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

Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

**NOTICE OF 30-DAY PERIOD
FOR PUBLIC COMMENT**

Preliminary Findings Regarding the Renewal of a
Federally Enforceable State Operating Permit (FESOP)

for Praxair Surface Technologies, Inc. in Marion County

FESOP Renewal No.: F097-40170-00060

The Indiana Department of Environmental Management (IDEM) has received an application from Praxair Surface Technologies, Inc., located at 1500 and 1550 Polco Street and 1245 and 1415 Main Street, Indianapolis, Indiana 46222, for a renewal of its FESOP issued on April 1, 2014. If approved by IDEM's Office of Air Quality (OAQ), this proposed modification would allow Praxair Surface Technologies, Inc. to make certain changes at its existing source. Praxair Surface Technologies, Inc. has applied to:

(a) Modify the following emission units:

  (1) The one (1) specialty ingot manufacturing process by adding one (1) lathe and

  (2) The one (1) open top vapor degreaser, identified as LPPS Vapor Degreaser, by changing the solvent.

(b) Modify the following insignificant activity:

  The one (1) hydrochloric acid stripping operation by adding an additional hydrochloric acid tank.

(c) Construct and operate one (1) new natural gas-fired boiler. This boiler is a replacement for the existing one (1) natural gas-fired boiler, identified as B-002.

(d) Construct and operate one (1) new 3D printer, which is considered an insignificant activity.

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

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

Speedway Public Library
5633 West 25th Street
Indianapolis, IN 46224

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

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

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How can you participate in this process?

The date that this notice is published in a newspaper marks the beginning of a 30-day public comment period. If the 30th day of the comment period falls on a day when IDEM offices are closed for business, all comments must be postmarked or delivered in person on the next business day that IDEM is open.

You may request that IDEM hold a public hearing about this draft permit. If adverse comments concerning the **air pollution impact** of this draft permit are received, with a request for a public hearing, IDEM will decide whether or not to hold a public hearing. IDEM could also decide to hold a public meeting instead of, or in addition to, a public hearing. If a public hearing or meeting is held, IDEM will make a separate announcement of the date, time, and location of that hearing or meeting. At a hearing, you would have an opportunity to submit written comments and make verbal comments. At a meeting, you would have an opportunity to submit written comments, ask questions, and discuss any air pollution concerns with IDEM staff.

Comments and supporting documentation, or a request for a public hearing should be sent in writing to IDEM at the address below. If you comment via e-mail, please include your full U.S. mailing address so that you can be added to IDEM's mailing list to receive notice of future action related to this permit. If you do not want to comment at this time, but would like to receive notice of future action related to this permit application, please contact IDEM at the address below. Please refer to permit number F097-40170-00060 in all correspondence.

Comments should be sent to:

Scott Zello-Dean
IDEM, Office of Air Quality
100 North Senate Avenue
MC 61-53 IGCN 1003
Indianapolis, Indiana 46204-2251
(800) 451-6027, ask for Scott Zello-Dean or (317) 234-5373
Or dial directly: (317) 234-5373
Fax: (317) 232-6749 attn: Scott Zello-Dean
E-mail: SZello-Dean@idem.IN.gov

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

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

Air Permit Legal Notices
On November 14, 2018, the State of Indiana Environmental Rules Board adopted rule amendments to 326 IAC 2-1.1-6, 326 IAC 2-7-13, 326 IAC 2-7-17, 326 IAC 2-8-13, 326 IAC 2-8-18, and 326 IAC 2-12-1 (LSA #17-395), concerning legal notice provisions for air permits issued under the NSR and Title V permit programs and other air permits for which newspaper notices are published by IDEM OAQ. The adopted rule amendments require that IDEM OAQ provide electronic public notices on IDEM's website as the primary and consistent method for communicating air permit notices to the public. IDEM anticipates that the final (effective) rule amendments will be promulgated on or about March 14, 2019. The status of these rule amendments (LSA #17-395) and the final effective date will be posted on the following website: https://www.in.gov/idem/legal/2351.htm.

Until the rule amendments to 326 IAC 2-1.1-6, 326 IAC 2-7-13, 326 IAC 2-7-17, 326 IAC 2-8-13, 326 IAC 2-8-18, and 326 IAC 2-12-1 are promulgated final (effective), IDEM OAQ will publish both newspaper public notices and electronic public notices on IDEM's website. Once the rule amendments are promulgated final (effective), IDEM OAQ will no longer publish newspaper public notices and will only publish electronic public notices on IDEM's website.

Electronic public notices, including permitting, rulemaking, meeting, and hearing notices, are posted on IDEM's website at: https://www.in.gov/idem/5474.htm. Public notices posted on IDEM's webpage will be accessible for the duration of the public comment period.

IDEM OAQ provides alternative methods for receiving public notices, such as the interested parties mailing list. The IDEM OAQ interested parties mailing list consists of people who have asked to be notified by email list or direct mail delivery of air permit actions related to a specific source or multiple sources, or for all air permit actions in a certain county or multiple counties. If you would like to be added to the IDEM OAQ interested parties mailing list, call Patty Pear at (317) 233-6875 or call (800) 451-6027, select option 4, and ask for the "Permits Administration Section".

Citizens and interested parties can also subscribe to IDEM's regional public notice pages and receive an e-mail or text message to your phone every time IDEM adds information to a subscribed region at the following website: https://public.govdelivery.com/accounts/INDEM/subscriber/new?qsp=INDEM_3

What will happen after IDEM makes a decision?

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

If you have any questions, please contact Scott Zello-Dean of my staff at the above address.

Iryn Calilung, Section Chief
Permits Branch
Office of Air Quality

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Eric J. Holcomb
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DRAFT

Federally Enforceable State Operating Permit Renewal
OFFICE OF AIR QUALITY

Praxair Surface Technologies, Inc.
1245 Main Street,
1415 Main Street,
1500 Polco Street, and
1550 Polco Street
Indianapolis, Indiana 46224

(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.: F097-40170-00060 Master Agency Interest ID: 12099	
Issued by: Iryn Calilung, Section Chief Permits Branch Office of Air Quality	Issuance Date: Expiration Date:

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SECTION A **SOURCE SUMMARY**

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.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 nonmettalic 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)
County Location:	Marion Wayne Township
Source Location Status:	Nonattainment for SO_2 standard Attainment for all other 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 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, located at 1550 Polco Street, exhausting indoors, 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, with a maximum capacity of four (4) batches of powder per twenty (20) hours, including the following systems:

(A) Spray drying and

(B) Powder to an oxide foam converter

and utilizing the following control devices:

(C) One (1) cyclonic collection system and

(D) 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) natural gas combustion unit, identified as Burner Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing one (1) CSP pollution control system, which includes the following control devices:

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

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

(5) 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 dust collector, identified as DC033, as control.

(6) One (1) electrically-heated rotary kiln, with a maximum capacity of four (4) batches of powder per twenty (20) hours, used to calcine powder, and utilizing no control;

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

(8) One (1) enclosed mill, 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 no control;

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

(10) One (1) primary enclosed blender, used to homogenize the mixture, utilizing no control, and with no exhaust;

(11) One (1) backup enclosed blender, permitted in 2014, used to homogenize the mixture, used to process small product batches and used as a backup blender for the primary enclosed blender, utilizing no control, and with no exhaust; and

(12) 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, as 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-four (24) specialty powders manufacturing operations, located at the 1550 Polco Street Specialty Powders area:

(1) Twenty-two (22) specialty powders manufacturing operations, modified in 2015 to reroute baghouses, modified in 2016 to construct a new operation, and modified in 2018 to change the amount of dust collected by the dust collectors, 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.

Emission Unit ID	Maximum Throughput (lb/hr)	Dust Collectors	Description
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.

Emission Unit ID	Maximum Throughput (lb/hr)	Dust Collectors	Description
			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.
EUP-17	8.33	DC035, DC061, Demister 3	Viga 2/5 for Powder 2, support and special orders (SO) processing. Powder handling is controlled by DC061, while the exhaust from the viga is controlled by DC035. Demister 3 is used to remove oil that was used in the viga.
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	314.66	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.

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) One (1) titanium powder process, identified as Titanium Powder Process, 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 this process has been considered confidential information.

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

(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.

<u>1245 Main Street</u>

(l) Twenty (20) 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

(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-two (22) 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-EUG1	Constructed prior to 2014	173	O1P1-CG1
O1P1-EUG2		173	O1P1-CG2
O1P1-EUG5		173	O1P1-CG5
O1P1-EUG6		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

Emission Unit ID	Construction Year	Maximum Capacity (lbs/hr)	Control Device
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

(r) 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

(s) 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.

(t) 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 three (3) integral dust collectors with HEPA filters, identified as DCC1-CV, DCC2-CV, and DCC4-CV, as control, and exhausting indoors.

(u) 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.

(v) 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.

(w) 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.

(x) 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.

(y) 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:

<table>
<tr><th>Emission Unit ID</th><th>Construction Year</th><th>Maximum Capacity (lbs of powder coating per hour)</th><th>Control Device</th><th>Stack / Vent ID</th></tr>
<tr><td>EU01B</td><td rowspan="8">1994</td><td>16.08</td><td>C01B</td><td>01B</td></tr>
<tr><td>EU02B</td><td>16.08</td><td>C02B</td><td>02B</td></tr>
<tr><td>EU05B</td><td>16.08</td><td>C05B</td><td>05B</td></tr>
<tr><td>EU06B</td><td>16.08</td><td>C06B</td><td>06B</td></tr>
<tr><td rowspan="2">EU07B*</td><td rowspan="2">16.08</td><td>C07B</td><td rowspan="2">07B</td></tr>
<tr><td>Baffles**</td></tr>
<tr><td>EU08B^</td><td>16.08</td><td>C08B</td><td>08B</td></tr>
<tr><td>EU09B</td><td>16.08</td><td>C09B</td><td>09B</td></tr>
<tr><td>EU11B</td><td>2009</td><td>16.08</td><td>C11B</td><td>11B</td></tr>
<tr><td colspan="5">*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.</td></tr>
</table>

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.

(z) 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

(aa) Five (5) 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) Two (2) 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	660	N-Propyl Bromide
Tribomet Line Vapor Degreaser*	2017	660	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.3 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) 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

Under NESHAP for Stationary reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ], the three (3) 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

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

1415 Main Street

(g) 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.

(h) 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.

(i) 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.

(j) 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

(k) Combustion source flame safety purging on startup.

(l) 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.

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

(n) 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.

(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.

(o) 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.

(p) 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.

(q) 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.

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

(s) Filter or coalescer media changeout.

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

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

A.4 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, F097-40170-00060, 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(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 F097-40170-00060 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 317-233-4230 (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(2).

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

All required notifications shall be submitted to:

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

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification that meets the requirements of 326 IAC 2-8-5(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(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, located at 1550 Polco Street, exhausting indoors, 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, with a maximum capacity of four (4) batches of powder per twenty (20) hours, including the following systems:

(A) Spray drying and

(B) Powder to an oxide foam converter

and utilizing the following control devices:

(C) One (1) cyclonic collection system and

(D) 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) natural gas combustion unit, identified as Burner Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing one (1) CSP pollution control system, which includes the following control devices:

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

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

(5) 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 dust collector, identified as DC033, as control.

(6) One (1) electrically-heated rotary kiln, with a maximum capacity of four (4) batches of powder per twenty (20) hours, used to calcine powder, and utilizing no control;

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

(8) One (1) enclosed mill, 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 no control;

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

(10) One (1) primary enclosed blender, used to homogenize the mixture, utilizing no control, and with no exhaust;

(11) One (1) backup enclosed blender, permitted in 2014, used to homogenize the mixture, used to process small product batches and used as a backup blender for the primary enclosed blender, utilizing no control, and with no exhaust; and

(12) 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, as 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

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

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
Burner Associated with EU020
Powder Handling After CSP
Powder Handling After Kiln
Enclosed Mill
Powder Handling After Mill
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 (lbs/hr)
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	13.70

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	DC033
Powder Handling After Kiln	
Powder Handling After Mill	
Final Powder Handling	

(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) and the production rate during testing to generate an emission factor (e.g., lbs NOx per tons of material processed) to determine that NOx emissions.

(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	DC033
Powder Handling After Kiln	
Powder Handling After Mill	
Final Powder Handling	

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:

<u>1550 Polco Street</u>

(b) Twenty-four (24) specialty powders manufacturing operations, located at the 1550 Polco Street Specialty Powders area:

(1) Twenty-two (22) specialty powders manufacturing operations, modified in 2015 to reroute baghouses, modified in 2016 to construct a new operation, and modified in 2018 to change the amount of dust collected by the dust collectors, 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.
EUP-17	8.33	DC035, DC061, Demister 3	Viga 2/5 for Powder 2, support and special orders (SO) processing. Powder handling is controlled by DC061, while the exhaust from the viga is controlled by DC035. Demister 3 is used to remove oil that was used in the viga.
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	314.66	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.

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) One (1) titanium powder process, identified as Titanium Powder Process, 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 this process has been considered confidential information.

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

(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 (20) 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

1415 Main Street

(q) Twenty-two (22) 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-EUG1	Constructed prior to 2014	173	O1P1-CG1
O1P1-EUG2		173	O1P1-CG2
O1P1-EUG5		173	O1P1-CG5
O1P1-EUG6		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

(r) 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

(s) 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.

(t) 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 three (3) integral dust collectors with HEPA filters, identified as DCC1-CV, DCC2-CV, and DCC4-CV, as control, and exhausting indoors.

(u) 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.

(v) 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.

(w) 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.

(x) 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) 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

Under NESHAP for Stationary reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ], the three (3) 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	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
1415 Main Street	
Twenty-two (22) grit blasting units	
EU01C	0.50
EU04C	0.50
EU05C	0.50

Emission Unit	PM Limit (lbs/hr)
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-EUG2	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
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, 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.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	0.80	0.80
1500 Polco Street		
One (1) grit blasting unit		
EU13C	0.11	0.11
1245 Main Street		
Twenty (20) grit blasting units		
EU09C	0.11	0.11
EU001G	0.11	0.11
EU002G	0.11	0.11

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
EU004G	0.11	0.11
EU005G	0.11	0.11
EU008G	0.11	0.11
EU010G	0.11	0.11
EU011G	0.11	0.11
EU013G	0.11	0.11
EU014G	0.11	0.11
EU016G	0.11	0.11
EU018G	0.11	0.11
EU019G	0.11	0.11
EU012G	0.11	0.11
EU007G	0.11	0.11
EU01M	0.11	0.11
EU02M	0.11	0.11
EU01L	0.11	0.11
EU01GB	0.11	0.11
EU02GB	0.11	0.11
1415 Main Street		
Twenty-two (22) grit blasting units		
EU01C	0.11	0.11
EU04C	0.11	0.11
EU05C	0.11	0.11
EU06C	0.11	0.11
EU07C	0.11	0.11
EU08C	0.11	0.11
EU10C	0.11	0.11
EU12C	0.11	0.11
EU16C	0.11	0.11
EU03C	0.11	0.11
EU01M	0.11	0.11
O1P1-EUG1	0.11	0.11
O1P1-EUG2	0.11	0.11
O1P1-EUG5	0.11	0.11
O1P1-EUG6	0.11	0.11
O1P1-EUG7	0.11	0.11
O2P1-EUG1	0.11	0.11
O2P1-EUG2	0.11	0.11
O2P1-EUG3	0.11	0.11
O2P1-EUG5	0.11	0.11
O2P3-EUG1	0.11	0.11
O2P3-EUG2	0.11	0.11
One (1) wet grit blasting unit		
EU15C	0.11	0.11
Three (3) grinders		
Bader Grinder #2	0.10	0.10

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
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-three (23) 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
EUP-17
EUS-22
EUS-4A
EUS-12
EUS-15D
One (1) Titanium powder process
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

Emission Unit
One (1) material transfer point
Ingot Machining Lathe
1500 Polco Street
One (1) grit blasting unit
EU13C
1245 Main Street
Twenty (20) grit blasting units
EU09C
EU001G
EU002G
EU004G
EU005G
EU008G
EU010G
EU011G
EU013G
EU014G
EU016G
EU018G
EU019G
EU012G
EU007G
EU01M
EU02M
EU01L
EU01GB
EU02GB
1415 Main Street
Twenty-two (22) grit blasting units
EU01C
EU04C
EU05C
EU06C
EU07C
EU08C
EU10C
EU12C
EU16C
EU03C
EU01M
O1P1-EUG1
O1P1-EUG2
O1P1-EUG5
O1P1-EUG6
O1P1-EUG7

Emission Unit
O2P1-EUG1
O2P1-EUG2
O2P1-EUG3
O2P1-EUG5
O2P3-EUG1
O2P3-EUG2
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
Three (3) emergency generators
1245 Main Street
Grit reclassifier (EU020G)
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	Rotoclone (Wet Collector)
1500 Polco Street	
One (1) grit blasting unit	
EU13C	C13C
1245 Main Street	
Twenty (20) 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
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-EUG1	O1P1-CG1
O1P1-EUG2	O1P1-CG2
O1P1-EUG5	O1P1-CG5
O1P1-EUG6	O1P1-CG6
O1P1-EUG7	O1P1-CG7

Emission Unit	Control Device ID
O2P1-EUG1	O2P1-CG1/2
O2P1-EUG2	
O2P1-EUG3	O2P1-CG3/4
O2P1-EUG5	O2P1-CG5
O2P3-EUG1	O2P3-CG1
O2P3-EUG2	O2P3-CG2
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-three (23) 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
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
EUP-17	DC035, DC061, Demister 3
EUS-22	DC005
EUS-4A	DC007, DC054
EUS-12	DC014
EUS-15D	DC074 (Baghouse)
One (1) coating mixing operation Sermatech Process	Scrubber #1 and Scrubber #2
One (1) polishing operation	

Emission Unit	Control Device ID
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, DCC2-CV, DCC4-CV

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-three (23) 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
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
EUP-17	DC035, DC061, Demister 3
EUS-22	DC005
EUS-4A	DC007, DC054
EUS-12	DC014
EUS-15D	DC074 (Baghouse)
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

Emission Unit	Control Device ID
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 (20) 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
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-EUG1	O1P1-CG1
O1P1-EUG2	O1P1-CG2
O1P1-EUG5	O1P1-CG5

Emission Unit	Control Device ID
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
One (1) wet grit blasting unit	
EU15C	C15C
Operation 1, Process 1 (O1P1)	DCC1-CV, DCC2-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 one (1) titanium powder process, identified as Titanium Powder Process, at least once per day when the one (1) titanium powder process, identified as Titanium Powder Process, 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 one (1) titanium powder process, identified as Titanium Powder Process. 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

(y) 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 Baffles**	07B
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

(z) 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

(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
ACPR1-1
ACPR1-2
RTU-B1
RTU-A-1
RTU-A7
RTU-E1
RTU-D2

Emission Unit ID
RTU-C1

(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:

<u>1415 Main Street</u>

(aa) 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

(aa) 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
LPPS Vapor Degreaser	Constructed in 2013 and approved in 2018 for modification to change solvent	660	N-Propyl Bromide
Tribomet Line Vapor Degreaser*	2017	660	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, located at 1550 Polco Street, exhausting indoors, 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, with a maximum capacity of four (4) batches of powder per twenty (20) hours, including the following systems:

(A) Spray drying and

(B) Powder to an oxide foam converter

and utilizing the following control devices:

(C) One (1) cyclonic collection system and

(D) 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) natural gas combustion unit, identified as Burner Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing one (1) CSP pollution control system, which includes the following control devices:

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

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

(5) 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 dust collector, identified as DC033, as control.

(6) One (1) electrically-heated rotary kiln, with a maximum capacity of four (4) batches of powder per twenty (20) hours, used to calcine powder, and utilizing no control;

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

(8) One (1) enclosed mill, 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 no control;

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

(10) One (1) primary enclosed blender, used to homogenize the mixture, utilizing no control, and with no exhaust;

(11) One (1) backup enclosed blender, permitted in 2014, used to homogenize the mixture, used to process small product batches and used as a backup blender for the primary enclosed blender, utilizing no control, and with no exhaust; and

(12) 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, as 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-four (24) specialty powders manufacturing operations, located at the 1550 Polco Street Specialty Powders area:

(1) Twenty-two (22) specialty powders manufacturing operations, modified in 2015 to reroute baghouses, modified in 2016 to construct a new operation, and modified in 2018 to change the amount of dust collected by the dust collectors, 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.
EUP-17	8.33	DC035, DC061, Demister 3	Viga 2/5 for Powder 2, support and special orders (SO) processing. Powder handling is controlled by DC061, while the exhaust from the viga is controlled by DC035. Demister 3 is used to remove oil that was used in the viga.
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	314.66	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.

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) One (1) titanium powder process, identified as Titanium Powder Process, 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 this process has been considered confidential information.

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

(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

(x) 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.

(y) 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 Baffles**	07B
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

(g) 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.

(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) 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

Under NESHAP for Stationary reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ], the three (3) 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:

<u>1415 Main Street</u>

(aa) One (1) degreaser located at 1415 Main Street:

(2) One (1) open top vapor degreaser, utilizing no control, and exhausting indoors:

Emission Unit ID	**Construction Year**	**Maximum Capacity (gallons per year)**	**Solvent**
Tribomet Line Vapor Degreaser*	2017	660	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:	Praxair Surface Technologies, Inc.
Source Address:	1245 and 1415 Main Street and 1500 and 1550 Polco Street, Indianapolis, Indiana 46224
FESOP Permit No.:	F097-40170-00060

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:
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: Praxair Surface Technologies, Inc.
Source Address: 1245 and 1415 Main Street and 1500 and 1550 Polco Street, Indianapolis, Indiana 46224
FESOP Permit No.: F097-40170-00060

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 Describe:
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:	Praxair Surface Technologies, Inc.
Source Address:	1245 and 1415 Main Street and 1500 and 1550 Polco Street, Indianapolis, Indiana 46224
FESOP Permit No.:	F097-40170-00060

Months: ___________ to ____________ Year: ______________

Page 1 of 2

This report shall be submitted quarterly based on a calendar year. Proper notice submittal under Section B –Emergency Provisions satisfies the reporting requirements of paragraph (a) of Section C-General Reporting. Any deviation from the requirements of this permit, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. A deviation required to be reported pursuant to an applicable requirement that exists independent of the permit, shall be reported according to the schedule stated in the applicable requirement and does not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".	
☐ NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.	
☐ THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Page 2 of 2

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:_______________________________

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Attachment A

Federally Enforceable State Operating Permit (FESOP) No: F097-40170-00060

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Title 40: Protection of Environment

PART 60—STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Subpart Dc—Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units

Source: 72 FR 32759, June 13, 2007, unless otherwise noted.

§ 60.40c Applicability and delegation of authority.

(a) Except as provided in paragraphs (d), (e), (f), and (g) of this section, the affected facility to which this subpart applies is each steam generating unit for which construction, modification, or reconstruction is commenced after June 9, 1989 and that has a maximum design heat input capacity of 29 megawatts (MW) (100 million British thermal units per hour (MMBtu/h)) or less, but greater than or equal to 2.9 MW (10 MMBtu/h).

(b) In delegating implementation and enforcement authority to a State under section 111(c) of the Clean Air Act, § 60.48c(a)(4) shall be retained by the Administrator and not transferred to a State.

(c) Steam generating units that meet the applicability requirements in paragraph (a) of this section are not subject to the sulfur dioxide (SO_2) or particulate matter (PM) emission limits, performance testing requirements, or monitoring requirements under this subpart (§§ 60.42c, 60.43c, 60.44c, 60.45c, 60.46c, or 60.47c) during periods of combustion research, as defined in § 60.41c.

(d) Any temporary change to an existing steam generating unit for the purpose of conducting combustion research is not considered a modification under § 60.14.

(e) Affected facilities (*i.e.* heat recovery steam generators and fuel heaters) that are associated with stationary combustion turbines and meet the applicability requirements of subpart KKKK of this part are not subject to this subpart. This subpart will continue to apply to all other heat recovery steam generators, fuel heaters, and other affected facilities that are capable of combusting more than or equal to 2.9 MW (10 MMBtu/h) heat input of fossil fuel but less than or equal to 29 MW (100 MMBtu/h) heat input of fossil fuel. If the heat recovery steam generator, fuel heater, or other affected facility is subject to this subpart, only emissions resulting from combustion of fuels in the steam generating unit are subject to this subpart. (The stationary combustion turbine emissions are subject to subpart GG or KKKK, as applicable, of this part.)

(f) Any affected facility that meets the applicability requirements of and is subject to subpart AAAA or subpart CCCC of this part is not subject to this subpart.

(g) Any facility that meets the applicability requirements and is subject to an EPA approved State or Federal section 111(d)/129 plan implementing subpart BBBB of this part is not subject to this subpart.

(h) Affected facilities that also meet the applicability requirements under subpart J or subpart Ja of this part are subject to the PM and NO_X standards under this subpart and the SO_2 standards under subpart J or subpart Ja of this part, as applicable.

(i) Temporary boilers are not subject to this subpart.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

§ 60.41c Definitions.

As used in this subpart, all terms not defined herein shall have the meaning given them in the Clean Air Act and in subpart A of this part.

Annual capacity factor means the ratio between the actual heat input to a steam generating unit from an individual fuel or combination of fuels during a period of 12 consecutive calendar months and the potential heat input to the steam generating unit from all fuels had the steam generating unit been operated for 8,760 hours during that 12-month period at the maximum design heat input capacity. In the case of steam generating units that are rented or leased, the actual heat input shall be determined based on the combined heat input from all operations of the affected facility during a period of 12 consecutive calendar months.

Coal means all solid fuels classified as anthracite, bituminous, subbituminous, or lignite by the American Society of Testing and Materials in ASTM D388 (incorporated by reference, see § 60.17), coal refuse, and petroleum coke. Coal-derived synthetic fuels derived from coal for the purposes of creating useful heat, including but not limited to solvent refined coal, gasified coal not meeting the definition of natural gas, coal-oil mixtures, and coal-water mixtures, are also included in this definition for the purposes of this subpart.

Coal refuse means any by-product of coal mining or coal cleaning operations with an ash content greater than 50 percent (by weight) and a heating value less than 13,900 kilojoules per kilogram (kJ/kg) (6,000 Btu per pound (Btu/lb) on a dry basis.

Combined cycle system means a system in which a separate source (such as a stationary gas turbine, internal combustion engine, or kiln) provides exhaust gas to a steam generating unit.

Combustion research means the experimental firing of any fuel or combination of fuels in a steam generating unit for the purpose of conducting research and development of more efficient combustion or more effective prevention or control of air pollutant emissions from combustion, provided that, during these periods of research and development, the heat generated is not used for any purpose other than preheating combustion air for use by that steam generating unit (*i.e.* , the heat generated is released to the atmosphere without being used for space heating, process heating, driving pumps, preheating combustion air for other units, generating electricity, or any other purpose).

Conventional technology means wet flue gas desulfurization technology, dry flue gas desulfurization technology, atmospheric fluidized bed combustion technology, and oil hydrodesulfurization technology.

Distillate oil means fuel oil that complies with the specifications for fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17), diesel fuel oil numbers 1 or 2, as defined by the American Society for Testing and Materials in ASTM D975 (incorporated by reference, see § 60.17), kerosine, as defined by the American Society of Testing and Materials in ASTM D3699 (incorporated by reference, see § 60.17), biodiesel as defined by the American Society of Testing and Materials in ASTM D6751 (incorporated by reference, see § 60.17), or biodiesel blends as defined by the American Society of Testing and Materials in ASTM D7467 (incorporated by reference, see § 60.17).

Dry flue gas desulfurization technology means a SO_2 control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline reagent and water, whether introduced separately or as a premixed slurry or solution and forming a dry powder material. This definition includes devices where the dry powder material is subsequently converted to another form. Alkaline reagents used in dry flue gas desulfurization systems include, but are not limited to, lime and sodium compounds.

Duct burner means a device that combusts fuel and that is placed in the exhaust duct from another source (such as a stationary gas turbine, internal combustion engine, kiln, etc.) to allow the firing of additional fuel to heat the exhaust gases before the exhaust gases enter a steam generating unit.

Emerging technology means any SO_2 control system that is not defined as a conventional technology under this section, and for which the owner or operator of the affected facility has received approval from the Administrator to operate as an emerging technology under § 60.48c(a)(4).

Federally enforceable means all limitations and conditions that are enforceable by the Administrator, including the requirements of 40 CFR parts 60 and 61, requirements within any applicable State implementation plan, and any permit requirements established under 40 CFR 52.21 or under 40 CFR 51.18 and 51.24.

Fluidized bed combustion technology means a device wherein fuel is distributed onto a bed (or series of beds) of limestone aggregate (or other sorbent materials) for combustion; and these materials are forced upward in the device by the flow of combustion air and the gaseous products of combustion. Fluidized bed combustion technology includes, but is not limited to, bubbling bed units and circulating bed units.

Fuel pretreatment means a process that removes a portion of the sulfur in a fuel before combustion of the fuel in a steam generating unit.

Heat input means heat derived from combustion of fuel in a steam generating unit and does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust gases from other sources (such as stationary gas turbines, internal combustion engines, and kilns).

Heat transfer medium means any material that is used to transfer heat from one point to another point.

Maximum design heat input capacity means the ability of a steam generating unit to combust a stated maximum amount of fuel (or combination of fuels) on a steady state basis as determined by the physical design and characteristics of the steam generating unit.

Natural gas means:

(1) A naturally occurring mixture of hydrocarbon and nonhydrocarbon gases found in geologic formations beneath the earth's surface, of which the principal constituent is methane; or

(2) Liquefied petroleum (LP) gas, as defined by the American Society for Testing and Materials in ASTM D1835 (incorporated by reference, see § 60.17); or

(3) A mixture of hydrocarbons that maintains a gaseous state at ISO conditions. Additionally, natural gas must either be composed of at least 70 percent methane by volume or have a gross calorific value between 34 and 43 megajoules (MJ) per dry standard cubic meter (910 and 1,150 Btu per dry standard cubic foot).

Noncontinental area means the State of Hawaii, the Virgin Islands, Guam, American Samoa, the Commonwealth of Puerto Rico, or the Northern Mariana Islands.

Oil means crude oil or petroleum, or a liquid fuel derived from crude oil or petroleum, including distillate oil and residual oil.

Potential sulfur dioxide emission rate means the theoretical SO_2 emissions (nanograms per joule (ng/J) or lb/MMBtu heat input) that would result from combusting fuel in an uncleaned state and without using emission control systems.

Process heater means a device that is primarily used to heat a material to initiate or promote a chemical reaction in which the material participates as a reactant or catalyst.

Residual oil means crude oil, fuel oil that does not comply with the specifications under the definition of distillate oil, and all fuel oil numbers 4, 5, and 6, as defined by the American Society for Testing and Materials in ASTM D396 (incorporated by reference, see § 60.17).

Steam generating unit means a device that combusts any fuel and produces steam or heats water or heats any heat transfer medium. This term includes any duct burner that combusts fuel and is part of a combined cycle system. This term does not include process heaters as defined in this subpart.

Steam generating unit operating day means a 24-hour period between 12:00 midnight and the following midnight during which any fuel is combusted at any time in the steam generating unit. It is not necessary for fuel to be combusted continuously for the entire 24-hour period.

Temporary boiler means a steam generating unit that combusts natural gas or distillate oil with a potential SO_2 emissions rate no greater than 26 ng/J (0.060 lb/MMBtu), and the unit is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids, carrying handles, dollies, trailers, or platforms. A steam generating unit is not a temporary boiler if any one of the following conditions exists:

(1) The equipment is attached to a foundation.

(2) The steam generating unit or a replacement remains at a location for more than 180 consecutive days. Any temporary boiler that replaces a temporary boiler at a location and performs the same or similar function will be included in calculating the consecutive time period.

(3) The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.

(4) The equipment is moved from one location to another in an attempt to circumvent the residence time requirements of this definition.

Wet flue gas desulfurization technology means an SO_2 control system that is located between the steam generating unit and the exhaust vent or stack, and that removes sulfur oxides from the combustion gases of the steam generating unit by contacting the combustion gases with an alkaline slurry or solution and forming a liquid material. This definition includes devices where the liquid material is subsequently converted to another form. Alkaline reagents used in wet flue gas desulfurization systems include, but are not limited to, lime, limestone, and sodium compounds.

Wet scrubber system means any emission control device that mixes an aqueous stream or slurry with the exhaust gases from a steam generating unit to control emissions of PM or SO_2 .

Wood means wood, wood residue, bark, or any derivative fuel or residue thereof, in any form, including but not limited to sawdust, sanderdust, wood chips, scraps, slabs, millings, shavings, and processed pellets made from wood or other forest residues.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9461, Feb. 16, 2012]

§ 60.42c Standard for sulfur dioxide (SO2).

(a) Except as provided in paragraphs (b), (c), and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that combusts only coal shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility shall neither: cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 10 percent (0.10) of the potential SO_2 emission rate (90 percent reduction), nor cause to be discharged into the atmosphere from the affected facility any gases that contain SO_2 in excess of the emission limit is determined pursuant to paragraph (e)(2) of this section.

(b) Except as provided in paragraphs (c) and (e) of this section, on and after the date on which the performance test is completed or required to be completed under § 60.8, whichever date comes first, the owner or operator of an affected facility that:

(1) Combusts only coal refuse alone in a fluidized bed combustion steam generating unit shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 87 ng/J (0.20 lb/MMBtu) heat input or 20 percent (0.20) of the potential SO_2 emission rate (80 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of SO_2 in excess of 520 ng/J (1.2 lb/MMBtu) heat input. If coal is fired with coal refuse, the affected facility subject to paragraph (a) of this section. If oil or any other fuel (except coal) is fired with coal refuse, the affected facility is subject to the 87 ng/J (0.20 lb/MMBtu) heat input SO_2 emissions limit or the 90 percent SO_2 reduction requirement specified in paragraph (a) of this section and the emission limit is determined pursuant to paragraph (e)(2) of this section.

(2) Combusts only coal and that uses an emerging technology for the control of SO_2 emissions shall neither:

(i) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 50 percent (0.50) of the potential SO_2 emission rate (50 percent reduction); nor

(ii) Cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 260 ng/J (0.60 lb/MMBtu) heat input. If coal is combusted with other fuels, the affected facility is subject to the 50 percent SO_2 reduction requirement specified in this paragraph and the emission limit determined pursuant to paragraph (e)(2) of this section.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, alone or in combination with any other fuel, and is listed in paragraphs (c)(1), (2), (3), or (4) of this section shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of the emission limit determined pursuant to paragraph (e)(2) of this section. Percent reduction requirements are not applicable to affected facilities under paragraphs (c)(1), (2), (3), or (4).

(1) Affected facilities that have a heat input capacity of 22 MW (75 MMBtu/h) or less;

(2) Affected facilities that have an annual capacity for coal of 55 percent (0.55) or less and are subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for coal of 55 percent (0.55) or less.

