85E-06	---	---	---	---	100	7.72	YES
	1	EU16A	C16A	32.16	21.7	99.97%	99.99%	21.71	95.07	2.85E-06	---	---	---	---	100	7.72	YES
	1	EU17A	C17A	32.16	21.7	99.97%	99.99%	21.71	95.07	2.85E-06	---	---	---	---	100	7.72	YES
	1	EU18A	C18A	32.16	21.7	99.97%	99.99%	21.71	95.07	2.85E-06	---	---	---	---	100	7.72	YES
	1	EU06A	C06A	32.16	21.7	99.97%	99.99%	21.71	95.07	2.85E-06	---	---	---	---	100	7.72	YES
Low Pressure Plasma Spray Coating Station subject to NESHAP 6W																	
1415 Main Street	1	EU01S	C01S**	44.09	0.00	99.97%	---	0.00	0.01	3.91E-06	---	---	---	---	100	10.58	YES
High Velocity Oxy Fuel Coating Stations subject to NESHAP 6W																	
1245 Main Street	1	EU19A	C19A	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	---	---	---	---	100	3.86	NO
	1	EU20A	C20A**	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	0.23	1.00	0.15	0.67	100	3.86	NO
Plasma Surface Coating Stations subject to NESHAP 6W																	
1245 Main Street	1	EU05B	C05D	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	---	---	---	---	100	3.86	NO
	1	EU06B	C06D	8.04	5.42	99.97%	99.99%	5.42	23.75	7.12E-07	---	---	---	---	100	1.93	NO
	1	EU10B	C10D	8.04	5.42	99.97%	99.99%	5.42	23.75	7.12E-07	---	---	---	---	100	1.93	NO
1415 Main Street	1	EU01B	C01B	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	---	---	---	---	100	3.86	NO
	1	EU02B	C02B	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	---	---	---	---	100	3.86	NO
	1	EU05B	C05B	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	---	---	---	---	100	3.86	NO
	1	EU06B	C06B	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	---	---	---	---	100	3.86	NO
	1	EU07B	C07B	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	3.00	13.14	3.00	13.14	100	3.86	NO
			Baffles**	16.08	9.00	80.00%	0.00%	11.25	49.28	9.86							
	1	EU08B	C08B	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	---	---	---	---	100	3.86	NO
	1	EU09B	C09B	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	---	---	---	---	100	3.86	NO
	1	EU11B	C11B	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	---	---	---	---	100	3.86	NO
High Velocity Oxy Fuel Coating Stations NOT subject to NESHAP 6W																	
1245 Main Street	1	EU04A	Baffles	16.08	8.68	80%	0%	10.85	47.52	9.50	---	---	---	---	100	3.86	NO
Plasma Surface Coating Stations NOT subject to NESHAP 6W																	
1245 Main Street	1	EU03B	Baffles	8.04	4.34	80%	0%	5.43	23.76	4.75	---	---	---	---	100	1.93	NO
1415 Main Street	1	EU12B	C12B	16.08	9.00	99.97%	99.99%	9.00	39.43	1.18E-06	---	---	---	---	100	3.86	NO
1500 Polco Street	1	EU04B	No Control**	1.00	0.00	40%	0.00%	0.60	2.63	---	---	---	---	---	100	0.24	NO
	24						**Total PTE (tons/yr):**		**1174.89**	26.74							
							Total PM, PM10, and PM2.5 Emissions After Integral Control:		**105.60**								
										Total PM Emissions After PSD Limits:		**31.04**					
										Total PM10 and PM2.5 Emissions After FESOP Limits:			**30.71**				

NOTES

**The control devices are not integral for these units. Therefore, PTE is considered before controls.

Cubicles EU20A, EU13B, and EU07B have FESOP Limits. See *Limit Compliance* sheet for detailed information.

^The coating materials used are 100% solids, and are comprised of metallic and ceramic compounds. This results in high coating densities.

Appendix A: Emissions Summary
Surface Coating at 1245 Main Street and 1415 Main Street

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

HAP Emissions								Controlled HAPs					Uncontrolled HAPs				
Location	Surface Coater ID	Control Device ID	Titanium Tetrachloride Content (%)	Nickel Content %	Chromium Content (%)	Cobalt Content (%)	Total HAP Content (%)	Controlled Titanium Tetrachloride Emissions (tons/yr)	Controlled Nickel Emissions (tons/yr)	Controlled Chromium Emissions (tons/yr)	Controlled Cobalt Emissions (tons/yr)	Controlled Total HAP Emissions (tons/yr)	Uncontrolled Titanium Tetrachloride Emissions (tons/yr)	Uncontrolled Nickel Emissions (tons/yr)	Uncontrolled Chromium Emissions (tons/yr)	Uncontrolled Cobalt Emissions (tons/yr)	Uncontrolled Total HAP Emissions (tons/yr)
Detonation Surface Coating Stations subject to NESHAP 6W																	
1245 Main Street	EU01A	C01A	0%	50%	75%	0%	95%	0.00	1.43E-06	2.14E-06	0.00	0.00	0.00	47.54	71.31	0.00	90.32
	EU02A	C02A	0%	50%	75%	0%	95%	0.00	1.43E-06	2.14E-06	0.00	0.00	0.00	47.54	71.31	0.00	90.32
	EU16A	C16A	0%	50%	75%	0%	95%	0.00	1.43E-06	2.14E-06	0.00	0.00	0.00	47.54	71.31	0.00	90.32
	EU17A	C17A	0%	50%	75%	0%	95%	0.00	1.43E-06	2.14E-06	0.00	0.00	0.00	47.54	71.31	0.00	90.32
	EU18A	C18A	0%	50%	75%	0%	95%	0.00	1.43E-06	2.14E-06	0.00	0.00	0.00	47.54	71.31	0.00	90.32
	EU06A	C06A	0%	50%	75%	0%	95%	0.00	1.43E-06	2.14E-06	0.00	0.00	0.00	47.54	71.31	0.00	90.32
Low Pressure Plasma Spray Coating Station subject to NESHAP 6W																	
1415 Main Street	EU01S	C01S**	0%	75%	50%	0%	98%	---	---	---	---	---	0.00	0.01	0.01	0.00	0.01
High Velocity Oxy Fuel Coating subject to NESHAP 6W																	
1245 Main Street	EU19A	C19A	0%	0%	0%	20%	20%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.89	7.89
	EU20A	C20A**	0%	50%	75%	0%	95%	0.00	5.91E-07	8.87E-07	0.00	1.12E-06	0.00	19.72	29.57	0.00	37.46
Plasma Surface Coating Stations subject to NESHAP 6W																	
1245 Main Street	EU05B	C05D	0%	0%	20%	75%	79%	0.00	0.00E+00	2.37E-07	0.00	0.00	0.00	0.00	4.75	17.81	18.76
	EU06B	C06D	0%	0%	20%	75%	79%	0.00	0.00	1.42E-07	0.00	0.00	0.00	0.00	4.75	17.81	18.76
	EU10B	C10D	0%	0%	20%	75%	79%	0.00	0.00	1.42E-07	0.00	0.00	0.00	0.00	4.75	17.81	18.76
1415 Main Street	EU01B	C01B	0%	50%	50%	50%	95%	0.00	5.91E-07	5.91E-07	0.00	0.00	0.00	19.72	19.72	19.72	37.46
	EU02B	C02B	0%	50%	50%	50%	95%	0.00	5.91E-07	5.91E-07	0.00	0.00	0.00	19.72	19.72	19.72	37.46
	EU05B	C05B	0%	50%	50%	50%	95%	0.00	5.91E-07	5.91E-07	0.00	0.00	0.00	19.72	19.72	19.72	37.46
	EU06B	C06B	0%	50%	50%	50%	95%	0.00	5.91E-07	5.91E-07	0.00	0.00	0.00	19.72	19.72	19.72	37.46
	EU07B	C07B	0%	50%	50%	50%	95%	0.00	5.91E-07	5.91E-07	0.00	0.00	0.00	19.72	19.72	19.72	37.46
		Baffles**	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	EU08B	C08B	0%	50%	50%	50%	95%	0.00	5.91E-07	5.91E-07	0.00	0.00	0.00	19.72	19.72	19.72	37.46
	EU09B	C09B	0%	50%	50%	50%	95%	0.00	5.91E-07	5.91E-07	0.00	0.00	0.00	19.72	19.72	19.72	37.46
	EU11B	C11B	0%	50%	50%	50%	95%	0.00	5.91E-07	5.91E-07	0.00	0.00	0.00	19.72	19.72	19.72	37.46
High Velocity Oxy Fuel Coating Stations NOT subject to NESHAP 6W																	
1245 Main Street	EU04A	Baffles	0%	0%	0%	20%	20%	0.00	0.00	0.00	1.90	1.90	0.00	0.00	0.00	9.50	9.50
Plasma Surface Coating Stations NOT subject to NESHAP 6W																	
1245 Main Street	EU03B	Baffles	0%	0%	0%	20%	20%	0.00	0.00	0.00	0.95	0.95	0.00	0.00	0.00	4.75	4.75
1415 Main Street	EU12B	C12B	0%	0%	0%	0%	0%	0.00	0.00E+00	0.00E+00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1500 Polco Street	EU04B****	No Control	0%	0%	0%	0%	0%	---	---	---	---	---	0.00	0.00	0.00	0.00	0.00
HAPs Emissions After Integral Control and Before FESOP Limits:								**0.00**	**39.44**	**49.30**	**22.57**	**77.78**					
HAPs Emissions After Integral Control and FESOP Limits:								**0.00**	**0.01**	**0.01**	**2.85**	**2.86**					

Methodology:

Maximum Throughput, Amount Collected, and Control Efficiencies are from the source.

Uncontrolled Potential Particulate Emissions (tons/yr) = [Amount Collected (lbs/hr) / Dust Collector Control Efficiency (%)] x (8,760 hrs/year) / (2,000 lbs/hr)

Controlled Potential Particulate Emissions (tons/yr) = Uncontrolled Potential Emissions (tons/yr) x [(1-Dust Collector Control Efficiency (%)) x (1 - HEPA Filter Efficiency (%))]*

*If no HEPA Filter, use [1 - Dust Collector Control Efficiency(%)]

Controlled HAP Emissions (tons/yr) = Controlled Potential Particulate Emissions (tons/yr) x HAP Content (%)

HAP Content is based on worst-case coatings.