(3) Affected facilities located in a noncontinental area; or

(4) Affected facilities that combust coal in a duct burner as part of a combined cycle system where 30 percent (0.30) or less of the heat entering the steam generating unit is from combustion of coal in the duct burner and 70 percent (0.70) or more of the heat entering the steam generating unit is from exhaust gases entering the duct burner.

(d) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts oil shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of 215 ng/J (0.50 lb/MMBtu) heat input from oil; or, as an alternative, no owner or operator of an affected facility that combusts oil shall combust oil in the affected facility that contains greater than 0.5 weight percent sulfur. The percent reduction requirements are not applicable to affected facilities under this paragraph.

(e) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, oil, or coal and oil with any other fuel shall cause to be discharged into the atmosphere from that affected facility any gases that contain SO_2 in excess of the following:

(1) The percent of potential SO_2 emission rate or numerical SO_2 emission rate required under paragraph (a) or (b)(2) of this section, as applicable, for any affected facility that

(i) Combusts coal in combination with any other fuel;

(ii) Has a heat input capacity greater than 22 MW (75 MMBtu/h); and

(iii) Has an annual capacity factor for coal greater than 55 percent (0.55); and

(2) The emission limit determined according to the following formula for any affected facility that combusts coal, oil, or coal and oil with any other fuel:

$$E_s = \frac{(K_a H_a + K_b H_b + K_c H_c)}{(H_a + H_b + H_c)}$$

Where:

E_s = SO_2 emission limit, expressed in ng/J or lb/MMBtu heat input;

K_a = 520 ng/J (1.2 lb/MMBtu);

K_b = 260 ng/J (0.60 lb/MMBtu);

K_c = 215 ng/J (0.50 lb/MMBtu);

H_a = Heat input from the combustion of coal, except coal combusted in an affected facility subject to paragraph (b)(2) of this section, in Joules (J) [MMBtu];

H_b = Heat input from the combustion of coal in an affected facility subject to paragraph (b)(2) of this section, in J (MMBtu); and

H_c = Heat input from the combustion of oil, in J (MMBtu).

(f) Reduction in the potential SO_2 emission rate through fuel pretreatment is not credited toward the percent reduction requirement under paragraph (b)(2) of this section unless:

(1) Fuel pretreatment results in a 50 percent (0.50) or greater reduction in the potential SO_2 emission rate; and

(2) Emissions from the pretreated fuel (without either combustion or post-combustion SO_2 control) are equal to or less than the emission limits specified under paragraph (b)(2) of this section.

(g) Except as provided in paragraph (h) of this section, compliance with the percent reduction requirements, fuel oil sulfur limits, and emission limits of this section shall be determined on a 30-day rolling average basis.

(h) For affected facilities listed under paragraphs (h)(1), (2), (3), or (4) of this section, compliance with the emission limits or fuel oil sulfur limits under this section may be determined based on a certification from the fuel supplier, as described under § 60.48c(f), as applicable.

(1) Distillate oil-fired affected facilities with heat input capacities between 2.9 and 29 MW (10 and 100 MMBtu/hr).

(2) Residual oil-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/hr).

(3) Coal-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(4) Other fuels-fired affected facilities with heat input capacities between 2.9 and 8.7 MW (10 and 30 MMBtu/h).

(i) The SO_2 emission limits, fuel oil sulfur limits, and percent reduction requirements under this section apply at all times, including periods of startup, shutdown, and malfunction.

(j) For affected facilities located in noncontinental areas and affected facilities complying with the percent reduction standard, only the heat input supplied to the affected facility from the combustion of coal and oil is counted under this section. No credit is provided for the heat input to the affected facility from wood or other fuels or for heat derived from exhaust gases from other sources, such as stationary gas turbines, internal combustion engines, and kilns.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5090, Jan. 28, 2009; 77 FR 9462, Feb. 16, 2012]

§ 60.43c Standard for particulate matter (PM).

(a) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts coal or combusts mixtures of coal with other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emission limits:

(1) 22 ng/J (0.051 lb/MMBtu) heat input if the affected facility combusts only coal, or combusts coal with other fuels and has an annual capacity factor for the other fuels of 10 percent (0.10) or less.

(2) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility combusts coal with other fuels, has an annual capacity factor for the other fuels greater than 10 percent (0.10), and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor greater than 10 percent (0.10) for fuels other than coal.

(b) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commenced construction, reconstruction, or modification on or before February 28, 2005, that combusts wood or combusts mixtures of wood with other fuels (except coal) and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater, shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of the following emissions limits:

(1) 43 ng/J (0.10 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood greater than 30 percent (0.30); or

(2) 130 ng/J (0.30 lb/MMBtu) heat input if the affected facility has an annual capacity factor for wood of 30 percent (0.30) or less and is subject to a federally enforceable requirement limiting operation of the affected facility to an annual capacity factor for wood of 30 percent (0.30) or less.

(c) On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that combusts coal, wood, or oil and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that exhibit greater than 20 percent opacity (6-minute average), except for one 6-minute period per hour of not more than 27 percent opacity. Owners and operators of an affected facility that elect to install, calibrate, maintain, and operate a continuous emissions monitoring system (CEMS) for measuring PM emissions according to the requirements of this subpart and are subject to a federally enforceable PM limit of 0.030 lb/MMBtu or less are exempt from the opacity standard specified in this paragraph (c).

(d) The PM and opacity standards under this section apply at all times, except during periods of startup, shutdown, or malfunction.

(e)(1) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 13 ng/J (0.030 lb/MMBtu) heat input, except as provided in paragraphs (e)(2), (e)(3), and (e)(4) of this section.

(2) As an alternative to meeting the requirements of paragraph (e)(1) of this section, the owner or operator of an affected facility for which modification commenced after February 28, 2005, may elect to meet the requirements of this paragraph. On and after the date on which the initial performance test is completed or required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification

after February 28, 2005 shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of both:

(i) 22 ng/J (0.051 lb/MMBtu) heat input derived from the combustion of coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels; and

(ii) 0.2 percent of the combustion concentration (99.8 percent reduction) when combusting coal, oil, wood, a mixture of these fuels, or a mixture of these fuels with any other fuels.

(3) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that commences modification after February 28, 2005, and that combusts over 30 percent wood (by heat input) on an annual basis and has a heat input capacity of 8.7 MW (30 MMBtu/h) or greater shall cause to be discharged into the atmosphere from that affected facility any gases that contain PM in excess of 43 ng/J (0.10 lb/MMBtu) heat input.

(4) An owner or operator of an affected facility that commences construction, reconstruction, or modification after February 28, 2005, and that combusts only oil that contains no more than 0.50 weight percent sulfur or a mixture of 0.50 weight percent sulfur oil with other fuels not subject to a PM standard under § 60.43c and not using a post-combustion technology (except a wet scrubber) to reduce PM or SO_2 emissions is not subject to the PM limit in this section.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 77 FR 9462, Feb. 16, 2012]

§ 60.44c Compliance and performance test methods and procedures for sulfur dioxide.

(a) Except as provided in paragraphs (g) and (h) of this section and § 60.8(b), performance tests required under § 60.8 shall be conducted following the procedures specified in paragraphs (b), (c), (d), (e), and (f) of this section, as applicable. Section 60.8(f) does not apply to this section. The 30-day notice required in § 60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(b) The initial performance test required under § 60.8 shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the percent reduction requirements and SO_2 emission limits under § 60.42c shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affect facility will be operated, but not later than 180 days after the initial startup of the facility. The steam generating unit load during the 30-day period does not have to be the maximum design heat input capacity, but must be representative of future operating conditions.

(c) After the initial performance test required under paragraph (b) of this section and § 60.8, compliance with the percent reduction requirements and SO_2 emission limits under § 60.42c is based on the average percent reduction and the average SO_2 emission rates for 30 consecutive steam generating unit operating days. A separate performance test is completed at the end of each steam generating unit operating day, and a new 30-day average percent reduction and SO_2 emission rate are calculated to show compliance with the standard.

(d) If only coal, only oil, or a mixture of coal and oil is combusted in an affected facility, the procedures in Method 19 of appendix A of this part are used to determine the hourly SO_2 emission rate (E_{ho}) and the 30-day average SO_2 emission rate (E_{ao}). The hourly averages used to compute the 30-day averages are obtained from the CEMS. Method 19 of appendix A of this part shall be used to calculate E_{ao} when using daily fuel sampling or Method 6B of appendix A of this part.

(e) If coal, oil, or coal and oil are combusted with other fuels:

(1) An adjusted E_{ho} (E_{ho} o) is used in Equation 19-19 of Method 19 of appendix A of this part to compute the adjusted E_{ao} (E_{ao} o). The E_{ho} o is computed using the following formula:

$$E_{ho}o = \frac{E_{ho} - E_w(1 - X_1)}{X_1}$$

Where:

E_{ho} o = Adjusted E_{ho} , ng/J (lb/MMBtu);

E_{ho} = Hourly SO_2 emission rate, ng/J (lb/MMBtu);

E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 9 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume E_w = 0.

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(2) The owner or operator of an affected facility that qualifies under the provisions of § 60.42c(c) or (d) (where percent reduction is not required) does not have to measure the parameters E_w or X_k if the owner or operator of the affected facility elects to measure emission rates of the coal or oil using the fuel sampling and analysis procedures under Method 19 of appendix A of this part.

(f) Affected facilities subject to the percent reduction requirements under § 60.42c(a) or (b) shall determine compliance with the SO_2 emission limits under § 60.42c pursuant to paragraphs (d) or (e) of this section, and shall determine compliance with the percent reduction requirements using the following procedures:

(1) If only coal is combusted, the percent of potential SO_2 emission rate is computed using the following formula:

$$\%P_s = 100\left(1 - \frac{\%R_g}{100}\right)\left(1 - \frac{\%R_f}{100}\right)$$

Where:

$\%P_s$ = Potential SO_2 emission rate, in percent;

$\%R_g$ = SO_2 removal efficiency of the control device as determined by Method 19 of appendix A of this part, in percent; and

$\%R_f$ = SO_2 removal efficiency of fuel pretreatment as determined by Method 19 of appendix A of this part, in percent.

(2) If coal, oil, or coal and oil are combusted with other fuels, the same procedures required in paragraph (f)(1) of this section are used, except as provided for in the following:

(i) To compute the $\%P_s$, an adjusted $\%R_g$ ($\%R_g$ o) is computed from E_{ao} o from paragraph (e)(1) of this section and an adjusted average SO_2 inlet rate (E_{ai} o) using the following formula:

$$\%R_g o = 100\left(1 - \frac{E^{o}_{ao}}{E^{o}_{ai}}\right)$$

Where:

$\%R_g$ o = Adjusted $\%R_g$, in percent;

E_{ao} o = Adjusted E_{ao} , ng/J (lb/MMBtu); and

E_{ai} o = Adjusted average SO_2 inlet rate, ng/J (lb/MMBtu).

(ii) To compute E_{ai} o, an adjusted hourly SO_2 inlet rate (E_{hi} o) is used. The E_{hi} o is computed using the following formula:

$$E_{hi}o = \frac{E_{hi} - E_w(1 - X_k)}{X_k}$$

Where:

E_{hi} o = Adjusted E_{hi} , ng/J (lb/MMBtu);

E_{hi} = Hourly SO_2 inlet rate, ng/J (lb/MMBtu);

E_w = SO_2 concentration in fuels other than coal and oil combusted in the affected facility, as determined by fuel sampling and analysis procedures in Method 19 of appendix A of this part, ng/J (lb/MMBtu). The value E_w for each fuel lot is used for each hourly average during the time that the lot is being combusted. The owner or operator does not have to measure E_w if the owner or operator elects to assume E_w = 0; and

X_k = Fraction of the total heat input from fuel combustion derived from coal and oil, as determined by applicable procedures in Method 19 of appendix A of this part.

(g) For oil-fired affected facilities where the owner or operator seeks to demonstrate compliance with the fuel oil sulfur limits under § 60.42c based on shipment fuel sampling, the initial performance test shall consist of sampling and analyzing the oil in the initial tank of oil to be fired in the steam generating unit to demonstrate that the oil contains 0.5 weight percent sulfur or less. Thereafter, the owner or operator of the affected facility shall sample the oil in the fuel tank after each new shipment of oil is received, as described under § 60.46c(d)(2).

(h) For affected facilities subject to § 60.42c(h)(1), (2), or (3) where the owner or operator seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, the performance test shall consist of the certification from the fuel supplier, as described in § 60.48c(f), as applicable.

(i) The owner or operator of an affected facility seeking to demonstrate compliance with the SO_2 standards under § 60.42c(c)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(j) The owner or operator of an affected facility shall use all valid SO_2 emissions data in calculating $\%P_s$ and E_{ho} under paragraphs (d), (e), or (f) of this section, as applicable, whether or not the minimum emissions data requirements under § 60.46c(f) are achieved. All valid emissions data, including valid data collected during periods of startup, shutdown, and malfunction, shall be used in calculating $\%P_s$ or E_{ho} pursuant to paragraphs (d), (e), or (f) of this section, as applicable.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

§ 60.45c Compliance and performance test methods and procedures for particulate matter.

(a) The owner or operator of an affected facility subject to the PM and/or opacity standards under § 60.43c shall conduct an initial performance test as required under § 60.8, and shall conduct subsequent performance tests as requested by the Administrator, to determine compliance with the standards using the following procedures and reference methods, except as specified in paragraph (c) of this section.

(1) Method 1 of appendix A of this part shall be used to select the sampling site and the number of traverse sampling points.

(2) Method 3A or 3B of appendix A-2 of this part shall be used for gas analysis when applying Method 5 or 5B of appendix A-3 of this part or 17 of appendix A-6 of this part.

(3) Method 5, 5B, or 17 of appendix A of this part shall be used to measure the concentration of PM as follows:

(i) Method 5 of appendix A of this part may be used only at affected facilities without wet scrubber systems.

(ii) Method 17 of appendix A of this part may be used at affected facilities with or without wet scrubber systems provided the stack gas temperature does not exceed a temperature of 160 °C (320 °F). The procedures of Sections 8.1 and 11.1 of Method 5B of appendix A of this part may be used in Method 17 of appendix A of this part only if Method 17 of appendix A of this part is used in conjunction with a wet scrubber system. Method 17 of appendix A of this part shall not be used in conjunction with a wet scrubber system if the effluent is saturated or laden with water droplets.

(iii) Method 5B of appendix A of this part may be used in conjunction with a wet scrubber system.

(4) The sampling time for each run shall be at least 120 minutes and the minimum sampling volume shall be 1.7 dry standard cubic meters (dscm) [60 dry standard cubic feet (dscf)] except that smaller sampling times or volumes may be approved by the Administrator when necessitated by process variables or other factors.

(5) For Method 5 or 5B of appendix A of this part, the temperature of the sample gas in the probe and filter holder shall be monitored and maintained at 160 ±14 °C (320±25 °F).

(6) For determination of PM emissions, an oxygen (O_2) or carbon dioxide (CO_2) measurement shall be obtained simultaneously with each run of Method 5, 5B, or 17 of appendix A of this part by traversing the duct at the same sampling location.

(7) For each run using Method 5, 5B, or 17 of appendix A of this part, the emission rates expressed in ng/J (lb/MMBtu) heat input shall be determined using:

(i) The O_2 or CO_2 measurements and PM measurements obtained under this section, (ii) The dry basis F factor, and

(iii) The dry basis emission rate calculation procedure contained in Method 19 of appendix A of this part.

(8) Method 9 of appendix A-4 of this part shall be used for determining the opacity of stack emissions.

(b) The owner or operator of an affected facility seeking to demonstrate compliance with the PM standards under § 60.43c(b)(2) shall demonstrate the maximum design heat input capacity of the steam generating unit by operating the steam generating unit at this capacity for 24 hours. This demonstration shall be made during the initial performance test, and a subsequent demonstration may be requested at any other time. If the demonstrated 24-hour average firing rate for the affected facility is less than the maximum design heat input capacity stated by the manufacturer of the affected facility, the demonstrated 24-hour average firing rate shall be used to determine the annual capacity factor for the affected facility; otherwise, the maximum design heat input capacity provided by the manufacturer shall be used.

(c) In place of PM testing with Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part, an owner or operator may elect to install, calibrate, maintain, and operate a CEMS for monitoring PM emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility who elects to continuously monitor PM emissions instead of conducting performance testing using Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall install, calibrate, maintain, and operate a CEMS and shall comply with the requirements specified in paragraphs (c)(1) through (c)(14) of this section.

(1) Notify the Administrator 1 month before starting use of the system.

(2) Notify the Administrator 1 month before stopping use of the system.

(3) The monitor shall be installed, evaluated, and operated in accordance with § 60.13 of subpart A of this part.

(4) The initial performance evaluation shall be completed no later than 180 days after the date of initial startup of the affected facility, as specified under § 60.8 of subpart A of this part or within 180 days of notification to the Administrator of use of CEMS if the owner or operator was previously determining compliance by Method 5, 5B, or 17 of appendix A of this part performance tests, whichever is later.

(5) The owner or operator of an affected facility shall conduct an initial performance test for PM emissions as required under § 60.8 of subpart A of this part. Compliance with the PM emission limit shall be determined by using the CEMS specified in paragraph (d) of this section to measure PM and calculating a 24-hour block arithmetic average emission concentration using EPA Reference Method 19 of appendix A of this part, section 4.1.

(6) Compliance with the PM emission limit shall be determined based on the 24-hour daily (block) average of the hourly arithmetic average emission concentrations using CEMS outlet data.

(7) At a minimum, valid CEMS hourly averages shall be obtained as specified in paragraph (c)(7)(i) of this section for 75 percent of the total operating hours per 30-day rolling average.

(i) At least two data points per hour shall be used to calculate each 1-hour arithmetic average.

(ii) [Reserved]

(8) The 1-hour arithmetic averages required under paragraph (c)(7) of this section shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the boiler operating day daily arithmetic average emission concentrations. The 1-hour arithmetic averages shall be calculated using the data points required under § 60.13(e)(2) of subpart A of this part.

(9) All valid CEMS data shall be used in calculating average emission concentrations even if the minimum CEMS data requirements of paragraph (c)(7) of this section are not met.

(10) The CEMS shall be operated according to Performance Specification 11 in appendix B of this part.

(11) During the correlation testing runs of the CEMS required by Performance Specification 11 in appendix B of this part, PM and O_2 (or CO_2) data shall be collected concurrently (or within a 30- to 60-minute period) by both the continuous emission monitors and performance tests conducted using the following test methods.

(i) For PM, Method 5 or 5B of appendix A-3 of this part or Method 17 of appendix A-6 of this part shall be used; and

(ii) For O2 (or CO_2), Method 3A or 3B of appendix A-2 of this part, as applicable shall be used.

(12) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with procedure 2 in appendix F of this part. Relative Response Audit's must be performed annually and Response Correlation Audits must be performed every 3 years.

(13) When PM emissions data are not obtained because of CEMS breakdowns, repairs, calibration checks, and zero and span adjustments, emissions data shall be obtained by using other monitoring systems as approved by the Administrator or EPA Reference Method 19 of appendix A of this part to provide, as necessary, valid emissions data for a minimum of 75 percent of total operating hours on a 30-day rolling average.

(14) As of January 1, 2012, and within 90 days after the date of completing each performance test, as defined in § 60.8, conducted to demonstrate compliance with this subpart, you must submit relative accuracy test audit (*i.e.,* reference method) data and performance test (*i.e.,* compliance test) data, except opacity data, electronically to EPA's Central Data Exchange (CDX) by using the Electronic Reporting Tool (ERT) (see *http://www.epa.gov/ttn/chief/ert/ert tool.html/*) or other compatible electronic spreadsheet. Only data collected using test methods compatible with ERT are subject to this requirement to be submitted electronically into EPA's WebFIRE database.

(d) The owner or operator of an affected facility seeking to demonstrate compliance under § 60.43c(e)(4) shall follow the applicable procedures under § 60.48c(f). For residual oil-fired affected facilities, fuel supplier certifications are only allowed for facilities with heat input capacities between 2.9 and 8.7 MW (10 to 30 MMBtu/h).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9463, Feb. 16, 2012]

§ 60.46c Emission monitoring for sulfur dioxide.

(a) Except as provided in paragraphs (d) and (e) of this section, the owner or operator of an affected facility subject to the SO_2 emission limits under § 60.42c shall install, calibrate, maintain, and operate a CEMS for measuring SO_2 concentrations and either O_2 or CO_2 concentrations at the outlet of the SO_2 control device (or the outlet of the steam generating unit if no SO_2 control device is used), and shall record the output of the system. The owner or operator of an affected facility subject to the percent reduction requirements under § 60.42c shall measure SO_2 concentrations and either O_2 or CO_2 concentrations at both the inlet and outlet of the SO_2 control device.

(b) The 1-hour average SO_2 emission rates measured by a CEMS shall be expressed in ng/J or lb/MMBtu heat input and shall be used to calculate the average emission rates under § 60.42c. Each 1-hour average SO_2 emission rate must be based on at least 30 minutes of operation, and shall be calculated using the data points required under § 60.13(h)(2). Hourly SO_2 emission rates are not calculated if the affected facility is operated less than 30 minutes in a 1-hour period and are not counted toward determination of a steam generating unit operating day.

(c) The procedures under § 60.13 shall be followed for installation, evaluation, and operation of the CEMS.

(1) All CEMS shall be operated in accordance with the applicable procedures under Performance Specifications 1, 2, and 3 of appendix B of this part.

(2) Quarterly accuracy determinations and daily calibration drift tests shall be performed in accordance with Procedure 1 of appendix F of this part.

(3) For affected facilities subject to the percent reduction requirements under § 60.42c, the span value of the SO_2 CEMS at the inlet to the SO_2 control device shall be 125 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted, and the span value of the SO_2 CEMS at the outlet from the SO_2 control device shall be 50 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted.

(4) For affected facilities that are not subject to the percent reduction requirements of § 60.42c, the span value of the SO_2 CEMS at the outlet from the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) shall be 125 percent of the maximum estimated hourly potential SO_2 emission rate of the fuel combusted.

(d) As an alternative to operating a CEMS at the inlet to the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 emission rate by sampling the fuel prior to combustion. As an alternative to operating a CEMS at the outlet from the SO_2 control device (or outlet of the steam generating unit if no SO_2 control device is used) as required under paragraph (a) of this section, an owner or operator may elect to determine the average SO_2 emission rate by using Method 6B of appendix A of this part. Fuel sampling shall be conducted pursuant to either paragraph (d)(1) or (d)(2) of this section. Method 6B of appendix A of this part shall be conducted pursuant to paragraph (d)(3) of this section.

(1) For affected facilities combusting coal or oil, coal or oil samples shall be collected daily in an as-fired condition at the inlet to the steam generating unit and analyzed for sulfur content and heat content according the Method 19 of appendix A of this part. Method 19 of appendix A of this part provides procedures for converting these measurements into the format to be used in calculating the average SO_2 input rate.

(2) As an alternative fuel sampling procedure for affected facilities combusting oil, oil samples may be collected from the fuel tank for each steam generating unit immediately after the fuel tank is filled and before any oil is combusted. The owner or operator of the affected facility shall analyze the oil sample to determine the sulfur content of the oil. If a partially empty fuel tank is refilled, a new sample and analysis of the fuel in the tank would be required upon filling. Results of the fuel analysis taken after each new shipment of oil is received shall be used as the daily value when

calculating the 30-day rolling average until the next shipment is received. If the fuel analysis shows that the sulfur content in the fuel tank is greater than 0.5 weight percent sulfur, the owner or operator shall ensure that the sulfur content of subsequent oil shipments is low enough to cause the 30-day rolling average sulfur content to be 0.5 weight percent sulfur or less.

(3) Method 6B of appendix A of this part may be used in lieu of CEMS to measure SO_2 at the inlet or outlet of the SO_2 control system. An initial stratification test is required to verify the adequacy of the Method 6B of appendix A of this part sampling location. The stratification test shall consist of three paired runs of a suitable SO_2 and CO_2 measurement train operated at the candidate location and a second similar train operated according to the procedures in § 3.2 and the applicable procedures in section 7 of Performance Specification 2 of appendix B of this part. Method 6B of appendix A of this part, Method 6A of appendix A of this part, or a combination of Methods 6 and 3 of appendix A of this part or Methods 6C and 3A of appendix A of this part are suitable measurement techniques. If Method 6B of appendix A of this part is used for the second train, sampling time and timer operation may be adjusted for the stratification test as long as an adequate sample volume is collected; however, both sampling trains are to be operated similarly. For the location to be adequate for Method 6B of appendix A of this part 24-hour tests, the mean of the absolute difference between the three paired runs must be less than 10 percent (0.10).

(e) The monitoring requirements of paragraphs (a) and (d) of this section shall not apply to affected facilities subject to § 60.42c(h) (1), (2), or (3) where the owner or operator of the affected facility seeks to demonstrate compliance with the SO_2 standards based on fuel supplier certification, as described under § 60.48c(f), as applicable.

(f) The owner or operator of an affected facility operating a CEMS pursuant to paragraph (a) of this section, or conducting as-fired fuel sampling pursuant to paragraph (d)(1) of this section, shall obtain emission data for at least 75 percent of the operating hours in at least 22 out of 30 successive steam generating unit operating days. If this minimum data requirement is not met with a single monitoring system, the owner or operator of the affected facility shall supplement the emission data with data collected with other monitoring systems as approved by the Administrator.

§ 60.47c Emission monitoring for particulate matter.

(a) Except as provided in paragraphs (c), (d), (e), and (f) of this section, the owner or operator of an affected facility combusting coal, oil, or wood that is subject to the opacity standards under § 60.43c shall install, calibrate, maintain, and operate a continuous opacity monitoring system (COMS) for measuring the opacity of the emissions discharged to the atmosphere and record the output of the system. The owner or operator of an affected facility subject to an opacity standard in § 60.43c(c) that is not required to use a COMS due to paragraphs (c), (d), (e), or (f) of this section that elects not to use a COMS shall conduct a performance test using Method 9 of appendix A-4 of this part and the procedures in § 60.11 to demonstrate compliance with the applicable limit in § 60.43c by April 29, 2011, within 45 days of stopping use of an existing COMS, or within 180 days after initial startup of the facility, whichever is later, and shall comply with either paragraphs (a)(1), (a)(2), or (a)(3) of this section. The observation period for Method 9 of appendix A-4 of this part performance tests may be reduced from 3 hours to 60 minutes if all 6-minute averages are less than 10 percent and all individual 15-second observations are less than or equal to 20 percent during the initial 60 minutes of observation.

(1) Except as provided in paragraph (a)(2) and (a)(3) of this section, the owner or operator shall conduct subsequent Method 9 of appendix A-4 of this part performance tests using the procedures in paragraph (a) of this section according to the applicable schedule in paragraphs (a)(1)(i) through (a)(1)(iv) of this section, as determined by the most recent Method 9 of appendix A-4 of this part performance test results.

(i) If no visible emissions are observed, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 12 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(ii) If visible emissions are observed but the maximum 6-minute average opacity is less than or equal to 5 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 6 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later;

(iii) If the maximum 6-minute average opacity is greater than 5 percent but less than or equal to 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 3 calendar months from the date that the most recent performance test was conducted or within 45 days of the next day that fuel with an opacity standard is combusted, whichever is later; or

(iv) If the maximum 6-minute average opacity is greater than 10 percent, a subsequent Method 9 of appendix A-4 of this part performance test must be completed within 45 calendar days from the date that the most recent performance test was conducted.

(2) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 of this part performance tests, elect to perform subsequent monitoring using Method 22 of appendix A-7 of this part according to the procedures specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) The owner or operator shall conduct 10 minute observations (during normal operation) each operating day the affected facility fires fuel for which an opacity standard is applicable using Method 22 of appendix A-7 of this part and demonstrate that the sum of the occurrences of any visible emissions is not in excess of 5 percent of the observation period (*i.e.* , 30 seconds per 10 minute period). If the sum of the occurrence of any visible emissions is greater than 30 seconds during the initial 10 minute observation, immediately conduct a 30 minute observation. If the sum of the occurrence of visible emissions is greater than 5 percent of the observation period (*i.e.,* 90 seconds per 30 minute period), the owner or operator shall either document and adjust the operation of the facility and demonstrate within 24 hours that the sum of the occurrence of visible emissions is equal to or less than 5 percent during a 30 minute observation (*i.e.,* 90 seconds) or conduct a new Method 9 of appendix A-4 of this part performance test using the procedures in paragraph (a) of this section within 45 calendar days according to the requirements in § 60.45c(a)(8).

(ii) If no visible emissions are observed for 10 operating days during which an opacity standard is applicable, observations can be reduced to once every 7 operating days during which an opacity standard is applicable. If any visible emissions are observed, daily observations shall be resumed.

(3) If the maximum 6-minute opacity is less than 10 percent during the most recent Method 9 of appendix A-4 of this part performance test, the owner or operator may, as an alternative to performing subsequent Method 9 of appendix A-4 performance tests, elect to perform subsequent monitoring using a digital opacity compliance system according to a site-specific monitoring plan approved by the Administrator. The observations shall be similar, but not necessarily identical, to the requirements in paragraph (a)(2) of this section. For reference purposes in preparing the monitoring plan, see OAQPS “Determination of Visible Emission Opacity from Stationary Sources Using Computer-Based Photographic Analysis Systems.” This document is available from the U.S. Environmental Protection Agency (U.S. EPA); Office of Air Quality and Planning Standards; Sector Policies and Programs Division; Measurement Policy Group (D243-02), Research Triangle Park, NC 27711. This document is also available on the Technology Transfer Network (TTN) under Emission Measurement Center Preliminary Methods.

(b) All COMS shall be operated in accordance with the applicable procedures under Performance Specification 1 of appendix B of this part. The span value of the opacity COMS shall be between 60 and 80 percent.

(c) Owners and operators of an affected facilities that burn only distillate oil that contains no more than 0.5 weight percent sulfur and/or liquid or gaseous fuels with potential sulfur dioxide emission rates of 26 ng/J (0.060 lb/MMBtu) heat input or less and that do not use a post-combustion technology to reduce SO2 or PM emissions and that are subject to an opacity standard in § 60.43c(c) are not required to operate a COMS if they follow the applicable procedures in § 60.48c(f).

(d) Owners or operators complying with the PM emission limit by using a PM CEMS must calibrate, maintain, operate, and record the output of the system for PM emissions discharged to the atmosphere as specified in § 60.45c(c). The CEMS specified in paragraph § 60.45c(c) shall be operated and data recorded during all periods of operation of the affected facility except for CEMS breakdowns and repairs. Data is recorded during calibration checks, and zero and span adjustments.

(e) Owners and operators of an affected facility that is subject to an opacity standard in § 60.43c(c) and that does not use post-combustion technology (except a wet scrubber) for reducing PM, SO_2 , or carbon monoxide (CO) emissions, burns only gaseous fuels or fuel oils that contain less than or equal to 0.5 weight percent sulfur, and is operated such that emissions of CO discharged to the atmosphere from the affected facility are maintained at levels less than or equal to 0.15 lb/MMBtu on a boiler operating day average basis is not required to operate a COMS. Owners and operators of affected facilities electing to comply with this paragraph must demonstrate compliance according to the procedures specified in paragraphs (e)(1) through (4) of this section; or

(1) You must monitor CO emissions using a CEMS according to the procedures specified in paragraphs (e)(1)(i) through (iv) of this section.

(i) The CO CEMS must be installed, certified, maintained, and operated according to the provisions in § 60.58b(i)(3) of subpart Eb of this part.

(ii) Each 1-hour CO emissions average is calculated using the data points generated by the CO CEMS expressed in parts per million by volume corrected to 3 percent oxygen (dry basis).

(iii) At a minimum, valid 1-hour CO emissions averages must be obtained for at least 90 percent of the operating hours on a 30-day rolling average basis. The 1-hour averages are calculated using the data points required in § 60.13(h)(2).

(iv) Quarterly accuracy determinations and daily calibration drift tests for the CO CEMS must be performed in accordance with procedure 1 in appendix F of this part.

(2) You must calculate the 1-hour average CO emissions levels for each steam generating unit operating day by multiplying the average hourly CO output concentration measured by the CO CEMS times the corresponding average hourly flue gas flow rate and divided by the corresponding average hourly heat input to the affected source. The 24-hour average CO emission level is determined by calculating the arithmetic average of the hourly CO emission levels computed for each steam generating unit operating day.

(3) You must evaluate the preceding 24-hour average CO emission level each steam generating unit operating day excluding periods of affected source startup, shutdown, or malfunction. If the 24-hour average CO emission level is greater than 0.15 lb/MMBtu, you must initiate investigation of the relevant equipment and control systems within 24 hours of the first discovery of the high emission incident and, take the appropriate corrective action as soon as practicable to adjust control settings or repair equipment to reduce the 24-hour average CO emission level to 0.15 lb/MMBtu or less.

(4) You must record the CO measurements and calculations performed according to paragraph (e) of this section and any corrective actions taken. The record of corrective action taken must include the date and time during which the 24-hour average CO emission level was greater than 0.15 lb/MMBtu, and the date, time, and description of the corrective action.

(f) An owner or operator of an affected facility that is subject to an opacity standard in § 60.43c(c) is not required to operate a COMS provided that the affected facility meets the conditions in either paragraphs (f)(1), (2), or (3) of this section.

(1) The affected facility uses a fabric filter (baghouse) as the primary PM control device and, the owner or operator operates a bag leak detection system to monitor the performance of the fabric filter according to the requirements in section § 60.48Da of this part.

(2) The affected facility uses an ESP as the primary PM control device, and the owner or operator uses an ESP predictive model to monitor the performance of the ESP developed in accordance and operated according to the requirements in section § 60.48Da of this part.

(3) The affected facility burns only gaseous fuels and/or fuel oils that contain no greater than 0.5 weight percent sulfur, and the owner or operator operates the unit according to a written site-specific monitoring plan approved by the permitting authority. This monitoring plan must include procedures and criteria for establishing and monitoring specific parameters for the affected facility indicative of compliance with the opacity standard. For testing performed as part of this site-specific monitoring plan, the permitting authority may require as an alternative to the notification and reporting requirements specified in §§ 60.8 and 60.11 that the owner or operator submit any deviations with the excess emissions report required under § 60.48c(c).

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009; 76 FR 3523, Jan. 20, 2011; 77 FR 9463, Feb. 16, 2012]

§ 60.48c Reporting and recordkeeping requirements.

(a) The owner or operator of each affected facility shall submit notification of the date of construction or reconstruction and actual startup, as provided by § 60.7 of this part. This notification shall include:

(1) The design heat input capacity of the affected facility and identification of fuels to be combusted in the affected facility.

(2) If applicable, a copy of any federally enforceable requirement that limits the annual capacity factor for any fuel or mixture of fuels under § 60.42c, or § 60.43c.

(3) The annual capacity factor at which the owner or operator anticipates operating the affected facility based on all fuels fired and based on each individual fuel fired.

(4) Notification if an emerging technology will be used for controlling SO_2 emissions. The Administrator will examine the description of the control device and will determine whether the technology qualifies as an emerging technology. In making this determination, the Administrator may require the owner or operator of the affected facility to submit additional information concerning the control device. The affected facility is subject to the provisions of § 60.42c(a) or (b)(1), unless and until this determination is made by the Administrator.

(b) The owner or operator of each affected facility subject to the SO_2 emission limits of § 60.42c, or the PM or opacity limits of § 60.43c, shall submit to the Administrator the performance test data from the initial and any subsequent performance tests and, if applicable, the performance evaluation of the CEMS and/or COMS using the applicable performance specifications in appendix B of this part.

(c) In addition to the applicable requirements in § 60.7, the owner or operator of an affected facility subject to the opacity limits in § 60.43c(c) shall submit excess emission reports for any excess emissions from the affected facility that occur during the reporting period and maintain records according to the requirements specified in paragraphs (c)(1) through (3) of this section, as applicable to the visible emissions monitoring method used.

(1) For each performance test conducted using Method 9 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(1)(i) through (iii) of this section.

(i) Dates and time intervals of all opacity observation periods;

(ii) Name, affiliation, and copy of current visible emission reading certification for each visible emission observer participating in the performance test; and

(iii) Copies of all visible emission observer opacity field data sheets;

(2) For each performance test conducted using Method 22 of appendix A-4 of this part, the owner or operator shall keep the records including the information specified in paragraphs (c)(2)(i) through (iv) of this section.

(i) Dates and time intervals of all visible emissions observation periods;

(ii) Name and affiliation for each visible emission observer participating in the performance test;

(iii) Copies of all visible emission observer opacity field data sheets; and

(iv) Documentation of any adjustments made and the time the adjustments were completed to the affected facility operation by the owner or operator to demonstrate compliance with the applicable monitoring requirements.

(3) For each digital opacity compliance system, the owner or operator shall maintain records and submit reports according to the requirements specified in the site-specific monitoring plan approved by the Administrator

(d) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall submit reports to the Administrator.

(e) The owner or operator of each affected facility subject to the SO_2 emission limits, fuel oil sulfur limits, or percent reduction requirements under § 60.42c shall keep records and submit reports as required under paragraph (d) of this section, including the following information, as applicable.

(1) Calendar dates covered in the reporting period.

(2) Each 30-day average SO_2 emission rate (ng/J or lb/MMBtu), or 30-day average sulfur content (weight percent), calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of corrective actions taken.

(3) Each 30-day average percent of potential SO_2 emission rate calculated during the reporting period, ending with the last 30-day period; reasons for any noncompliance with the emission standards; and a description of the corrective actions taken.

(4) Identification of any steam generating unit operating days for which SO_2 or diluent (O_2 or CO_2) data have not been obtained by an approved method for at least 75 percent of the operating hours; justification for not obtaining sufficient data; and a description of corrective actions taken.

(5) Identification of any times when emissions data have been excluded from the calculation of average emission rates; justification for excluding data; and a description of corrective actions taken if data have been excluded for periods other than those during which coal or oil were not combusted in the steam generating unit.

(6) Identification of the F factor used in calculations, method of determination, and type of fuel combusted.

(7) Identification of whether averages have been obtained based on CEMS rather than manual sampling methods.

(8) If a CEMS is used, identification of any times when the pollutant concentration exceeded the full span of the CEMS.

(9) If a CEMS is used, description of any modifications to the CEMS that could affect the ability of the CEMS to comply with Performance Specifications 2 or 3 of appendix B of this part.

(10) If a CEMS is used, results of daily CEMS drift tests and quarterly accuracy assessments as required under appendix F, Procedure 1 of this part.

(11) If fuel supplier certification is used to demonstrate compliance, records of fuel supplier certification as described under paragraph (f)(1), (2), (3), or (4) of this section, as applicable. In addition to records of fuel supplier certifications, the report shall include a certified statement signed by the owner or operator of the affected facility that the records of fuel supplier certifications submitted represent all of the fuel combusted during the reporting period.

(f) Fuel supplier certification shall include the following information:

(1) For distillate oil:

(i) The name of the oil supplier;

(ii) A statement from the oil supplier that the oil complies with the specifications under the definition of distillate oil in § 60.41c; and

(iii) The sulfur content or maximum sulfur content of the oil.

(2) For residual oil:

(i) The name of the oil supplier;

(ii) The location of the oil when the sample was drawn for analysis to determine the sulfur content of the oil, specifically including whether the oil was sampled as delivered to the affected facility, or whether the sample was drawn from oil in storage at the oil supplier's or oil refiner's facility, or other location;

(iii) The sulfur content of the oil from which the shipment came (or of the shipment itself); and

(iv) The method used to determine the sulfur content of the oil.

(3) For coal:

(i) The name of the coal supplier;

(ii) The location of the coal when the sample was collected for analysis to determine the properties of the coal, specifically including whether the coal was sampled as delivered to the affected facility or whether the sample was collected from coal in storage at the mine, at a coal preparation plant, at a coal supplier's facility, or at another location. The certification shall include the name of the coal mine (and coal seam), coal storage facility, or coal preparation plant (where the sample was collected);

(iii) The results of the analysis of the coal from which the shipment came (or of the shipment itself) including the sulfur content, moisture content, ash content, and heat content; and

(iv) The methods used to determine the properties of the coal.

(4) For other fuels:

(i) The name of the supplier of the fuel;

(ii) The potential sulfur emissions rate or maximum potential sulfur emissions rate of the fuel in ng/J heat input; and

(iii) The method used to determine the potential sulfur emissions rate of the fuel.

(g)(1) Except as provided under paragraphs (g)(2) and (g)(3) of this section, the owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each operating day.

(2) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility that combusts only natural gas, wood, fuels using fuel certification in § 60.48c(f) to demonstrate compliance with the SO_2 standard, fuels not subject to an emissions standard (excluding opacity), or a mixture of these fuels may elect to record and maintain records of the amount of each fuel combusted during each calendar month.

(3) As an alternative to meeting the requirements of paragraph (g)(1) of this section, the owner or operator of an affected facility or multiple affected facilities located on a contiguous property unit where the only fuels combusted in any steam generating unit (including steam generating units not subject to this subpart) at that property are natural gas, wood, distillate oil meeting the most current requirements in § 60.42C to use fuel certification to demonstrate compliance with the SO_2 standard, and/or fuels, excluding coal and residual oil, not subject to an emissions standard (excluding opacity) may elect to record and maintain records of the total amount of each steam generating unit fuel delivered to that property during each calendar month.

(h) The owner or operator of each affected facility subject to a federally enforceable requirement limiting the annual capacity factor for any fuel or mixture of fuels under § 60.42c or § 60.43c shall calculate the annual capacity factor individually for each fuel combusted. The annual capacity factor is determined on a 12-month rolling average basis with a new annual capacity factor calculated at the end of the calendar month.

(i) All records required under this section shall be maintained by the owner or operator of the affected facility for a period of two years following the date of such record.

(j) The reporting period for the reports required under this subpart is each six-month period. All reports shall be submitted to the Administrator and shall be postmarked by the 30th day following the end of the reporting period.

[72 FR 32759, June 13, 2007, as amended at 74 FR 5091, Jan. 28, 2009]

Attachment B

Federally Enforceable State Operating Permit (FESOP) No: F097-40170-00060

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Electronic Code of Federal Regulations

Title 40: Protection of Environment

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

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

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

Applicability and Compliance Dates

§ 63.11494 What are the applicability requirements and compliance dates?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(4) Quality assurance/quality control laboratories.

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

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

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

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

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

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

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

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

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

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

Standards and Compliance Requirements

§ 63.11495 What are the management practices and other requirements?

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

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

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

(i) Use submerged loading or bottom loading.

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

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

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

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

(i) Inspections must be conducted at least quarterly.

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

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

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

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

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

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

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

(iii) The system will hold a test pressure.

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

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

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

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

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

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

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

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

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

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

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

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

(3) If your current estimate is that emissions from batch process vents from a CMPU are less than 10,000 pounds per year (lb/yr), then you must keep a record of the number of batches of each process operated per month. Also, you must reevaluate your total emissions from batch process vents prior to making any process changes that affect emission calculations in paragraphs (a)(1) and (2) of this section. If projected emissions increase to 10,000 lb/yr or more, you must be in compliance options for batch process vents in Table 2 to this subpart upon initiating operation under the new operating conditions. You must maintain records documenting the results of all updated emissions calculations.

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

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

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

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

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

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

(2) If the current TRE index value is greater than 1, you must recalculate the TRE index value before you make any process or operational change that affects parameters in the calculation. If the recalculated TRE is less than or equal

to 1.0, then you must comply with one of the compliance options for continuous process vents in Table 3 to this subpart before operating under the new operating conditions. You must maintain records of all TRE calculations.

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

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

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

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

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

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

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

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

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

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

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

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

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

(1) You must determine the sum of metal HAP emissions from all metal HAP process vents within a CMPU subject to this subpart, except you are not required to determine the annual emissions if you control the metal HAP process

vents within a CMPU in accordance with Table 4 to this subpart or if you determine your total metal HAP usage in the process unit is less than 400 lb/yr. To determine the mass emission rate you may use process knowledge, engineering assessment, or test data. You must keep records of the emissions calculations.

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

(3) If you have an existing source subject to the HAP metals emission limits specified in Table 4 to this subpart, you must comply with the initial compliance and monitoring requirements in paragraphs (f)(3)(i) through (iii) of this section. You must keep records of monitoring results to demonstrate continuous compliance.

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

(A) A description of the device;

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

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

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

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

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

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

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

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

(g) *Exceptions and alternatives to 40 CFR part 63, subpart SS.* If you are complying with the emission limits and other requirements for continuous process vents in Table 3 to this subpart, the provisions in paragraphs (g)(1) through (7) and (9) of this section apply in addition to the provisions in 40 CFR part 63, subpart SS. If you are complying with the emission limits and other requirements for batch process vents in Table 2 to this subpart, the provisions in paragraphs (g)(1) through (8) of this section apply in addition to the provisions in subpart SS.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(i) The violation:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Other Requirements and Information

§ 63.11502 What definitions apply to this subpart?

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

Administrator (§ 63.2)

Article (40 CFR 372.3)

Batch operation (§ 63.2550)

Boiler (§ 63.111)

Bottoms receiver (§ 63.2550)

CAA (§ 63.2)

Closed-vent system (§ 63.981)

Combustion device (§ 63.111)

Commenced (§ 63.2)

Compliance date (§ 63.2)

Container (§ 63.111)

Continuous monitoring system (§ 63.2)

Continuous operation (§ 63.2550)

Control device (§ 63.111)

Distillation unit (§ 63.111)

Emission standard (§ 63.2)

EPA (§ 63.2)

Fill or filling (§ 63.111)

Floating roof (§ 63.1061)

Fuel gas system (§ 63.981)

Halogen atoms (§ 63.2550)

Halogenated vent stream (§ 63.2550)

Halogens and hydrogen halides (§ 63.2550)

Hazardous air pollutant (§ 63.2)

Heat exchange system (§ 63.101)

Incinerator (§ 63.111)

Isolated intermediate (§ 63.2550)

Maintenance wastewater (§ 63.2550)

Major source (§ 63.2)

Maximum true vapor pressure (§ 63.111)

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

Operating permit (§ 63.101)

Owner or operator (§ 63.2)

Performance test (§ 63.2)

Permitting authority (§ 63.2)

Process condenser (§ 63.2550)

Process heater (§ 63.111)

Process tank (§ 63.2550)

Process wastewater (§ 63.101)

Reactor (§ 63.111)

Responsible official (§ 63.2)

State (§ 63.2)

Supplemental gases (§ 63.2550)

Surge control vessel (§ 63.2550)

Test method (§ 63.2)

Unit operation (§ 63.101)

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

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

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

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

(1) Continuous process vents;

(2) Bottoms receivers;

(3) Surge control vessels;

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

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

(6) Vents on storage tanks or wastewater systems;

(7) Drums, pails, and totes; and

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

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

Chemical manufacturing process means all equipment which collectively functions to produce a product or isolated intermediate. A process includes, but is not limited to any, all, or a combination of reaction, recovery, separation, purification, or other activity, operation, manufacture, or treatment which are used to produce a product or isolated intermediate. A process is also defined by the following:

(1) All cleaning operations;

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source fails to meet any requirement or obligation established by this subpart, including, but not limited to any emissions limitation or management practice; or fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(1) A hazardous waste incinerator for which you have been issued a final permit under 40 CFR part 270 and comply with the requirements of 40 CFR part 264, subpart O, for which you have certified compliance with the interim status requirements of 40 CFR part 265, subpart O, or for which you have submitted a Notification of Compliance under 40 CFR 63.1207(j) and comply with the requirements of 40 CFR part 63, subpart EEE at all times (including times when non-hazardous waste is being burned);

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

(3) Process tanks;

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

(5) Surge control vessels;

(6) Bottoms receivers; and

(7) Wastewater storage tanks.

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

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

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

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

(1) Stormwater from segregated sewers;

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

(3) Spills;

(4) Water from safety showers;

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

(6) Equipment leaks;

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

(8) Noncontact cooling water.

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

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

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

§ 63.11503 Who implements and enforces this subpart?

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

For . . .	You must . . .	Except . . .
	c. Comply with the alternative standard specified in § 63.2505 and the requirements referenced therein	i. As specified in § 63.11496(e).
2. Halogenated vent stream that is controlled through combustion	a. Comply with the requirements for halogen scrubbers in § 63.11496(d).	
3. Each continuous process vent with a TRE >1.0 but ≤4.0	a. Comply with the requirements of § 63.982(e) and the requirements specified therein if a recovery device, as defined in § 63.11502, is used to maintain a TRE >1.0 but ≤4.0.	

[77 FR 75760, Dec. 21, 2012]

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

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

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

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

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

For each * * *	You must * * *	Except * * *
1. Storage tank with a design capacity ≥40,000 gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the maximum true vapor pressure (MTVP) of total organic HAP at the storage temperature is ≥5.2 kPa and <76.6 kPa.	a. Comply with the requirements of subpart WW of this part;	i. All required seals must be installed by the compliance date in § 63.11494.
	b. Reduce total organic HAP emissions by ≥95 percent by weight by operating and maintaining a closed-vent system and control device (other than a flare) in accordance with § 63.982(c); or	i. Compliance may be based on either total organic HAP or TOC; ii. When the term storage vessel is used in subpart SS of this part, the term storage tank, surge control vessel, or bottoms receiver, as defined in § 63.11502 of this subpart, applies; and iii. The requirements do not apply during periods of planned routine maintenance of the control device, as specified in § 63.11497(b).

For each * * *	You must * * *	Except * * *
	c. Reduce total HAP emissions by operating and maintaining a closed-vent system and a flare in accordance with § 63.982(b); or	i. The requirements do not apply during periods of planned routine maintenance of the flare, as specified in § 63.11497(b); and ii. When the term storage vessel is used in subpart SS of this part, it means storage tank, surge control vessel, or bottoms receiver, as defined in § 63.11502 of this subpart.
	d. Vapor balance in accordance with § 63.2470(e); or	i. To comply with § 63.1253(f)(6)(i), the owner or operator of an offsite cleaning or reloading facility must comply with § 63.11494 and § 63.11502 instead of complying with § 63.1253(f)(7)(ii), except as specified in item 1.d.ii and 1.2.iii of this table. ii. The reporting requirements in § 63.11501 do not apply to the owner or operator of the offsite cleaning or reloading facility. iii. As an alternative to complying with the monitoring, recordkeeping, and reporting provisions in §§ 63.11494 through 63.11502, the owner or operator of an offsite cleaning or reloading facility may comply as specified in § 63.11500 with any other subpart of this part 63 which has monitoring, recordkeeping, and reporting provisions as specified in § 63.11500.
	e. Route emissions to a fuel gas system or process in accordance with the requirements in § 63.982(d) and the requirements referenced therein.	i. When the term storage vessel is used in subpart SS of this part, it means storage tank, surge control vessel, or bottoms receiver, as defined in § 63.11502.
2. Storage tank with a design capacity ≥20,000 gallons and <40,000 gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the MTVP of total organic HAP at the storage temperature is ≥27.6 kPa and <76.6 kPa	a. Comply with one of the options in Item 1 of this table	i. The information specified above for Items 1.a., 1.b., 1.c., 1.d, and 1.e, as applicable.
3. Storage tank with a design capacity ≥20,000 gallons, storing liquid that contains organic HAP listed in Table 1 to this subpart, and for which the MTVP of total organic HAP at the storage temperature is ≥76.6 kPa	a. Comply with option b, c, d, or e in Item 1 of this table	i. The information specified above for Items 1.b., 1.c., 1.d, and 1.e, as applicable.
4. Storage tank described by Item 1, 2, or 3 in this table and emitting a halogenated vent stream that is controlled with a combustion device	a. Reduce emissions of hydrogen halide and halogen HAP by ≥95 percent by weight, or to ≤0.45 kg/hr, or to ≤20 ppmv by using a halogen reduction device after the combustion device according to the requirements in § 63.11496(d); or	

For each * * *	You must * * *	Except * * *
	b. Reduce the halogen atom mass emission rate to ≤0.45 kg/hr or to ≤20 ppmv by using a halogen reduction device before the combustion device according to the requirements in § 63.11496(d).	

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

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

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

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

[77 FR 75761, Dec. 21, 2012]

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

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

Partially soluble HAP name	CAS No.
1. 1,1,1-Trichloroethane (methyl chloroform)	71556
2. 1,1,2,2-Tetrachloroethane	79345
3. 1,1,2-Trichloroethane	79005
4. 1,1-Dichloroethylene (vinylidene chloride)	75354
5. 1,2-Dibromoethane	106934
6. 1,2-Dichloroethane (ethylene dichloride)	107062
7. 1,2-Dichloropropane	78875

Partially soluble HAP name	CAS No.
8. 1,3-Dichloropropene	542756
9. 2,4,5-Trichlorophenol	95954
10. 1,4-Dichlorobenzene	106467
11. 2-Nitropropane	79469
12. 4-Methyl-2-pentanone (MIBK)	108101
13. Acetaldehyde	75070
14. Acrolein	107028
15. Acrylonitrile	107131
16. Allyl chloride	107051
17. Benzene	71432
18. Benzyl chloride	100447
19. Biphenyl	92524
20. Bromoform (tribromomethane)	75252
21. Bromomethane	74839
22. Butadiene	106990
23. Carbon disulfide	75150
24. Chlorobenzene	108907
25. Chloroethane (ethyl chloride)	75003
26. Chloroform	67663
27. Chloromethane	74873
28. Chloroprene	126998
29. Cumene	98828
30. Dichloroethyl ether	111444
31. Dinitrophenol	51285
32. Epichlorohydrin	106898
33. Ethyl acrylate	140885
34. Ethylbenzene	100414
35. Ethylene oxide	75218
36. Ethylidene dichloride	75343
37. Hexachlorobenzene	118741
38. Hexachlorobutadiene	87683
39. Hexachloroethane	67721
40. Methyl methacrylate	80626
41. Methyl-t-butyl ether	1634044
42. Methylene chloride	75092
43. N-hexane	110543
44. N,N-dimethylaniline	121697
45. Naphthalene	91203
46. Phosgene	75445
47. Propionaldehyde	123386
48. Propylene oxide	75569
49. Styrene	100425
50. Tetrachloroethylene (per- chloroethylene)	127184
51. Tetrachloromethane (carbon tetrachloride)	56235

Partially soluble HAP name	CAS No.
52. Toluene	108883
53. Trichlorobenzene (1,2,4-)	120821
54. Trichloroethylene	79016
55. Trimethylpentane	540841
56. Vinyl acetate	108054
57. Vinyl chloride	75014
58. Xylene (m)	108383
59. Xylene (o)	95476
60. Xylene (p)	106423

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

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

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

[77 FR 75762, Dec. 21, 2012]

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

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

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

Citation	Subject	Applies to Subpart VVVVVV?	Explanation
63.2	Definitions	Yes	
63.3	Units and Abbreviations	Yes	
63.4	Prohibited Activities and Circumvention	Yes	
63.5	Preconstruction Review and Notification Requirements	Yes	
63.6(a), (b)(1)-(b)(5), (b)(7), (c)(1), (c)(2), (c)(5), (e)(1)(iii), (g), (i), (j)	Compliance with Standards and Maintenance Requirements	Yes	
63.6(b)(6), (c)(3), (c)(4), (d), (h)(3), (h)(5)(iv)	Reserved	No	
63.6(e)(1)(i) and (ii), (e)(3), and (f)(1)	SSM Requirements	No	See § 63.11495(d) for general duty requirement.
63.6(h)(1)-(h)(4), (h)(5)(i)-(h)(5)(iii), (h)(6)-(h)(9)		No	Subpart VVVVVV does not include opacity or visible emissions (VE) standards or require a continuous opacity monitoring system (COMS).
63.7(a)(1), (a)(3), (a)(4), (c), (e)(4), and (f)-(h)	Performance Testing Requirements	Yes	
63.7(a)(2), (b), (d), (e)(2)-(e)(3)	Performance Testing Schedule, Notification of Performance Test, Performance Testing Facilities, and Conduct of Performance Tests	Yes/No	Requirements apply if conducting test for metal HAP control; requirements in §§ 63.997(c)(1), (d), (e), and 63.999(a)(1) apply, as referenced in § 63.11496(g), if conducting test for organic HAP or hydrogen halide and halogen HAP control device.
63.7(e)(1)	Performance Testing	No	See § 63.11496(f)(3)(ii) if conducting a test for metal HAP emissions. See §§ 63.11496(g) and 63.997(e)(1) if conducting a test for continuous process vents or for hydrogen halide and halogen emissions. See §§ 63.11496(g) and 63.2460(c) if conducting a test for batch process vents.
63.8(a)(1), (a)(4), (b), (c)(1)(ii), (c)(2)-(c)(3), (f)(1)-(5)	Monitoring Requirements	Yes	
63.8(a)(2)	Monitoring Requirements	No	
63.8(a)(3)	Reserved	No	
63.8(c)(1)(i)	General Duty to Minimize Emissions and CMS Operation	No	
63.8(c)(1)(iii)	Requirement to Develop SSM Plan for CMS	No	
63.8(c)(4)		Yes	Only for CEMS. CPMS requirements in 40 CFR part 63, subpart SS are referenced from § 63.11496. Requirements for COMS do not apply because subpart VVVVVV does not require COMS.
63.8(c)(5)		No	Subpart VVVVVV does not require COMS.

Citation	Subject	Applies to Subpart VVVVVV?	Explanation
63.8(c)(6)-(c)(8), (d)(1)-(d)(2), (e), (f)(6)		Yes	Requirements apply only if you use a continuous emission monitoring system (CEMS) to demonstrate compliance with the alternative standard in § 63.11496(e).
63.8(d)(3)	Written Procedures for CMS	Yes	Requirement applies except for last sentence, which refers to an SSM plan. SSM plans are not required.
63.8(g)(1)-(g)(4)		Yes	Data reduction requirements apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e). COMS requirements do not apply. Requirement in § 63.8(g)(2) does not apply because data reduction for CEMS are specified in 40 CFR part 63, subpart FFFF.
63.8(g)(5)		No	Data reduction requirements for CEMS are specified in § 63.2450(j)(4), as referenced from § 63.11496. CPMS requirements are specified in 40 CFR part 63, subpart SS, as referenced from § 63.11496.
63.9(a), (b)(1), (b)(2), (b)(4), (b)(5), (c), (d), (e), (i)	Notification Requirements	Yes	
63.9(b)(3), (h)(4)	Reserved	No	
63.9(f)		No	Subpart VVVVVV does not contain opacity or VE limits.
63.9(g)		Yes	Additional notification requirement applies only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).
63.9(h)(1)-(h)(3), (h)(5)-(h)(6)		Yes	Except subpart VVVVVV does not contain opacity or VE limits.
63.9(i)		Yes	
63.9(j)	Change in Information Already Provided	No	Notification of process changes that affect a compliance determination are required in § 63.11501(d)(4).
63.10(a)	Recordkeeping Requirements	Yes	
63.10(b)(1)		Yes	
63.10(b)(2)(i)	Recordkeeping of Occurrence and Duration of Startups and Shutdowns	No	See § 63.11501(c)(8) for recordkeeping of occurrence and duration of each startup and shutdown for continuous process vents that are subpart to Table 3 to this subpart.
63.10(b)(2)(ii)	Recordkeeping of Malfunctions	No	See § 63.11501(c)(1)(vii) and (viii) for recordkeeping of (1) date, time, duration, and volume of excess emissions and (2) actions taken during malfunction.
63.10(b)(2)(iii)	Maintenance Records	Yes	
63.10(b)(2)(iv) and (v)	Actions Taken to Minimize Emissions During SSM	No	
63.10(b)(2)(vi), (x), (xi), (xiii)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).

Citation	Subject	Applies to Subpart VVVVVV?	Explanation
63.10(b)(2)(vii)-(b)(2)(ix), (b)(2)(xii), (b)(2)(xiv)		Yes	
63.10(b)(3)		Yes	
63.10(c)(1), (c)(5)-(c)(6), (c)(13)-(c)(14)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).
63.10(c)(7)-(8)	Additional Recordkeeping Requirements for CMS—Identifying Exceedances and Excess Emissions	Yes	
63.10(c)(10)	Recordkeeping Nature and Cause of Malfunctions	No	See § 63.11501(c)(1)(vii) and (viii) for malfunctions recordkeeping requirements.
63.10(c)(11)	Recording Corrective Actions	No	See § 63.11501(c)(1)(vii) and (viii) for malfunctions recordkeeping requirements.
63.10(c)(12)		Yes	
63.10(c)(15)	Use of SSM Plan	No	
63.10(c)(2)-(c)(4), (c)(9)	Reserved	No	
63.10(d)(1), (d)(2), (d)(4), (e)(1), (e)(2), (f)	Reporting Requirements	Yes	
63.10(d)(3)		No	Subpart VVVVVV does not include opacity or VE limits.
63.10(d)(5)	SSM Reports	No	See § 63.11501(d)(8) for reporting requirements for malfunctions.
63.10(e)(1)-(e)(2)		Yes	Apply only if you use CEMS to demonstrate compliance with alternative standard in § 63.11496(e).
63.10(e)(3)		Yes	
63.10(e)(4)		No	Subpart VVVVVV does not include opacity or VE limits.
63.11	Control Device Requirements	Yes	
63.12	State Authorities and Delegations	Yes	
63.13	Addresses	Yes	
63.14	Incorporations by Reference	Yes	
63.15	Availability of Information and Confidentiality	Yes	
63.16	Performance Track Provisions	Yes	

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

Attachment C

Federally Enforceable State Operating Permit (FESOP) No: F097-40170-00060

Electronic Code of Federal Regulations

Title 40: Protection of Environment

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

Subpart CCCCCCC—National Emission Standards for Hazardous Air Pollutants for Area Sources: Paints and Allied Products Manufacturing

SOURCE: 74 FR 63525, Dec. 3, 2009, unless otherwise noted.

Applicability and Compliance Dates

§ 63.11599 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a facility that performs paints and allied products manufacturing that is an area source of hazardous air pollutant (HAP) emissions and processes, uses, or generates materials containing HAP, as defined in § 63.11607.

(b) The affected source consists of all paints and allied products manufacturing processes that process, use, or generate materials containing HAP at the facility.

(1) An affected source is existing if you commenced construction or reconstruction before June 1, 2009.

(2) An affected source is new if you commenced construction or reconstruction of the affected source on or after June 1, 2009.

(3) A facility becomes an affected source when you commence processing, using, or generating materials containing HAP, as defined in § 63.11607.

(c) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, provided you are not otherwise required by law to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a). Whether you have a title V permit or not, you must continue to comply with the provisions of this subpart.

(d) An affected source is no longer subject to this subpart if the facility no longer processes, uses, or generates materials containing HAP and does not plan to process, use or generate materials containing HAP in the future.

(e) The standards of this subpart do not apply to research and development facilities, as defined in section 112(c)(7) of the CAA.

[74 FR 63525, Dec. 3, 2009, as amended at 75 FR 10186, Mar. 5, 2010]

§ 63.11600 What are my compliance dates?

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions in this subpart by December 3, 2012.

(b) If you own or operate a new affected source, you must achieve compliance with the applicable provisions of this subpart by December 3, 2009, or upon startup of your affected source, whichever is later.

(c) If you own or operate a facility that becomes an affected source in accordance with § 63.11599(b)(3) after the applicable compliance date in paragraphs (a) or (b) of this section, you must achieve compliance with the applicable provisions of this subpart by the date that you commence processing, using, or generating materials containing HAP, as defined in § 63.11607.

Standards, Monitoring, and Compliance Requirements

§ 63.11601 What are the standards for new and existing paints and allied products manufacturing facilities?

(a) For each new and existing affected source, you must comply with the requirements in paragraphs (a)(1) through (5) of this section. These requirements apply at all times.

(1) You must add the dry pigments and solids that contain compounds of cadmium, chromium, lead, or nickel and operate a capture system that minimizes fugitive particulate emissions during the addition of dry pigments and solids that contain compounds of cadmium, chromium, lead, or nickel to a process vessel or to the grinding and milling process.

(2) You must capture particulate emissions and route them to a particulate control device meeting the requirements of paragraph (a)(6) of this section during the addition of dry pigments and solids that contain compounds of cadmium, chromium, lead, or nickel to a process vessel. This requirement does not apply to pigments and other solids that are in paste, slurry, or liquid form.

(3) You must:

(i) Capture particulate emissions and route them to a particulate control device meeting the requirements of paragraph (a)(6) of this section during the addition of dry pigments and solids that contain compounds of cadmium, chromium, lead, or nickel to the grinding and milling process; or

(ii) Add pigments and other solids that contain compounds of cadmium, chromium, lead, or nickel to the grinding and milling process only in paste, slurry, or liquid form.

(4) You must:

(i) Capture particulate emissions and route them to a particulate control device meeting the requirements of paragraph (a)(5) of this section during the grinding and milling of materials containing compounds of cadmium, chromium, lead, or nickel; or

(ii) Fully enclose the grinding and milling equipment during the grinding and milling of materials containing compounds of cadmium, chromium, lead, or nickel; or

(iii) Ensure that the pigments and solids are in the solution during the grinding and milling of materials containing compounds of cadmium, chromium, lead, or nickel.

(5) The visible emissions from the particulate control device exhaust must not exceed 10-percent opacity for particulate control devices that vent to the atmosphere. This requirement does not apply to particulate control devices that do not vent to the atmosphere.

(6) [Reserved]

(b) For each new and existing affected source, you must comply with the requirements in paragraphs (b)(1) through (5) of this section.

(1) Process and storage vessels that store or process materials containing benzene or methylene chloride, except for process vessels which are mixing vessels, must be equipped with covers or lids meeting the requirements of paragraphs (b)(1)(i) through (iii) of this section.

(i) The covers or lids can be of solid or flexible construction, provided they do not warp or move around during the manufacturing process.

(ii) The covers or lids must maintain contact along at least 90-percent of the vessel rim. The 90-percent contact requirement is calculated by subtracting the length of any visible gaps from the circumference of the process vessel, and dividing this number by the circumference of the process vessel. The resulting ratio must not exceed 90-percent.

(iii) The covers or lids must be maintained in good condition.

(2) Mixing vessels that store or process materials containing benzene or methylene chloride must be equipped with covers that completely cover the vessel, except as necessary to allow for safe clearance of the mixer shaft.

(3) All vessels that store or process materials containing benzene or methylene chloride must be kept covered at all times, except for quality control testing and product sampling, addition of materials, material removal, or when the vessel is empty. The vessel is empty if:

(i) All materials containing benzene or methylene chloride have been removed that can be removed using the practices commonly employed to remove materials from that type of vessel, e.g., pouring, pumping, and aspirating; and

(ii) No more than 2.5 centimeters (one inch) depth of residue remains on the bottom of the vessel, or no more than 3 percent by weight of the total capacity of the vessel remains in the vessel.

(4) Leaks and spills of materials containing benzene or methylene chloride must be minimized and cleaned up as soon as practical, but no longer than 1 hour from the time of detection.

(5) Rags or other materials that use a solvent containing benzene or methylene chloride for cleaning must be kept in a closed container. The closed container may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

[74 FR 63525, Dec. 3, 2009, as amended at 75 FR 10186, Mar. 5, 2010]

§ 63.11602 What are the performance test and compliance requirements for new and existing sources?

(a) For each new and existing affected source, you must demonstrate initial compliance by conducting the inspection and monitoring activities in paragraph (a)(1) of this section and ongoing compliance by conducting the inspection and testing activities in paragraph (a)(2) of this section.

(1) Initial particulate control device inspections and tests. You must conduct an initial inspection of each particulate control device according to the requirements in paragraphs (a)(1)(i) through (iii) of this section and perform a visible emissions test according to the requirements of paragraph (a)(1)(iv) of this section. You must record the results of each inspection and test according to paragraph (b) of this section and perform corrective action where necessary.You must conduct each inspection no later than 180 days after your applicable compliance date for each control device which has been operated within 60 days following the compliance date. For a control device which has not been installed or operated within 60 days following the compliance date, you must conduct an initial inspection prior to startup of the control device.

(i) For each wet particulate control system, you must verify the presence of water flow to the control equipment. You must also visually inspect the system ductwork and control equipment for leaks and inspect the interior of the control equipment (if applicable) for structural integrity and the condition of the control system.

(ii) For each dry particulate control system, you must visually inspect the system ductwork and dry particulate control unit for leaks. You must also inspect the inside of each dry particulate control unit for structural integrity and condition.

(iii) An initial inspection of the internal components of a wet or dry particulate control system is not required if there is a record that an inspection meeting the requirements of this subsection has been performed within the past 12 months and any maintenance actions have been resolved.

(iv) For each particulate control device, you must conduct a visible emission test consisting of three 1-minute test runs using Method 203C (40 CFR part 51, appendix M). The visible emission test runs must be performed during the addition of dry pigments and solids containing compounds of cadmium, chromium, lead, or nickel to a process vessel or to the grinding and milling equipment. If the average test results of the visible emissions test runs indicate an opacity greater than the applicable limitation in § 63.11601(a), you must take corrective action and retest within 15 days.

(2) Ongoing particulate control device inspections and tests. Following the initial inspections, you must perform periodic inspections of each PM control device according to the requirements in paragraphs (a)(2)(i) or (ii) of this section. You must record the results of each inspection according to paragraph (b) of this section and perform corrective action where necessary. You must also conduct tests according to the requirements in paragraph (a)(2)(iii) of this section and record the results according to paragraph (b) of this section.

(i) You must inspect and maintain each wet particulate control system according to the requirements in paragraphs (a)(2)(i)(A) through (C) of this section.

(A) You must conduct a daily inspection to verify the presence of water flow to the wet particulate control system.

(B) You must conduct weekly visual inspections of any flexible ductwork for leaks.