All HAPs are from particulate matter.

Spray Type:	Coating:
D-Gun	CRC-104
HVOF	WC-559
1245 Plasma	CO-111
1245 Plasma-EU03B	WC-106
1415 Plasma	CO-159
LPPS	NI-535-2
1500 Plasma*****	YO-118
1500 Plasma*****	151.065 Ta
1500 Plasma*****	ZRO-113

*Note that the coating booths with baffles do not use coatings containing chromium or nickel HAPs per 40 CFR Part 63, Subpart WWWWWW.

**Total HAPs were determined by subtracting the lower range % of the non-HAP materials in the MSDS from 100%.

***The HVOF, D-Gun, and Plasma coating operations involve gas explosions. In the HVOF and and Plasma coaters, hydrogen gas is exploded. In the D-Gun coaters, acetylene is exploded. There are no HAPs or criteria pollutants generated by the exploded gas. Kerosene is used in EU08B and EU19A. Calculations are provided in a separate spreadsheet for kerosene combustion.

****Cubicle EU04B is only operated for production purposes sparingly. A conservative estimate of the max throughput was calculated with a throughput of 219 lbs/month (given by Praxair) and converting to 0.30 lbs/day. Then, 0.30lbs/day was multiplied by ~ 3 to achieve a conservative throughput estimate of 1 lbs/hour. This cubicle is operated without an emission control device. Therefore, the control efficiency is substituted with a transfer efficiency of 40% given by Praxair.

*****There are 3 different coatings used in the EU04B cubicle. Per the SDSs, the plasma coatings used in EU04B contain no HAPs.

Appendix A: Emissions Summary
Kerosene Combustion Only
MM BTU/HR <100

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Location	Equipment Name	gal/month
1415	Kerosene used in EU08B	26
1245	Kerosene used in EU19A	26
	Total Capacity (gal/month)	**52**
	Total Capacity (kgal/month)	**0.052**
	Heating Value (MMBtu/gal)	**0.135**
	Total Capacity (MMBtu/month)	**7.0**

S = Weight % Sulfur

0.5

	Pollutant						
	PM*	**PM10***	**PM2.5**	**SO_2**	**NOx**	**VOC**	**CO**
Emission Factor in lb/kgal	2.0	1.3	1.3	71.0 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	6.24E-04	4.06E-04	4.06E-04	2.22E-02	6.24E-03	1.06E-04	1.56E-03

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

	HAPs - Metals				
	Arsenic	Beryllium	Cadmium	Chromium	Lead
Emission Factor in lb/MMBtu	4.0E-06	3.0E-06	3.0E-06	3.0E-06	9.0E-06
Potential Emission in tons/yr	1.68E-07	1.26E-07	1.26E-07	1.26E-07	3.79E-07

	HAPs - Metals, continued			
	Mercury	Manganese	Nickel	Selenium
Emission Factor in lb/MMBtu	3.0E-06	6.0E-06	3.0E-06	1.5E-05
Potential Emission in tons/yr	1.26E-07	2.53E-07	1.26E-07	6.32E-07

The five highest organic and metal HAPs emission factors are provided above. **Total HAPs:** **2.06E-06**

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

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
34.59	297.09

	Pollutant						
	PM*	**PM10***	**PM2.5**	**SO_2**	**NOx**	**VOC**	**CO**
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100.0	5.5	84.0
					**see below		
Potential Emission in tons/yr	0.28	1.13	1.13	0.09	14.85	0.82	12.48

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

	HAPs - Organics					
	Benzene	**Dichlorobenzene**	**Formaldehyde**	**Hexane**	**Toluene**	
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	3.12E-04	1.78E-04	1.11E-02	2.67E-01	5.05E-04	**Total HAPs**
						0.28

	HAPs - Metals				
	Lead	**Cadmium**	**Chromium**	**Manganese**	**Nickel**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	7.43E-05	1.63E-04	2.08E-04	5.64E-05	3.12E-04

The five highest organic and metal HAPs emission factors are provided above.

Emission Unit ID	Maximum Capacity (MMBtu/hr)
1245 Main Street	
Heaters for the Kolene tank	0.15
	0.15
Kiln for LSR1	0.15
1415 Main Street	
RTU-A2	0.36
RTU-A3	0.36
RTU-F	0.115
RTU-C1	0.25
RTU-E1	0.525
RTU-B2	0.525
RTU-A5	0.525
RTU-A6	0.525
ACPR4-1	0.133
ACPR4-2	0.115
RTU-00	0.587
ACPR1-1	0.117
ACPR1-2	0.117
RTU-B1	0.3
RTU-A-1	0.3
RTU-A7	0.699
RTU-E1	0.18
RTU-D2	0.54
RTU-C1	0.27
1550 Polco Street	
EU001	3
EU002	3
EU003	3
EU004	3
EU005	3
EU006	3
EU007	3
EU008	3
EU009	3
EUP-11	0.3
EUP-11A	0.3
Total	**34.59**

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Supp
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

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

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Emission Unit ID	Maximum Capacity (MMBtu/hr)
1500 Polco Street Powerhouse	
EU002	8.369
EU003	8.369
EU004	14.645
1550 Polco Street	
B-001	1.26
B-002	0.150
B-003	0.45
B-004	0.45
Total	**33.69**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
33.69	289.36

	Pollutant						
	PM*	**PM10***	**PM2.5**	**SO_2**	**NOx**	**VOC**	**CO**
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.27	1.10	1.10	0.09	14.47	0.80	12.15

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

	HAPs - Organics					
	Benzene	**Dichlorobenzene**	**Formaldehyde**	**Hexane**	**Toluene**	
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	3.04E-04	1.74E-04	1.09E-02	2.60E-01	4.92E-04	**Total HAPs**
						0.27

	HAPs - Metals				
	Lead	**Cadmium**	**Chromium**	**Manganese**	**Nickel**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	7.23E-05	1.59E-04	2.03E-04	5.50E-05	3.04E-04

The five highest organic and metal HAPs emission factors are provided above.

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Su
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

Appendix A: Emissions Summary
Natural Gas Combustion Only
This sheet is used only to calculate the PTE of the one (1) new natural gas-fired boiler (B-002)
MM BTU/HR <100

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Emission Unit ID	Maximum Capacity (MMBtu/hr)
1550 Polco Street	
B-002	0.150
Total	**0.15**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
0.15	1.29

	Pollutant						
	PM*	**PM10***	**PM2.5**	**SO_2**	**NOx**	**VOC**	**CO**
Emission Factor in lb/MMCF	1.9	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.00	0.00	0.00	0.00	0.06	0.00	0.05

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

	HAPs - Organics					
	Benzene	**Dichlorobenzene**	**Formaldehyde**	**Hexane**	**Toluene**	
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03	
Potential Emission in tons/yr	1.35E-06	7.73E-07	4.83E-05	1.16E-03	2.19E-06	**Total HAPs**
						0.00

	HAPs - Metals				
	Lead	**Cadmium**	**Chromium**	**Manganese**	**Nickel**
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	3.22E-07	7.09E-07	9.02E-07	2.45E-07	1.35E-06

The five highest organic and metal HAPs emission factors are provided above.

Methodology
All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas
Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,020 MMBtu
Emission Factors from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, and 1.4-3, SCC #1-01-006-01, 1-01-006-04 (AP-42 Su
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
The N2O Emission Factor for uncontrolled is 2.2. The N2O Emission Factor for low Nox burner is 0.64.
Emission Factors are from AP 42, Table 1.4-2 SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

Appendix A: Emissions Summary
Building 1550 Specialty Ingot Manufacturing Process - Material Transfer Point

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Powder Throughput (lb/hr)	PM EF (lb/ton)	PM10/PM2.5 EF (lb/ton)	Uncontrolled PM PTE (tons/yr)	Uncontrolled PM10/PM2.5 PTE (tons/yr)	Control Efficiency (%)	Controlled PM PTE (tons/yr)	Controlled PM10/PM2.5 PTE (tons/yr)
275.00	0.0069	0.0033	0.0042	0.0020	99.90%	4.16E-06	4.16E-03

METHODOLOGY:

Raw material handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer
Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) * 1/2,000 (ton/lb) * Emission Factor (lbs/ton) * (8,760 hrs/yr) / (2,000 lbs/ton)
Controlled Emissions (tons/yr) = Uncontrolled Emissions (tons/yr) * (1-Control Efficiency)

Appendix A: Emissions Summary
Building 1550 Specialty Ingot Manufacturing Process - Ingot Machining Lathe

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Location	Process:	Max Throughput Rate*		Particulates				HAPs	
				Emission Factor **		Potential to Emit		Lead Content (%) ***	PTE of Lead (tons/year)
		(lbs/hr)	(tons iron/hr)	PM (lbs/ton)	PM10/PM2.5 (lbs/ton)	PM (tons/yr)	$PM_{10}/PM_{2.5}$ (tons/yr)		
1550 Polco Street	Ingot Machining Lathe	100	0.05	0.01	0.0045	2.19E-01	2.19E-03	7.70%	1.69E-02
			Total			**2.19E-01**	**2.19E-03**		**1.69E-02**

Notes

** Emission factors are from FIRE Volume II, Chapter 14, Grey Stone Iron Foundries - SCC 3-04-003-60 (July, 2001)

*** Lead Emission are based on the lab test conducted by Precision Process Division in Walkerton, Indiana

****In the Building 1550 Crucible Cutting room, the product cut is graphite, not metal. Therefore, there are no HAP emissions.

In the absence of valid PM2.5 Emission Factors, it is assumed that PM2.5 emissions = PM10 emissions.

Methodology

PTE PM/PM-10 (tons/year) = Max. Thorughput Rate (tons/hour) * Emission Factor (lbs/ton) * 8760 hours/year * 1 ton/2000 lbs

PTE Lead (tons/year) = Max. Throughput Rate (tons/hour) * PM Emission Factor (lbs/ton) * 8760 hours/year * 1 ton/2000 lbs * Lead Content (%)

Appendix A: Emissions Summary
Buiolding 1550: Coating Mixing Operation - Sermatech Process

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Mixing Type	Max Throughput (lbs/hr)	Density (lbs/gal)	Max Throughput (gal/hr)	Solid Weight %	Particulate EF (lbs/ton pigment)*	VOC Content (lbs/gal)	VOC Emission Rate	Chromium Compound Content (%)
Water-Based Paint Mixing	60.00	13.77	4.36	35%	20	0.00	2%	6%
Solvent-Based Paint Mixing	24.00	10.01	2.40	35%	20	6.33	2%	0%

Scrubber PM Control Efficiency (%)	Uncontrolled Particulate PTE (tons/yr)	Uncontrolled VOC PTE (tons/yr)	Uncontrolled Chromium PTE (tons/yr)	Controlled Particulate PTE (tons/yr)	Controlled Chromium PTE (tons/yr)	Pounds of VOC per Day
99%	0.92	0.00	0.06	0.01	0.00	---
0%	0.37	1.33	0.00	0.37	0.00	---
Total (tons/yr)	**1.29**	**1.33**	**0.06**	**0.38**	**0.00**	**7.28**

Info from Praxair:
Maximum Throughput was provided by the facility.

METHODOLOGY
The VOC and HAP content are based on the MSDS of the worst-case final product, so it is multiplied times the powder and liquid material throughputs, combined.
The VOC emission rate comes from AP-42, 6.4.1.
The PM emission factors come from AP-42, Table 6.4-1. The PM Emission factor is based on pigment throughput, so it is only multiplied times the solid content.
Two scrubbers are used to control powder from the water-based paint mixing process.
The worst-case water-based paint is Sermatel 962, based on HAP content.
The worst-case solvent-based paint is Sermatel 1140, based on VOC content.

Uncontrolled Particulate PTE (tons/yr) = [Max Throughput (lbs/hr) x Solid Weight % / (2,000 lbs/ton)] x Particulate EF (lbs/ton pigment) x (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled VOC PTE (tons/yr) = Max Throughput (gal/hr) x VOC Content (lbs/gal) x (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled Chromium PTE (tons/yr) = Uncontrolled Particulate PTE (tons/yr) x Chromium Compound Content (%)
Controlled PTE (tons/yr) = Uncontrolled PTE (tons/yr) x [1 - Scrubber PM Control Efficiency (%)]

Appendix A: Emissions Summary
Building 1415: Operation 1, Process 1 (O1P1)

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Waste Particulate Collected (lbs/yr)	Hours Operated per Year	Dust Collector Control Efficiency*	PTE Particulate (lbs/hr)	PTE Particulate (tons/yr)	Airflow (acfm)	Controlled PM Emissions (gr/ft3)	Able to Comply with 326 IAC 6.5
39795	7392	99.7%	0.02	0.07	4,000	0.00	YES

Methodology:

"Waste Particulate Collected" and "Hours Operated per Year" were provided by Praxair based on waste and operating records. The waste number excludes large chunks that were cleaned out of the equipment.

PTE Particulate During Cleaning (lbs/hr) = (Waste Particulate Collected (lbs/hr))/ Dust Collector Control Efficiency (%) / Hours Operated per Year x (1-Dust Collector Control Efficiency (%))

PTE Particulate from Dust Collector (tons/yr) = PTE Particulate During Cleaning (lbs/hr) x (8,760 hrs/yr) / (2,000 lbs/ton)

*Dust Collectors are integral control devices.

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
Building 1415 - Operation 2, Process 1 (O2P1)

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Unit	Maximum Current (Amp)*	PM Emission Factor (grains/A-hr)	PM Emissions (tons/year)	$PM_{10}/PM_{2.5}$ Emissions (tons/year)**
Q-Salts Tanks (6)	42	0.63	0.02	0.02
Total	42		**0.02**	**0.02**

* PM_{10} and $PM_{2.5}$ emissions are assumed to be equal to PM emissions
Assuming there will be 6 "Q-Salts" tanks being electrically charged at 7.0 amps each.

Methodology

Potential Emissions (tons/year) = Maximum Current (Amps) * Emission Factor (gr/A-hr) * (1 lb / 7,000 gr) * (8,760 hours / year) * (1 ton / 2,000 lbs)

[1] AP-42, Table 12.20-4 for Other Metals Electroplating

*Note: There is no specific emission factor for the true metal being used in AP-42, Table 12.20-4. For calculations, the emission factor that was worst case was used. Nickel emission factor was used = 0.63 g/A-hr

[2] Schwartz S, Lorber M. 1999. *Characterizing site-specific source emissions for EPA's risk assessment tool for the metal finishing industry.*

326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
Building 1415 - Operation 2, Process 2 (O2P2)

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Building 1415 - Operation 2, Process 2 (O2P2) Totals							
PM	**PM10**	**PM2.5**	**VOC**	**Methanol**	**Nickle**	**Chromium**	**Total HAPs**
0.00	0.00	0.00	0.04	0.79	0.00	0.00	0.79

Slurry Masking								
Material	Maximum Usage (lbs/hr)	Density (lbs/gal)	VOC Content (lbs/gal)	Methanol Content (%)	VOC Emissions (tons/yr)	Methanol Emissions (tons/yr)	VOC Emissions (lbs/hr)	Usage Rate (gal/day)
Material 1	<12.0	20.96	0.02	1.50%	0.04	0.79	0.01	13.74

Methodology:
VOC Emissions (tons/yr) = Maximum Usage (lbs/hr) / Density (lbs/gal) x VOC Content (lbs/gal) x (8,760 hrs/yr) / (2,000 lbs/ton)
Single HAP Emissions (tons/yr) = Maximum Usage (lbs/hr) x HAP Content (%) x (8,760 hrs/yr) / (2,000 lbs/ton)
Combined HAP Emissions (tons/yr) = Sum of Single HAP Emissions (tons/yr)

Notes:
-There are no particulate emissions from slurry masking because the transfer efficiency is 100%.

Dry Masking/Buffering											
Material	Maximum Usage (lb/yr)	% Nickel	% Chromium	PM EF (lb/ton)	PM10/PM2.5 EF (lb/ton)	PM Emissions (tons/year)	PM10/PM2.5 Emissions (tons/year)	Nickel Emissions (tons/year)	Chromium Emissions (tons/year)	Material Density (lbs/gal)	Usage Rate (gal/day)
Material 2	20000	50%	5%	0.0069	0.0033	3.45E-05	1.65E-05	1.73E-05	1.73E-06	100	0.55
					Potential Emissions (tons/yr)	**3.45E-05**	**1.65E-05**	**1.73E-05**	**1.73E-06**		
					Combined HAPs (tons/yr)	**1.90E-05**					

Methodology:
*Handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer
PM/PM10/PM2.5 Emissions (tons/year) = Throughput (tons/year) * EF (lb/ton) * (1 ton / 2,000 lb)
HAP Emissions (ton/year) = PM Emissions (ton/year) * % HAP
326 IAC 6.5 equivalent limit (lb/hr) = limit in the rule (0.03 gr/dscf) x air flow rate of control device (dscf/min) x 1 lb/7000 gr x 60 mins/hr

Appendix A: Emissions Summary
Building 1550- Epoxy Kits (EUS-12)

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Epoxy Kit Filling:

Volume of Container (oz)	Volume of Container (ft3/can)	Container Throughput (cans/hr)	V_{Tair} (ft3/yr)	MEK Batch Amount (g/can)	Density MEK (g/cm3)	MEK Batch Amount (ft3/can)	Volume % MEK	V_{air} (ft3/yr)	T_{fill} (K)	VP_{MEK} (mmHg)	Molecular Weight MEK (g/mol)	K_{MEK}	C_{blend}	VOC Potential Emissions (tons/yr)
10	0.01	120	10978.52	70	0.810	0.003	29%	3208.14	298.15	90.6	72.11	1.09	29%	**4.03**

Methodology:

Note: The materials for the epoxy kit are added directly to the bottles. The filling is sealed to minimize VOC emissions.There are 6 products manufactured on the epoxy kit line. The worst-case VOC product, UCAR 106 Epoxy/MEK was used in the calculations.

The methodology is from the American Chemical Council "MDI Emissions Reporting Guidelines for the Polyurethane Industry," Section 5-27 Filling/Blending, published May 2012.
MEK chemical properties are from the MSDS.

Volume % MEK = MEK Batch Amount (ft3/can) / Volume of Container (ft3/can)
V_{Tair} (ft3/yr)= Container Throughput (cans/hr) x (8,760 hrs/yr) x Volume of Container (ft3/can)
V_{air} (ft3/yr) = V_{Tair} (ft3/yr) x Volume % MEK
T_{fill} = 298.15 K (ambient temperature)
K_{MEK} = MEK Concentration in Feedstock (100%) x T_{fill} (K) /273.15K
C_{blend} = Volume % MEK
VOC Emissions (tons/yr) = V_{air} x (1 / 359) x [273.15 / T_{fill} (K)] x (VP_{MEK} (mmHg) / 760) x Molecular Weight MEK (g/mol) x K_{MEK} x C_{blend} / (2,000 lbs/ton)

***Vermiculate Pouring:**

Material	Max Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/ PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	Control Efficiency Dust Collector	Control Efficiency HEPA Filters	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)
Vermiculate	50	0.0069	0.0033	**7.56E-04**	**3.61E-04**	99.50%	99.999%	**3.79E-06**	**1.81E-06**

*Vermiculate is used in the packaging for the epoxy kits. It is controlled by dust collector DC014, which is equipped with HEPA filters.