(C) You must conduct inspections of the rigid, stationary ductwork for leaks, and the interior of the wet control system (if applicable) to determine the structural integrity and condition of the control equipment every 12 months.

(ii) You must inspect and maintain each dry particulate control unit according to the requirements in paragraphs (a)(2)(ii)(A) and (B) of this section.

(A) You must conduct weekly visual inspections of any flexible ductwork for leaks.

(B) You must conduct inspections of the rigid, stationary ductwork for leaks, and the interior of the dry particulate control unit for structural integrity and to determine the condition of the fabric filter (if applicable) every 12 months.

(iii) For each particulate control device, you must conduct a 5-minute visual determination of emissions from the particulate control device every 3 months using Method 22 (40 CFR part 60, appendix A-7). The visible emission test must be performed during the addition of dry pigments and solids containing compounds of cadmium, chromium, lead, or nickel to a process vessel or to the grinding and milling equipment. If visible emissions are observed for two minutes of the required 5-minute observation period, you must conduct a Method 203C (40 CFR part 51, appendix M) test within 15 days of the time when visible emissions were observed. The Method 203C test will consist of three 1-minute test runs and must be performed during the addition of dry pigments and solids containing compounds of cadmium, chromium, lead, or nickel HAP to a process vessel or to the grinding and milling equipment. If the Method 203C test runs indicates an opacity greater than the limitation in § 63.11601(a)(5), you must comply with the requirements in paragraphs (a)(2)(iii)(A) through (C) of this section.

(A) You must take corrective action and retest using Method 203C within 15 days. The Method 203C test will consist of three 1-minute test runs and must be performed during the addition of dry pigments and solids containing compounds of cadmium, chromium, lead, or nickel to a process vessel or to the grinding and milling equipment. You must continue to take corrective action and retest each 15 days until a Method 203C test indicates an opacity equal to or less than the limitation in § 63.11601(a)(5).

(B) You must prepare a deviation report in accordance with § 63.11603(b)(3) for each instance in which the Method 203C opacity results were greater than the limitation in § 63.11601(a)(5).

(C) You must resume the visible determinations of emissions from the particulate control device in accordance with paragraph (a)(2)(iii) of this section 3 months after the previous visible determination.

(b) You must record the information specified in paragraphs (b)(1) through (6) of this section for each inspection and testing activity.

(1) The date, place, and time;

(2) Person conducting the activity;

(3) Technique or method used;

(4) Operating conditions during the activity;

(5) Results; and

(6) Description of correction actions taken.

[74 FR 63525, Dec. 3, 2009, as amended at 75 FR 10186, Mar. 5, 2010]

§ 63.11603 What are the notification, reporting, and recordkeeping requirements?

(a) *Notifications.* You must submit the notifications identified in paragraphs (a)(1) and (2) of this section.

(1) Initial Notification of Applicability. If you own or operate an existing affected source, you must submit an initial notification of applicability required by § 63.9(b)(2) no later than June 1, 2010. If you own or operate a new affected source, you must submit an initial notification of applicability required by § 63.9(b)(2) no later than 180 days after initial start-up of the operations or June 1, 2010, whichever is later. The notification of applicability must include the information specified in paragraphs (a)(1)(i) through (iii) of this section.

(i) The name and address of the owner or operator;

(ii) The address (i.e., physical location) of the affected source; and

(iii) An identification of the relevant standard, or other requirement, that is the basis of the notification and the source's compliance date.

(2) *Notification of Compliance Status.* If you own or operate an existing affected source, you must submit a Notification of Compliance Status in accordance with § 63.9(h) of the General Provisions by June 3, 2013. If you own or operate a new affected source, you must submit a Notification of Compliance Status within 180 days after initial start-up, or by June 1, 2010, whichever is later. If you own or operate an affected source that becomes an affected source in accordance with § 63.11599(b)(3) after the applicable compliance date in § 63.11600 (a) or (b), you must submit a Notification of Compliance Status within 180 days of the date that you commence processing, using, or generating materials containing HAP, as defined in 63.11607. This Notification of Compliance Status must include the information specified in paragraphs (a)(2)(i) and (ii) of this section.

(i) Your company's name and address;

(ii) A statement by a responsible official with that official's name, title, phone number, e-mail address and signature, certifying the truth, accuracy, and completeness of the notification, a description of the method of compliance (i.e., compliance with management practices, installation of a wet or dry scrubber) and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart.

(b) *Annual Compliance Certification Report.* You must prepare an annual compliance certification report according to the requirements in paragraphs (b)(1) through (b)(3) of this section. This report does not need to be submitted unless a deviation from the requirements of this subpart has occurred. When a deviation from the requirements of this subpart has occurred, the annual compliance certification report must be submitted along with the deviation report.

(1) *Dates.* You must prepare and, if applicable, submit each annual compliance certification report according to the dates specified in paragraphs (b)(1)(i) through (iii) of this section.

(i) The first annual compliance certification report must cover the first annual reporting period which begins the day of the compliance date and ends on December 31.

(ii) Each subsequent annual compliance certification report must cover the annual reporting period from January 1 through December 31.

(iii) Each annual compliance certification report must be prepared no later than January 31 and kept in a readily-accessible location for inspector review. If a deviation has occurred during the year, each annual compliance certification report must be submitted along with the deviation report, and postmarked no later than February 15.

(2) *General Requirements.* The annual compliance certification report must contain the information specified in paragraphs (b)(2)(i) through (iii) of this section.

(i) Company name and address;

(ii) A statement in accordance with § 63.9(h) of the General Provisions that is signed by a responsible official with that official's name, title, phone number, e-mail address and signature, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart; and

(iii) Date of report and beginning and ending dates of the reporting period. The reporting period is the 12-month period beginning on January 1 and ending on December 31.

(3) *Deviation Report.* If a deviation has occurred during the reporting period, you must include a description of deviations from the applicable requirements, the time periods during which the deviations occurred, and the corrective actions taken. This deviation report must be submitted along with your annual compliance certification report, as required by paragraph (b)(1)(iii) of this section.

(c) *Records.* You must maintain the records specified I paragraphs (c)(1) through (4) of this section in accordance with paragraphs (c)(5) through (6) of this section, for five years after the date of each recorded action.

(1) As required in § 63.10(b)(2)(xiv), you must keep a copy of each notification that you submitted in accordance with paragraph (a) of this section, and all documentation supporting any Notification of Applicability and Notification of Compliance Status that you submitted.

(2) You must keep a copy of each Annual Compliance Certification Report prepared in accordance with paragraph (b) of this section.

(3) You must keep records of all inspections and tests as required by § 63.11602(b).

(4) Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

(5) As specified in § 63.10(b)(1), you must keep each record for 5 years following the date of each recorded action.

(6) You must keep each record onsite for at least 2 years after the date of each recorded action according to § 63.10(b)(1). You may keep the records offsite for the remaining 3 years.

(d) If you no longer process, use, or generate materials containing HAP after December 3, 2009, you must submit a Notification in accordance with § 63.11599(d), which must include the information specified in paragraphs (e)(1) and (2) of this section.

(1) Your company's name and address;

(2) A statement by a responsible official indicating that the facility no longer processes, uses, or generates materials containing HAP, as defined in § 63.11607, and that there are no plans to process, use or generate such materials in the future. This statement should also include the date by which the company ceased using materials containing HAP, as defined in 63.11607, and the responsible official's name, title, phone number, e-mail address and signature.

[74 FR 63525, Dec. 3, 2009, as amended at 75 FR 10186, Mar. 5, 2010]

§ 63.11604 [Reserved]

Other Requirements and Information

§ 63.11605 What General Provisions apply to this subpart?

Table 1 of this subpart shows which parts of the General Provisions in §§ 63.1 through 63.16 apply to you.

§ 63.11606 Who implements and enforces this subpart?

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

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

(1) Approval of an alternative nonopacity emissions standard under § 63.6(g).

(2) Approval of a major change to test methods under § 63.7(e)(2)(ii) and (f). A “major change to test method” is defined in § 63.90

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

(4) Approval of a major change to recordkeeping/reporting under § 63.10(f). A “major change to recordkeeping/reporting” is defined in § 63.90. As required in § 63.11432, you must comply with the

requirements of the NESHAP General Provisions (40 CFR part 63, subpart A) as shown in the following table.

§ 63.11607 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act, § 63.2, and in this section as follows:

Construction means the onsite fabrication, erection, or installation of an affected source. Addition of new equipment to an affected source does not constitute construction, but it may constitute reconstruction of the affected source if it satisfies the definition of reconstruction in § 63.2.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or management practices established by this subpart;

(2) Fails to meet any term or condition that is adopted to implement a requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emissions limitation or management practice in this subpart.

Dry particulate control system means an air pollution control device that uses filtration, impaction, or electrical forces to remove particulate matter in the exhaust stream.

Fabric filter means an air collection and control system that utilizes a bag filter to reduce the emissions of metal HAP and other particulate matter.

Material containing HAP means a material containing benzene, methylene chloride, or compounds of cadmium, chromium, lead, and/or nickel, in amounts greater than or equal to 0.1 percent by weight for carcinogens, as defined by the Occupational Safety and Health Administration at 29 CFR 1910.1200(d)(4), or 1.0 percent by weight for non-carcinogens, as shown in formulation data provided by the manufacturer or supplier, such as the Material Safety Data Sheet for the material. Benzene and methylene chloride are volatile HAP. Compounds of cadmium, chromium, lead and/or nickel are metal HAP.

Paints and allied products means materials such as paints, inks, adhesives, stains, varnishes, shellacs, putties, sealers, caulks, and other coatings from raw materials that are intended to be applied to a substrate and consists of a mixture of resins, pigments, solvents, and/or other additives.

Paints and allied products manufacturing means the production of paints and allied products, the intended use of which is to leave a dried film of solid material on a substrate. Typically, the manufacturing processes that produce these materials are described by Standard Industry Classification (SIC) codes 285 or 289 and North American Industry Classification System (NAICS) codes 3255 and 3259 and are produced by physical means, such as blending and mixing, as opposed to chemical synthesis means, such as reactions and distillation. Paints and allied products manufacturing does not include:

(1) The manufacture of products that do not leave a dried film of solid material on the substrate, such as thinners, paint removers, brush cleaners, and mold release agents;

(2) The manufacture of electroplated and electroless metal films;

(3) The manufacture of raw materials, such as resins, pigments, and solvents used in the production of paints and coatings; and

(4) Activities by end users of paints or allied products to ready those materials for application.

Paints and allied products manufacturing process means all the equipment which collectively function to produce a paint or allied product. A process may consist of one or more unit operations. For the purposes of this subpart, the manufacturing process includes any, all, or a combination of, weighing, blending, mixing, grinding, tinting, dilution or other formulation. Cleaning operations, material storage and transfer, and piping are considered part of the manufacturing process. This definition does not cover activities by end users of paints or allied products to ready those materials for application. Quality assurance and quality control laboratories are not considered part of a paints and allied products manufacturing process. Research and development facilities, as defined in section 112(c)(7) of the CAA are not considered part of a paints and allied products manufacturing process.

Particulate matter control device means any equipment, device, or other article that is designed and/or installed for the purpose of reducing or preventing the discharge of metal HAP emissions to the atmosphere.

Process vessel means any stationary or portable tank or other vessel of any capacity and in which mixing, blending, diluting, dissolving, temporary holding, and other processing steps occur in the manufacturing of a coating.

Responsible official means one of the following:

(1) For a corporation: A president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or a duly authorized representative of such person if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities and either:

(i) The facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars); or

(ii) The delegation of authority to such representative is approved in advance by the Administrator.

(2) For a partnership or sole proprietorship: A general partner or the proprietor, respectively.

(3) For a municipality, State, Federal, or other public agency: Either a principal executive officer or ranking elected official. For the purposes of this part, a principal executive officer of a Federal agency includes the chief executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., a Regional Administrator of the EPA).

(4) For affected sources (as defined in this part) applying for or subject to a title V permit: “Responsible official” shall have the same meaning as defined in part 70 or Federal title V regulations in this chapter (42 U.S.C. 7661), whichever is applicable.

Storage vessel means a tank, container or other vessel that is used to store volatile liquids that contain one or more of the listed volatile HAP, benzene or methylene chloride, as raw material feedstocks or products. It also includes objects, such as rags or other containers which are stored in the vessel. The following are not considered storage vessels for the purposes of this subpart:

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

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

(3) Vessels storing volatile liquids that contain HAP only as impurities;

(4) Wastewater storage tanks; and

(5) Process vessels.

Wet particulate control device means an air pollution control device that uses water or other liquid to contact and remove particulate matter in the exhaust stream.

[74 FR 63525, Dec. 3, 2009, as amended at 75 FR 31320, June 3, 2010]

§§ 63.11608-63.11618 [Reserved]

Table 1 to Subpart CCCCCCC of Part 63—Applicability of General Provisions to Paints and Allied Products Manufacturing Area Sources

As required in § 63.11599, you must meet each requirement in the following table that applies to you. Part 63 General Provisions that apply for Paints and Allied Products Manufacturing Area Sources:

Citation	Subject	Applies to subpart CCCCCCC
63.1	Applicability	Yes.
63.2	Definitions	Yes.
63.3	Units and abbreviations	Yes.
63.4	Prohibited activities	Yes.
63.5	Preconstruction review and notification requirements	No.
63.6(a), (b)(1)-(b)(5), (c), (e)(1), (f)(2), (f)(3), (g), (i), (j)	Compliance with standards and maintenance requirements	Yes.
63.7(a), (e), and (f)	Performance testing requirements	Yes.
63.8	Monitoring requirements	No.
63.9(a)-(d), (i), and (j)	Notification Requirements	Yes.
63.10(a), (b)(1)	Recordkeeping and Reporting	Yes.
63.10(d)(1)	Recordkeeping and Reporting	Yes.
63.11	Control device and work practice requirements	No.
63.12	State authority and delegations	Yes.
63.13	Addresses of state air pollution control agencies and EPA regional offices	Yes.
63.14	Incorporation by reference	No.
63.15	Availability of information and confidentiality	Yes.
63.16	Performance track provisions	No.

Attachment D

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Electronic Code of Federal Regulations

Title 40: Protection of Environment

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

Subpart WWWWWW—National Emission Standards for Hazardous Air Pollutants: Area Source Standards for Plating and Polishing Operations

Source: 73 FR 37741, July 1, 2008, unless otherwise noted.

Applicability and Compliance Dates

§ 63.11504 Am I subject to this subpart?

(a) You are subject to this subpart if you own or operate a plating and polishing facility that is an area source of hazardous air pollutant (HAP) emissions and meets the criteria specified in paragraphs (a)(1) through (3) of this section.

(1) A plating and polishing facility is a plant site that is engaged in one or more of the processes listed in paragraphs (a)(1)(i) through (vi) of this section.

(i) Electroplating other than chromium electroplating (i.e., non-chromium electroplating).

(ii) Electroless or non-eletrolytic plating.

(iii) Other non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and thermal spraying.

(iv) Dry mechanical polishing of finished metals and formed products after plating or thermal spraying.

(v) Electroforming.

(vi) Electropolishing.

(2) A plating or polishing facility is an area source of HAP emissions, where an area source is any stationary source or group of stationary sources within a contiguous area under common control that does not have the potential to emit any single HAP at a rate of 9.07 megagrams per year (Mg/yr) (10 tons per year (tpy)) or more and any combination of HAP at a rate of 22.68 Mg/yr (25 tpy) or more.

(3) Your plating and polishing facility uses or has emissions of compounds of one or more plating and polishing metal HAP, which means any compound of any of the following metals: cadmium, chromium, lead, manganese, and nickel, as defined in § 63.11511, “What definitions apply to this subpart?” With the exception of lead, plating and polishing metal HAP also include any of these metals in the elemental form.

(b) [Reserved]

[73 FR 37741, July 1, 2008, as amended at 76 FR 57919, Sept. 19, 2011]

§ 63.11505 What parts of my plant does this subpart cover?

(a) This subpart applies to each new or existing affected source, as specified in paragraphs (a)(1) through (3) of this section, at all times. A new source is defined in § 63.11511, "What definitions apply to this subpart?"

(1) Each tank that contains one or more of the plating and polishing metal HAP, as defined in § 63.11511, "What definitions apply to this subpart?", and is used for non-chromium electroplating; electroforming; electropolishing; electroless plating or other non-electrolytic metal coating operations, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

(2) Each thermal spraying operation that applies one or more of the plating and polishing metal HAP, as defined in § 63.11511, "What definitions apply to this subpart?"

(3) Each dry mechanical polishing operation that emits one or more of the plating and polishing metal HAP, as defined in § 63.11511, "What definitions apply to this subpart?"

(b) An affected source is existing if you commenced construction or reconstruction of the affected source on or before March 14, 2008.

(c) An affected source is new if you commenced construction or reconstruction of the affected source after March 14, 2008.

(d) This subpart does not apply to any of the process units or operations described in paragraphs (d)(1) through (6) of this section.

(1) Process units that are subject to the requirements of 40 CFR part 63, subpart N (National Emission Standards for Chromium Emissions from Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks).

(2) Research and development process units, as defined in § 63.11511, "What definitions apply to this subpart?"

(3) Process units that are used strictly for educational purposes.

(4) Plating, polishing, coating, or thermal spraying conducted to repair surfaces or equipment.

(5) Dry mechanical polishing conducted to restore the original finish to a surface.

(6) Any plating or polishing process that uses process materials that contain cadmium, chromium, lead, or nickel (as the metal) in amounts less than 0.1 percent by weight, or that contain manganese in amounts less than 1.0 percent by weight (as the metal), as used. Information used to determine the amount of plating and polishing metal HAP in materials used in the plating or polishing process may include information reported on the Material Safety Data Sheet for the material, but is not required. For plating or polishing tanks, the HAP content may be determined from the final bath contents "as used" to plate or to polish.

(e) You are exempt from the obligation to obtain a permit under 40 CFR part 70 or 40 CFR part 71, "Title V," provided you are not otherwise required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57919, Sept. 19, 2011]

§ 63.11506 What are my compliance dates?

(a) If you own or operate an existing affected source, you must achieve compliance with the applicable provisions of this subpart no later than July 1, 2010.

(b) If you own or operate a new affected source for which the initial startup date is on or before July 1, 2008, you must achieve compliance with the provisions of this subpart no later than July 1, 2008.

(c) If you own or operate a new affected source for which the initial startup date is after July 1, 2008, you must achieve compliance with the provisions of this subpart upon initial startup of your affected source.

Standards and Compliance Requirements

§ 63.11507 What are my standards and management practices?

(a) If you own or operate an affected new or existing non-cyanide electroplating, electroforming, or electropolishing tank (hereafter referred to as an “electrolytic” process tank, as defined in § 63.11511, “What definitions apply to this subpart?”) that contains one or more of the plating and polishing metal HAP and operates at a pH of less than 12, you must comply with the requirements in paragraph (a)(1), (2), or (3) of this section, and implement the applicable management practices in paragraph (g) of this section, as practicable.

(1) You must use a wetting agent/fume suppressant in the bath of the affected tank, as defined in § 63.11511, “What definitions apply to this subpart?” and according to paragraphs (a)(1)(i) through (iii) of this section.

(i) You must initially add the wetting agent/fume suppressant in the amounts recommended by the manufacturer for the specific type of electrolytic process.

(ii) You must add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the bath, as in the original make-up of the bath, or in proportions such that the bath contents are returned to that of the original make-up of the bath.

(iii) If a wetting agent/fume suppressant is included in the electrolytic process bath chemicals used in the affected tank according to the manufacturer's instructions, it is not necessary to add additional wetting agent/fume suppressants to the tank to comply with this rule.

(2) You must capture and exhaust emissions from the affected tank to any one of the following emission control devices: composite mesh pad, packed bed scrubber, or mesh pad mist eliminator, according to paragraphs (a)(2)(i) and (ii) of this section.

(i) You must operate all capture and control devices according to the manufacturer's specifications and operating instructions.

(ii) You must keep the manufacturer's specifications and operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(3) You must cover the tank surface according to paragraph (a)(3)(i) or (ii) of this section.

(i) For batch electrolytic process tanks, as defined in § 63.11511, “What definitions apply to this subpart?”, you must use a tank cover, as defined in § 63.11511, over all of the effective surface area of the tank for at least 95 percent of the electrolytic process operating time.

(ii) For continuous electrolytic process tanks, as defined in § 63.11511, “What definitions apply to this subpart?”, you must cover at least 75 percent of the surface of the tank, as defined in § 63.11511, whenever the electrolytic process tank is in operation.

(b) If you own or operate an affected new or existing “flash” or short-term electroplating tank, as defined in § 63.11511, “What definitions apply to this subpart?”, that uses or emits one or more of the plating and polishing metal HAP, you must comply with the requirements specified in paragraph (b)(1) or (b)(2), and implement the applicable management practices in paragraph (g) of this section, as practicable.

(1) You must limit short-term or “flash” electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(2) You must use a tank cover, as defined in § 63.11511, “What definitions apply to this subpart?”, for at least 95 percent of the plating time.

(c) If you own or operate an affected new or existing process tank that is used both for short-term electroplating and for electrolytic processing of longer duration (i.e., processing that does not meet the definition of short-term or flash electroplating) and contains one or more of the plating and polishing metal HAP, you must meet the requirements specified in paragraph (a) or (b) of this section, whichever apply to the process operation, and implement the applicable management practices in paragraph (g) of this section, as practicable.

(d) If you own or operate an affected new or existing electroplating tank that uses cyanide in the plating bath, operates at pH greater than or equal to 12, and contains one or more of the plating and polishing metal HAP, you must comply with the requirements in paragraphs (d)(1) and (2) of this section:

(1) You must measure and record the pH of the bath upon startup of the bath, as defined in § 63.11511, “What definitions apply to this subpart?” No additional pH measurements are required.

(2) You must implement the applicable management practices in paragraph (g) of this section, as practicable.

(e) If you own or operate an affected new or existing dry mechanical polishing machine that emits one or more of the plating and polishing metal HAP, you must operate a capture system that captures particulate matter (PM) emissions from the dry mechanical polishing process and transports the emissions to a cartridge, fabric, or high efficiency particulate air (HEPA) filter, according to paragraphs (e)(1) and (2) of this section.

(1) You must operate all capture and control devices according to the manufacturer's specifications and operating instructions.

(2) You must keep the manufacturer's specifications and operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(f) If you own or operate an affected thermal spraying operation that applies one or more of the plating and polishing metal HAP, you must meet the applicable requirements specified in paragraphs (f)(1) through (3) of this section, and the applicable management practices in paragraph (g) of this section.

(1) For existing permanent thermal spraying operations, you must operate a capture system that collects PM emissions from the thermal spraying process and transports the emissions to a water curtain, fabric filter, cartridge, or HEPA filter, according to paragraphs (f)(1)(i) and (ii) of this section.

(2) For new permanent thermal spraying operations, you must operate a capture system that collects PM emissions from the thermal spraying process and transports the emissions to a fabric, cartridge, or HEPA filter, according to paragraphs (f)(2)(i) and (ii) of this section.

(3) For temporary thermal spraying operations, as defined in § 63.11511 “What definitions apply to this subpart?”, you must meet the applicable requirements specified in paragraphs (f)(3)(i) and (ii) of this section.

(i) You must document the amount of time the thermal spraying occurs each day, and where it is conducted.

(ii) You must implement the applicable management practices specified in paragraph (g) of this section, as practicable.

(g) If you own or operate an affected new or existing plating and polishing process unit that contains, applies, or emits one or more of the plating and polishing metal HAP, you must implement the applicable management practices in paragraphs (g)(1) through (12) of this section, as practicable.

(1) Minimize bath agitation when removing any parts processed in the tank, as practicable except when necessary to meet part quality requirements.

(2) Maximize the draining of bath solution back into the tank, as practicable, by extending drip time when removing parts from the tank; using drain boards (also known as drip shields); or withdrawing parts slowly from the tank, as practicable.

(3) Optimize the design of barrels, racks, and parts to minimize dragout of bath solution (such as by using slotted barrels and tilted racks, or by designing parts with flow-through holes to allow the tank solution to drip back into the tank), as practicable.

(4) Use tank covers, if already owned and available at the facility, whenever practicable.

(5) Minimize or reduce heating of process tanks, as practicable (e.g., when doing so would not interrupt production or adversely affect part quality).

(6) Perform regular repair, maintenance, and preventive maintenance of racks, barrels, and other equipment associated with affected sources, as practicable.

(7) Minimize bath contamination, such as through the prevention or quick recovery of dropped parts, use of distilled/de-ionized water, water filtration, pre-cleaning of parts to be plated, and thorough rinsing of pre-treated parts to be plated, as practicable.

(8) Maintain quality control of chemicals, and chemical and other bath ingredient concentrations in the tanks, as practicable.

(9) Perform general good housekeeping, such as regular sweeping or vacuuming, if needed, and periodic washdowns, as practicable.

(10) Minimize spills and overflow of tanks, as practicable.

(11) Use squeegee rolls in continuous or reel-to-reel plating tanks, as practicable.

(12) Perform regular inspections to identify leaks and other opportunities for pollution prevention.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57920, Sept. 19, 2011]

§ 63.11508 What are my compliance requirements?

(a) If you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with § 63.11509(b) of “What are my notification, reporting, and recordkeeping requirements?”

(b) You must be in compliance with the applicable management practices and equipment standards in this subpart at all times.

(c) To demonstrate initial compliance, you must satisfy the requirements specified in paragraphs (c)(1) through (11) of this section.

(1) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(a), “What are my standards and management practices?”, and you use a wetting agent/fume suppressant to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(1)(i) through (iv) of this section.

(i) You must add wetting agent/fume suppressant to the bath of each affected tank according to manufacturer's specifications and instructions.

(ii) You must state in your Notification of Compliance Status that you add wetting agent/fume suppressant to the bath according to manufacturer's specifications and instructions.

(iii) You must implement the applicable management practices specified in § 63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in § 63.11507(g), "What are my standards and management practices?", as practicable.

(2) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(a), "What are my standards and management practices?", and you use a control system, as defined in § 63.11511, "What definitions apply to this subpart?", to comply with this subpart, you must demonstrate initial compliance according to paragraphs (c)(2)(i) through (v) of this section.

(i) You must install a control system designed to capture emissions from the affected tank and exhaust them to a composite mesh pad, packed bed scrubber, or mesh pad mist eliminator.

(ii) You must state in your Notification of Compliance Status that you have installed the control system according to the manufacturer's specifications and instructions.

(iii) You must implement the applicable management practices specified in § 63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in § 63.11507(g), "What are my standards and management practices?", as practicable.

(v) You must follow the manufacturer's specifications and operating instructions for the control systems at all times.

(3) If you own or operate an affected batch electrolytic process tank, as defined in § 63.11511, "What definitions apply to this subpart?" that contains one or more of the plating and polishing metal HAP and which is subject to the requirements in § 63.11507(a), "What are my standards and management practices?" and you use a tank cover, as defined in § 63.11511, to comply with § 11507(a), (b) or (c) of this subpart, you must demonstrate initial compliance according to paragraphs (c)(3)(i) through (iv) of this section.

(i) You must install a tank cover on the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the cover in place at least 95 percent of the electrolytic process operating time.

(iii) You must implement the applicable management practices specified in § 63.11507(g), "What are my standards and management practices?", as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in § 63.11507(g), "What are my standards and management practices?", as practicable.

(4) If you own or operate an affected continuous electrolytic process tank, as defined in § 63.11511, "What definitions apply to this subpart?" that contains one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(a), "What are my standards and management practices?" and you cover the tank surface to comply with § 11507(a), (b) or (c) of this subpart, you must demonstrate initial compliance according to paragraphs (c)(4)(i) through (iv) of this section.

(i) You must cover at least 75 percent of the surface area of the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the surface cover in place whenever the continuous electrolytic process is in operation.

(iii) You must implement the applicable management practices specified in § 63.11507(g), “What are my standards and management practices?”, as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in § 63.11507(g), “What are my standards and management practices?”, as practicable.

(5) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(b), “What are my standards and management practices?” and you comply with § 11507(a), (b) or (c) of this subpart by limiting the plating time of the affected tank, you must demonstrate initial compliance according to paragraphs (c)(5)(i) through (iii) of this section.

(i) You must state in your Notification of Compliance Status that you limit short-term or flash electroplating to no more than 1 cumulative hour per day, or 3 cumulative minutes per hour of plating time.

(ii) You must implement the applicable management practices specified in § 63.11507(g), “What are my standards and management practices?”, as practicable.

(iii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in § 63.11507(g), “What are my standards and management practices?”, as practicable.

(6) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(b), “What are my standards and management practices?” and you comply with § 11507(a), (b) or (c) of this subpart by operating the affected tank with a cover, you must demonstrate initial compliance according to paragraphs (c)(6)(i) through (iv) of this section.

(i) You must install a tank cover on the affected tank.

(ii) You must state in your Notification of Compliance Status that you operate the tank with the cover in place at least 95 percent of the plating time.

(iii) You must implement the applicable management practices specified in § 63.11507(g), “What are my standards and management practices?”, as practicable.

(iv) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in § 63.11507(g), “What are my standards and management practices?”, as practicable.

(7) If you own or operate an affected tank that contains one or more of the plating and polishing metal HAP, uses cyanide in the bath, and is subject to the management practices specified in § 63.11507(d), “What are my standards and management practices?”, you must demonstrate initial compliance according to paragraphs (c)(7)(i) through (iii) of this section.

(i) You must report in your Notification of Compliance Status the pH of the bath solution that was measured at startup, as defined in § 63.11511, according to the requirements of § 63.11507(d)(1).

(ii) You must implement the applicable management practices specified in § 63.11507(g), “What are my standards and management practices?”, as practicable.

(iii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in § 63.11490(g), “What are my standards and management practices?”, as practicable.

(8) If you own or operate an affected dry mechanical polishing operation that emits one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(e), “What are my standards and management practices?”, you must demonstrate initial compliance according to paragraphs (c)(8)(i) through (iii) of this section.

(i) You must install a control system that is designed to capture PM emissions from the polishing operation and exhaust them to a cartridge, fabric, or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(9) If you own or operate an existing affected permanent thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(f)(1), “What are my standards and management practices?”, you must demonstrate initial compliance according to paragraphs (c)(9)(i) through (iii) of this section.

(i) You must install a control system that is designed to capture PM emissions from the thermal spraying operation and exhaust them to a water curtain, or a cartridge, fabric, or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed and are operating the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(10) If you own or operate a new affected permanent thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(f)(2), “What are my standards and management practices?”, you must demonstrate initial compliance according to paragraphs (c)(10)(i) through (iii) of this section.

(i) You must install and operate a control system that is designed to capture PM emissions from the thermal spraying operation and exhaust them to a cartridge, fabric, or HEPA filter.

(ii) You must state in your Notification of Compliance Status that you have installed and operate the control system according to the manufacturer's specifications and instructions.

(iii) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(11) If you own or operate an affected temporary thermal spraying operation that applies one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(f)(3), “What are my standards and management practices?”, you must demonstrate initial compliance according to paragraphs (c)(11)(i) and (ii) of this section.

(i) You must implement the applicable management practices specified in § 63.11507(g), “What are my standards and management practices?”, as practicable.

(ii) You must state in your Notification of Compliance Status that you have implemented the applicable management practices specified in § 63.11507(g), “What are my standards and management practices?”, as practicable.

(d) To demonstrate continuous compliance with the applicable management practices and equipment standards specified in this subpart, you must satisfy the requirements specified in paragraphs (d)(1) through (8) of this section.

(1) You must always operate and maintain your affected source, including air pollution control equipment.

(2) You must prepare an annual compliance certification according to the requirements specified in § 63.11509(c), “Notification, Reporting, and Recordkeeping,” and keep it in a readily-accessible location for inspector review.

(3) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(a), “What are my standards

and management practices?”, and you use a wetting agent/fume suppressant to comply with this subpart, you must demonstrate continuous compliance according to paragraphs (d)(3)(i) through (iii) of this section.

(i) You must record that you have added the wetting agent/fume suppressant to the tank bath in the original make-up of the tank.

(ii) For tanks where the wetting agent/fume suppressant is a separate ingredient from the other tank additives, you must demonstrate continuous compliance according to paragraphs (d)(3)(ii) (A) and (B) this section.

(A) You must add wetting agent/fume suppressant in proportion to the other bath chemistry ingredients that are added to replenish the tank bath, as in the original make-up of the tank; or in proportion such that the bath is brought back to the original make-up of the tank.

(B) You must record each addition of wetting agent/fume suppressant to the tank bath.

(iii) You must state in your annual compliance certification that you have added wetting agent/fume suppressant to the bath according to the manufacturer's specifications and instructions.

(4) If you own or operate an affected electroplating, electroforming, or electropolishing tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(a), “What are my standards and management practices?”, and you use a control system to comply with this subpart; an affected dry mechanical polishing operation that is subject to § 63.11507(e); or an affected thermal spraying operation that is subject to § 63.11507(f)(1) or (2), you must demonstrate continuous compliance according to paragraphs (d)(4)(i) through (v) of this section.

(i) You must operate and maintain the control system according to the manufacturer's specifications and instructions.

(ii) Following any malfunction or failure of the capture or control devices to operate properly, you must take immediate corrective action to return the equipment to normal operation according to the manufacturer's specifications and operating instructions.

(iii) You must state in your annual certification that you have operated and maintained the control system according to the manufacturer's specifications and instructions.

(iv) You must record the results of all control system inspections, deviations from proper operation, and any corrective action taken.

(v) You must keep the manufacturer's operating instructions at the facility at all times in a location where they can be easily accessed by the operators.

(5) If you own or operate an affected flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(b), “What are my standards and management practices?” and you comply with § 11507(a), (b) or (c) of this subpart by limiting the plating time for the affected tank, you must demonstrate continuous compliance according to paragraphs (d)(5)(i) through (iii) of this section.

(i) You must limit short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(ii) You must record the times that the affected tank is operated each day.

(iii) You must state in your annual compliance certification that you have limited short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(6) If you own or operate an affected batch electrolytic process tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements of § 63.11507(a), “What are my standards and management

practices?" or a flash or short-term electroplating tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(b), and you comply with § 11507(a), (b) or (c) of this section by operating the affected tank with a cover, you must demonstrate continuous compliance according to paragraphs (d)(6)(i) through (iii) of this section.

(i) You must operate the tank with the cover in place at least 95 percent of the electrolytic process operating time.

(ii) You must record the times that the tank is operated and the times that the tank is covered on a daily basis.

(iii) You must state in your annual certification that you have operated the tank with the cover in place at least 95 percent of the electrolytic process time.

(7) If you own or operate an affected continuous electrolytic process tank that contains one or more of the plating and polishing metal HAP and is subject to the requirements in § 63.11507(a), "What are my standards and management practices?" and you comply with § 11507(a), (b) or (c) of this subpart by operating the affected tank with a cover, you must demonstrate continuous compliance according to paragraphs (d)(7)(i) and (ii) of this section.

(i) You must operate the tank with at least 75 percent of the surface covered during all periods of electrolytic process operation.