Methodology:

Maximum throughputs were provided by Praxair.
VOC content and density are from the MSDSs.
Vermiculate pouring PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer.
Uncontrolled VOC PTE (tons/yr) = Max Throughput (gal/hr) x VOC Content (lbs/gal) x VOC Emission Rate x (8,760 hrs/yr) / (2,000 lbs/ton)
Uncontrolled Particulate PTE (tons/yr) = Max Throughput (lbs/hr) / (2,000 lbs/ton) x EF (lbs/ton) x (8,760 hrs/yr) / (2,000 lbs/ton)
Controlled Particulate PTE (tons/yr) = Uncontrolled Particulate PTE (tons/yr) x [1- (Control Eff Dust Collector x Control Eff HEPA Filters)]

Appendix A: Emissions Summary
Pack Diffusion Process (1415 Main Street)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Before/After Control	Pack Diffusion PTE (tons/yr)				
	PM	PM10	PM2.5	HF	Total HAPs
Before Control	1.95	1.95	1.95	0.24	0.24
After Control	1.95	1.95	1.95	0.02	0.02

Material Handling - Pack Station				
Total Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/ PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions
100	0.0069	0.0033	1.51E-03	7.23E-04

Material Handling - Unpack Station				
Total Powder Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/ PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions
100	0.0069	0.0033	1.51E-03	7.23E-04
	Potential Emissions (tons/yr)		**3.02E-03**	**1.45E-03**

METHODOLOGY:
*Handling PM and PM10/2.5 emission factors are from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer
Uncontrolled Emissions (tons/yr) = Powder Throughput (lbs/hr) / (2,000 lbs/ton) * EF (lbs/ton) * (8,760 hours/year) / (2,000 lbs/ton)
There are no HAPs in the dry materials used in the Polishing Department.

Additive Usage						
Usage (lbs/hr)	Molecular Weight of Additive (g/mol)	Molecular Weight HF (g/mol)	Ratio Moles HF to Moles ABF	HF PTE before control(ton/yr)	Scrubber Control Efficiency	HF Emissions After Control (ton/yr)
0.10	37.04	20.01	1.00	0.24	90%	0.02

METHODOLOGY:
Assume that 100% of the HF generated evaporates.
The ratio of moles of HF to moles of additive is based on the reaction. There is one mole HF reacted for every mole of additive.
Uncontrolled PTE (tons/yr) = Usage (lbs/hr) x Molecular Weight HF (g/mol) / Molecular Weight additive (g/mol) x Ratio x (8760 hrs/yr) / (2,000 lbs/ton)

Dry Ice / Air Blasting			
Residual Powder (lb/part)	Maximum Production Rate (parts week)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)
0.5	150	1.95	1.95

METHODOLOGY:
Redidual powder is dislodged from parts using either a dry ice blasting cabinet or an air blasting cabinet.
Uncontrolled PM Emissions (ton/year) = Redidual Powder (lb/part) * Maximum Production Rate (parts/week) * 52 weeks/year * (1 ton / 2,000 lbs)

Appendix A: Emissions Summary
EU020G - Grit Reclassifier Building 1245

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Throughput (lbs/hr)	PM EF (lbs/ton)	PM10/ PM2.5 EF (lbs/ton)	Uncontrolled PM Emissions (tons/yr)	Uncontrolled PM10/PM2.5 Emissions (tons/yr)	Uncontrolled PM Emissions (lbs/hr)	Uncontrolled PM10/PM2.5 Emissions (lbs/hr)	Control Efficiency	Controlled PM Emissions (tons/yr)	Controlled PM10/ PM2.5 Emissions (tons/yr)
400	0.0069	0.0033	0.01	0.003	0.0014	0.0007	99.0%	0.00006	0.00003

METHODOLOGY:
Emission factors for PM and PM10/2.5 from AP 42, Table 11.12-2, Concrete Batching-Aggregate Transfer.
Uncontrolled Emissions (tons/yr) = Throughput (lbs/hr) / (2,000 lbs/ton) * EF (lbs/ton) * (8,760 hours/year) / (2,000 lbs/ton)

Appendix A: Emissions Summary
Grinding and Metal Cutting Operations

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Location	Process:	Number of Units	Maximum Throughput Rate*		Particulates				HAPs	
					Emission Factor **		Potential to Emit		Lead Content (%) ***	PTE of Lead (tons/year)
					PM	PM10/PM2.5	PM	$PM_{10}/PM_{2.5}$		
			(lbs/hr)	(tons iron/hr)	(lbs/ton)	(lbs/ton)	(tons/yr)	(tons/yr)		
1245 Main Street	Building 1245 Maintenance Shop	1	100	0.05000	0.01	0.0045	2.19E-01	2.19E-03	7.70%	1.69E-02
	Fifteen (15) Building 1245 Various Grinders	15	100	0.05000	0.01	0.0045	2.19E-01	2.19E-03	7.70%	1.69E-02
	Brown and Sharp Grinder	1	3.00	0.00150	0.01	0.0045	6.57E-03	6.57E-05	7.70%	5.06E-04
1415 Main Street	Maintenance Shop #1	1	100	0.05000	0.01	0.0045	2.19E-01	2.19E-03	7.70%	1.69E-02
	Maintenance Shop #2	1	100	0.05000	0.01	0.0045	2.19E-01	2.19E-03	7.70%	1.69E-02
1500 Polco Street	Building 1500 Machine Shop	1	100	0.05	0.01	0.0045	2.19E-01	2.19E-03	7.70%	1.69E-02
	Building 1500 Fabrication Shop	1	50	0.025	0.01	0.0045	1.10E-01	1.10E-03	7.70%	8.43E-03
	Maintenance Welding Shop	1	5	0.0025	0.01	0.0045	1.10E-02	1.10E-04	7.70%	8.43E-04
1550 Polco Street	1550 Mainenance Shop	1	100	0.05	0.01	0.0045	2.19E-01	2.19E-03	7.70%	1.69E-02
	Specialty Powders Crucible Cutting (CC019)***	1	5	0.0025	0.01	0.0045	1.10E-02	1.10E-04	7.70%	8.43E-04
Facility-Wide	Downdraft Tables	Various	2000	1	0.01	0.0045	4.38E-02	1.97E-02	7.70%	3.4E-03
				Total (tons/yr):			**1.50**	**0.03**		**0.12**

Notes

*The maximum metal throughput is based on 3 grinders grinding a maximum of 5 lbs/day and 1 metal saw cutting a maximum of 1 lb/day, with a work shift of 6 hours per day.
** Emission factors are from FIRE Volume II, Chapter 14, Grey Stone Iron Foundries - SCC 3-04-003-60 (July, 2001)
*** Lead Emission are based on the lab test conducted by Precision Process Division in Walkerton, Indiana
****In the Building 1550 Crucible Cutting room, the product cut is graphite, not metal. Therefore, there are no HAP emissions.
In the absence of valid PM2.5 Emission Factors, it is assumed that PM2.5 emissions = PM10 emissions.
The four (4) vented tables used for insignificant grinding are assumed to have negligible PM, PM10, and PM2.5 emissions.

Methodology

PTE PM/PM-10 (tons/year) = Max. Thorughput Rate (tons/hour) * Emission Factor (lbs/ton) * 8760 hours/year * 1 ton/2000 lbs
PTE Lead (tons/year) = Max. Throughput Rate (tons/hour) * PM Emission Factor (lbs/ton) * 8760 hours/year * 1 ton/2000 lbs * Lead Content (%)

Appendix A: Emissions Summary
Welding and Thermal Cutting

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

PROCESS WELDING	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Metal Inert Gas (MIG)(carbon steel)	3	3		0.0055	0.0005			0.050	0.005	0.000	0	0.005
Tungsten Inert Gas (TIG)(carbon steel	0			0.0055	0.0005			0.000	0.000	0.000	0	0.000
Arc	6	2.4		0.0211	0.0009			0.304	0.013	0.000	0	0.013
FLAME CUTTING	Number of Stations	Max. Metal Thickness Cut (in.)	Max. Metal Cutting Rate (in./minute)	EMISSION FACTORS (lb pollutant/1,000 inches cut, 1" thick)**				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
				PM = PM10	Mn	Ni	Cr	PM = PM10	Mn	Ni	Cr	
Plasma**	1	0.5	300	0.0039				0.035	0.000	0.000	0.000	0.000
EMISSION TOTALS												
Potential Emissions lbs/hr								0.39	0.02	0.00	0.00	0.02
Potential Emissions lbs/day								9.32	0.42	0.00	0.00	0.42
Potential Emissions tons/year	10							**1.70**	**0.08**	**0.00**	**0.00**	**0.08**

Notes
Welding and plasma cutting stations are part of the metal grinding and cutting operations.

Methodology:
*Emission Factors are default values for carbon steel unless a specific electrode type is noted in the Process column.
**Emission Factor for plasma cutting from American Welding Society (AWS). Trials reported for wet cutting of 8 mm thick mild steel with 3.5 m/min cutting speed (at 0.2 g/min emitted). Therefore, the emission
Using AWS average values: (0.25 g/min)/(3.6 m/min) x (0.0022 lb/g)/(39.37 in./m) x (1,000 in.) = 0.0039 lb/1,000 in. cut, 8 mm thick
Plasma cutting emissions, lb/hr: (# of stations)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 8 mm thick)
Cutting emissions, lb/hr: (# of stations)(max. metal thickness, in.)(max. cutting rate, in./min.)(60 min./hr.)(emission factor, lb. pollutant/1,000 in. cut, 1" thick)
Welding emissions, lb/hr: (# of stations)(max. lbs of electrode used/hr/station)(emission factor, lb. pollutant/lb. of electrode used)
Emissions, lbs/day = emissions, lbs/hr x 24 hrs/day
Emissions, tons/yr = emissions, lb/hr x 8,760 hrs/year x 1 ton/2,000 lbs.