(ii) You must state in your annual certification that you have operated the tank with 75 percent of the surface covered during all periods of electrolytic process operation.

(8) If you own or operate an affected tank or other operation that is subject to the management practices specified in § 63.11507(g), "What are my standards and management practices?", you must demonstrate continuous compliance according to paragraphs (d)(8)(i) and (ii) of this section.

(i) You must implement the applicable management practices during all times that the affected tank or process is in operation.

(ii) You must state in your annual compliance certification that you have implemented the applicable management practices, as practicable.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57920, Sept. 19, 2011]

§ 63.11509 What are my notification, reporting, and recordkeeping requirements?

(a) If you own or operate an affected source, as defined in § 63.11505(a), "What parts of my plant does this subpart cover?", you must submit an Initial Notification in accordance with paragraphs (a)(1) through (4) of this section by the dates specified.

(1) The Initial Notification must include the information specified in § 63.9(b)(2)(i) through (iv) of the General Provisions of this part.

(2) The Initial Notification must include a description of the compliance method (e.g., use of wetting agent/fume suppressant) for each affected source.

(3) If you start up your affected source on or before July 1, 2008, you must submit an Initial Notification not later than 120 calendar days after July 1, 2008.

(4) If you startup your new affected source after July 1, 2008, you must submit an Initial Notification when you become subject to this subpart.

(b) If you own or operate an affected source, you must submit a Notification of Compliance Status in accordance with paragraphs (b)(1) through (3) of this section.

(1) The Notification of Compliance Status must be submitted before the close of business on the compliance date specified in § 63.11506, “What are my compliance dates?”

(2) The Notification of Compliance Status must include the items specified in paragraphs (b)(2)(i) through (iv) of this section.

(i) List of affected sources and the plating and polishing metal HAP used in, or emitted by, those sources.

(ii) Methods used to comply with the applicable management practices and equipment standards.

(iii) Description of the capture and emission control systems used to comply with the applicable equipment standards.

(iv) Statement by the owner or operator of the affected source as to whether the source is in compliance with the applicable standards or other requirements.

(3) If a facility makes a change to any items in (b)(2)(i), iii, and (iv) of this section that does not result in a deviation, an amended Notification of Compliance Status should be submitted within 30 days of the change.

(c) If you own or operate an affected source, you must prepare an annual certification of compliance report according to paragraphs (c)(1) through (7) of this section. These reports do not need to be submitted unless a deviation from the requirements of this subpart has occurred during the reporting year, in which case, the annual compliance report must be submitted along with the deviation report.

(1) If you own or operate an affected electroplating, electroforming, or electropolishing tank that is subject to the requirements in § 63.11507(a)(1), “What are my standards and management practices?”, you must state in your annual compliance certification that you have added wetting agent/fume suppressant to the bath according to the manufacturer's specifications and instructions.

(2) If you own or operate any one of the affected sources listed in paragraphs (c)(2)(i) through (iii) of this section, you must state in your annual certification that you have operated and maintained the control system according to the manufacturer's specifications and instructions.

(i) Electroplating, electroforming, or electropolishing tank that is subject to the requirements in § 63.11507(a), “What are my standards and management practices?”, and you use a control system to comply with this subpart;

(ii) Dry mechanical polishing operation that is subject to § 63.11507(e); or

(iii) Permanent thermal spraying operation that is subject to § 63.11507(f)(1) or (2).

(3) If you own or operate an affected flash or short-term electroplating tank that is subject to the requirements in § 63.11507(b), “What are my standards and management practices?” and you comply with § 11507(a), (b) or (c) of this subpart by limiting the plating time of the affected tank, you must state in your annual compliance certification that you have limited short-term or flash electroplating to no more than 1 cumulative hour per day or 3 cumulative minutes per hour of plating time.

(4) If you own or operate an affected batch electrolytic process tank that is subject to the requirements of § 63.11507(a) or a flash or short-term electroplating tank that is subject to the requirements in § 63.11507(b), “What are my standards and management practices?” and you comply with § 11507(a), (b) or (c) of this subpart by operating the affected tank with a cover, you must state in your annual certification that you have operated the tank with the cover in place at least 95 percent of the electrolytic process time.

(5) If you own or operate an affected continuous electrolytic process tank that is subject to the requirements of § 63.11507(a), “What are my standards and management practices?” and you comply with § 11507(a), (b) or (c) of this subpart by operating the affected tank with a cover, you must state in your annual certification that you have covered at least 75 percent of the surface area of the tank during all periods of electrolytic process operation.

(6) If you own or operate an affected tank or other affected plating and polishing operation that is subject to the management practices specified in § 63.11507(g), “What are my standards and management practices?” you must state in your annual compliance certification that you have implemented the applicable management practices, as practicable.

(7) Each annual compliance report must be prepared no later than January 31 of the year immediately following the reporting period and kept in a readily-accessible location for inspector review. If a deviation has occurred during the year, each annual compliance report must be submitted along with the deviation report, and postmarked or delivered no later than January 31 of the year immediately following the reporting period.

(d) If you own or operate an affected source, and any deviations from the compliance requirements specified in this subpart occurred during the year, you must report the deviations, along with the corrective action taken, and submit this report to the delegated authority.

(e) You must keep the records specified in paragraphs (e)(1) through (3) of this section.

(1) A copy of any Initial Notification and Notification of Compliance Status that you submitted and all documentation supporting those notifications.

(2) The records specified in § 63.10(b)(2)(i) through (iii) and (xiv) of the General Provisions of this part.

(3) The records required to show continuous compliance with each management practice and equipment standard that applies to you, as specified in § 63.11508(d), “What are my compliance requirements?”

(f) You must keep each record for a minimum of 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. You must keep each record onsite for at least 2 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to § 63.10(b)(1) of the General Provisions to part 63. You may keep the records offsite for the remaining 3 years.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57920, Sept. 19, 2011]

Other Requirements and Information

§ 63.11510 What General Provisions apply to this subpart?

If you own or operate a new or existing affected source, you must comply with the requirements of the General Provisions (40 CFR part 63, subpart A) according to Table 1 of this subpart.

§ 63.11511 What definitions apply to this subpart?

Terms used in this subpart are defined in this section.

Batch electrolytic process tank means a tank used for an electrolytic process in which a part or group of parts, typically mounted on racks or placed in barrels, is placed in the tank and immersed in an electrolytic process solution as a single unit (i.e., as a batch) for a predetermined period of time, during which none of the parts are removed from the tank and no other parts are added to the tank, and after which the part or parts are removed from the tank as a unit.

Bath means the liquid contents of a tank, as defined in this section, which is used for electroplating, electroforming, electropolishing, or other metal coating processes at a plating and polishing facility.

Bench-scale means any operation that is small enough to be performed on a bench, table, or similar structure so that the equipment is not directly contacting the floor.

Capture system means the collection of components used to capture gases and fumes released from one or more emissions points and then convey the captured gas stream to a control device, as part of a complete control system.

A capture system may include, but is not limited to, the following components as applicable to a given capture system design: duct intake devices, hoods, enclosures, ductwork, dampers, manifolds, plenums, and fans.

Cartridge filter means a type of control device that uses perforated metal cartridges containing a pleated paper or non-woven fibrous filter media to remove PM from a gas stream by sieving and other mechanisms. Cartridge filters can be designed with single use cartridges, which are removed and disposed after reaching capacity, or continuous use cartridges, which typically are cleaned by means of a pulse-jet mechanism.

Composite mesh pad means a type of control device similar to a mesh pad mist eliminator except that the device is designed with multiple pads in series that are woven with layers of material with varying fiber diameters, which produce a coalescing effect on the droplets or PM that impinge upon the pads.

Continuous electrolytic process tank means a tank that uses an electrolytic process and in which a continuous metal strip or other type of continuous substrate is fed into and removed from the tank continuously. This process is also called reel-to-reel electrolytic plating.

Control device means equipment that is part of a control system that collects and/or reduces the quantity of a pollutant that is emitted to the air. The control device receives emissions that are transported from the process by the capture system.

Control system means the combination of a capture system and a control device. The capture system is designed to collect and transport air emissions from the affected source to the control device. The overall control efficiency of any control system is a combination of the ability of the system to capture the air emissions (i.e., the capture efficiency) and the control device efficiency. Consequently, it is important to achieve good capture to ensure good overall control efficiency. Capture devices that are known to provide high capture efficiencies include hoods, enclosures, or any other duct intake devices with ductwork, dampers, manifolds, plenums, or fans.

Conversion coatings are coatings that form a hard metal finish on an object when the object is submerged in a tank bath or solution that contains the conversion coatings. Conversion coatings for the purposes of this rule include coatings composed of chromium, as well as the other plating and polishing metal HAP, where no electrical current is used.

Cyanide plating means plating processes performed in tanks that use cyanide as a major bath ingredient and that operate at pH of 12 or more, and use or emit any of the plating and polishing metal HAP, as defined in this section. Electroplating and electroforming are performed with or without cyanide. The cyanide in the bath works to dissolve the HAP metal added as a cyanide compound (e.g., cadmium cyanide) and creates free cyanide in solution, which helps to corrode the anode. These tanks are self-regulating to a pH of 12 due to the caustic nature of the cyanide bath chemistry. The cyanide in the bath is a major bath constituent and not an additive; however, the self-regulating chemistry of the bath causes the bath to act as if wetting agents/fume suppressants are being used and to ensure an optimum plating process. All cyanide plating baths at pH greater than or equal to 12 have cyanide-metal complexes in solution. The metal HAP to be plated is not emitted because it is either bound in the metal-cyanide complex or reduced at the cathode to elemental metal, and plated onto the immersed parts. Cyanide baths are not intentionally operated at pH less 12 since unfavorable plating conditions would occur in the tank, among other negative effects.

Deviation means any instance in which an affected source or an owner or operator of such an affected source:

(1) Fails to meet any requirement or obligation established by this rule including, but not limited to, any equipment standard (including emissions and operating limits), management practice, or operation and maintenance requirement;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this rule and that is included in the operating permit for any affected facility required to obtain such a permit; or

(3) Fails to meet any equipment standard (including emission and operating limits), management standard, or operation and maintenance requirement in this rule during startup, shutdown, or malfunction.

Dry mechanical polishing means a process used for removing defects from and smoothing the surface of finished metals and formed products after plating or thermal spraying with any of the plating and polishing metal HAP, as defined in this section, using automatic or manually-operated machines that have hard-faced abrasive wheels or belts and where no liquids or fluids are used to trap the removed metal particles. The affected process does not include polishing with use of pastes, liquids, lubricants, or any other added materials.

Electroforming means an electrolytic process using or emitting any of the plating and polishing metal HAP, as defined in this section, that is used for fabricating metal parts. This process is essentially the same as electroplating except that the plated substrate (mandrel) is removed, leaving only the metal plate. In electroforming, the metal plate is self-supporting and generally thicker than in electroplating.

Electroless plating means a non-electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metallic ions in a plating bath or solution are reduced to form a metal coating at the surface of a catalytic substrate without the use of external electrical energy. Electroless plating is also called non-electrolytic plating. Examples include, but are not limited to, chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating.

Electrolytic plating processes means electroplating and electroforming that use or emit any of the plating and polishing metal HAP, as defined in this section, where metallic ions in a plating bath or solution are reduced to form a metal coating on the surface of parts and products using electrical energy.

Electroplating means an electrolytic process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metal ions in solution are reduced onto the surface of the work piece (the cathode) via an electrical current. The metal ions in the solution are usually replenished by the dissolution of metal from solid metal anodes fabricated of the same metal being plated, or by direct replenishment of the solution with metal salts or oxides; electroplating is also called electrolytic plating.

Electropolishing means an electrolytic process performed in a tank after plating that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which a work piece is attached to an anode immersed in a bath, and the metal substrate is dissolved electrolytically, thereby removing the surface contaminant; electropolishing is also called electrolytic polishing. For the purposes of this subpart, electropolishing does not include bench-scale operations.

Fabric filter means a type of control device used for collecting PM by filtering a process exhaust stream through a filter or filter media. A fabric filter is also known as a baghouse.

Filters, for the purposes of this part, include cartridge, fabric, or HEPA filters, as defined in this section.

Flash electroplating means an electrolytic process performed in a tank that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that is used no more than 3 cumulative minutes per hour or no more than 1 cumulative hour per day.

General Provisions of this part (40 CFR part 63, subpart A) means the section of the Code of Federal Regulations (CFR) that addresses air pollution rules that apply to all HAP sources addressed in part 63, which includes the National Emission Standards for Hazardous Air Pollutants (NESHAP).

HAP means hazardous air pollutant as defined from the list of 188 chemicals and compounds specified in the CAA Amendments of 1990; HAP are also called “air toxics.” The five plating and polishing metal HAP, as defined in this section, are on this list of 188 chemicals.

High efficiency particulate air (HEPA) filter means a type of control device that uses a filter composed of a mat of randomly arranged fibers and is designed to remove at least 99.97 percent of airborne particles that are 0.3 micrometers or larger in diameter.

Maintenance is any process at a plating and polishing facility that is performed to keep the process equipment or the facility operating properly and is not performed on items to be sold as products.

Major facility for HAP is any facility that emits greater than 10 tpy of any HAP, or that emits a combined total of all HAP of over 25 tpy, where the HAP used to determine the total facility emissions are not restricted to only plating and polishing metal HAP or from only plating and polishing operations.

Mesh pad mist eliminator means a type of control device, consisting of layers of interlocked filaments densely packed between two supporting grids that remove liquid droplets and PM from the gas stream through inertial impaction and direct interception.

Metal coating operation means any process performed either in a tank that contains liquids or as part of a thermal spraying operation, that applies one or more plating and polishing metal HAP, as defined in this section, to the surface of parts and products used in manufacturing. These processes include but are not limited to: non-chromium electroplating; electroforming; electropolishing; non-electrolytic metal coating processes, such as chromate conversion coating, electroless nickel plating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and thermal or flame spraying.

Metal HAP content of material used in plating and polishing is the HAP content as determined from an analysis or engineering estimate of the HAP contents of the tank bath or solution, in the case of plating, metal coating, or electropolishing; or the HAP content of the metal coating being applied in the case of thermal spraying. Safety data sheet (SDS) information may be used in lieu of testing or engineering estimates but is not required to be used.

New source means any affected source for which you commenced construction or reconstruction after March 14, 2008.

Non-cyanide electrolytic plating and electropolishing processes means electroplating, electroforming, and electropolishing that uses or emits any of the plating and polishing metal HAP, as defined in this section, performed without cyanide in the tank. These processes do not use cyanide in the tank and operate at pH values less than 12. These processes use electricity and add or remove metals such as metal HAP from parts and products used in manufacturing. Both electroplating and electroforming can be performed with cyanide as well.

Non-electrolytic plating means a process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which metallic ions in a plating bath or solution are reduced to form a metal coating at the surface of a catalytic substrate without the use of external electrical energy. Non-electrolytic plating is also called electroless plating. Examples include chromate conversion coating, nickel acetate sealing, electroless nickel plating, sodium dichromate sealing, and manganese phosphate coating.

Packed-bed scrubber means a type of control device that includes a single or double packed bed that contains packing media on which PM and droplets impinge and are removed from the gas stream. The packed-bed section of the scrubber is followed by a mist eliminator to remove any water entrained from the packed-bed section.

Plating and polishing facility means a facility engaged in one or more of the following processes that uses or emits any of the plating and polishing metal HAP, as defined in this section: electroplating processes other than chromium electroplating (*i.e.,* non-chromium electroplating); electroless plating; other non-electrolytic metal coating processes performed in a tank, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; thermal spraying; and the dry mechanical polishing of finished metals and formed products after plating or thermal spraying. Plating is performed in a tank or thermally sprayed so that a metal coating is irreversibly applied to an object. Plating and polishing does not include any bench-scale processes.

Plating and polishing metal HAP means any compound of any of the following metals: cadmium, chromium, lead, manganese, and nickel, or any of these metals in the elemental form, with the exception of lead. Any material that does not contain cadmium, chromium, lead, or nickel in amounts greater than or equal to 0.1 percent by weight (as the metal), and does not contain manganese in amounts greater than or equal to 1.0 percent by weight (as the metal), as reported on the Material Safety Data Sheet for the material, is not considered to be a plating and polishing metal HAP.

Plating and polishing process tanks means any tank in which a process is performed at an affected plating and polishing facility that uses or has the potential to emit any of the plating and polishing metal HAP, as defined in this section. The processes performed in plating and polishing tanks include the following: electroplating processes other than chromium electroplating (*i.e.,* non-chromium electroplating) performed in a tank; electroless plating; and non-electrolytic metal coating processes, such as chromate conversion coating, nickel acetate sealing, sodium dichromate sealing, and manganese phosphate coating; and electropolishing. This term does not include tanks containing solutions that are used to clean, rinse or wash parts prior to placing the parts in a plating and polishing process tank, or subsequent to removing the parts from a plating and polishing process tank. This term also does not include any bench-scale operations.

PM means solid or particulate matter that is emitted into the air.

Repair means any process used to return a finished object or tool back to its original function or shape.

Research and development process unit means any process unit that is used for conducting research and development for new processes and products and is not used to manufacture products for commercial sale, except in a *de minimis* manner.

Short-term plating means an electroplating process that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that is used no more than 3 cumulative minutes per hour or 1 hour cumulative per day.

Startup of the tank bath is when the components or relative proportions of the various components in the bath have been altered from the most recent operating period. Startup of the bath does not include events where only the tank's heating or agitation and other mechanical operations are turned back on after being turned off for a period of time.

Tank cover for batch process units means a solid structure made of an impervious material that is designed to cover the entire open surface of a tank or process unit that is used for plating or other metal coating processes.

Tank cover for continuous process units, means a solid structure or combination of structures, made of an impervious material that is designed to cover at least 75 percent of the open surface of the tank or process unit that is used for continuous plating or other continuous metal coating processes.

Temporary thermal spraying means a thermal spraying operation that uses or emits any of the plating and polishing metal HAP, as defined in this section, and that lasts no more than 1 hour in duration during any one day and is conducted in situ. Thermal spraying that is conducted in a dedicated thermal spray booth or structure is not considered to be temporary thermal spraying.

Thermal spraying (also referred to as metal spraying or flame spraying) is a process that uses or emits any of the plating and polishing metal HAP, as defined in this section, in which a metallic coating is applied by projecting heated, molten, or semi-molten metal particles onto a substrate. Commonly-used thermal spraying methods include high velocity oxy-fuel (HVOF) spraying, flame spraying, electric arc spraying, plasma arc spraying, and detonation gun spraying. This operation does not include spray painting at ambient temperatures.

Water curtain means a type of control device that draws the exhaust stream through a continuous curtain of moving water to scrub out suspended PM.

Wetting agent/fume suppressant means any chemical agent that reduces or suppresses fumes or mists from a plating and polishing tank by reducing the surface tension of the tank bath.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57921, Sept. 19, 2011]

§ 63.11512 Who implements and enforces this subpart?

(a) This subpart can be implemented and enforced by EPA or a delegated authority such as your State, local, or tribal agency. If the EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency, in addition to EPA, has the authority to implement and enforce this subpart. You should contact your EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to your State, local, or tribal agency.

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

(c) The authorities that cannot be delegated to State, local, or tribal agencies are specified in paragraphs (c)(1) through (5) of this section.

(1) Approval of an alternative non-opacity emissions standard under 40 CFR 63.6(g), of the General Provisions of this part.

(2) Approval of an alternative opacity emissions standard under § 63.6(h)(9), of the General Provisions of this part.

(3) Approval of a major change to test methods under § 63.7(e)(2)(ii) and (f), of the General Provisions of this part. A "major change to test method" is defined in § 63.90.

(4) Approval of a major change to monitoring under § 63.8(f), of the General Provisions of this part. A "major change to monitoring" is defined in § 63.90.

(5) Approval of a major change to recordkeeping and reporting under § 63.10(f), of the General Provisions of this part. A "major change to recordkeeping/reporting" is defined in § 63.90.

§ 63.11513 [Reserved]

Table 1 to Subpart WWWWWW of Part 63—Applicability of General Provisions to Plating and Polishing Area Sources

As required in § 63.11510, "What General Provisions apply to this subpart?", you must meet each requirement in the following table that applies to you.

Citation	Subject
63.1[1]	Applicability.
63.2	Definitions.
63.3	Units and abbreviations.
63.4	Prohibited activities.
63.6(a), (b)(1)-(b)(5), (c)(1), (c)(2), (c)(5), and (j)	Compliance with standards and maintenance requirements.
63.10(a), (b)(1), (b)(2)(i)-(iii), (xiv), (b)(3), (d)(1), (f)	Recordkeeping and reporting.
63.12	State authority and delegations.
63.13	Addresses of State air pollution control agencies and EPA regional offices.
63.14	Incorporation by reference.
63.15	Availability of information and confidentiality.

[1] Section 63.11505(e), "What parts of my plant does this subpart cover?", exempts affected sources from the obligation to obtain title V operating permits.

[73 FR 37741, July 1, 2008, as amended at 76 FR 57922, Sept. 19, 2011]

Attachment E

Federally Enforceable State Operating Permit (FESOP) No: F097-40170-00060

[Downloaded from the eCFR on July 23, 2014]

Electronic Code of Federal Regulations

Title 40: Protection of Environment

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

Subpart ZZZZ—National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines

Source: 69 FR 33506, June 15, 2004, unless otherwise noted.

What This Subpart Covers

§63.6580 What is the purpose of subpart ZZZZ?

Subpart ZZZZ establishes national emission limitations and operating limitations for hazardous air pollutants (HAP) emitted from stationary reciprocating internal combustion engines (RICE) located at major and area sources of HAP emissions. This subpart also establishes requirements to demonstrate initial and continuous compliance with the emission limitations and operating limitations.

[73 FR 3603, Jan. 18, 2008]

§63.6585 Am I subject to this subpart?

You are subject to this subpart if you own or operate a stationary RICE at a major or area source of HAP emissions, except if the stationary RICE is being tested at a stationary RICE test cell/stand.

(a) A stationary RICE is any internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

(b) A major source of HAP emissions is a plant site that emits or has the potential to emit any single HAP at a rate of 10 tons (9.07 megagrams) or more per year or any combination of HAP at a rate of 25 tons (22.68 megagrams) or more per year, except that for oil and gas production facilities, a major source of HAP emissions is determined for each surface site.

(c) An area source of HAP emissions is a source that is not a major source.

(d) If you are an owner or operator of an area source subject to this subpart, your status as an entity subject to a standard or other requirements under this subpart does not subject you to the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 40 CFR 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart as applicable.

(e) If you are an owner or operator of a stationary RICE used for national security purposes, you may be eligible to request an exemption from the requirements of this subpart as described in 40 CFR part 1068, subpart C.

(f) The emergency stationary RICE listed in paragraphs (f)(1) through (3) of this section are not subject to this subpart. The stationary RICE must meet the definition of an emergency stationary RICE in §63.6675, which includes operating according to the provisions specified in §63.6640(f).

(1) Existing residential emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(2) Existing commercial emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

(3) Existing institutional emergency stationary RICE located at an area source of HAP emissions that do not operate or are not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) and that do not operate for the purpose specified in §63.6640(f)(4)(ii).

[69 FR 33506, June 15, 2004, as amended at 73 FR 3603, Jan. 18, 2008; 78 FR 6700, Jan. 30, 2013]

§63.6590 What parts of my plant does this subpart cover?

This subpart applies to each affected source.

(a) *Affected source.* An affected source is any existing, new, or reconstructed stationary RICE located at a major or area source of HAP emissions, excluding stationary RICE being tested at a stationary RICE test cell/stand.

(1) *Existing stationary RICE.*

(i) For stationary RICE with a site rating of more than 500 brake horsepower (HP) located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before December 19, 2002.

(ii) For stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iii) For stationary RICE located at an area source of HAP emissions, a stationary RICE is existing if you commenced construction or reconstruction of the stationary RICE before June 12, 2006.

(iv) A change in ownership of an existing stationary RICE does not make that stationary RICE a new or reconstructed stationary RICE.

(2) *New stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is new if you commenced construction of the stationary RICE on or after June 12, 2006.

(3) *Reconstructed stationary RICE.* (i) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after December 19, 2002.

(ii) A stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(iii) A stationary RICE located at an area source of HAP emissions is reconstructed if you meet the definition of reconstruction in §63.2 and reconstruction is commenced on or after June 12, 2006.

(b) *Stationary RICE subject to limited requirements.* (1) An affected source which meets either of the criteria in paragraphs (b)(1)(i) through (ii) of this section does not have to meet the requirements of this subpart and of subpart A of this part except for the initial notification requirements of §63.6645(f).

(i) The stationary RICE is a new or reconstructed emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(ii) The stationary RICE is a new or reconstructed limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(2) A new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis must meet the initial notification requirements of §63.6645(f) and the requirements of §§63.6625(c), 63.6650(g), and 63.6655(c). These stationary RICE do not have to meet the emission limitations and operating limitations of this subpart.

(3) The following stationary RICE do not have to meet the requirements of this subpart and of subpart A of this part, including initial notification requirements:

(i) Existing spark ignition 2 stroke lean burn (2SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(ii) Existing spark ignition 4 stroke lean burn (4SLB) stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(iii) Existing emergency stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that does not operate or is not contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(iv) Existing limited use stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions;

(v) Existing stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(c) *Stationary RICE subject to Regulations under 40 CFR Part 60.* An affected source that meets any of the criteria in paragraphs (c)(1) through (7) of this section must meet the requirements of this part by meeting the requirements of 40 CFR part 60 subpart IIII, for compression ignition engines or 40 CFR part 60 subpart JJJJ, for spark ignition engines. No further requirements apply for such engines under this part.

(1) A new or reconstructed stationary RICE located at an area source;

(2) A new or reconstructed 2SLB stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(3) A new or reconstructed 4SLB stationary RICE with a site rating of less than 250 brake HP located at a major source of HAP emissions;

(4) A new or reconstructed spark ignition 4 stroke rich burn (4SRB) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(5) A new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis;

(6) A new or reconstructed emergency or limited use stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions;

(7) A new or reconstructed compression ignition (CI) stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9674, Mar. 3, 2010; 75 FR 37733, June 30, 2010; 75 FR 51588, Aug. 20, 2010; 78 FR 6700, Jan. 30, 2013]

§63.6595 When do I have to comply with this subpart?

(a) *Affected sources.* (1) If you have an existing stationary RICE, excluding existing non-emergency CI stationary RICE, with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the applicable emission limitations, operating limitations and other requirements no later than June 15, 2007. If you have an existing non-emergency CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, an existing stationary CI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary CI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than May 3, 2013. If you have an existing stationary SI RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions, or an existing stationary SI RICE located at an area source of HAP emissions, you must comply with the applicable emission limitations, operating limitations, and other requirements no later than October 19, 2013.

(2) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart no later than August 16, 2004.

(3) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions after August 16, 2004, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(4) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(5) If you start up your new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(6) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions before January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart no later than January 18, 2008.

(7) If you start up your new or reconstructed stationary RICE located at an area source of HAP emissions after January 18, 2008, you must comply with the applicable emission limitations and operating limitations in this subpart upon startup of your affected source.

(b) *Area sources that become major sources.* If you have an area source that increases its emissions or its potential to emit such that it becomes a major source of HAP, the compliance dates in paragraphs (b)(1) and (2) of this section apply to you.

(1) Any stationary RICE for which construction or reconstruction is commenced after the date when your area source becomes a major source of HAP must be in compliance with this subpart upon startup of your affected source.

(2) Any stationary RICE for which construction or reconstruction is commenced before your area source becomes a major source of HAP must be in compliance with the provisions of this subpart that are applicable to RICE located at major sources within 3 years after your area source becomes a major source of HAP.

(c) If you own or operate an affected source, you must meet the applicable notification requirements in §63.6645 and in 40 CFR part 63, subpart A.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3604, Jan. 18, 2008; 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 78 FR 6701, Jan. 30, 2013]

Emission and Operating Limitations

§63.6600 What emission limitations and operating limitations must I meet if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing, new, or reconstructed spark ignition 4SRB stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 1a to this subpart and the operating limitations in Table 1b to this subpart which apply to you.

(b) If you own or operate a new or reconstructed 2SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, a new or reconstructed 4SLB stationary RICE with a site rating of more than 500 brake HP located at major source of HAP emissions, or a new or reconstructed CI stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

(c) If you own or operate any of the following stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the emission limitations in Tables 1a, 2a, 2c, and 2d to this subpart or operating limitations in Tables 1b and 2b to this subpart: an existing 2SLB stationary RICE; an existing 4SLB stationary RICE; a stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis; an emergency stationary RICE; or a limited use stationary RICE.

(d) If you own or operate an existing non-emergency stationary CI RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations in Table 2c to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010]

§63.6601 What emission limitations must I meet if I own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP and less than or equal to 500 brake HP located at a major source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart. If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at major source of HAP emissions manufactured on or after January 1, 2008, you must comply with the emission limitations in Table 2a to this subpart and the operating limitations in Table 2b to this subpart which apply to you.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 9675, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010]

§63.6602 What emission limitations and other requirements must I meet if I own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions, you must comply with the emission limitations and other requirements in Table 2c to this subpart which apply to you. Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

[78 FR 6701, Jan. 30, 2013]

§63.6603 What emission limitations, operating limitations, and other requirements must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meets either paragraph (b)(1) or (2) of this section, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. Existing stationary non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP that meet either paragraph (b)(1) or (2) of this section must meet the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart.

(1) The area source is located in an area of Alaska that is not accessible by the Federal Aid Highway System (FAHS).

(2) The stationary RICE is located at an area source that meets paragraphs (b)(2)(i), (ii), and (iii) of this section.

(i) The only connection to the FAHS is through the Alaska Marine Highway System (AMHS), or the stationary RICE operation is within an isolated grid in Alaska that is not connected to the statewide electrical grid referred to as the Alaska Railbelt Grid.

(ii) At least 10 percent of the power generated by the stationary RICE on an annual basis is used for residential purposes.

(iii) The generating capacity of the area source is less than 12 megawatts, or the stationary RICE is used exclusively for backup power for renewable energy.

(c) If you own or operate an existing stationary non-emergency CI RICE with a site rating of more than 300 HP located on an offshore vessel that is an area source of HAP and is a nonroad vehicle that is an Outer Continental Shelf (OCS) source as defined in 40 CFR 55.2, you do not have to meet the numerical CO emission limitations specified in Table 2d of this subpart. You must meet all of the following management practices:

(1) Change oil every 1,000 hours of operation or annually, whichever comes first. Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement.

(2) Inspect and clean air filters every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(3) Inspect fuel filters and belts, if installed, every 750 hours of operation or annually, whichever comes first, and replace as necessary.

(4) Inspect all flexible hoses every 1,000 hours of operation or annually, whichever comes first, and replace as necessary.

(d) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and that is subject to an enforceable state or local standard that requires the engine to be replaced no later than June 1, 2018, you may until January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018, choose to comply with the management practices that are shown for stationary non-emergency CI RICE with a site rating of less than or equal to 300 HP in Table 2d of this subpart instead of the applicable emission limitations in Table 2d, operating limitations in Table 2b, and crankcase ventilation system requirements in §63.6625(g). You must comply with the emission limitations in Table 2d and operating limitations in Table 2b that apply for non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018. You must also comply with the crankcase ventilation system requirements in §63.6625(g) by January 1, 2015, or 12 years after the installation date of the engine (whichever is later), but not later than June 1, 2018.

(e) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 3 (Tier 2 for engines above 560 kilowatt (kW)) emission standards in Table 1 of 40 CFR 89.112, you may comply with the requirements under this part by meeting the requirements for Tier 3 engines (Tier 2 for engines above 560 kW) in 40 CFR part 60 subpart IIII instead of the emission limitations and other requirements that would otherwise apply under this part for existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions.

(f) An existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP must meet the definition of remote stationary RICE in §63.6675 on the initial compliance date for the engine, October 19, 2013, in order to be considered a remote stationary RICE under this subpart. Owners and operators of existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that meet the definition of remote stationary RICE in §63.6675 of this subpart as of October 19, 2013 must evaluate the status of their stationary RICE every 12 months. Owners and operators must keep records of the initial and annual evaluation of the status of the engine. If the evaluation indicates that the stationary RICE no longer meets the definition of remote stationary RICE in §63.6675 of this subpart, the owner or operator must comply with all of the requirements for existing non-emergency SI 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at area sources of HAP that are not remote stationary RICE within 1 year of the evaluation.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6701, Jan. 30, 2013]

§63.6604 What fuel requirements must I meet if I own or operate a stationary CI RICE?

(a) If you own or operate an existing non-emergency, non-black start CI stationary RICE with a site rating of more than 300 brake HP with a displacement of less than 30 liters per cylinder that uses diesel fuel, you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel.

(b) Beginning January 1, 2015, if you own or operate an existing emergency CI stationary RICE with a site rating of more than 100 brake HP and a displacement of less than 30 liters per cylinder that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(c) Beginning January 1, 2015, if you own or operate a new emergency CI stationary RICE with a site rating of more than 500 brake HP and a displacement of less than 30 liters per cylinder located at a major source of HAP that uses diesel fuel and operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii), you must use diesel fuel that meets the requirements in 40 CFR 80.510(b) for nonroad diesel fuel, except that any existing diesel fuel purchased (or otherwise obtained) prior to January 1, 2015, may be used until depleted.

(d) Existing CI stationary RICE located in Guam, American Samoa, the Commonwealth of the Northern Mariana Islands, at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2), or are on offshore vessels that meet §63.6603(c) are exempt from the requirements of this section.

[78 FR 6702, Jan. 30, 2013]

General Compliance Requirements

§63.6605 What are my general requirements for complying with this subpart?

(a) You must be in compliance with the emission limitations, operating limitations, and other requirements in this subpart that apply to you at all times.

(b) At all times you must operate and maintain any affected source, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions. The general duty to minimize emissions does not require you to make any further efforts to reduce emissions if levels required by this standard have been achieved. Determination of whether such operation and maintenance procedures are being used will be based on information available to the Administrator which may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

[75 FR 9675, Mar. 3, 2010, as amended at 78 FR 6702, Jan. 30, 2013]

Testing and Initial Compliance Requirements

§63.6610 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions?

If you own or operate a stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct the initial performance test or other initial compliance demonstrations in Table 4 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you must demonstrate initial compliance with either the proposed emission limitations or the promulgated emission limitations no later than February 10, 2005 or no later than 180 days after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(c) If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004 and own or operate stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, and you chose to comply with the proposed emission limitations when demonstrating initial compliance, you must conduct a second performance test to demonstrate compliance with the promulgated emission limitations by December 13, 2007 or after startup of the source, whichever is later, according to §63.7(a)(2)(ix).

(d) An owner or operator is not required to conduct an initial performance test on units for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (d)(1) through (5) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

(5) The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3605, Jan. 18, 2008]

§63.6611 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate a new or reconstructed 4SLB SI stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions?