Appendix A: Emissions Summary
Carpentry Shop (1500 Polco Street)

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Emission Unit ID	Maximum Througput (lb/hr)	PM Emission Factor lb/ton	PM10 Emission Factor (lb/ton)	PM2.5 Emission Factor (lb/ton)	Control Efficiency (%) **	Uncontrolled Potential to Emit PM (tons/yr)	Uncontrolled Potential to Emit PM10 (tons/yr)	Uncontrolled Potential to Emit PM2.5 (tons/yr)	Controlled Potential to Emit PM (tons/yr)	Controlled Potential to Emit PM10 (tons/yr)	Controlled Potential to Emit PM2.5 (tons/yr)
Band Saw	50	3.50E-01	2.00E-01	2.00E-01	0%	3.83E-02	1.53E-04	8.76E-05	3.83E-02	1.53E-04	8.76E-05
Drill Press	50	3.50E-01	2.00E-01	2.00E-01	0%	3.83E-02	1.53E-04	8.76E-05	3.83E-02	1.53E-04	8.76E-05
Belt Sander	50	3.50E-01	2.00E-01	2.00E-01	0%	3.83E-02	1.53E-04	8.76E-05	3.83E-02	1.53E-04	8.76E-05
Circular Saw	50	3.50E-01	2.00E-01	2.00E-01	90%	3.83E-02	1.53E-04	8.76E-05	3.83E-03	1.53E-05	8.76E-06
Table Saw	50	3.50E-01	2.00E-01	2.00E-01	90%	3.83E-02	1.53E-04	8.76E-05	3.83E-03	1.53E-05	8.76E-06
						1.92E-01	**7.67E-04**	**4.38E-04**	**1.23E-01**	**4.91E-04**	**2.80E-04**

Emission factors based off of FIRE Version 5.0 August 1995 SCC 3-07-00802 (Log Sawing)

Methodology:
Uncontrolled Potential to Emit (PM/PM10/PM2.5) tons/yr = Maximum Throughput (lb/hr) / Emission Factor (lb/ton) * 8760 hrs/1 year
Controlled Potential to Emit (PM/PM10/PM2.5) tons/yr = Uncontrolled Potential to Emit (PM/PM10/PM2.5) tons/yr * (1-Control Efficiency (%))

Appendix A: Emissions Summary
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Generator	Location	hp
Generac Generator	Building 1500	207.0
ONAN/Cummins Generator	Powerhouse	168.0
	Total	**375.0**

Emissions calculated based on output rating (hp)

Output Horsepower Rating (hp)	375.0
Maximum Hours Operated per Year	500
Potential Throughput (hp-hr/yr)	187,500

	Pollutant						
	PM*	**PM10***	**direct PM2.5***	**SO2**	**NOx**	**VOC**	**CO**
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emission in tons/yr	0.21	0.21	0.21	0.19	2.91	0.24	0.63

*PM and PM2.5 emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

**NOx emission factor: uncontrolled = 0.024 lb/hp-hr, controlled by ignition timing retard = 0.013 lb/hp-hr

Hazardous Air Pollutants (HAPs)

	Pollutant							
	Benzene	**Toluene**	**Xylene**	**1,3-Butadiene**	**Formaldehyde**	**Acetaldehyde**	**Acrolein**	**Total PAH HAPs*** **
Emission Factor in lb/hp-hr****	6.53E-06	2.86E-06	2.00E-06	2.74E-07	8.26E-06	5.37E-06	6.48E-07	1.18E-06
Potential Emission in tons/yr	6.12E-04	2.68E-04	1.87E-04	2.57E-05	7.74E-04	5.03E-04	6.07E-05	1.10E-04

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

****Emission factors in lb/hp-hr were calculated using emission factors in lb/MMBtu and a brake specific fuel consumption of 7,000 Btu / hp-hr (AP-42 Table 3.3-1).

Potential Emission of Total HAPs (tons/yr)	**0.0025**

Methodology

Emission Factors are from AP42 (Supplement B 10/96), Tables 3.3-1 and 3.3-2
CH4 and N2O Emission Factor from 40 CFR 98 Subpart C Table C-2.
Global Warming Potentials (GWP) from Table A-1 of 40 CFR Part 98 Subpart A.
Potential Throughput (hp-hr/yr) = [Output Horsepower Rating (hp)] * [Maximum Hours Operated per Year]
Potential Emission (tons/yr) = [Potential Throughput (hp-hr/yr)] * [Emission Factor (lb/hp-hr)] / [2,000 lb/ton]
Potential NOx Emissions = (1,273,280 hp-hr/yr) * (0.0310 lb/hp-hr) / (2,000 lbs/ton) = 19.74 tons/yr
CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission

Appendix A: Emissions Summary
LP Gas-Fired Emergency Generator
Building 1500 BUDA Propane Emergency Generator

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Capacity		
	53.0	hp
	39.5	kW
	0.18	MMBtu/hr

	Pollutant						
	PM*	**PM10***	**PM2.5**	**SO2**	**NOx**	**VOC**	**CO**
Emission Factor in lb/MMBtu	9.91E-03	7.71E-05	7.71E-05	5.88E-04	4.08	0.118	0.317
Potential Emission in tons/yr	**0.00**	**0.00**	**0.00**	**0.00**	**0.18**	**0.01**	**0.01**

	HAPs - Organics					**HAPs Total**
	Acetaldehyde	Acrolein	Formaldehyde	Methanol	Hexane	**0.003**
Emission Factor in lb/MMcf	8.4E-03	5.1E-03	5.3E-02	2.5E-03	1.1E-03	
Potential Emission in tons/yr	3.78E-04	2.32E-04	2.39E-03	1.13E-04	4.97E-05	

Methodology

Conversion factors from AP-42 Appendix A: To convert from hp to kW, use the conversion 1 hp = 0.74558 kW. To convert from kW to MMBtu/hr, use the conversion of 1 kW = 3,412 Btu/hr

Emission Factors are from AP42 (Supplement F 8/2000), Table 3.2-2. Because no emission factors are available for propane-fired engines, the emission factors for 4 stroke lean burn natural gas-fired engines were used.

Emission (tons/yr) = Heat input rate (MMBtu/hr) x Emission Factor (lb/MMBtu) * 500 hr/yr / (2,000 lb/ton)

CO2e (tons/yr) = CO2 Potential Emission ton/yr x CO2 GWP (1) + CH4 Potential Emission ton/yr x CH4 GWP (25) + N2O Potential Emission ton/yr x N2O GWP (298).

Appendix A: Emissions Summary
Tribomet Lines 1 and 2 (Building 1415)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Tank ID	Materials	Amount in Tank	Units	Amount Added per Month	Units	Total Added per Year (lbs/yr)	Density (lbs/gal)	Estimated Evaporation Rate	Total Emissions (lbs/yr)	VOC Content	HCl Content (%)	Nickel Compound Content (%)	Cobalt Compound Content (%)	Chromium Compound Content (%)	Uncontrolled PTE VOC (tons/yr)	Uncontrolled PTE HCl (tons/yr)	Uncontrolled PTE Nickel Compounds (tons/yr)	Uncontrolled PTE Cobalt Compounds (tons/yr)	Uncontrolled PTE Chromium Compounds (tons/yr)
104	HCl	30	gal	10	gal	1191.67	9.93	20%	238.33	0%	38%	0%	0%	0%	0.00	0.05	0.00	0.00	0.00
	Nickel Chloride	209	gal	40	lbs	480.00	11.18	20%	96.00	0%	0%	54%	0%	0%	0.00	0.00	0.03	0.00	0.00
204	HCl	30	gal	10	gal	1191.67	9.93	20%	238.33	0%	38%	0%	0%	0%	0.00	0.05	0.00	0.00	0.00
	Nickel Chloride	209	gal	40	lbs	480.00	11.18	20%	96.00	0%	0%	54%	0%	0%	0.00	0.00	0.03	0.00	0.00
108	T104CS Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
109	T104CS Powder	67.2	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	763.9	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	45.8	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
112	T104CS Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
113	T104CS Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
115	T104CS Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
116	T104CS Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
208	T104CS Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
211	T104CS Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
213	T104CS Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
214	T104CS Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
216	T104CS Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
110	Nickel Sulfamate (65%)***	193.1	gal	40	lbs	480.00	13.19	20%	96.00	0%	0%	65%	0%	0%	0.00	0.00	0.03	0.00	0.00
	Nickel Chloride	7.7	gal	40	lbs	480.00	11.18	20%	96.00	0%	0%	54%	0%	0%	0.00	0.00	0.03	0.00	0.00
	Boric Acid	124.4	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
	CBN Powder	10.6	lbs	40	lbs	480.00	29.21	20%	96.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
117	Nickel Sulfamate (65%)***	118	gal	40	lbs	480.00	13.19	20%	96.00	0%	0%	65%	0%	0%	0.00	0.00	0.03	0.00	0.00
	Nickel Chloride	4.7	gal	40	lbs	480.00	11.18	20%	96.00	0%	0%	54%	0%	0%	0.00	0.00	0.03	0.00	0.00
	Boric Acid	76	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
	CBN Powder	6.5	lbs	40	lbs	480.00	29.21	20%	96.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
210	T104C Powder	110	lbs	40	lbs	480.00	*	20%	96.00	0%	0%	0%	0%	80%	0.00	0.00	0.00	0.00	0.04
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
212	TM308 Powder	110	lbs	40	lbs	480.00	52.82	20%	96.00	0%	0%	0%	0%	70%	0.00	0.00	0.00	0.00	0.03
	Cobalt Sulphate	1250	lbs	40	lbs	480.00	16.27	20%	96.00	0%	0%	0%	100%	0%	0.00	0.00	0.00	0.05	0.00
	Boric Acid	75	lbs	10	lbs	120.00	12.02	20%	24.00	0%	0%	0%	0%	0%	0.00	0.00	0.00	0.00	0.00
														Total Uncontrolled PTE (tons/yr)	**0.00**	**0.09**	**0.17**	**0.62**	**0.49**
														Control Efficiency	**99.50%**	**99.50%**	**99.50%**	**99.50%**	**99.50%**
														Total Controlled PTE (tons/yr)	**0.00**	**0.0005**	**0.0008**	**0.0031**	**0.0025**

Methodology:

*Density was not provided in the MSDS

**Tanks are changed out once every 2 years.

***Nickel Sulfamate is diluted to 65%.

The Tribomet lines are controlled by a composite mesh pad system with mist eliminator with a control efficiency of 99.5%

Total Amount Added Per Year (lbs/yr)

For amounts given in lbs:

For amounts given in gal:

Total Amount (lbs/yr) = Amount Added per Month (lbs/month) x (12 months/yr)

Total Amount (lbs/yr) = Amount Added per Month (gal/month) x Density (lbs/gal) x (12 months/yr)

Total Emissions = Amount Added per Year (lbs/yr) x Evaporation Rate (%)

Evaporation rate of 20% is a conservative engineering estimate, based on the amount that is added per month compared to the tank contents. The evaporation percentage is not an exact ratio of the amount added divided by the tank contents, because the percentage accounts for the portion of the liquid that remains on the product or is wasted.