If you own or operate a new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must conduct an initial performance test within 240 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions specified in Table 4 to this subpart, as appropriate.

[73 FR 3605, Jan. 18, 2008, as amended at 75 FR 51589, Aug. 20, 2010]

§63.6612 By what date must I conduct the initial performance tests or other initial compliance demonstrations if I own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions?

If you own or operate an existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing stationary RICE located at an area source of HAP emissions you are subject to the requirements of this section.

(a) You must conduct any initial performance test or other initial compliance demonstration according to Tables 4 and 5 to this subpart that apply to you within 180 days after the compliance date that is specified for your stationary RICE in §63.6595 and according to the provisions in §63.7(a)(2).

(b) An owner or operator is not required to conduct an initial performance test on a unit for which a performance test has been previously conducted, but the test must meet all of the conditions described in paragraphs (b)(1) through (4) of this section.

(1) The test must have been conducted using the same methods specified in this subpart, and these methods must have been followed correctly.

(2) The test must not be older than 2 years.

(3) The test must be reviewed and accepted by the Administrator.

(4) Either no process or equipment changes must have been made since the test was performed, or the owner or operator must be able to demonstrate that the results of the performance test, with or without adjustments, reliably demonstrate compliance despite process or equipment changes.

[75 FR 9676, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010]

§63.6615 When must I conduct subsequent performance tests?

If you must comply with the emission limitations and operating limitations, you must conduct subsequent performance tests as specified in Table 3 of this subpart.

§63.6620 What performance tests and other procedures must I use?

(a) You must conduct each performance test in Tables 3 and 4 of this subpart that applies to you.

(b) Each performance test must be conducted according to the requirements that this subpart specifies in Table 4 to this subpart. If you own or operate a non-operational stationary RICE that is subject to performance testing, you do not need to start up the engine solely to conduct the performance test. Owners and operators of a non-operational engine can conduct the performance test when the engine is started up again. The test must be conducted at any load condition within plus or minus 10 percent of 100 percent load for the stationary RICE listed in paragraphs (b)(1) through (4) of this section.

(1) Non-emergency 4SRB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(2) New non-emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 brake HP located at a major source of HAP emissions.

(3) New non-emergency 2SLB stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(4) New non-emergency CI stationary RICE with a site rating of greater than 500 brake HP located at a major source of HAP emissions.

(c) [Reserved]

(d) You must conduct three separate test runs for each performance test required in this section, as specified in §63.7(e)(3). Each test run must last at least 1 hour, unless otherwise specified in this subpart.

(e)(1) You must use Equation 1 of this section to determine compliance with the percent reduction requirement:

$$\frac{C_i - C_o}{C_i} \times 100 = R \quad (Eq.\ 1)$$

Where:

C_i = concentration of carbon monoxide (CO), total hydrocarbons (THC), or formaldehyde at the control device inlet,

C_o = concentration of CO, THC, or formaldehyde at the control device outlet, and

R = percent reduction of CO, THC, or formaldehyde emissions.

(2) You must normalize the CO, THC, or formaldehyde concentrations at the inlet and outlet of the control device to a dry basis and to 15 percent oxygen, or an equivalent percent carbon dioxide (CO_2). If pollutant concentrations are to be corrected to 15 percent oxygen and CO_2 concentration is measured in lieu of oxygen concentration measurement, a CO_2 correction factor is needed. Calculate the CO_2 correction factor as described in paragraphs (e)(2)(i) through (iii) of this section.

(i) Calculate the fuel-specific F_o value for the fuel burned during the test using values obtained from Method 19, Section 5.2, and the following equation:

$$F_o = \frac{0.209\ F_d}{F_c} \quad (Eq.\ 2)$$

Where:

F_o = Fuel factor based on the ratio of oxygen volume to the ultimate CO_2 volume produced by the fuel at zero percent excess air.

0.209 = Fraction of air that is oxygen, percent/100.

F_d = Ratio of the volume of dry effluent gas to the gross calorific value of the fuel from Method 19, dsm3/J (dscf/106 Btu).

F_c = Ratio of the volume of CO_2 produced to the gross calorific value of the fuel from Method 19, dsm3/J (dscf/106 Btu)

(ii) Calculate the CO_2 correction factor for correcting measurement data to 15 percent O_2, as follows:

$$X_{CO2} = \frac{5.9}{F_O} \quad (Eq. 3)$$

Where:

X_{CO2} = CO_2 correction factor, percent.

5.9 = 20.9 percent O_2—15 percent O_2, the defined O_2 correction value, percent.

(iii) Calculate the CO, THC, and formaldehyde gas concentrations adjusted to 15 percent O_2 using CO_2 as follows:

$$C_{adj} = C_d \frac{X_{CO2}}{\%CO_2} \quad (Eq. 4)$$

Where:

C_{adj} = Calculated concentration of CO, THC, or formaldehyde adjusted to 15 percent O_2.

C_d = Measured concentration of CO, THC, or formaldehyde, uncorrected.

X_{CO2} = CO_2 correction factor, percent.

$\%CO_2$ = Measured CO_2 concentration measured, dry basis, percent.

(f) If you comply with the emission limitation to reduce CO and you are not using an oxidation catalyst, if you comply with the emission limitation to reduce formaldehyde and you are not using NSCR, or if you comply with the emission limitation to limit the concentration of formaldehyde in the stationary RICE exhaust and you are not using an oxidation catalyst or NSCR, you must petition the Administrator for operating limitations to be established during the initial performance test and continuously monitored thereafter; or for approval of no operating limitations. You must not conduct the initial performance test until after the petition has been approved by the Administrator.

(g) If you petition the Administrator for approval of operating limitations, your petition must include the information described in paragraphs (g)(1) through (5) of this section.

(1) Identification of the specific parameters you propose to use as operating limitations;

(2) A discussion of the relationship between these parameters and HAP emissions, identifying how HAP emissions change with changes in these parameters, and how limitations on these parameters will serve to limit HAP emissions;

(3) A discussion of how you will establish the upper and/or lower values for these parameters which will establish the limits on these parameters in the operating limitations;

(4) A discussion identifying the methods you will use to measure and the instruments you will use to monitor these parameters, as well as the relative accuracy and precision of these methods and instruments; and

(5) A discussion identifying the frequency and methods for recalibrating the instruments you will use for monitoring these parameters.

(h) If you petition the Administrator for approval of no operating limitations, your petition must include the information described in paragraphs (h)(1) through (7) of this section.

(1) Identification of the parameters associated with operation of the stationary RICE and any emission control device which could change intentionally (*e.g.,* operator adjustment, automatic controller adjustment, etc.) or unintentionally (*e.g.,* wear and tear, error, etc.) on a routine basis or over time;

(2) A discussion of the relationship, if any, between changes in the parameters and changes in HAP emissions;

(3) For the parameters which could change in such a way as to increase HAP emissions, a discussion of whether establishing limitations on the parameters would serve to limit HAP emissions;

(4) For the parameters which could change in such a way as to increase HAP emissions, a discussion of how you could establish upper and/or lower values for the parameters which would establish limits on the parameters in operating limitations;

(5) For the parameters, a discussion identifying the methods you could use to measure them and the instruments you could use to monitor them, as well as the relative accuracy and precision of the methods and instruments;

(6) For the parameters, a discussion identifying the frequency and methods for recalibrating the instruments you could use to monitor them; and

(7) A discussion of why, from your point of view, it is infeasible or unreasonable to adopt the parameters as operating limitations.

(i) The engine percent load during a performance test must be determined by documenting the calculations, assumptions, and measurement devices used to measure or estimate the percent load in a specific application. A written report of the average percent load determination must be included in the notification of compliance status. The following information must be included in the written report: the engine model number, the engine manufacturer, the year of purchase, the manufacturer's site-rated brake horsepower, the ambient temperature, pressure, and humidity during the performance test, and all assumptions that were made to estimate or calculate percent load during the performance test must be clearly explained. If measurement devices such as flow meters, kilowatt meters, beta analyzers, stain gauges, etc. are used, the model number of the measurement device, and an estimate of its accurate in percentage of true value must be provided.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9676, Mar. 3, 2010; 78 FR 6702, Jan. 30, 2013]

§63.6625 What are my monitoring, installation, collection, operation, and maintenance requirements?

(a) If you elect to install a CEMS as specified in Table 5 of this subpart, you must install, operate, and maintain a CEMS to monitor CO and either O_2 or CO_2 according to the requirements in paragraphs (a)(1) through (4) of this section. If you are meeting a requirement to reduce CO emissions, the CEMS must be installed at both the inlet and outlet of the control device. If you are meeting a requirement to limit the concentration of CO, the CEMS must be installed at the outlet of the control device.

(1) Each CEMS must be installed, operated, and maintained according to the applicable performance specifications of 40 CFR part 60, appendix B.

(2) You must conduct an initial performance evaluation and an annual relative accuracy test audit (RATA) of each CEMS according to the requirements in §63.8 and according to the applicable performance specifications of 40 CFR

part 60, appendix B as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.

(3) As specified in §63.8(c)(4)(ii), each CEMS must complete a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period. You must have at least two data points, with each representing a different 15-minute period, to have a valid hour of data.

(4) The CEMS data must be reduced as specified in §63.8(g)(2) and recorded in parts per million or parts per billion (as appropriate for the applicable limitation) at 15 percent oxygen or the equivalent CO_2 concentration.

(b) If you are required to install a continuous parameter monitoring system (CPMS) as specified in Table 5 of this subpart, you must install, operate, and maintain each CPMS according to the requirements in paragraphs (b)(1) through (6) of this section. For an affected source that is complying with the emission limitations and operating limitations on March 9, 2011, the requirements in paragraph (b) of this section are applicable September 6, 2011.

(1) You must prepare a site-specific monitoring plan that addresses the monitoring system design, data collection, and the quality assurance and quality control elements outlined in paragraphs (b)(1)(i) through (v) of this section and in §63.8(d). As specified in §63.8(f)(4), you may request approval of monitoring system quality assurance and quality control procedures alternative to those specified in paragraphs (b)(1) through (5) of this section in your site-specific monitoring plan.

(i) The performance criteria and design specifications for the monitoring system equipment, including the sample interface, detector signal analyzer, and data acquisition and calculations;

(ii) Sampling interface (*e.g.,* thermocouple) location such that the monitoring system will provide representative measurements;

(iii) Equipment performance evaluations, system accuracy audits, or other audit procedures;

(iv) Ongoing operation and maintenance procedures in accordance with provisions in §63.8(c)(1)(ii) and (c)(3); and

(v) Ongoing reporting and recordkeeping procedures in accordance with provisions in §63.10(c), (e)(1), and (e)(2)(i).

(2) You must install, operate, and maintain each CPMS in continuous operation according to the procedures in your site-specific monitoring plan.

(3) The CPMS must collect data at least once every 15 minutes (see also §63.6635).

(4) For a CPMS for measuring temperature range, the temperature sensor must have a minimum tolerance of 2.8 degrees Celsius (5 degrees Fahrenheit) or 1 percent of the measurement range, whichever is larger.

(5) You must conduct the CPMS equipment performance evaluation, system accuracy audits, or other audit procedures specified in your site-specific monitoring plan at least annually.

(6) You must conduct a performance evaluation of each CPMS in accordance with your site-specific monitoring plan.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must monitor and record your fuel usage daily with separate fuel meters to measure the volumetric flow rate of each fuel. In addition, you must operate your stationary RICE in a manner which reasonably minimizes HAP emissions.

(d) If you are operating a new or reconstructed emergency 4SLB stationary RICE with a site rating of greater than or equal to 250 and less than or equal to 500 brake HP located at a major source of HAP emissions, you must install a non-resettable hour meter prior to the startup of the engine.

(e) If you own or operate any of the following stationary RICE, you must operate and maintain the stationary RICE and after-treatment control device (if any) according to the manufacturer's emission-related written instructions or develop your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions:

(1) An existing stationary RICE with a site rating of less than 100 HP located at a major source of HAP emissions;

(2) An existing emergency or black start stationary RICE with a site rating of less than or equal to 500 HP located at a major source of HAP emissions;

(3) An existing emergency or black start stationary RICE located at an area source of HAP emissions;

(4) An existing non-emergency, non-black start stationary CI RICE with a site rating less than or equal to 300 HP located at an area source of HAP emissions;

(5) An existing non-emergency, non-black start 2SLB stationary RICE located at an area source of HAP emissions;

(6) An existing non-emergency, non-black start stationary RICE located at an area source of HAP emissions which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis.

(7) An existing non-emergency, non-black start 4SLB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(8) An existing non-emergency, non-black start 4SRB stationary RICE with a site rating less than or equal to 500 HP located at an area source of HAP emissions;

(9) An existing, non-emergency, non-black start 4SLB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year; and

(10) An existing, non-emergency, non-black start 4SRB stationary RICE with a site rating greater than 500 HP located at an area source of HAP emissions that is operated 24 hours or less per calendar year.

(f) If you own or operate an existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions or an existing emergency stationary RICE located at an area source of HAP emissions, you must install a non-resettable hour meter if one is not already installed.

(g) If you own or operate an existing non-emergency, non-black start CI engine greater than or equal to 300 HP that is not equipped with a closed crankcase ventilation system, you must comply with either paragraph (g)(1) or paragraph (2) of this section. Owners and operators must follow the manufacturer's specified maintenance requirements for operating and maintaining the open or closed crankcase ventilation systems and replacing the crankcase filters, or can request the Administrator to approve different maintenance requirements that are as protective as manufacturer requirements. Existing CI engines located at area sources in areas of Alaska that meet either §63.6603(b)(1) or §63.6603(b)(2) do not have to meet the requirements of this paragraph (g). Existing CI engines located on offshore vessels that meet §63.6603(c) do not have to meet the requirements of this paragraph (g).

(1) Install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere, or

(2) Install an open crankcase filtration emission control system that reduces emissions from the crankcase by filtering the exhaust stream to remove oil mist, particulates and metals.

(h) If you operate a new, reconstructed, or existing stationary engine, you must minimize the engine's time spent at idle during startup and minimize the engine's startup time to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the emission standards applicable to all times other than startup in Tables 1a, 2a, 2c, and 2d to this subpart apply.

(i) If you own or operate a stationary CI engine that is subject to the work, operation or management practices in items 1 or 2 of Table 2c to this subpart or in items 1 or 4 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Base Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Base Number is less than 30 percent of the Total Base Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

(j) If you own or operate a stationary SI engine that is subject to the work, operation or management practices in items 6, 7, or 8 of Table 2c to this subpart or in items 5, 6, 7, 9, or 11 of Table 2d to this subpart, you have the option of utilizing an oil analysis program in order to extend the specified oil change requirement in Tables 2c and 2d to this subpart. The oil analysis must be performed at the same frequency specified for changing the oil in Table 2c or 2d to this subpart. The analysis program must at a minimum analyze the following three parameters: Total Acid Number, viscosity, and percent water content. The condemning limits for these parameters are as follows: Total Acid Number increases by more than 3.0 milligrams of potassium hydroxide (KOH) per gram from Total Acid Number of the oil when new; viscosity of the oil has changed by more than 20 percent from the viscosity of the oil when new; or percent water content (by volume) is greater than 0.5. If all of these condemning limits are not exceeded, the engine owner or operator is not required to change the oil. If any of the limits are exceeded, the engine owner or operator must change the oil within 2 business days of receiving the results of the analysis; if the engine is not in operation when the results of the analysis are received, the engine owner or operator must change the oil within 2 business days or before commencing operation, whichever is later. The owner or operator must keep records of the parameters that are analyzed as part of the program, the results of the analysis, and the oil changes for the engine. The analysis program must be part of the maintenance plan for the engine.

[69 FR 33506, June 15, 2004, as amended at 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011; 78 FR 6703, Jan. 30, 2013]

§63.6630 How do I demonstrate initial compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate initial compliance with each emission limitation, operating limitation, and other requirement that applies to you according to Table 5 of this subpart.

(b) During the initial performance test, you must establish each operating limitation in Tables 1b and 2b of this subpart that applies to you.

(c) You must submit the Notification of Compliance Status containing the results of the initial compliance demonstration according to the requirements in §63.6645.

(d) Non-emergency 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more can demonstrate initial compliance with the formaldehyde emission limit by testing for THC instead of formaldehyde. The testing must be conducted according to the requirements in Table 4 of this subpart. The average reduction of emissions of THC determined from the performance test must be equal to or greater than 30 percent.

(e) The initial compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least three test runs.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

[69 FR 33506, June 15, 2004, as amended at 78 FR 6704, Jan. 30, 2013]

Continuous Compliance Requirements

§63.6635 How do I monitor and collect data to demonstrate continuous compliance?

(a) If you must comply with emission and operating limitations, you must monitor and collect data according to this section.

(b) Except for monitor malfunctions, associated repairs, required performance evaluations, and required quality assurance or control activities, you must monitor continuously at all times that the stationary RICE is operating. A monitoring malfunction is any sudden, infrequent, not reasonably preventable failure of the monitoring to provide valid data. Monitoring failures that are caused in part by poor maintenance or careless operation are not malfunctions.

(c) You may not use data recorded during monitoring malfunctions, associated repairs, and required quality assurance or control activities in data averages and calculations used to report emission or operating levels. You must, however, use all the valid data collected during all other periods.

[69 FR 33506, June 15, 2004, as amended at 76 FR 12867, Mar. 9, 2011]

§63.6640 How do I demonstrate continuous compliance with the emission limitations, operating limitations, and other requirements?

(a) You must demonstrate continuous compliance with each emission limitation, operating limitation, and other requirements in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you according to methods specified in Table 6 to this subpart.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Tables 1a and 1b, Tables 2a and 2b, Table 2c, and Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650. If you change your catalyst, you must reestablish the values of the operating parameters measured during the initial performance test. When you reestablish the values of your operating parameters, you must also conduct a performance test to demonstrate that you are meeting the required emission limitation applicable to your stationary RICE.

(c) The annual compliance demonstration required for existing non-emergency 4SLB and 4SRB stationary RICE with a site rating of more than 500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year must be conducted according to the following requirements:

(1) The compliance demonstration must consist of at least one test run.

(2) Each test run must be of at least 15 minute duration, except that each test conducted using the method in appendix A to this subpart must consist of at least one measurement cycle and include at least 2 minutes of test data phase measurement.

(3) If you are demonstrating compliance with the CO concentration or CO percent reduction requirement, you must measure CO emissions using one of the CO measurement methods specified in Table 4 of this subpart, or using appendix A to this subpart.

(4) If you are demonstrating compliance with the THC percent reduction requirement, you must measure THC emissions using Method 25A, reported as propane, of 40 CFR part 60, appendix A.

(5) You must measure O_2 using one of the O_2 measurement methods specified in Table 4 of this subpart. Measurements to determine O_2 concentration must be made at the same time as the measurements for CO or THC concentration.

(6) If you are demonstrating compliance with the CO or THC percent reduction requirement, you must measure CO or THC emissions and O_2 emissions simultaneously at the inlet and outlet of the control device.

(7) If the results of the annual compliance demonstration show that the emissions exceed the levels specified in Table 6 of this subpart, the stationary RICE must be shut down as soon as safely possible, and appropriate corrective action must be taken (e.g., repairs, catalyst cleaning, catalyst replacement). The stationary RICE must be retested within 7 days of being restarted and the emissions must meet the levels specified in Table 6 of this subpart. If the retest shows that the emissions continue to exceed the specified levels, the stationary RICE must again be shut down as soon as safely possible, and the stationary RICE may not operate, except for purposes of startup and testing, until the owner/operator demonstrates through testing that the emissions do not exceed the levels specified in Table 6 of this subpart.

(d) For new, reconstructed, and rebuilt stationary RICE, deviations from the emission or operating limitations that occur during the first 200 hours of operation from engine startup (engine burn-in period) are not violations. Rebuilt stationary RICE means a stationary RICE that has been rebuilt as that term is defined in 40 CFR 94.11(a).

(e) You must also report each instance in which you did not meet the requirements in Table 8 to this subpart that apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing emergency stationary RICE, an existing limited use stationary RICE, or an existing stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in Table 8 to this subpart, except for the initial notification requirements: a new or reconstructed stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new or reconstructed emergency stationary RICE, or a new or reconstructed limited use stationary RICE.

(f) If you own or operate an emergency stationary RICE, you must operate the emergency stationary RICE according to the requirements in paragraphs (f)(1) through (4) of this section. In order for the engine to be considered an emergency stationary RICE under this subpart, any operation other than emergency operation, maintenance and testing, emergency demand response, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (f)(1) through (4) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (f)(1) through (4) of this section, the engine will not be considered an emergency engine under this subpart and must meet all requirements for non-emergency engines.

(1) There is no time limit on the use of emergency stationary RICE in emergency situations.

(2) You may operate your emergency stationary RICE for any combination of the purposes specified in paragraphs (f)(2)(i) through (iii) of this section for a maximum of 100 hours per calendar year. Any operation for non-emergency situations as allowed by paragraphs (f)(3) and (4) of this section counts as part of the 100 hours per calendar year allowed by this paragraph (f)(2).

(i) Emergency stationary RICE may be operated for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that federal, state, or local standards require maintenance and testing of emergency RICE beyond 100 hours per calendar year.

(ii) Emergency stationary RICE may be operated for emergency demand response for periods in which the Reliability Coordinator under the North American Electric Reliability Corporation (NERC) Reliability Standard EOP-002-3, Capacity and Energy Emergencies (incorporated by reference, see §63.14), or other authorized entity as determined by the Reliability Coordinator, has declared an Energy Emergency Alert Level 2 as defined in the NERC Reliability Standard EOP-002-3.

(iii) Emergency stationary RICE may be operated for periods where there is a deviation of voltage or frequency of 5 percent or greater below standard voltage or frequency.

(3) Emergency stationary RICE located at major sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. The 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(4) Emergency stationary RICE located at area sources of HAP may be operated for up to 50 hours per calendar year in non-emergency situations. The 50 hours of operation in non-emergency situations are counted as part of the 100 hours per calendar year for maintenance and testing and emergency demand response provided in paragraph (f)(2) of this section. Except as provided in paragraphs (f)(4)(i) and (ii) of this section, the 50 hours per year for non-emergency situations cannot be used for peak shaving or non-emergency demand response, or to generate income for a facility to an electric grid or otherwise supply power as part of a financial arrangement with another entity.

(i) Prior to May 3, 2014, the 50 hours per year for non-emergency situations can be used for peak shaving or non-emergency demand response to generate income for a facility, or to otherwise supply power as part of a financial arrangement with another entity if the engine is operated as part of a peak shaving (load management program) with the local distribution system operator and the power is provided only to the facility itself or to support the local distribution system.

(ii) The 50 hours per year for non-emergency situations can be used to supply power as part of a financial arrangement with another entity if all of the following conditions are met:

(A) The engine is dispatched by the local balancing authority or local transmission and distribution system operator.

(B) The dispatch is intended to mitigate local transmission and/or distribution limitations so as to avert potential voltage collapse or line overloads that could lead to the interruption of power supply in a local area or region.

(C) The dispatch follows reliability, emergency operation or similar protocols that follow specific NERC, regional, state, public utility commission or local standards or guidelines.

(D) The power is provided only to the facility itself or to support the local transmission and distribution system.

(E) The owner or operator identifies and records the entity that dispatches the engine and the specific NERC, regional, state, public utility commission or local standards or guidelines that are being followed for dispatching the engine. The local balancing authority or local transmission and distribution system operator may keep these records on behalf of the engine owner or operator.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3606, Jan. 18, 2008; 75 FR 9676, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6704, Jan. 30, 2013]

Notifications, Reports, and Records

§63.6645 What notifications must I submit and when?

(a) You must submit all of the notifications in §§63.7(b) and (c), 63.8(e), (f)(4) and (f)(6), 63.9(b) through (e), and (g) and (h) that apply to you by the dates specified if you own or operate any of the following;

(1) An existing stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions.

(2) An existing stationary RICE located at an area source of HAP emissions.

(3) A stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions.

(4) A new or reconstructed 4SLB stationary RICE with a site rating of greater than or equal to 250 HP located at a major source of HAP emissions.

(5) This requirement does not apply if you own or operate an existing stationary RICE less than 100 HP, an existing stationary emergency RICE, or an existing stationary RICE that is not subject to any numerical emission standards.

(b) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart, you must submit an Initial Notification not later than December 13, 2004.

(c) If you start up your new or reconstructed stationary RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions on or after August 16, 2004, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(d) As specified in §63.9(b)(2), if you start up your stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions before the effective date of this subpart and you are required to submit an initial notification, you must submit an Initial Notification not later than July 16, 2008.

(e) If you start up your new or reconstructed stationary RICE with a site rating of equal to or less than 500 brake HP located at a major source of HAP emissions on or after March 18, 2008 and you are required to submit an initial notification, you must submit an Initial Notification not later than 120 days after you become subject to this subpart.

(f) If you are required to submit an Initial Notification but are otherwise not affected by the requirements of this subpart, in accordance with §63.6590(b), your notification should include the information in §63.9(b)(2)(i) through (v), and a statement that your stationary RICE has no additional requirements and explain the basis of the exclusion (for example, that it operates exclusively as an emergency stationary RICE if it has a site rating of more than 500 brake HP located at a major source of HAP emissions).

(g) If you are required to conduct a performance test, you must submit a Notification of Intent to conduct a performance test at least 60 days before the performance test is scheduled to begin as required in §63.7(b)(1).

(h) If you are required to conduct a performance test or other initial compliance demonstration as specified in Tables 4 and 5 to this subpart, you must submit a Notification of Compliance Status according to §63.9(h)(2)(ii).

(1) For each initial compliance demonstration required in Table 5 to this subpart that does not include a performance test, you must submit the Notification of Compliance Status before the close of business on the 30th day following the completion of the initial compliance demonstration.

(2) For each initial compliance demonstration required in Table 5 to this subpart that includes a performance test conducted according to the requirements in Table 3 to this subpart, you must submit the Notification of Compliance Status, including the performance test results, before the close of business on the 60th day following the completion of the performance test according to §63.10(d)(2).

(i) If you own or operate an existing non-emergency CI RICE with a site rating of more than 300 HP located at an area source of HAP emissions that is certified to the Tier 1 or Tier 2 emission standards in Table 1 of 40 CFR 89.112 and subject to an enforceable state or local standard requiring engine replacement and you intend to meet management practices rather than emission limits, as specified in §63.6603(d), you must submit a notification by March 3, 2013, stating that you intend to use the provision in §63.6603(d) and identifying the state or local regulation that the engine is subject to.

[73 FR 3606, Jan. 18, 2008, as amended at 75 FR 9677, Mar. 3, 2010; 75 FR 51591, Aug. 20, 2010; 78 FR 6705, Jan. 30, 2013]

§63.6650 What reports must I submit and when?

(a) You must submit each report in Table 7 of this subpart that applies to you.

(b) Unless the Administrator has approved a different schedule for submission of reports under §63.10(a), you must submit each report by the date in Table 7 of this subpart and according to the requirements in paragraphs (b)(1) through (b)(9) of this section.

(1) For semiannual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on June 30 or December 31, whichever date is the first date following the end of the first calendar half after the compliance date that is specified for your source in §63.6595.

(2) For semiannual Compliance reports, the first Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date follows the end of the first calendar half after the compliance date that is specified for your affected source in §63.6595.

(3) For semiannual Compliance reports, each subsequent Compliance report must cover the semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31.

(4) For semiannual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than July 31 or January 31, whichever date is the first date following the end of the semiannual reporting period.

(5) For each stationary RICE that is subject to permitting regulations pursuant to 40 CFR part 70 or 71, and if the permitting authority has established dates for submitting semiannual reports pursuant to 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6 (a)(3)(iii)(A), you may submit the first and subsequent Compliance reports according to the dates the permitting authority has established instead of according to the dates in paragraphs (b)(1) through (b)(4) of this section.

(6) For annual Compliance reports, the first Compliance report must cover the period beginning on the compliance date that is specified for your affected source in §63.6595 and ending on December 31.

(7) For annual Compliance reports, the first Compliance report must be postmarked or delivered no later than January 31 following the end of the first calendar year after the compliance date that is specified for your affected source in §63.6595.

(8) For annual Compliance reports, each subsequent Compliance report must cover the annual reporting period from January 1 through December 31.

(9) For annual Compliance reports, each subsequent Compliance report must be postmarked or delivered no later than January 31.

(c) The Compliance report must contain the information in paragraphs (c)(1) through (6) of this section.

(1) Company name and address.

(2) Statement by a responsible official, with that official's name, title, and signature, certifying the accuracy of the content of the report.

(3) Date of report and beginning and ending dates of the reporting period.

(4) If you had a malfunction during the reporting period, the compliance report must include the number, duration, and a brief description for each type of malfunction which occurred during the reporting period and which caused or may have caused any applicable emission limitation to be exceeded. The report must also include a description of actions taken by an owner or operator during a malfunction of an affected source to minimize emissions in accordance with §63.6605(b), including actions taken to correct a malfunction.

(5) If there are no deviations from any emission or operating limitations that apply to you, a statement that there were no deviations from the emission or operating limitations during the reporting period.

(6) If there were no periods during which the continuous monitoring system (CMS), including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were no periods during which the CMS was out-of-control during the reporting period.

(d) For each deviation from an emission or operating limitation that occurs for a stationary RICE where you are not using a CMS to comply with the emission or operating limitations in this subpart, the Compliance report must contain the information in paragraphs (c)(1) through (4) of this section and the information in paragraphs (d)(1) and (2) of this section.

(1) The total operating time of the stationary RICE at which the deviation occurred during the reporting period.

(2) Information on the number, duration, and cause of deviations (including unknown cause, if applicable), as applicable, and the corrective action taken.

(e) For each deviation from an emission or operating limitation occurring for a stationary RICE where you are using a CMS to comply with the emission and operating limitations in this subpart, you must include information in paragraphs (c)(1) through (4) and (e)(1) through (12) of this section.

(1) The date and time that each malfunction started and stopped.

(2) The date, time, and duration that each CMS was inoperative, except for zero (low-level) and high-level checks.

(3) The date, time, and duration that each CMS was out-of-control, including the information in §63.8(c)(8).

(4) The date and time that each deviation started and stopped, and whether each deviation occurred during a period of malfunction or during another period.

(5) A summary of the total duration of the deviation during the reporting period, and the total duration as a percent of the total source operating time during that reporting period.

(6) A breakdown of the total duration of the deviations during the reporting period into those that are due to control equipment problems, process problems, other known causes, and other unknown causes.

(7) A summary of the total duration of CMS downtime during the reporting period, and the total duration of CMS downtime as a percent of the total operating time of the stationary RICE at which the CMS downtime occurred during that reporting period.

(8) An identification of each parameter and pollutant (CO or formaldehyde) that was monitored at the stationary RICE.

(9) A brief description of the stationary RICE.

(10) A brief description of the CMS.

(11) The date of the latest CMS certification or audit.

(12) A description of any changes in CMS, processes, or controls since the last reporting period.

(f) Each affected source that has obtained a title V operating permit pursuant to 40 CFR part 70 or 71 must report all deviations as defined in this subpart in the semiannual monitoring report required by 40 CFR 70.6 (a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A). If an affected source submits a Compliance report pursuant to Table 7 of this subpart along with, or as part of, the semiannual monitoring report required by 40 CFR 70.6(a)(3)(iii)(A) or 40 CFR 71.6(a)(3)(iii)(A), and the Compliance report includes all required information concerning deviations from any emission or operating limitation in this subpart, submission of the Compliance report shall be deemed to satisfy any obligation to report the same deviations in the semiannual monitoring report. However, submission of a Compliance report shall not otherwise affect any obligation the affected source may have to report deviations from permit requirements to the permit authority.

(g) If you are operating as a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must submit an annual report according to Table 7 of this subpart by the date specified unless the Administrator has approved a different schedule, according to the information described in paragraphs (b)(1) through (b)(5) of this section. You must report the data specified in (g)(1) through (g)(3) of this section.

(1) Fuel flow rate of each fuel and the heating values that were used in your calculations. You must also demonstrate that the percentage of heat input provided by landfill gas or digester gas is equivalent to 10 percent or more of the total fuel consumption on an annual basis.

(2) The operating limits provided in your federally enforceable permit, and any deviations from these limits.

(3) Any problems or errors suspected with the meters.

(h) If you own or operate an emergency stationary RICE with a site rating of more than 100 brake HP that operates or is contractually obligated to be available for more than 15 hours per calendar year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operates for the purpose specified in §63.6640(f)(4)(ii), you must submit an annual report according to the requirements in paragraphs (h)(1) through (3) of this section.

(1) The report must contain the following information:

(i) Company name and address where the engine is located.

(ii) Date of the report and beginning and ending dates of the reporting period.

(iii) Engine site rating and model year.

(iv) Latitude and longitude of the engine in decimal degrees reported to the fifth decimal place.

(v) Hours operated for the purposes specified in §63.6640(f)(2)(ii) and (iii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vi) Number of hours the engine is contractually obligated to be available for the purposes specified in §63.6640(f)(2)(ii) and (iii).

(vii) Hours spent for operation for the purpose specified in §63.6640(f)(4)(ii), including the date, start time, and end time for engine operation for the purposes specified in §63.6640(f)(4)(ii). The report must also identify the entity that dispatched the engine and the situation that necessitated the dispatch of the engine.

(viii) If there were no deviations from the fuel requirements in §63.6604 that apply to the engine (if any), a statement that there were no deviations from the fuel requirements during the reporting period.

(ix) If there were deviations from the fuel requirements in §63.6604 that apply to the engine (if any), information on the number, duration, and cause of deviations, and the corrective action taken.

(2) The first annual report must cover the calendar year 2015 and must be submitted no later than March 31, 2016. Subsequent annual reports for each calendar year must be submitted no later than March 31 of the following calendar year.

(3) The annual report must be submitted electronically using the subpart specific reporting form in the Compliance and Emissions Data Reporting Interface (CEDRI) that is accessed through EPA's Central Data Exchange (CDX) (*www.epa.gov/cdx*). However, if the reporting form specific to this subpart is not available in CEDRI at the time that the report is due, the written report must be submitted to the Administrator at the appropriate address listed in §63.13.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9677, Mar. 3, 2010; 78 FR 6705, Jan. 30, 2013]

§63.6655 What records must I keep?

(a) If you must comply with the emission and operating limitations, you must keep the records described in paragraphs (a)(1) through (a)(5), (b)(1) through (b)(3) and (c) of this section.

(1) A copy of each notification and report that you submitted to comply with this subpart, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirement in §63.10(b)(2)(xiv).

(2) Records of the occurrence and duration of each malfunction of operation (*i.e.,* process equipment) or the air pollution control and monitoring equipment.

(3) Records of performance tests and performance evaluations as required in §63.10(b)(2)(viii).

(4) Records of all required maintenance performed on the air pollution control and monitoring equipment.

(5) Records of actions taken during periods of malfunction to minimize emissions in accordance with §63.6605(b), including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation.