Appendix A: Emissions Summary
VOC and Particulate
Building 1500 - Scale Coating

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Material	Density (Lb/Gal)	Weight % Organics	Volume % Non-Volatiles (solids)	% Cr Compounds	% Ni	% Co	Gal of Mat. (gal/unit)	Maximum (unit/week)	Gal of Mar. (gal/day)
ST570A (Part 1)	10.8	0.00%	28%	8%	0%	0%	0.01321	10	0.02
ST570A (Part 2)	7.9	94.66%	0%	0%	0%	0%	0.01321	10	0.02
ST1740	16.7	0.00%	80%	24%	18%	18%	0.02642	10	0.04

	Potential VOC (ton/yr)	Particulate Potential (ton/yr)	Potential Cr Compounds (ton/yr)	Potential Ni (ton/yr)	Potential Co (ton/year)	Transfer Efficiency
	0.00E+00	5.01E-05	1.43E-05	0.00E+00	0.00E+00	75%
	2.58E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	75%
	0.00E+00	4.41E-04	1.29E-04	9.64E-05	9.64E-05	75%
Potential Emissions (tons/yr):	**2.58E-02**	**4.41E-04**	**1.29E-04**	**9.64E-05**	**9.64E-05**	
Combined HAPs (tons/yr):	**3.22E-04**					

Methodology

Potential VOC Tons per Year = Pounds of VOC per Gallon coating (lb/gal) * Gal of Material (gal/unit) * Maximum (units/wk) * (52 wk/yr) * (1 ton/2000 lbs)
PM10 emissions is assumed equal to PM
PM/PM10/HAP Tons per Year = (units/wk) * (gal/unit) * (lbs/gal) * (1- Weight % Volatiles) * (1-Transfer efficiency) *(52 wk/yr) *(1 ton/2000 lbs)

Appendix A: Emissions Summary
Building 1245 - Physical Vapor Deposition Coating Station (EU01T)

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Surface Coater ID	Control Device ID	Surface Coating Type	Max Throughput (lbs/hr)	Amount of Dust Cleaned (lbs/week)	% Dust in Coater Emitted during Cleaning	PTE Particulate during Cleaning (tons/yr)	Density of Coating^ (lbs/gal)	Gallons of Coating Per Day (gal/day)	Applicable
EU01T	N/A	PVD	0.25	0.25	5%	**0.0003**	100	0.06	NO

There are no HAPs in the titanium pucks.

Methodology:

PTE Particulate During Cleaning (tons/yr) = Amount of Dust Cleaned (lbs/week) x (% Dust in Coater Emitted During Cleaning) x (52 weeks/year) / (2000 lbs/ton)

^The coating materials used are 100% solids, and are comprised of metallic and ceramic compounds. This results in high coating densities.

Appendix A: Emissions Summary
Building 1245 - LSR1 Titanium Tetrachloride Coating Station (EU01R)

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

HAPs									
Surface Coater ID	Control Device ID	Surface Coating Type	Max Throughput (lbs/hr)	Molecular Weight TiCl4 (g/mol)	Molecular Weight HCl (g/mol)	Mol HCl/ Mol TiCl4	Uncontrolled PTE HCl (tons/yr)	Scrubber Control Efficiency	Controlled PTE HCl (tons/yr)
EU01R	Scrubber	CVD	0.27	189.679	36.46094	4	0.91	90%	0.09

6.5 Applicability		
Density of Coating^ (lbs/gal)	Gallons of Coating Per Day (gal/day)	Applicable
100	0.06	NO

Methodology:

HAPs are emitted from the conversion of TiCl4 to HCl. In this reaction, there are 4 moles of HCl per mole of TiCl4.

Uncontrolled PTE HCl (tons/yr) = Max Throughput (lbs/hr) x Molecular Weight HCl (g/mol) / Molecular Weight TiCl4 (g/mol) x (Mol HCl/Mol TiCl4) x (8,760 hrs/yr) / (2,000 lbs/hr)

Controlled PTE HCl (tons/yr) = Uncontrolled PTE HCl x (1 - Scrubber Control Efficiency)

^The coating materials used are 100% solids, and are comprised of metallic and ceramic compounds. This results in high coating densities.

Appendix A: Emissions Summary
Building 1415 - Operation 1, Process 3 (O1P3)

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Tank Contents	Usage (lbs/week)	Molecular Weight ABF (g/mol)	Molecular Weight HF (g/mol)	Ratio Moles HF to Moles ABF	HF Emissions (ton/yr)
Ammonium Bifluoride (ABF)	55.00	57.04	20.01	1	**0.50**

Operation 1 Process 3 includes a dip tank containing a mixture of compounds. There are no VOC compounds or HAP compounds added to the tank. However, ammonium bifluoride in the tank reacts when in contact with water to generate HF and ammonium fluoride (NH4F). Further decomposition of NH4F takes place at temperatures of 100 degree C and above, however, the O1P3 process operates at less than 100 degree C. Therefore, one mole of ABF reacts to form one mole of HF.

Usage (lbs/week) is based on the amount added to the dip tank.

Assume that 100% of the HF generated evaporates.

The ratio of moles of HF to moles of ABF is based on the reaction. The reaction of ABF generates HF and Ammonium Fluoride. There is one mole HF reacted for every mole of ABF.

Uncontrolled PTE (tons/yr) = Usage (lbs/week) x Molecular Weight HF (g/mol) / Molecular Weight ABF (g/mol) x Ratio x (52 weeks/yr) / (2,000 lbs/ton)

Appendix A: Emissions Summary
Building 1415 - Operation 2, Process 4

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

HAPs							
Material	**Control Device ID**	**Max Throughput (lbs/hr)**	**(MW HF/MW Material) x (Mol HF/Mol Material)**	**Percent Reacted**	**Uncontrolled PTE HF (tons/yr)**	**Scrubber Control Efficiency**	**Controlled PTE HF (tons/yr)**
Material 1	Wet Scrubber	<1	0.71	50%	**1.57**	90%	0.16

Methodology:

The maximum hourly usage is from Praxair.

HAPs are emitted from the material conversion to HF.

Uncontrolled PTE HF (tons/yr) = Max Throughput (lbs/hr) x Molecular Weight HF (g/mol) / Molecular Weight Material (g/mol) x (Mol HF/Mol Material) x (Percent Reacted) x (8,760 hrs/yr) / (2,000 lbs/hr)

Controlled PTE HF (tons/yr) = Uncontrolled PTE HF x (1 - Scrubber Control Efficiency)

Appendix A: Emissions Summary
Building 1550- IPA Room

Company Name: **Linde Advanced Material Technologies, Inc.**
Source Address: **1245 and 1415 Main Street, Indianapolis, IN 46224**
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: **F097-47553-00060**
Permit Reviewer: **Emily Skelton**

Material	Max Throughput (lbs/hr)	Density (lbs/gal)	Max Throughput (gal/hr)	VOC Content (lbs/gal)	VOC Emission Rate	Uncontrolled VOC PTE (tons/yr)
IPA	0.67	6.57	0.10	6.57	100%	**2.92**

Explanation of Process:

IPA is mixed with powder for milling in the Powder 7 processing area (EUS-22). The IPA is then evaporated out by ovens. The powder handling is already accounted for in the 1550 Powders calculations.

Methodology:

Maximum usage is based on 16 gallons used in 24 hours of operation.

The density and VOC content are from the MSDS.

The VOC emission rate comes from AP-42, 6.4.1.

Uncontrolled VOC PTE (tons/yr) = Max Throughput (gal/hr) x VOC Content (lbs/gal) x VOC Emission Rate x (8,760 hrs/yr) / (2,000 lbs/ton)

Appendix A: Emissions Summary
Stripping and Cleaning Operations

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Building	Stripping Line	Tank	Material	Tank Capacity (gal)	Turnovers/Year	Amount Used per Year (gal)	Density (lbs/gal)	VOC Content (%)	HF Content (%)	HCl Content (%)	VOC Emissions (tons/yr)	HF Emissions (tons/yr)	HCl Emissions (tons/yr)	Combined HAP Emissions (tons/yr)
1415	Hydrochloric Acid Stripping Line	1	Hydrochloric Acid	30	2	60	9.60	0%	0%	38%	0.00	0.00	0.11	0.11
		2	Hydrochloric Acid	30	2	60	9.93	0%	0%	38%	0.00	0.00	0.11	0.11
		3	Hydrochloric Acid	30	0.5	15	9.93	0%	0%	38%	0.00	0.00	0.03	0.03
1245	Crest Cleaning Line	1	T-4181	28	2	56	10.35	10%	0%	0%	0.03	0.00	0.00	0.00
									Total PTE (tons/yr):		**0.03**	**0.00**	**0.25**	**0.25**

Note: Calculations are not included for the stripping operations where there are no VOCs or HAPs. The following are stripping tanks at Praxair that do not emit VOCs or HAPs.
Building 1415- Hydrochloric Acid Stripping- Two (2) water rinse tanks and one (1) caustic tank
Building 1415- Nitric Acid Stripping - One (1) nitric acid tank and one (1) water rinse tank
Building 1245- Electrolytic Stripping Line - One (1) electrolytical stripping tank (NaOH, tartaric acid, water, and soda ash), one (1) nitric acid tank, one (1) immersion fluid tank, and one (1) Kolene tank
Building 1245- Titanium Nitrate Cleaning Operation- One (1) phosphoric acid cleaning tank

METHODOLOGY:
Tank capacities and turnovers per year were provided by Praxair.
The densities are the densities for pure hydrofluoric acid and hydrochloric acid, as a worst-case scenario.