(b) For each CEMS or CPMS, you must keep the records listed in paragraphs (b)(1) through (3) of this section.

(1) Records described in §63.10(b)(2)(vi) through (xi).

(2) Previous (*i.e.,* superseded) versions of the performance evaluation plan as required in §63.8(d)(3).

(3) Requests for alternatives to the relative accuracy test for CEMS or CPMS as required in §63.8(f)(6)(i), if applicable.

(c) If you are operating a new or reconstructed stationary RICE which fires landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, you must keep the records of your daily fuel usage monitors.

(d) You must keep the records required in Table 6 of this subpart to show continuous compliance with each emission or operating limitation that applies to you.

(e) You must keep records of the maintenance conducted on the stationary RICE in order to demonstrate that you operated and maintained the stationary RICE and after-treatment control device (if any) according to your own maintenance plan if you own or operate any of the following stationary RICE;

(1) An existing stationary RICE with a site rating of less than 100 brake HP located at a major source of HAP emissions.

(2) An existing stationary emergency RICE.

(3) An existing stationary RICE located at an area source of HAP emissions subject to management practices as shown in Table 2d to this subpart.

(f) If you own or operate any of the stationary RICE in paragraphs (f)(1) through (2) of this section, you must keep records of the hours of operation of the engine that is recorded through the non-resettable hour meter. The owner or operator must document how many hours are spent for emergency operation, including what classified the operation as emergency and how many hours are spent for non-emergency operation. If the engine is used for the purposes specified in §63.6640(f)(2)(ii) or (iii) or §63.6640(f)(4)(ii), the owner or operator must keep records of the notification of the emergency situation, and the date, start time, and end time of engine operation for these purposes.

(1) An existing emergency stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions that does not meet the standards applicable to non-emergency engines.

(2) An existing emergency stationary RICE located at an area source of HAP emissions that does not meet the standards applicable to non-emergency engines.

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 78 FR 6706, Jan. 30, 2013]

§63.6660 In what form and how long must I keep my records?

(a) Your records must be in a form suitable and readily available for expeditious review according to §63.10(b)(1).

(b) As specified in §63.10(b)(1), you must keep each record for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record.

(c) You must keep each record readily accessible in hard copy or electronic form for at least 5 years after the date of each occurrence, measurement, maintenance, corrective action, report, or record, according to §63.10(b)(1).

[69 FR 33506, June 15, 2004, as amended at 75 FR 9678, Mar. 3, 2010]

Other Requirements and Information

§63.6665 What parts of the General Provisions apply to me?

Table 8 to this subpart shows which parts of the General Provisions in §§63.1 through 63.15 apply to you. If you own or operate a new or reconstructed stationary RICE with a site rating of less than or equal to 500 brake HP located at a major source of HAP emissions (except new or reconstructed 4SLB engines greater than or equal to 250 and less than or equal to 500 brake HP), a new or reconstructed stationary RICE located at an area source of HAP emissions, or any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with any of the requirements of the General Provisions specified in Table 8: An existing 2SLB stationary RICE, an existing 4SLB stationary RICE, an existing stationary RICE that combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, an existing emergency stationary RICE, or an existing limited use stationary RICE. If you own or operate any of the following RICE with a site rating of more than 500 brake HP located at a major source of HAP emissions, you do not need to comply with the requirements in the General Provisions specified in Table 8 except for the initial notification requirements: A new stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, a new emergency stationary RICE, or a new limited use stationary RICE.

[75 FR 9678, Mar. 3, 2010]

§63.6670 Who implements and enforces this subpart?

(a) This subpart is implemented and enforced by the U.S. EPA, or a delegated authority such as your State, local, or tribal agency. If the U.S. EPA Administrator has delegated authority to your State, local, or tribal agency, then that agency (as well as the U.S. EPA) has the authority to implement and enforce this subpart. You should contact your U.S. EPA Regional Office to find out whether this subpart is delegated to your State, local, or tribal agency.

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

(c) The authorities that will not be delegated to State, local, or tribal agencies are:

(1) Approval of alternatives to the non-opacity emission limitations and operating limitations in §63.6600 under §63.6(g).

(2) Approval of major alternatives to test methods under §63.7(e)(2)(ii) and (f) and as defined in §63.90.

(3) Approval of major alternatives to monitoring under §63.8(f) and as defined in §63.90.

(4) Approval of major alternatives to recordkeeping and reporting under §63.10(f) and as defined in §63.90.

(5) Approval of a performance test which was conducted prior to the effective date of the rule, as specified in §63.6610(b).

§63.6675 What definitions apply to this subpart?

Terms used in this subpart are defined in the Clean Air Act (CAA); in 40 CFR 63.2, the General Provisions of this part; and in this section as follows:

Alaska Railbelt Grid means the service areas of the six regulated public utilities that extend from Fairbanks to Anchorage and the Kenai Peninsula. These utilities are Golden Valley Electric Association; Chugach Electric Association; Matanuska Electric Association; Homer Electric Association; Anchorage Municipal Light & Power; and the City of Seward Electric System.

Area source means any stationary source of HAP that is not a major source as defined in part 63.

Associated equipment as used in this subpart and as referred to in section 112(n)(4) of the CAA, means equipment associated with an oil or natural gas exploration or production well, and includes all equipment from the well bore to the point of custody transfer, except glycol dehydration units, storage vessels with potential for flash emissions, combustion turbines, and stationary RICE.

Backup power for renewable energy means an engine that provides backup power to a facility that generates electricity from renewable energy resources, as that term is defined in Alaska Statute 42.45.045(l)(5) (incorporated by reference, see §63.14).

Black start engine means an engine whose only purpose is to start up a combustion turbine.

CAA means the Clean Air Act (42 U.S.C. 7401 *et seq.,* as amended by Public Law 101-549, 104 Stat. 2399).

Commercial emergency stationary RICE means an emergency stationary RICE used in commercial establishments such as office buildings, hotels, stores, telecommunications facilities, restaurants, financial institutions such as banks, doctor's offices, and sports and performing arts facilities.

Compression ignition means relating to a type of stationary internal combustion engine that is not a spark ignition engine.

Custody transfer means the transfer of hydrocarbon liquids or natural gas: After processing and/or treatment in the producing operations, or from storage vessels or automatic transfer facilities or other such equipment, including product loading racks, to pipelines or any other forms of transportation. For the purposes of this subpart, the point at which such liquids or natural gas enters a natural gas processing plant is a point of custody transfer.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart, including but not limited to any emission limitation or operating limitation;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any emission limitation or operating limitation in this subpart during malfunction, regardless or whether or not such failure is permitted by this subpart.

(4) Fails to satisfy the general duty to minimize emissions established by §63.6(e)(1)(i).

Diesel engine means any stationary RICE in which a high boiling point liquid fuel injected into the combustion chamber ignites when the air charge has been compressed to a temperature sufficiently high for auto-ignition. This process is also known as compression ignition.

Diesel fuel means any liquid obtained from the distillation of petroleum with a boiling point of approximately 150 to 360 degrees Celsius. One commonly used form is fuel oil number 2. Diesel fuel also includes any non-distillate fuel with comparable physical and chemical properties (*e.g.* biodiesel) that is suitable for use in compression ignition engines.

Digester gas means any gaseous by-product of wastewater treatment typically formed through the anaerobic decomposition of organic waste materials and composed principally of methane and CO_2.

Dual-fuel engine means any stationary RICE in which a liquid fuel (typically diesel fuel) is used for compression ignition and gaseous fuel (typically natural gas) is used as the primary fuel.

Emergency stationary RICE means any stationary reciprocating internal combustion engine that meets all of the criteria in paragraphs (1) through (3) of this definition. All emergency stationary RICE must comply with the requirements specified in §63.6640(f) in order to be considered emergency stationary RICE. If the engine does not comply with the requirements specified in §63.6640(f), then it is not considered to be an emergency stationary RICE under this subpart.

(1) The stationary RICE is operated to provide electrical power or mechanical work during an emergency situation. Examples include stationary RICE used to produce power for critical networks or equipment (including power supplied to portions of a facility) when electric power from the local utility (or the normal power source, if the facility runs on its own power production) is interrupted, or stationary RICE used to pump water in the case of fire or flood, etc.

(2) The stationary RICE is operated under limited circumstances for situations not included in paragraph (1) of this definition, as specified in §63.6640(f).

(3) The stationary RICE operates as part of a financial arrangement with another entity in situations not included in paragraph (1) of this definition only as allowed in §63.6640(f)(2)(ii) or (iii) and §63.6640(f)(4)(i) or (ii).

Engine startup means the time from initial start until applied load and engine and associated equipment reaches steady state or normal operation. For stationary engine with catalytic controls, engine startup means the time from initial start until applied load and engine and associated equipment, including the catalyst, reaches steady state or normal operation.

Four-stroke engine means any type of engine which completes the power cycle in two crankshaft revolutions, with intake and compression strokes in the first revolution and power and exhaust strokes in the second revolution.

Gaseous fuel means a material used for combustion which is in the gaseous state at standard atmospheric temperature and pressure conditions.

Gasoline means any fuel sold in any State for use in motor vehicles and motor vehicle engines, or nonroad or stationary engines, and commonly or commercially known or sold as gasoline.

Glycol dehydration unit means a device in which a liquid glycol (including, but not limited to, ethylene glycol, diethylene glycol, or triethylene glycol) absorbent directly contacts a natural gas stream and absorbs water in a contact tower or absorption column (absorber). The glycol contacts and absorbs water vapor and other gas stream constituents from the natural gas and becomes “rich” glycol. This glycol is then regenerated in the glycol dehydration unit reboiler. The “lean” glycol is then recycled.

Hazardous air pollutants (HAP) means any air pollutants listed in or pursuant to section 112(b) of the CAA.

Institutional emergency stationary RICE means an emergency stationary RICE used in institutional establishments such as medical centers, nursing homes, research centers, institutions of higher education, correctional facilities, elementary and secondary schools, libraries, religious establishments, police stations, and fire stations.

ISO standard day conditions means 288 degrees Kelvin (15 degrees Celsius), 60 percent relative humidity and 101.3 kilopascals pressure.

Landfill gas means a gaseous by-product of the land application of municipal refuse typically formed through the anaerobic decomposition of waste materials and composed principally of methane and CO_2.

Lean burn engine means any two-stroke or four-stroke spark ignited engine that does not meet the definition of a rich burn engine.

Limited use stationary RICE means any stationary RICE that operates less than 100 hours per year.

Liquefied petroleum gas means any liquefied hydrocarbon gas obtained as a by-product in petroleum refining of natural gas production.

Liquid fuel means any fuel in liquid form at standard temperature and pressure, including but not limited to diesel, residual/crude oil, kerosene/naphtha (jet fuel), and gasoline.

Major Source, as used in this subpart, shall have the same meaning as in §63.2, except that:

(1) Emissions from any oil or gas exploration or production well (with its associated equipment (as defined in this section)) and emissions from any pipeline compressor station or pump station shall not be aggregated with emissions from other similar units, to determine whether such emission points or stations are major sources, even when emission points are in a contiguous area or under common control;

(2) For oil and gas production facilities, emissions from processes, operations, or equipment that are not part of the same oil and gas production facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated;

(3) For production field facilities, only HAP emissions from glycol dehydration units, storage vessel with the potential for flash emissions, combustion turbines and reciprocating internal combustion engines shall be aggregated for a major source determination; and

(4) Emissions from processes, operations, and equipment that are not part of the same natural gas transmission and storage facility, as defined in §63.1271 of subpart HHH of this part, shall not be aggregated.

Malfunction means any sudden, infrequent, and not reasonably preventable failure of air pollution control equipment, process equipment, or a process to operate in a normal or usual manner which causes, or has the potential to cause, the emission limitations in an applicable standard to be exceeded. Failures that are caused in part by poor maintenance or careless operation are not malfunctions.

Natural gas means a naturally occurring mixture of hydrocarbon and non-hydrocarbon gases found in geologic formations beneath the Earth's surface, of which the principal constituent is methane. Natural gas may be field or pipeline quality.

Non-selective catalytic reduction (NSCR) means an add-on catalytic nitrogen oxides (NO_X) control device for rich burn engines that, in a two-step reaction, promotes the conversion of excess oxygen, NO_X, CO, and volatile organic compounds (VOC) into CO_2, nitrogen, and water.

Oil and gas production facility as used in this subpart means any grouping of equipment where hydrocarbon liquids are processed, upgraded (*i.e.,* remove impurities or other constituents to meet contract specifications), or stored prior to the point of custody transfer; or where natural gas is processed, upgraded, or stored prior to entering the natural gas transmission and storage source category. For purposes of a major source determination, facility (including a building, structure, or installation) means oil and natural gas production and processing equipment that is located within the boundaries of an individual surface site as defined in this section. Equipment that is part of a facility will typically be located within close proximity to other equipment located at the same facility. Pieces of production equipment or groupings of equipment located on different oil and gas leases, mineral fee tracts, lease tracts, subsurface or surface unit areas, surface fee tracts, surface lease tracts, or separate surface sites, whether or not connected by a road, waterway, power line or pipeline, shall not be considered part of the same facility. Examples of facilities in the oil and natural gas production source category include, but are not limited to, well sites, satellite tank batteries, central tank batteries, a compressor station that transports natural gas to a natural gas processing plant, and natural gas processing plants.

Oxidation catalyst means an add-on catalytic control device that controls CO and VOC by oxidation.

Peaking unit or engine means any standby engine intended for use during periods of high demand that are not emergencies.

Percent load means the fractional power of an engine compared to its maximum manufacturer's design capacity at engine site conditions. Percent load may range between 0 percent to above 100 percent.

Potential to emit means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the stationary source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. For oil and natural gas production facilities subject to subpart HH of this part, the potential to emit provisions in §63.760(a) may be used. For natural gas transmission and storage facilities subject to subpart HHH of this part, the maximum annual facility gas throughput for storage facilities may be determined according to §63.1270(a)(1) and the maximum annual throughput for transmission facilities may be determined according to §63.1270(a)(2).

Production field facility means those oil and gas production facilities located prior to the point of custody transfer.

Production well means any hole drilled in the earth from which crude oil, condensate, or field natural gas is extracted.

Propane means a colorless gas derived from petroleum and natural gas, with the molecular structure C_3H_8.

Remote stationary RICE means stationary RICE meeting any of the following criteria:

(1) Stationary RICE located in an offshore area that is beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

(2) Stationary RICE located on a pipeline segment that meets both of the criteria in paragraphs (2)(i) and (ii) of this definition.

(i) A pipeline segment with 10 or fewer buildings intended for human occupancy and no buildings with four or more stories within 220 yards (200 meters) on either side of the centerline of any continuous 1-mile (1.6 kilometers) length of pipeline. Each separate dwelling unit in a multiple dwelling unit building is counted as a separate building intended for human occupancy.

(ii) The pipeline segment does not lie within 100 yards (91 meters) of either a building or a small, well-defined outside area (such as a playground, recreation area, outdoor theater, or other place of public assembly) that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12-month period. The days and weeks need not be consecutive. The building or area is considered occupied for a full day if it is occupied for any portion of the day.

(iii) For purposes of this paragraph (2), the term pipeline segment means all parts of those physical facilities through which gas moves in transportation, including but not limited to pipe, valves, and other appurtenance attached to pipe, compressor units, metering stations, regulator stations, delivery stations, holders, and fabricated assemblies. Stationary RICE located within 50 yards (46 meters) of the pipeline segment providing power for equipment on a pipeline segment are part of the pipeline segment. Transportation of gas means the gathering, transmission, or distribution of gas by pipeline, or the storage of gas. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

(3) Stationary RICE that are not located on gas pipelines and that have 5 or fewer buildings intended for human occupancy and no buildings with four or more stories within a 0.25 mile radius around the engine. A building is intended for human occupancy if its primary use is for a purpose involving the presence of humans.

Residential emergency stationary RICE means an emergency stationary RICE used in residential establishments such as homes or apartment buildings.

Responsible official means responsible official as defined in 40 CFR 70.2.

Rich burn engine means any four-stroke spark ignited engine where the manufacturer's recommended operating air/fuel ratio divided by the stoichiometric air/fuel ratio at full load conditions is less than or equal to 1.1. Engines originally manufactured as rich burn engines, but modified prior to December 19, 2002 with passive emission control technology for NO_X (such as pre-combustion chambers) will be considered lean burn engines. Also, existing engines where there are no manufacturer's recommendations regarding air/fuel ratio will be considered a rich burn engine if the excess oxygen content of the exhaust at full load conditions is less than or equal to 2 percent.

Site-rated HP means the maximum manufacturer's design capacity at engine site conditions.

Spark ignition means relating to either: A gasoline-fueled engine; or any other type of engine with a spark plug (or other sparking device) and with operating characteristics significantly similar to the theoretical Otto combustion cycle. Spark ignition engines usually use a throttle to regulate intake air flow to control power during normal operation. Dual-fuel engines in which a liquid fuel (typically diesel fuel) is used for CI and gaseous fuel (typically natural gas) is used as the primary fuel at an annual average ratio of less than 2 parts diesel fuel to 100 parts total fuel on an energy equivalent basis are spark ignition engines.

Stationary reciprocating internal combustion engine (RICE) means any reciprocating internal combustion engine which uses reciprocating motion to convert heat energy into mechanical work and which is not mobile. Stationary RICE differ from mobile RICE in that a stationary RICE is not a non-road engine as defined at 40 CFR 1068.30, and is not used to propel a motor vehicle or a vehicle used solely for competition.

Stationary RICE test cell/stand means an engine test cell/stand, as defined in subpart PPPPP of this part, that tests stationary RICE.

Stoichiometric means the theoretical air-to-fuel ratio required for complete combustion.

Storage vessel with the potential for flash emissions means any storage vessel that contains a hydrocarbon liquid with a stock tank gas-to-oil ratio equal to or greater than 0.31 cubic meters per liter and an American Petroleum Institute gravity equal to or greater than 40 degrees and an actual annual average hydrocarbon liquid throughput equal to or greater than 79,500 liters per day. Flash emissions occur when dissolved hydrocarbons in the fluid evolve from solution when the fluid pressure is reduced.

Subpart means 40 CFR part 63, subpart ZZZZ.

Surface site means any combination of one or more graded pad sites, gravel pad sites, foundations, platforms, or the immediate physical location upon which equipment is physically affixed.

Two-stroke engine means a type of engine which completes the power cycle in single crankshaft revolution by combining the intake and compression operations into one stroke and the power and exhaust operations into a second stroke. This system requires auxiliary scavenging and inherently runs lean of stoichiometric.

[69 FR 33506, June 15, 2004, as amended at 71 FR 20467, Apr. 20, 2006; 73 FR 3607, Jan. 18, 2008; 75 FR 9679, Mar. 3, 2010; 75 FR 51592, Aug. 20, 2010; 76 FR 12867, Mar. 9, 2011; 78 FR 6706, Jan. 30, 2013]

Table 1a to Subpart ZZZZ of Part 63—Emission Limitations for Existing, New, and Reconstructed Spark Ignition, 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations at 100 percent load plus or minus 10 percent for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 4SRB stationary RICE	a. Reduce formaldehyde emissions by 76 percent or more. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may reduce formaldehyde emissions by 75 percent or more until June 15, 2007 or	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
	b. Limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9679, Mar. 3, 2010, as amended at 75 FR 51592, Aug. 20, 2010]

Table 1b to Subpart ZZZZ of Part 63—Operating Limitations for Existing, New, and Reconstructed SI 4SRB Stationary RICE >500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and using NSCR;	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F.[1]
2. existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or	Comply with any operating limitations approved by the Administrator.
existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O_2 and not using NSCR.	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6706, Jan. 30, 2013]

Table 2a to Subpart ZZZZ of Part 63—Emission Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP and New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600 and 63.6640, you must comply with the following emission limitations for new and reconstructed lean burn and new and reconstructed compression ignition stationary RICE at 100 percent load plus or minus 10 percent:

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
1. 2SLB stationary RICE	a. Reduce CO emissions by 58 percent or more; or b. Limit concentration of formaldehyde in the stationary RICE exhaust to 12 ppmvd or less at 15 percent O_2. If you commenced construction or reconstruction between December 19, 2002 and June 15, 2004, you may limit concentration of formaldehyde to 17 ppmvd or less at 15 percent O_2 until June 15, 2007	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[1]
2. 4SLB stationary RICE	a. Reduce CO emissions by 93 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 14 ppmvd or less at 15 percent O_2	

For each . . .	You must meet the following emission limitation, except during periods of startup . . .	During periods of startup you must . . .
3. CI stationary RICE	a. Reduce CO emissions by 70 percent or more; or	
	b. Limit concentration of formaldehyde in the stationary RICE exhaust to 580 ppbvd or less at 15 percent O_2	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[75 FR 9680, Mar. 3, 2010]

Table 2b to Subpart ZZZZ of Part 63—Operating Limitations for New and Reconstructed 2SLB and CI Stationary RICE >500 HP Located at a Major Source of HAP Emissions, New and Reconstructed 4SLB Stationary RICE ≥250 HP Located at a Major Source of HAP Emissions, Existing CI Stationary RICE >500 HP

As stated in §§63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; and existing CI stationary RICE >500 HP:

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
1. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and using an oxidation catalyst; and New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst.	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; and b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. Existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water from the pressure drop across the catalyst that was measured during the initial performance test; and
	b. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
3. New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to reduce CO emissions and not using an oxidation catalyst; and	Comply with any operating limitations approved by the Administrator.
New and reconstructed 2SLB and CI stationary RICE >500 HP located at a major source of HAP emissions and new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and not using an oxidation catalyst; and	

For each . . .	You must meet the following operating limitation, except during periods of startup . . .
existing CI stationary RICE >500 HP complying with the requirement to limit or reduce the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst.	

[1]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(f) for a different temperature range.

[78 FR 6707, Jan. 30, 2013]

Table 2c to Subpart ZZZZ of Part 63—Requirements for Existing Compression Ignition Stationary RICE Located at a Major Source of HAP Emissions and Existing Spark Ignition Stationary RICE ≤500 HP Located at a Major Source of HAP Emissions

As stated in §§63.6600, 63.6602, and 63.6640, you must comply with the following requirements for existing compression ignition stationary RICE located at a major source of HAP emissions and existing spark ignition stationary RICE ≤500 HP located at a major source of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Emergency stationary CI RICE and black start stationary CI RICE[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.[3]
2. Non-Emergency, non-black start stationary CI RICE <100 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first.[2] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
3. Non-Emergency, non-black start CI stationary RICE 100≤HP≤300 HP	Limit concentration of CO in the stationary RICE exhaust to 230 ppmvd or less at 15 percent O_2.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
5. Non-Emergency, non-black start stationary CI RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd or less at 15 percent O_2; or b. Reduce CO emissions by 70 percent or more.	
6. Emergency stationary SI RICE and black start stationary SI RICE.[1]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
7. Non-Emergency, non-black start stationary SI RICE <100 HP that are not 2SLB stationary RICE	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.[3]	
8. Non-Emergency, non-black start 2SLB stationary SI RICE <100 HP	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[2] b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary;	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.[3]	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
9. Non-emergency, non-black start 2SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 225 ppmvd or less at 15 percent O_2.	
10. Non-emergency, non-black start 4SLB stationary RICE 100≤HP≤500	Limit concentration of CO in the stationary RICE exhaust to 47 ppmvd or less at 15 percent O_2.	
11. Non-emergency, non-black start 4SRB stationary RICE 100≤HP≤500	Limit concentration of formaldehyde in the stationary RICE exhaust to 10.3 ppmvd or less at 15 percent O_2.	
12. Non-emergency, non-black start stationary RICE 100≤HP≤500 which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Limit concentration of CO in the stationary RICE exhaust to 177 ppmvd or less at 15 percent O_2.	

[1]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the work practice requirements on the schedule required in Table 2c of this subpart, or if performing the work practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the work practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The work practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the work practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[2]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2c of this subpart.

[3]Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.6(g) for alternative work practices.

[78 FR 6708, Jan. 30, 2013, as amended at 78 FR 14457, Mar. 6, 2013]

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first;[1] b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
2. Non-Emergency, non-black start CI stationary RICE 300<HP≤500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
3. Non-Emergency, non-black start CI stationary RICE >500 HP	a. Limit concentration of CO in the stationary RICE exhaust to 23 ppmvd at 15 percent O_2; or	
	b. Reduce CO emissions by 70 percent or more.	
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
5. Emergency stationary SI RICE; black start stationary SI RICE; non-emergency, non-black start 4SLB stationary RICE >500 HP that operate 24 hours or less per calendar year; non-emergency, non-black start 4SRB stationary RICE >500 HP that operate 24 hours or less per calendar year.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]; b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first, and replace as necessary; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
6. Non-emergency, non-black start 2SLB stationary RICE	a. Change oil and filter every 4,320 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 4,320 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 4,320 hours of operation or annually, whichever comes first, and replace as necessary.	
7. Non-emergency, non-black start 4SLB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
8. Non-emergency, non-black start 4SLB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
9. Non-emergency, non-black start 4SLB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install an oxidation catalyst to reduce HAP emissions from the stationary RICE.	
10. Non-emergency, non-black start 4SRB stationary RICE ≤500 HP	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	
11. Non-emergency, non-black start 4SRB remote stationary RICE >500 HP	a. Change oil and filter every 2,160 hours of operation or annually, whichever comes first;[1]	
	b. Inspect spark plugs every 2,160 hours of operation or annually, whichever comes first, and replace as necessary; and	
	c. Inspect all hoses and belts every 2,160 hours of operation or annually, whichever comes first, and replace as necessary.	
12. Non-emergency, non-black start 4SRB stationary RICE >500 HP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Install NSCR to reduce HAP emissions from the stationary RICE.	
13. Non-emergency, non-black start stationary RICE which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first, and replace as necessary; and	

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) or (j) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under federal, state, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under federal, state, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under federal, state, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the federal, state or local law under which the risk was deemed unacceptable.

[78 FR 6709, Jan. 30, 2013]

Table 3 to Subpart ZZZZ of Part 63—Subsequent Performance Tests

As stated in §§63.6615 and 63.6620, you must comply with the following subsequent performance test requirements:

For each . . .	Complying with the requirement to . . .	You must . . .
1. New or reconstructed 2SLB stationary RICE >500 HP located at major sources; new or reconstructed 4SLB stationary RICE ≥250 HP located at major sources; and new or reconstructed CI stationary RICE >500 HP located at major sources	Reduce CO emissions and not using a CEMS	Conduct subsequent performance tests semiannually.[1]
2. 4SRB stationary RICE ≥5,000 HP located at major sources	Reduce formaldehyde emissions	Conduct subsequent performance tests semiannually.[1]
3. Stationary RICE >500 HP located at major sources and new or reconstructed 4SLB stationary RICE 250≤HP≤500 located at major sources	Limit the concentration of formaldehyde in the stationary RICE exhaust	Conduct subsequent performance tests semiannually.[1]
4. Existing non-emergency, non-black start CI stationary RICE >500 HP that are not limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 3 years, whichever comes first.
5. Existing non-emergency, non-black start CI stationary RICE >500 HP that are limited use stationary RICE	Limit or reduce CO emissions and not using a CEMS	Conduct subsequent performance tests every 8,760 hours or 5 years, whichever comes first.

[1]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6711, Jan. 30, 2013]

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

As stated in §§63.6610, 63.6611, 63.6620, and 63.6640, you must comply with the following requirements for performance tests for stationary RICE:

Table 4 to Subpart ZZZZ of Part 63—Requirements for Performance Tests

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
1. 2SLB, 4SLB, and CI stationary RICE	a. reduce CO emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For CO and O_2 measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A-1, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A-4.
		ii. Measure the O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[ac] (heated probe not necessary)	(b) Measurements to determine O_2 must be made at the same time as the measurements for CO concentration.
		iii. Measure the CO at the inlet and the outlet of the control device	(1) ASTM D6522-00 (Reapproved 2005)[abc] (heated probe not necessary) or Method 10 of 40 CFR part 60, appendix A-4	(c) The CO concentration must be at 15 percent O_2, dry basis.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
2. 4SRB stationary RICE	a. reduce formaldehyde emissions	i. Select the sampling port location and the number/location of traverse points at the inlet and outlet of the control device; and		(a) For formaldehyde, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A.
		ii. Measure O_2 at the inlet and outlet of the control device; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[a] (heated probe not necessary)	(a) Measurements to determine O_2 concentration must be made at the same time as the measurements for formaldehyde or THC concentration.
		iii. Measure moisture content at the inlet and outlet of the control device; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03[a]	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or THC concentration.
		iv. If demonstrating compliance with the formaldehyde percent reduction requirement, measure formalde-hyde at the inlet and the outlet of the control device	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03[a], provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. If demonstrating compliance with the THC percent reduction requirement, measure THC at the inlet and the outlet of the control device	(1) Method 25A, reported as propane, of 40 CFR part 60, appendix A-7	(a) THC concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

For each . . .	Complying with the requirement to . . .	You must . . .	Using . . .	According to the following requirements . . .
3. Stationary RICE	a. limit the concentra-tion of formalde-hyde or CO in the stationary RICE exhaust	i. Select the sampling port location and the number/location of traverse points at the exhaust of the stationary RICE; and		(a) For formaldehyde, CO, O_2, and moisture measurement, ducts ≤6 inches in diameter may be sampled at a single point located at the duct centroid and ducts >6 and ≤12 inches in diameter may be sampled at 3 traverse points located at 16.7, 50.0, and 83.3% of the measurement line (`3-point long line'). If the duct is >12 inches in diameter *and* the sampling port location meets the two and half-diameter criterion of Section 11.1.1 of Method 1 of 40 CFR part 60, appendix A, the duct may be sampled at `3-point long line'; otherwise, conduct the stratification testing and select sampling points according to Section 8.1.2 of Method 7E of 40 CFR part 60, appendix A. If using a control device, the sampling site must be located at the outlet of the control device.
		ii. Determine the O_2 concentration of the stationary RICE exhaust at the sampling port location; and	(1) Method 3 or 3A or 3B of 40 CFR part 60, appendix A-2, or ASTM Method D6522-00 (Reapproved 2005)[a] (heated probe not necessary)	(a) Measurements to determine O_2 concentration must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iii. Measure moisture content of the station-ary RICE exhaust at the sampling port location; and	(1) Method 4 of 40 CFR part 60, appendix A-3, or Method 320 of 40 CFR part 63, appendix A, or ASTM D 6348-03[a]	(a) Measurements to determine moisture content must be made at the same time and location as the measurements for formaldehyde or CO concentration.
		iv. Measure formalde-hyde at the exhaust of the station-ary RICE; or	(1) Method 320 or 323 of 40 CFR part 63, appendix A; or ASTM D6348-03[a], provided in ASTM D6348-03 Annex A5 (Analyte Spiking Technique), the percent R must be greater than or equal to 70 and less than or equal to 130	(a) Formaldehyde concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.
		v. measure CO at the exhaust of the station-ary RICE	(1) Method 10 of 40 CFR part 60, appendix A-4, ASTM Method D6522-00 (2005)[ac], Method 320 of 40 CFR part 63, appendix A, or ASTM D6348-03[a]	(a) CO concentration must be at 15 percent O_2, dry basis. Results of this test consist of the average of the three 1-hour or longer runs.

[a]You may also use Methods 3A and 10 as options to ASTM-D6522-00 (2005). You may obtain a copy of ASTM-D6522-00 (2005) from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[b]You may obtain a copy of ASTM-D6348-03 from at least one of the following addresses: American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, or University Microfilms International, 300 North Zeeb Road, Ann Arbor, MI 48106.

[79 FR 11290, Feb. 27, 2014]

Table 5 to Subpart ZZZZ of Part 63—Initial Compliance With Emission Limitations, Operating Limitations, and Other Requirements

As stated in §§63.6612, 63.6625 and 63.6630, you must initially comply with the emission and operating limitations as required by the following:

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and using oxidation catalyst, and using a CPMS	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
2. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, using oxidation catalyst, and using a CPMS	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions and not using oxidation catalyst	i. The average reduction of emissions of CO determined from the initial performance test achieves the required CO percent reduction; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and iii. You have recorded the approved operating parameters (if any) during the initial performance test.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
4. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and not using oxidation catalyst	i. The average CO concentration determined from the initial performance test is less than or equal to the CO emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
5. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Reduce CO emissions, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at both the inlet and outlet of the oxidation catalyst according to the requirements in §63.6625(a); and ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average reduction of CO calculated using §63.6620 equals or exceeds the required percent reduction. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average percent reduction achieved during the 4-hour period.
6. Non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP located at an area source of HAP	a. Limit the concentration of CO, and using a CEMS	i. You have installed a CEMS to continuously monitor CO and either O_2 or CO_2 at the outlet of the oxidation catalyst according to the requirements in §63.6625(a); and
		ii. You have conducted a performance evaluation of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B; and
		iii. The average concentration of CO calculated using §63.6620 is less than or equal to the CO emission limitation. The initial test comprises the first 4-hour period after successful validation of the CEMS. Compliance is based on the average concentration measured during the 4-hour period.
7. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction, or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
8. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. The average reduction of emissions of formaldehyde determined from the initial performance test is equal to or greater than the required formaldehyde percent reduction or the average reduction of emissions of THC determined from the initial performance test is equal to or greater than 30 percent; and
		ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
9. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b); and
		iii. You have recorded the catalyst pressure drop and catalyst inlet temperature during the initial performance test.
10. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP, and existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. The average formaldehyde concentration, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde emission limitation; and ii. You have installed a CPMS to continuously monitor operating parameters approved by the Administrator (if any) according to the requirements in §63.6625(b); and
		iii. You have recorded the approved operating parameters (if any) during the initial performance test.
11. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Reduce CO emissions	i. The average reduction of emissions of CO or formaldehyde, as applicable determined from the initial performance test is equal to or greater than the required CO or formaldehyde, as applicable, percent reduction.

For each . . .	Complying with the requirement to . . .	You have demonstrated initial compliance if . . .
12. Existing non-emergency stationary RICE 100≤HP≤500 located at a major source of HAP, and existing non-emergency stationary CI RICE 300<HP≤500 located at an area source of HAP	a. Limit the concentration of formaldehyde or CO in the stationary RICE exhaust	i. The average formaldehyde or CO concentration, as applicable, corrected to 15 percent O_2, dry basis, from the three test runs is less than or equal to the formaldehyde or CO emission limitation, as applicable.
13. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1350 °F.
14. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. You have conducted an initial compliance demonstration as specified in §63.6630(e) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more;
		ii. You have installed a CPMS to continuously monitor catalyst inlet temperature according to the requirements in §63.6625(b), or you have installed equipment to automatically shut down the engine if the catalyst inlet temperature exceeds 1250 °F.