Emissions (tons/yr)= Tank Capacity (gal) x Turnovers per Year x Density (lbs/gal) x Content (%)

Hydrochloric Acid Stripping Line Prior to Modification														
Building	**Stripping Line**	**Tank**	**Material**	**Tank Capacity (gal)**	**Turnovers/Year**	**Amount Used per Year (gal)**	**Density (lbs/gal)**	**VOC Content (%)**	**HF Content (%)**	**HCl Content (%)**	**VOC Emissions (tons/yr)**	**HF Emissions (tons/yr)**	**HCl Emissions (tons/yr)**	**Combined HAP Emissions (tons/yr)**
1415	Hydrochloric Acid Stripping Line	1	Hydrofluoric Acid	30	2	60	9.60	0%	4%	0%	0.00	0.01	0.00	0.01
		2	Hydrochloric Acid	30	2	60	9.93	0%	0%	38%	0.00	0.00	0.11	0.11
		3	Hydrochloric Acid	30	0.5	15	9.93	0%	0%	38%	0.00	0.00	0.03	0.03
									Total PTE (tons/yr):		**0.00**	**0.01**	**0.14**	**0.15**

Appendix A: Emissions Summary
Miscellaneous Lubricant Usage

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Building	Lubricant	Maximum Usage (gal/yr)	Density (lbs/gal)	VOC Content (lbs/gal)	Ethylene Glycol Content (%)	Toluene Content (%)	Antimony Compound Content (%)	Lead Compound Content (%)
1415	DP Lubricant Blue	55	6.84	6.78	15%	0%	0%	0%
1245	Molydag	10	11.18	5.14	0%	30%	30%	10%

	VOC Emissions (tons/yr)	Ethylene Glycol Emissions (tons/yr)	Toluene Emissions (tons/yr)	Antimony Compound Emissions (tons/yr)	Lead Compound Emissions (tons/yr)	Combined HAP Emissions (tons/yr)
	0.19	0.03	0.00	0.00	0.00	0.03
	0.03	0.00	0.02	0.02	0.01	0.04
Total PTE (tons/yr):	**0.21**	**0.03**	**0.02**	**0.02**	**0.01**	**0.07**

DP Lubricant Blue is a lubricant used in the polishing process in a quality assurance lab. It is applied to polishing wheels by hand, and is used at a maximum annual rate of 55 gallons per year.

Molydag is a production material that is applied to some customer parts at Building 1245. The maximum annual usage is 10 gallons.

Methodology:

VOC Emissions (tons/yr) = Maximum Usage (gal/hr) x VOC Content (lbs/gal) x (8,760 hrs/yr) / (2,000 lbs/ton)

HAP Emissions (tons/yr) = Maximum Usage (gal/hr) x Density (lbs/gal) x HAP Content (%) x (8,760 hrs/yr) / (2,000 lbs/ton)

Appendix A: Emissions Summary
Fugitive Dust Emissions - Paved Roads

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

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)

Building	Type	Maximum number of vehicles per day	Number of one-way trips per day per vehicle	Maximum trips per day (trip/day)	Maximum Weight Loaded (tons/trip)	Total Weight driven per day (ton/day)	Maximum one-way distance (feet/trip)	Maximum one-way distance (mi/trip)	Maximum one-way miles (miles/day)	Maximum one-way miles (miles/yr)
1500	Semi Trucks (entering facility) (one-way trip)	1	1	1.0	40	40.0	650	0.123	0.1	44.9
1500	Semi Trucks (leaving facility) (one-way trip)	1	1	1.0	40	40.0	650	0.123	0.1	44.9
1500	Box Trucks (entering facility) (one-way trip)	1	1	1.0	17.5	17.5	650	0.123	0.1	44.9
1500	Box Trucks (leaving facility) (one-way trip)	1	1	1.0	17.5	17.5	650	0.123	0.1	44.9
1500	Delivery Vans (entering facility) (one-way trip)	2	1	2.0	12.5	25.0	650	0.123	0.2	89.9
1500	Delivery Vans (leaving facility) (one-way trip)	2	1	2.0	12.5	25.0	650	0.123	0.2	89.9
1245	Semi Trucks (entering facility) (one-way trip)	4	1	4.0	30	120.0	1250	0.237	0.9	345.6
1245	Semi Trucks (leaving facility) (one-way trip)	4	1	4.0	30	120.0	1250	0.237	0.9	345.6
1245	Box Trucks (entering facility) (one-way trip)	4	1	4.0	12	48.0	1250	0.237	0.9	345.6
1245	Box Trucks (leaving facility) (one-way trip)	4	1	4.0	12	48.0	1250	0.237	0.9	345.6
1415	Semi Trucks (entering facility) (one-way trip)	8	1	8.0	30	240.0	250	0.047	0.4	138.3
1415	Semi Trucks (leaving facility) (one-way trip)	8	1	8.0	30	240.0	250	0.047	0.4	138.3
1415	Box Trucks (entering facility) (one-way trip)	4	1	4.0	12	48.0	250	0.047	0.2	69.1
1415	Box Trucks (leaving facility) (one-way trip)	4	1	4.0	12	48.0	250	0.047	0.2	69.1
1415	Semi Trucks (entering facility) (one-way trip)	6	1	6.0	40	240.0	1200	0.227	1.4	497.7
1415	Semi Trucks (leaving facility) (one-way trip)	6	1	6.0	40	240.0	1200	0.227	1.4	497.7
1415	Box Trucks (entering facility) (one-way trip)	7	1	7.0	5.5	38.5	1200	0.227	1.6	580.7
1415	Box Trucks (leaving facility) (one-way trip)	7	1	7.0	5.5	38.5	1200	0.227	1.6	580.7
1550	Semi Trucks (entering facility) (one-way trip)	10	1	10.0	44	440.0	400	0.076	0.8	276.5
1550	Semi Trucks (leaving facility) (one-way trip)	10	1	10.0	44	440.0	400	0.076	0.8	276.5
1550	Straight Trucks (entering facility) (one-way trip)	3	1	3.0	15	45.0	400	0.076	0.2	83.0
1550	Straight Trucks (leaving facility) (one-way trip)	3	1	3.0	15	45.0	400	0.076	0.2	83.0
1550	Delivery Trucks (entering facility) (one-way trip)	1	1	1.0	5	5.0	400	0.076	0.1	27.7
1550	Delivery Trucks (leaving facility) (one-way trip)	1	1	1.0	5	5.0	400	0.076	0.1	27.7
1550	Box Trucks (entering facility) (one-way trip)	1	1	1.0	8	8.0	400	0.076	0.1	27.7
1550	Box Trucks (leaving facility) (one-way trip)	1	1	1.0	8	8.0	400	0.076	0.1	27.7
1555	Delivery Vans (entering facility) (one-way trip)	6	1	6.0	5	30.0	1100	0.208	1.3	456.3
1555	Delivery Vans (leaving facility) (one-way trip)	6	1	6.0	5	30.0	1100	0.208	1.3	456.3
1555	Semi Trucks (entering facility) (one-way trip)	3	1	3.0	20	60.0	1100	0.208	0.6	228.1
1555	Semi Trucks (leaving facility) (one-way trip)	3	1	3.0	20	60.0	1100	0.208	0.6	228.1
1555	Parcel Trucks (entering facility) (one-way trip)	3	1	3.0	10	30.0	1100	0.208	0.6	228.1
1555	Parcel Trucks (leaving facility) (one-way trip)	3	1	3.0	10	30.0	1100	0.208	0.6	228.1
1555	Semi Trailers (entering facility) (one-way trip)	3.0	1.0	3.0	40.0	120.0	1100	0.208	0.6	228.1
1555	Semi Trailers (leaving facility) (one-way trip)	3.0	1.0	3.0	40.0	120.0	1100	0.208	0.6	228.1
			Totals	**134.0**		**3110.0**			**20.3**	**7424.4**

Average Vehicle Weight Per Trip = 23.2 tons/trip
Average Miles Per Trip = 0.15 miles/trip

Unmitigated Emission Factor, Ef = [k * (sL)^0.91 * (W)^1.02] (Equation 1 from AP-42 13.2.1)

	PM	PM10	PM2.5	
where k =	0.011	0.0022	0.00054	lb/VMT = particle size multiplier (AP-42 Table 13.2.1-1)
W =	23.2	23.2	23.2	tons = average vehicle weight (provided by source)
sL =	9.7	9.7	9.7	g/m^2 = silt loading value for paved roads at iron and steel production facilities - Table 13.2.1-3)

Taking natural mitigation due to precipitation into consideration, Mitigated Emission Factor, Eext = E * [1 - (p/4N)] (Equation 2 from AP-42 13.2.1)

Mitigated Emission Factor, Eext = Ef * [1 - (p/4N)]
where p = 125 days of rain greater than or equal to 0.01 inches (see Fig. 13.2.1-2)
N = 365 days per year

	PM	PM10	PM2.5	
Unmitigated Emission Factor, Ef =	2.149	0.430	0.106	lb/mile
Mitigated Emission Factor, Eext =	1.965	0.393	0.096	lb/mile
Dust Control Efficiency =	0%	0%	0%	No controls

Appendix A: Emissions Summary
Fugitive Dust Emissions - Paved Roads

Company Name: Linde Advanced Material Technologies, Inc.
Source Address: 1245 and 1415 Main Street, Indianapolis, IN 46224
1500 and 1550 Polco Street, Indianapolis, IN 46222
FESOP SPR No.: F097-47553-00060
Permit Reviewer: Emily Skelton

Building	Type	Unmitigated PTE of PM (tons/yr)	Unmitigated PTE of PM10 (tons/yr)	Unmitigated PTE of PM2.5 (tons/yr)	Mitigated PTE of PM (tons/yr)	Mitigated PTE of PM10 (tons/yr)	Mitigated PTE of PM2.5 (tons/yr)	Controlled PTE of PM (tons/yr)	Controlled PTE of PM10 (tons/yr)	Controlled PTE of PM2.5 (tons/yr)
1500	Semi Trucks (entering facility) (one-way trip)	0.05	0.01	0.00	0.04	0.01	0.00	0.04	0.01	0.00
1500	Semi Trucks (leaving facility) (one-way trip)	0.05	0.01	0.00	0.04	0.01	0.00	0.04	0.01	0.00
1500	Box Trucks (entering facility) (one-way trip)	0.05	0.01	0.00	0.04	0.01	0.00	0.04	0.01	0.00
1500	Box Trucks (leaving facility) (one-way trip)	0.05	0.01	0.00	0.04	0.01	0.00	0.04	0.01	0.00
1500	Delivery Vans (entering facility) (one-way trip)	0.10	0.02	0.00	0.09	0.02	0.00	0.09	0.02	0.00
1500	Delivery Vans (leaving facility) (one-way trip)	0.10	0.02	0.00	0.09	0.02	0.00	0.09	0.02	0.00
1245	Semi Trucks (entering facility) (one-way trip)	0.37	0.07	0.02	0.34	0.07	0.02	0.34	0.07	0.02
1245	Semi Trucks (leaving facility) (one-way trip)	0.37	0.07	0.02	0.34	0.07	0.02	0.34	0.07	0.02
1245	Box Trucks (entering facility) (one-way trip)	0.37	0.07	0.02	0.34	0.07	0.02	0.34	0.07	0.02
1245	Box Trucks (leaving facility) (one-way trip)	0.37	0.07	0.02	0.34	0.07	0.02	0.34	0.07	0.02
1415	Semi Trucks (entering facility) (one-way trip)	0.15	0.03	0.01	0.14	0.03	0.01	0.14	0.03	0.01
1415	Semi Trucks (leaving facility) (one-way trip)	0.15	0.03	0.01	0.14	0.03	0.01	0.14	0.03	0.01
1415	Box Trucks (entering facility) (one-way trip)	0.07	0.01	0.00	0.07	0.01	0.00	0.07	0.01	0.00
1415	Box Trucks (leaving facility) (one-way trip)	0.07	0.01	0.00	0.07	0.01	0.00	0.07	0.01	0.00
1415	Semi Trucks (entering facility) (one-way trip)	0.53	0.11	0.03	0.49	0.10	0.02	0.49	0.10	0.02
1415	Semi Trucks (leaving facility) (one-way trip)	0.53	0.11	0.03	0.49	0.10	0.02	0.49	0.10	0.02
1415	Box Trucks (entering facility) (one-way trip)	0.62	0.12	0.03	0.57	0.11	0.03	0.57	0.11	0.03
1415	Box Trucks (leaving facility) (one-way trip)	0.62	0.12	0.03	0.57	0.11	0.03	0.57	0.11	0.03
1550	Semi Trucks (entering facility) (one-way trip)	0.30	0.06	0.01	0.27	0.05	0.01	0.27	0.05	0.01
1550	Semi Trucks (leaving facility) (one-way trip)	0.30	0.06	0.01	0.27	0.05	0.01	0.27	0.05	0.01
1550	Straight Trucks (entering facility) (one-way trip)	0.09	0.02	0.00	0.08	0.02	0.00	0.08	0.02	0.00
1550	Straight Trucks (leaving facility) (one-way trip)	0.09	0.02	0.00	0.08	0.02	0.00	0.08	0.02	0.00
1550	Delivery Trucks (entering facility) (one-way trip)	0.03	0.01	0.00	0.03	0.01	0.00	0.03	0.01	0.00
1550	Delivery Trucks (leaving facility) (one-way trip)	0.03	0.01	0.00	0.03	0.01	0.00	0.03	0.01	0.00
1550	Box Trucks (entering facility) (one-way trip)	0.03	0.01	0.00	0.03	0.01	0.00	0.03	0.01	0.00
1550	Box Trucks (leaving facility) (one-way trip)	0.03	0.01	0.00	0.03	0.01	0.00	0.03	0.01	0.00
1555	Delivery Vans (entering facility) (one-way trip)	0.49	0.10	0.02	0.45	0.09	0.02	0.45	0.09	0.02
1555	Delivery Vans (leaving facility) (one-way trip)	0.49	0.10	0.02	0.45	0.09	0.02	0.45	0.09	0.02
1555	Semi Trucks (entering facility) (one-way trip)	0.25	0.05	0.01	0.22	0.04	0.01	0.22	0.04	0.01
1555	Semi Trucks (leaving facility) (one-way trip)	0.25	0.05	0.01	0.22	0.04	0.01	0.22	0.04	0.01
1555	Parcel Trucks (entering facility) (one-way trip)	0.25	0.05	0.01	0.22	0.04	0.01	0.22	0.04	0.01
1555	Parcel Trucks (leaving facility) (one-way trip)	0.25	0.05	0.01	0.22	0.04	0.01	0.22	0.04	0.01
1555	Semi Trailers (entering facility) (one-way trip)	0.25	0.05	0.01	0.22	0.04	0.01	0.22	0.04	0.01
1555	Semi Trailers (leaving facility) (one-way trip)	0.25	0.05	0.01	0.22	0.04	0.01	0.22	0.04	0.01
	Totals	7.98	1.60	0.39	**7.30**	**1.46**	**0.36**	7.30	1.46	0.36

Methodology

Total Weight driven per day (ton/day) = [Maximum Weight Loaded (tons/trip)] * [Maximum trips per day (trip/day)]
Maximum one-way distance (mi/trip) = [Maximum one-way distance (feet/trip) / [5280 ft/mile]
Maximum one-way miles (miles/day) = [Maximum trips per year (trip/day)] * [Maximum one-way distance (mi/trip)]
Average Vehicle Weight Per Trip (ton/trip) = SUM[Total Weight driven per day (ton/day)] / SUM[Maximum trips per day (trip/day)]
Average Miles Per Trip (miles/trip) = SUM[Maximum one-way miles (miles/day)] / SUM[Maximum trips per year (trip/day)]
Unmitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Unmitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Mitigated PTE (tons/yr) = [Maximum one-way miles (miles/yr)] * [Mitigated Emission Factor (lb/mile)] * (ton/2000 lbs)
Controlled PTE (tons/yr) = [Mitigated PTE (tons/yr)] * [1 - Dust Control Efficiency]

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

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

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

TO: Michael Hess
Linde Advanced Material Technologies Inc
1500 Polco St
Indianapolis, IN 46224

DATE: July 2, 2024

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

SUBJECT: Final Decision
FESOP Significant Permit Revision (Minor PSD/EO)
097-47553-00060

This notice is to inform you that a final decision has been issued for the air permit application referenced above.

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. In addition, the Notice of Decision has been sent to the OAQ Permits Branch Interested Parties List and, if applicable, the Consultant/Agent and/or Responsible Official/Authorized Individual.

The final decision and supporting materials are available electronically; the original signature page is enclosed for your convenience. The final decision and supporting materials available electronically at:

IDEM's online searchable database: http://www.in.gov/apps/idem/caats/ . Choose Search Option **by Permit Number**, then enter permit 47553

and

IDEM's Virtual File Cabinet (VFC): 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.

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

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

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

July 2, 2024

TO: Speedway Public Library

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

Subject: **Important Information for Display Regarding a Final Determination**

Applicant Name: **Linde Advanced Material Technologies Inc**
Permit Number: **097-47553-00060**

You previously received information to make available to the public during the public comment period of a draft permit. Enclosed is a copy of the final decision and supporting materials for the same project. Please place the enclosed information along with the information you previously received. To ensure that your patrons have ample opportunity to review the enclosed permit, **we ask that you retain this document for at least 60 days.**

The applicant is responsible for placing a copy of the application in your library. If the permit application is not on file, or if you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185.

Enclosures
Final Library 1/9/2017

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

Eric J. Holcomb
Governor

Brian C. Rockensuess
Commissioner

July 2, 2024
Linde Advanced Material Technologies Inc
097-47553-00060

To: Interested Parties

This notice is to inform you that a final decision has been issued for the air permit application referenced above. This notice is for informational purposes only. You are not required to take any action.

You are receiving this notice because you asked to be on IDEM's notification list for this company and/or county; or because your property is nearby the company being permitted; or because you represent a local/regional government entity.

The enclosed Notice of Decision Letter provides additional information about the final permit decision.

The final decision and supporting materials are available electronically at:

IDEM's online searchable database: http://www.in.gov/apps/idem/caats/ . Choose Search Option by Permit Number, then enter permit 47553

and

IDEM's Virtual File Cabinet (VFC): 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.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178, or toll-free at 1-800-451-6027 (ext. 3-0178), and ask to speak to the permit reviewer who prepared the permit.

Please Note: *If you 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.*

Enclosure
Final Interested Parties Cover Letter 10/13/2023

Mail Code 61-53

IDEM Staff	CMOSIER 7/2/2024 Linde Advanced Material Technologies Inc 097-47553-00060 (final)		AFFIX STAMP HERE IF USED AS CERTIFICATE OF MAILING
Name and address of Sender	▶	Indiana Department of Environmental Management Office of Air Quality – Permits Branch 100 N. Senate Indianapolis, IN 46204	Type of Mail: **CERTIFICATE OF MAILING ONLY**

Line	Article Number	Name, Address, Street and Post Office Address	Postage	Handing Charges	Act. Value (If Registered)	Insured Value	Due Send if COD	R.R. Fee	S.D. Fee	S.H. Fee	Rest. Del. Fee Remarks
1		Michael Hess Linde Advanced Material Technologies Inc 1500 Polco St Indianapolis IN 46224 (Source CAATS) via UPS									
2		Michael Bass Facilities Manager Linde Advanced Material Technologies Inc 1500 Polco St Indianapolis IN 46224 *(RO CAATS)*									
3		Indianapolis City Council and Mayors office 200 E Washington St, City-County Bldg, Ste 2501 Indianapolis IN 46204 *(Local Official)*									
4		Marion County Commissioners 200 E Washington St, City-County Bldg, Ste 801 Indianapolis IN 46204 *(Local Official)*									
5		Speedway Public Library 5633 W 25th St Speedway IN 46224-3899 *(Library)*									
6		Alic Bent August Mack Environmental Inc 1302 N Meridian St Ste 300 Indianapolis IN 46202 *(Consultant)*									
7		Office of Sustainability, Marion County City-County Bldg, 200 E Washington St, Rm 2460 Indianapolis IN 46204 *(Local Official)*									
8		Planning Div., Dept. of Metropolitan Development 200 E Washington St Rm 2042 Indianapolis IN 46204 *(Local Official)*									
9		Marion County Health Department 3838 N Rural St Indianapolis IN 46205 *(Health Department)*									
10		Wayne Township Trustee 5401 W Washington St Indianapolis IN 46241 *(Local Official)*									
11											
12											
13											
14											
15											

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

FACSIMILIE OF PS Form 3877