[78 FR 6712, Jan. 30, 2013]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, and Other Requirements

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
1. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved[a]; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
2. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, and new or reconstructed non-emergency CI stationary RICE >500 HP located at a major source of HAP	a. Reduce CO emissions and not using an oxidation catalyst, and using a CPMS	i. Conducting semiannual performance tests for CO to demonstrate that the required CO percent reduction is achieved[a]; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
3. New or reconstructed non-emergency 2SLB stationary RICE >500 HP located at a major source of HAP, new or reconstructed non-emergency 4SLB stationary RICE ≥250 HP located at a major source of HAP, new or reconstructed non-emergency stationary CI RICE >500 HP located at a major source of HAP, and existing non-emergency stationary CI RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using a CEMS	i. Collecting the monitoring data according to §63.6625(a), reducing the measurements to 1-hour averages, calculating the percent reduction or concentration of CO emissions according to §63.6620; and ii. Demonstrating that the catalyst achieves the required percent reduction of CO emissions over the 4-hour averaging period, or that the emission remain at or below the CO concentration limit; and
		iii. Conducting an annual RATA of your CEMS using PS 3 and 4A of 40 CFR part 60, appendix B, as well as daily and periodic data quality checks in accordance with 40 CFR part 60, appendix F, procedure 1.
4. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and using NSCR	i. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		iv. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
5. Non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP	a. Reduce formaldehyde emissions and not using NSCR	i. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		ii. Reducing these data to 4-hour rolling averages; and
		iii. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
6. Non-emergency 4SRB stationary RICE with a brake HP ≥5,000 located at a major source of HAP	a. Reduce formaldehyde emissions	Conducting semiannual performance tests for formaldehyde to demonstrate that the required formaldehyde percent reduction is achieved, or to demonstrate that the average reduction of emissions of THC determined from the performance test is equal to or greater than 30 percent.[a]
7. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit[a]; and ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
8. New or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	a. Limit the concentration of formaldehyde in the stationary RICE exhaust and not using oxidation catalyst or NSCR	i. Conducting semiannual performance tests for formaldehyde to demonstrate that your emissions remain at or below the formaldehyde concentration limit[a]; and ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
9. Existing emergency and black start stationary RICE ≤500 HP located at a major source of HAP, existing non-emergency stationary RICE <100 HP located at a major source of HAP, existing emergency and black start stationary RICE located at an area source of HAP, existing non-emergency stationary CI RICE ≤300 HP located at an area source of HAP, existing non-emergency 2SLB stationary RICE located at an area source of HAP, existing non-emergency stationary SI RICE located at an area source of HAP which combusts landfill or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis, existing non-emergency 4SLB and 4SRB stationary RICE ≤500 HP located at an area source of HAP, existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that operate 24 hours or less per calendar year, and existing non-emergency 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are remote stationary RICE	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.
10. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
11. Existing stationary CI RICE >500 HP that are not limited use stationary RICE	a. Reduce CO emissions, or limit the concentration of CO in the stationary RICE exhaust, and not using oxidation catalyst	i. Conducting performance tests every 8,760 hours or 3 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.
12. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the catalyst inlet temperature data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the catalyst inlet temperature; and
		v. Measuring the pressure drop across the catalyst once per month and demonstrating that the pressure drop across the catalyst is within the operating limitation established during the performance test.
13. Existing limited use CI stationary RICE >500 HP	a. Reduce CO emissions or limit the concentration of CO in the stationary RICE exhaust, and not using an oxidation catalyst	i. Conducting performance tests every 8,760 hours or 5 years, whichever comes first, for CO or formaldehyde, as appropriate, to demonstrate that the required CO or formaldehyde, as appropriate, percent reduction is achieved or that your emissions remain at or below the CO or formaldehyde concentration limit; and
		ii. Collecting the approved operating parameter (if any) data according to §63.6625(b); and
		iii. Reducing these data to 4-hour rolling averages; and
		iv. Maintaining the 4-hour rolling averages within the operating limitations for the operating parameters established during the performance test.

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
14. Existing non-emergency 4SLB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install an oxidation catalyst	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 93 percent or more, or the average CO concentration is less than or equal to 47 ppmvd at 15 percent O_2; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than 450 °F and less than or equal to 1350 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1350 °F.
15. Existing non-emergency 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that are operated more than 24 hours per calendar year	a. Install NSCR	i. Conducting annual compliance demonstrations as specified in §63.6640(c) to show that the average reduction of emissions of CO is 75 percent or more, the average CO concentration is less than or equal to 270 ppmvd at 15 percent O_2, or the average reduction of emissions of THC is 30 percent or more; and either ii. Collecting the catalyst inlet temperature data according to §63.6625(b), reducing these data to 4-hour rolling averages; and maintaining the 4-hour rolling averages within the limitation of greater than or equal to 750 °F and less than or equal to 1250 °F for the catalyst inlet temperature; or iii. Immediately shutting down the engine if the catalyst inlet temperature exceeds 1250 °F.

[a]After you have demonstrated compliance for two consecutive tests, you may reduce the frequency of subsequent performance tests to annually. If the results of any subsequent annual performance test indicate the stationary RICE is not in compliance with the CO or formaldehyde emission limitation, or you deviate from any of your operating limitations, you must resume semiannual performance tests.

[78 FR 6715, Jan. 30, 2013]

Table 7 to Subpart ZZZZ of Part 63—Requirements for Reports

As stated in §63.6650, you must comply with the following requirements for reports:

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
1. Existing non-emergency, non-black start stationary RICE 100≤HP≤500 located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >500 HP located at a major source of HAP; existing non-emergency 4SRB stationary RICE >500 HP located at a major source of HAP; existing non-emergency, non-black start stationary CI RICE >300 HP located at an area source of HAP; new or reconstructed non-emergency stationary RICE >500 HP located at a major source of HAP; and new or reconstructed non-emergency 4SLB stationary RICE 250≤HP≤500 located at a major source of HAP	Compliance report	a. If there are no deviations from any emission limitations or operating limitations that apply to you, a statement that there were no deviations from the emission limitations or operating limitations during the reporting period. If there were no periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), a statement that there were not periods during which the CMS was out-of-control during the reporting period; or	i. Semiannually according to the requirements in §63.6650(b)(1)-(5) for engines that are not limited use stationary RICE subject to numerical emission limitations; and ii. Annually according to the requirements in §63.6650(b)(6)-(9) for engines that are limited use stationary RICE subject to numerical emission limitations.
		b. If you had a deviation from any emission limitation or operating limitation during the reporting period, the information in §63.6650(d). If there were periods during which the CMS, including CEMS and CPMS, was out-of-control, as specified in §63.8(c)(7), the information in §63.6650(e); or	i. Semiannually according to the requirements in §63.6650(b).
		c. If you had a malfunction during the reporting period, the information in §63.6650(c)(4).	i. Semiannually according to the requirements in §63.6650(b).
2. New or reconstructed non-emergency stationary RICE that combusts landfill gas or digester gas equivalent to 10 percent or more of the gross heat input on an annual basis	Report	a. The fuel flow rate of each fuel and the heating values that were used in your calculations, and you must demonstrate that the percentage of heat input provided by landfill gas or digester gas, is equivalent to 10 percent or more of the gross heat input on an annual basis; and	i. Annually, according to the requirements in §63.6650.
		b. The operating limits provided in your federally enforceable permit, and any deviations from these limits; and	i. See item 2.a.i.
		c. Any problems or errors suspected with the meters.	i. See item 2.a.i.
3. Existing non-emergency, non-black start 4SLB and 4SRB stationary RICE >500 HP located at an area source of HAP that are not remote stationary RICE and that operate more than 24 hours per calendar year	Compliance report	a. The results of the annual compliance demonstration, if conducted during the reporting period.	i. Semiannually according to the requirements in §63.6650(b)(1)-(5).

For each . . .	You must submit a . . .	The report must contain . . .	You must submit the report . . .
4. Emergency stationary RICE that operate or are contractually obligated to be available for more than 15 hours per year for the purposes specified in §63.6640(f)(2)(ii) and (iii) or that operate for the purposes specified in §63.6640(f)(4)(ii)	Report	a. The information in §63.6650(h)(1)	i. annually according to the requirements in §63.6650(h)(2)-(3).

[78 FR 6719, Jan. 30, 2013]

Table 8 to Subpart ZZZZ of Part 63—Applicability of General Provisions to Subpart ZZZZ.

As stated in §63.6665, you must comply with the following applicable general provisions.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.1	General applicability of the General Provisions	Yes.	
§63.2	Definitions	Yes	Additional terms defined in §63.6675.
§63.3	Units and abbreviations	Yes.	
§63.4	Prohibited activities and circumvention	Yes.	
§63.5	Construction and reconstruction	Yes.	
§63.6(a)	Applicability	Yes.	
§63.6(b)(1)-(4)	Compliance dates for new and reconstructed sources	Yes.	
§63.6(b)(5)	Notification	Yes.	
§63.6(b)(6)	[Reserved]		
§63.6(b)(7)	Compliance dates for new and reconstructed area sources that become major sources	Yes.	
§63.6(c)(1)-(2)	Compliance dates for existing sources	Yes.	
§63.6(c)(3)-(4)	[Reserved]		
§63.6(c)(5)	Compliance dates for existing area sources that become major sources	Yes.	
§63.6(d)	[Reserved]		
§63.6(e)	Operation and maintenance	No.	
§63.6(f)(1)	Applicability of standards	No.	
§63.6(f)(2)	Methods for determining compliance	Yes.	
§63.6(f)(3)	Finding of compliance	Yes.	
§63.6(g)(1)-(3)	Use of alternate standard	Yes.	
§63.6(h)	Opacity and visible emission standards	No	Subpart ZZZZ does not contain opacity or visible emission standards.
§63.6(i)	Compliance extension procedures and criteria	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.6(j)	Presidential compliance exemption	Yes.	
§63.7(a)(1)-(2)	Performance test dates	Yes	Subpart ZZZZ contains performance test dates at §§63.6610, 63.6611, and 63.6612.
§63.7(a)(3)	CAA section 114 authority	Yes.	
§63.7(b)(1)	Notification of performance test	Yes	Except that §63.7(b)(1) only applies as specified in §63.6645.
§63.7(b)(2)	Notification of rescheduling	Yes	Except that §63.7(b)(2) only applies as specified in §63.6645.
§63.7(c)	Quality assurance/test plan	Yes	Except that §63.7(c) only applies as specified in §63.6645.
§63.7(d)	Testing facilities	Yes.	
§63.7(e)(1)	Conditions for conducting performance tests	No.	Subpart ZZZZ specifies conditions for conducting performance tests at §63.6620.
§63.7(e)(2)	Conduct of performance tests and reduction of data	Yes	Subpart ZZZZ specifies test methods at §63.6620.
§63.7(e)(3)	Test run duration	Yes.	
§63.7(e)(4)	Administrator may require other testing under section 114 of the CAA	Yes.	
§63.7(f)	Alternative test method provisions	Yes.	
§63.7(g)	Performance test data analysis, recordkeeping, and reporting	Yes.	
§63.7(h)	Waiver of tests	Yes.	
§63.8(a)(1)	Applicability of monitoring requirements	Yes	Subpart ZZZZ contains specific requirements for monitoring at §63.6625.
§63.8(a)(2)	Performance specifications	Yes.	
§63.8(a)(3)	[Reserved]		
§63.8(a)(4)	Monitoring for control devices	No.	
§63.8(b)(1)	Monitoring	Yes.	
§63.8(b)(2)-(3)	Multiple effluents and multiple monitoring systems	Yes.	
§63.8(c)(1)	Monitoring system operation and maintenance	Yes.	
§63.8(c)(1)(i)	Routine and predictable SSM	No	
§63.8(c)(1)(ii)	SSM not in Startup Shutdown Malfunction Plan	Yes.	
§63.8(c)(1)(iii)	Compliance with operation and maintenance requirements	No	
§63.8(c)(2)-(3)	Monitoring system installation	Yes.	
§63.8(c)(4)	Continuous monitoring system (CMS) requirements	Yes	Except that subpart ZZZZ does not require Continuous Opacity Monitoring System (COMS).
§63.8(c)(5)	COMS minimum procedures	No	Subpart ZZZZ does not require COMS.
§63.8(c)(6)-(8)	CMS requirements	Yes	Except that subpart ZZZZ does not require COMS.

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.8(d)	CMS quality control	Yes.	
§63.8(e)	CMS performance evaluation	Yes	Except for §63.8(e)(5)(ii), which applies to COMS.
		Except that §63.8(e) only applies as specified in §63.6645.	
§63.8(f)(1)-(5)	Alternative monitoring method	Yes	Except that §63.8(f)(4) only applies as specified in §63.6645.
§63.8(f)(6)	Alternative to relative accuracy test	Yes	Except that §63.8(f)(6) only applies as specified in §63.6645.
§63.8(g)	Data reduction	Yes	Except that provisions for COMS are not applicable. Averaging periods for demonstrating compliance are specified at §§63.6635 and 63.6640.
§63.9(a)	Applicability and State delegation of notification requirements	Yes.	
§63.9(b)(1)-(5)	Initial notifications	Yes	Except that §63.9(b)(3) is reserved.
		Except that §63.9(b) only applies as specified in §63.6645.	
§63.9(c)	Request for compliance extension	Yes	Except that §63.9(c) only applies as specified in §63.6645.
§63.9(d)	Notification of special compliance requirements for new sources	Yes	Except that §63.9(d) only applies as specified in §63.6645.
§63.9(e)	Notification of performance test	Yes	Except that §63.9(e) only applies as specified in §63.6645.
§63.9(f)	Notification of visible emission (VE)/opacity test	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(1)	Notification of performance evaluation	Yes	Except that §63.9(g) only applies as specified in §63.6645.
§63.9(g)(2)	Notification of use of COMS data	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.9(g)(3)	Notification that criterion for alternative to RATA is exceeded	Yes	If alternative is in use.
		Except that §63.9(g) only applies as specified in §63.6645.	
§63.9(h)(1)-(6)	Notification of compliance status	Yes	Except that notifications for sources using a CEMS are due 30 days after completion of performance evaluations. §63.9(h)(4) is reserved.
			Except that §63.9(h) only applies as specified in §63.6645.
§63.9(i)	Adjustment of submittal deadlines	Yes.	
§63.9(j)	Change in previous information	Yes.	
§63.10(a)	Administrative provisions for recordkeeping/reporting	Yes.	

General provisions citation	Subject of citation	Applies to subpart	Explanation
§63.10(b)(1)	Record retention	Yes	Except that the most recent 2 years of data do not have to be retained on site.
§63.10(b)(2)(i)-(v)	Records related to SSM	No.	
§63.10(b)(2)(vi)-(xi)	Records	Yes.	
§63.10(b)(2)(xii)	Record when under waiver	Yes.	
§63.10(b)(2)(xiii)	Records when using alternative to RATA	Yes	For CO standard if using RATA alternative.
§63.10(b)(2)(xiv)	Records of supporting documentation	Yes.	
§63.10(b)(3)	Records of applicability determination	Yes.	
§63.10(c)	Additional records for sources using CEMS	Yes	Except that §63.10(c)(2)-(4) and (9) are reserved.
§63.10(d)(1)	General reporting requirements	Yes.	
§63.10(d)(2)	Report of performance test results	Yes.	
§63.10(d)(3)	Reporting opacity or VE observations	No	Subpart ZZZZ does not contain opacity or VE standards.
§63.10(d)(4)	Progress reports	Yes.	
§63.10(d)(5)	Startup, shutdown, and malfunction reports	No.	
§63.10(e)(1) and (2)(i)	Additional CMS Reports	Yes.	
§63.10(e)(2)(ii)	COMS-related report	No	Subpart ZZZZ does not require COMS.
§63.10(e)(3)	Excess emission and parameter exceedances reports	Yes.	Except that §63.10(e)(3)(i) (C) is reserved.
§63.10(e)(4)	Reporting COMS data	No	Subpart ZZZZ does not require COMS.
§63.10(f)	Waiver for recordkeeping/reporting	Yes.	
§63.11	Flares	No.	
§63.12	State authority and delegations	Yes.	
§63.13	Addresses	Yes.	
§63.14	Incorporation by reference	Yes.	
§63.15	Availability of information	Yes.	

[75 FR 9688, Mar. 3, 2010, as amended at 78 FR 6720, Jan. 30, 2013]

Appendix A—Protocol for Using an Electrochemical Analyzer to Determine Oxygen and Carbon Monoxide Concentrations From Certain Engines

1.0 Scope and Application. What is this Protocol?

This protocol is a procedure for using portable electrochemical (EC) cells for measuring carbon monoxide (CO) and oxygen (O_2) concentrations in controlled and uncontrolled emissions from existing stationary 4-stroke lean burn and 4-stroke rich burn reciprocating internal combustion engines as specified in the applicable rule.

1.1 Analytes. What does this protocol determine?

This protocol measures the engine exhaust gas concentrations of carbon monoxide (CO) and oxygen (O_2).

Analyte	CAS No.	Sensitivity
Carbon monoxide (CO)	630-08-0	Minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.
Oxygen (O_2)	*7782-44-7*	

1.2 Applicability. When is this protocol acceptable?

This protocol is applicable to 40 CFR part 63, subpart ZZZZ. Because of inherent cross sensitivities of EC cells, you must not apply this protocol to other emissions sources without specific instruction to that effect.

1.3 Data Quality Objectives. How good must my collected data be?

Refer to Section 13 to verify and document acceptable analyzer performance.

1.4 Range. What is the targeted analytical range for this protocol?

The measurement system and EC cell design(s) conforming to this protocol will determine the analytical range for each gas component. The nominal ranges are defined by choosing up-scale calibration gas concentrations near the maximum anticipated flue gas concentrations for CO and O_2, or no more than twice the permitted CO level.

1.5 Sensitivity. What minimum detectable limit will this protocol yield for a particular gas component?

The minimum detectable limit depends on the nominal range and resolution of the specific EC cell used, and the signal to noise ratio of the measurement system. The minimum detectable limit should be 2 percent of the nominal range or 1 ppm, whichever is less restrictive.

2.0 Summary of Protocol

In this protocol, a gas sample is extracted from an engine exhaust system and then conveyed to a portable EC analyzer for measurement of CO and O_2 gas concentrations. This method provides measurement system performance specifications and sampling protocols to ensure reliable data. You may use additions to, or modifications of vendor supplied measurement systems (e.g., heated or unheated sample lines, thermocouples, flow meters, selective gas scrubbers, etc.) to meet the design specifications of this protocol. Do not make changes to the measurement system from the as-verified configuration (Section 3.12).

3.0 Definitions

3.1 Measurement System. The total equipment required for the measurement of CO and O_2 concentrations. The measurement system consists of the following major subsystems:

3.1.1 Data Recorder. A strip chart recorder, computer or digital recorder for logging measurement data from the analyzer output. You may record measurement data from the digital data display manually or electronically.

3.1.2 Electrochemical (EC) Cell. A device, similar to a fuel cell, used to sense the presence of a specific analyte and generate an electrical current output proportional to the analyte concentration.

3.1.3 Interference Gas Scrubber. A device used to remove or neutralize chemical compounds that may interfere with the selective operation of an EC cell.

3.1.4 Moisture Removal System. Any device used to reduce the concentration of moisture in the sample stream so as to protect the EC cells from the damaging effects of condensation and to minimize errors in measurements caused by the scrubbing of soluble gases.

3.1.5 Sample Interface. The portion of the system used for one or more of the following: sample acquisition; sample transport; sample conditioning or protection of the EC cell from any degrading effects of the engine exhaust effluent; removal of particulate matter and condensed moisture.

3.2 Nominal Range. The range of analyte concentrations over which each EC cell is operated (normally 25 percent to 150 percent of up-scale calibration gas value). Several nominal ranges can be used for any given cell so long as the calibration and repeatability checks for that range remain within specifications.

3.3 Calibration Gas. A vendor certified concentration of a specific analyte in an appropriate balance gas.

3.4 Zero Calibration Error. The analyte concentration output exhibited by the EC cell in response to zero-level calibration gas.

3.5 Up-Scale Calibration Error. The mean of the difference between the analyte concentration exhibited by the EC cell and the certified concentration of the up-scale calibration gas.

3.6 Interference Check. A procedure for quantifying analytical interference from components in the engine exhaust gas other than the targeted analytes.

3.7 Repeatability Check. A protocol for demonstrating that an EC cell operated over a given nominal analyte concentration range provides a stable and consistent response and is not significantly affected by repeated exposure to that gas.

3.8 Sample Flow Rate. The flow rate of the gas sample as it passes through the EC cell. In some situations, EC cells can experience drift with changes in flow rate. The flow rate must be monitored and documented during all phases of a sampling run.

3.9 Sampling Run. A timed three-phase event whereby an EC cell's response rises and plateaus in a sample conditioning phase, remains relatively constant during a measurement data phase, then declines during a refresh phase. The sample conditioning phase exposes the EC cell to the gas sample for a length of time sufficient to reach a constant response. The measurement data phase is the time interval during which gas sample measurements can be made that meet the acceptance criteria of this protocol. The refresh phase then purges the EC cells with CO-free air. The refresh phase replenishes requisite O_2 and moisture in the electrolyte reserve and provides a mechanism to de-gas or desorb any interference gas scrubbers or filters so as to enable a stable CO EC cell response. There are four primary types of sampling runs: pre- sampling calibrations; stack gas sampling; post-sampling calibration checks; and measurement system repeatability checks. Stack gas sampling runs can be chained together for extended evaluations, providing all other procedural specifications are met.

3.10 Sampling Day. A time not to exceed twelve hours from the time of the pre-sampling calibration to the post-sampling calibration check. During this time, stack gas sampling runs can be repeated without repeated recalibrations, providing all other sampling specifications have been met.

3.11 Pre-Sampling Calibration/Post-Sampling Calibration Check. The protocols executed at the beginning and end of each sampling day to bracket measurement readings with controlled performance checks.

3.12 Performance-Established Configuration. The EC cell and sampling system configuration that existed at the time that it initially met the performance requirements of this protocol.

4.0 Interferences.

When present in sufficient concentrations, NO and NO_2 are two gas species that have been reported to interfere with CO concentration measurements. In the likelihood of this occurrence, it is the protocol user's responsibility to employ and properly maintain an appropriate CO EC cell filter or scrubber for removal of these gases, as described in Section 6.2.12.

5.0 Safety. [Reserved]

6.0 Equipment and Supplies.

6.1 What equipment do I need for the measurement system?

The system must maintain the gas sample at conditions that will prevent moisture condensation in the sample transport lines, both before and as the sample gas contacts the EC cells. The essential components of the measurement system are described below.

6.2 Measurement System Components.

6.2.1 Sample Probe. A single extraction-point probe constructed of glass, stainless steel or other non-reactive material, and of length sufficient to reach any designated sampling point. The sample probe must be designed to prevent plugging due to condensation or particulate matter.

6.2.2 Sample Line. Non-reactive tubing to transport the effluent from the sample probe to the EC cell.

6.2.3 Calibration Assembly (optional). A three-way valve assembly or equivalent to introduce calibration gases at ambient pressure at the exit end of the sample probe during calibration checks. The assembly must be designed such that only stack gas or calibration gas flows in the sample line and all gases flow through any gas path filters.

6.2.4 Particulate Filter (optional). Filters before the inlet of the EC cell to prevent accumulation of particulate material in the measurement system and extend the useful life of the components. All filters must be fabricated of materials that are non-reactive to the gas mixtures being sampled.

6.2.5 Sample Pump. A leak-free pump to provide undiluted sample gas to the system at a flow rate sufficient to minimize the response time of the measurement system. If located upstream of the EC cells, the pump must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.8 Sample Flow Rate Monitoring. An adjustable rotameter or equivalent device used to adjust and maintain the sample flow rate through the analyzer as prescribed.

6.2.9 Sample Gas Manifold (optional). A manifold to divert a portion of the sample gas stream to the analyzer and the remainder to a by-pass discharge vent. The sample gas manifold may also include provisions for introducing calibration gases directly to the analyzer. The manifold must be constructed of a material that is non-reactive to the gas mixtures being sampled.

6.2.10 EC cell. A device containing one or more EC cells to determine the CO and O_2 concentrations in the sample gas stream. The EC cell(s) must meet the applicable performance specifications of Section 13 of this protocol.

6.2.11 Data Recorder. A strip chart recorder, computer or digital recorder to make a record of analyzer output data. The data recorder resolution (i.e., readability) must be no greater than 1 ppm for CO; 0.1 percent for O_2; and one degree (either °C or °F) for temperature. Alternatively, you may use a digital or analog meter having the same resolution to observe and manually record the analyzer responses.

6.2.12 Interference Gas Filter or Scrubber. A device to remove interfering compounds upstream of the CO EC cell. Specific interference gas filters or scrubbers used in the performance-established configuration of the analyzer must continue to be used. Such a filter or scrubber must have a means to determine when the removal agent is exhausted. Periodically replace or replenish it in accordance with the manufacturer's recommendations.

7.0 Reagents and Standards. What calibration gases are needed?

7.1 Calibration Gases. CO calibration gases for the EC cell must be CO in nitrogen or CO in a mixture of nitrogen and O_2. Use CO calibration gases with labeled concentration values certified by the manufacturer to be within ±5 percent of the label value. Dry ambient air (20.9 percent O_2) is acceptable for calibration of the O_2 cell. If needed, any lower percentage O_2 calibration gas must be a mixture of O_2 in nitrogen.

7.1.1 Up-Scale CO Calibration Gas Concentration. Choose one or more up-scale gas concentrations such that the average of the stack gas measurements for each stack gas sampling run are between 25 and 150 percent of those concentrations. Alternatively, choose an up-scale gas that does not exceed twice the concentration of the applicable outlet standard. If a measured gas value exceeds 150 percent of the up-scale CO calibration gas value at any time during the stack gas sampling run, the run must be discarded and repeated.

7.1.2 Up-Scale O_2 Calibration Gas Concentration.

Select an O_2 gas concentration such that the difference between the gas concentration and the average stack gas measurement or reading for each sample run is less than 15 percent O_2. When the average exhaust gas O_2 readings are above 6 percent, you may use dry ambient air (20.9 percent O_2) for the up-scale O_2 calibration gas.

7.1.3 Zero Gas. Use an inert gas that contains less than 0.25 percent of the up-scale CO calibration gas concentration. You may use dry air that is free from ambient CO and other combustion gas products (e.g., CO_2).

8.0 Sample Collection and Analysis

8.1 Selection of Sampling Sites.

8.1.1 Control Device Inlet. Select a sampling site sufficiently downstream of the engine so that the combustion gases should be well mixed. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.1.2 Exhaust Gas Outlet. Select a sampling site located at least two stack diameters downstream of any disturbance (e.g., turbocharger exhaust, crossover junction or recirculation take-off) and at least one-half stack diameter upstream of the gas discharge to the atmosphere. Use a single sampling extraction point near the center of the duct (e.g., within the 10 percent centroidal area), unless instructed otherwise.

8.2 Stack Gas Collection and Analysis. Prior to the first stack gas sampling run, conduct that the pre-sampling calibration in accordance with Section 10.1. Use Figure 1 to record all data. Zero the analyzer with zero gas. Confirm and record that the scrubber media color is correct and not exhausted. Then position the probe at the sampling point and begin the sampling run at the same flow rate used during the up-scale calibration. Record the start time. Record all EC cell output responses and the flow rate during the “sample conditioning phase” once per minute until constant readings are obtained. Then begin the “measurement data phase” and record readings every 15 seconds for at least two minutes (or eight readings), or as otherwise required to achieve two continuous minutes of data that meet the specification given in Section 13.1. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until several minute-to-minute readings of consistent value have been obtained. For each run use the “measurement data phase” readings to calculate the average stack gas CO and O_2 concentrations.

8.3 EC Cell Rate. Maintain the EC cell sample flow rate so that it does not vary by more than ±10 percent throughout the pre-sampling calibration, stack gas sampling and post-sampling calibration check. Alternatively, the EC cell sample flow rate can be maintained within a tolerance range that does not affect the gas concentration readings by more than ±3 percent, as instructed by the EC cell manufacturer.

9.0 Quality Control (Reserved)

10.0 Calibration and Standardization

10.1 Pre-Sampling Calibration. Conduct the following protocol once for each nominal range to be used on each EC cell before performing a stack gas sampling run on each field sampling day. Repeat the calibration if you replace an EC cell before completing all of the sampling runs. There is no prescribed order for calibration of the EC cells; however, each cell must complete the measurement data phase during calibration. Assemble the measurement system by following the manufacturer's recommended protocols including for preparing and preconditioning the EC cell. Assure the measurement system has no leaks and verify the gas scrubbing agent is not depleted. Use Figure 1 to record all data.

10.1.1 Zero Calibration. For both the O_2 and CO cells, introduce zero gas to the measurement system (e.g., at the calibration assembly) and record the concentration reading every minute until readings are constant for at least two consecutive minutes. Include the time and sample flow rate. Repeat the steps in this section at least once to verify the zero calibration for each component gas.

10.1.2 Zero Calibration Tolerance. For each zero gas introduction, the zero level output must be less than or equal to ±3 percent of the up-scale gas value or ±1 ppm, whichever is less restrictive, for the CO channel and less than or equal to ±0.3 percent O_2 for the O_2 channel.

10.1.3 Up-Scale Calibration. Individually introduce each calibration gas to the measurement system (e.g., at the calibration assembly) and record the start time. Record all EC cell output responses and the flow rate during this “sample conditioning phase” once per minute until readings are constant for at least two minutes. Then begin the “measurement data phase” and record readings every 15 seconds for a total of two minutes, or as otherwise required. Finally, perform the “refresh phase” by introducing dry air, free from CO and other combustion gases, until readings are constant for at least two consecutive minutes. Then repeat the steps in this section at least once to verify the calibration for each component gas. Introduce all gases to flow through the entire sample handling system (i.e., at the exit end of the sampling probe or the calibration assembly).

10.1.4 Up-Scale Calibration Error. The mean of the difference of the “measurement data phase” readings from the reported standard gas value must be less than or equal to ±5 percent or ±1 ppm for CO or ±0.5 percent O_2, whichever is less restrictive, respectively. The maximum allowable deviation from the mean measured value of any single “measurement data phase” reading must be less than or equal to ±2 percent or ±1 ppm for CO or ±0.5 percent O_2, whichever is less restrictive, respectively.

10.2 Post-Sampling Calibration Check. Conduct a stack gas post-sampling calibration check after the stack gas sampling run or set of runs and within 12 hours of the initial calibration. Conduct up-scale and zero calibration checks using the protocol in Section 10.1. Make no changes to the sampling system or EC cell calibration until all post-sampling calibration checks have been recorded. If either the zero or up-scale calibration error exceeds the respective specification in Sections 10.1.2 and 10.1.4 then all measurement data collected since the previous successful calibrations are invalid and re-calibration and re-sampling are required. If the sampling system is disassembled or the EC cell calibration is adjusted, repeat the calibration check before conducting the next analyzer sampling run.

11.0 Analytical Procedure

The analytical procedure is fully discussed in Section 8.

12.0 Calculations and Data Analysis

Determine the CO and O_2 concentrations for each stack gas sampling run by calculating the mean gas concentrations of the data recorded during the “measurement data phase”.

13.0 Protocol Performance

Use the following protocols to verify consistent analyzer performance during each field sampling day.

13.1 Measurement Data Phase Performance Check. Calculate the mean of the readings from the “measurement data phase”. The maximum allowable deviation from the mean for each of the individual readings is ±2 percent, or ±1 ppm, whichever is less restrictive. Record the mean value and maximum deviation for each gas monitored. Data must conform to Section 10.1.4. The EC cell flow rate must conform to the specification in Section 8.3.

Example: A measurement data phase is invalid if the maximum deviation of any single reading comprising that mean is greater than ±2 percent *or* ±1 ppm (the default criteria). For example, if the mean = 30 ppm, single readings of below 29 ppm and above 31 ppm are disallowed).

13.2 Interference Check. Before the initial use of the EC cell and interference gas scrubber in the field, and semi-annually thereafter, challenge the interference gas scrubber with NO and NO_2 gas standards that are generally recognized as representative of diesel-fueled engine NO and NO_2 emission values. Record the responses displayed by the CO EC cell and other pertinent data on Figure 1 or a similar form.

13.2.1 Interference Response. The combined NO and NO_2 interference response should be less than or equal to ±5 percent of the up-scale CO calibration gas concentration.

13.3 Repeatability Check. Conduct the following check once for each nominal range that is to be used on the CO EC cell within 5 days prior to each field sampling program. If a field sampling program lasts longer than 5 days, repeat this check every 5 days. Immediately repeat the check if the EC cell is replaced or if the EC cell is exposed to gas concentrations greater than 150 percent of the highest up-scale gas concentration.

13.3.1 Repeatability Check Procedure. Perform a complete EC cell sampling run (all three phases) by introducing the CO calibration gas to the measurement system and record the response. Follow Section 10.1.3. Use Figure 1 to record all data. Repeat the run three times for a total of four complete runs. During the four repeatability check runs, do not adjust the system except where necessary to achieve the correct calibration gas flow rate at the analyzer.

13.3.2 Repeatability Check Calculations. Determine the highest and lowest average “measurement data phase” CO concentrations from the four repeatability check runs and record the results on Figure 1 or a similar form. The absolute value of the difference between the maximum and minimum average values recorded must not vary more than ±3 percent or ±1 ppm of the up-scale gas value, whichever is less restrictive.

14.0 Pollution Prevention (Reserved)

15.0 Waste Management (Reserved)

16.0 Alternative Procedures (Reserved)

17.0 References

(1) “Development of an Electrochemical Cell Emission Analyzer Test Protocol”, Topical Report, Phil Juneau, Emission Monitoring, Inc., July 1997.

(2) “Determination of Nitrogen Oxides, Carbon Monoxide, and Oxygen Emissions from Natural Gas-Fired Engines, Boilers, and Process Heaters Using Portable Analyzers”, EMC Conditional Test Protocol 30 (CTM-30), Gas Research Institute Protocol GRI-96/0008, Revision 7, October 13, 1997.

(3) “ICAC Test Protocol for Periodic Monitoring”, EMC Conditional Test Protocol 34 (CTM-034), The Institute of Clean Air Companies, September 8, 1999.

(4) “Code of Federal Regulations”, Protection of Environment, 40 CFR, Part 60, Appendix A, Methods 1-4; 10.

Table 1: Appendix A—Sampling Run Data.

Facility___________ Engine I.D.___________ Date______											
Run Type:	(_)				(_)			(_)		(_)	
(X)	Pre-Sample Calibration				Stack Gas Sample			Post-Sample Cal. Check		Repeatability Check	
Run #	1	1	2	2	3	3	4	4	Time	Scrub. OK	Flow- Rate
Gas	O_2	CO	O_2	CO	O_2	CO	O_2	CO			
Sample Cond. Phase											
″											
″											
″											
″											
Measurement Data Phase											
″											
″											
″											
″											
″											
″											
″											
″											
″											
″											
Mean											
Refresh Phase											
″											
″											
″											
″											

[78 FR 6721, Jan. 30, 2013]

Attachment F

Federally Enforceable State Operating Permit (FESOP) No: F097-40170-00060

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Electronic Code of Federal Regulations

Title 40: Protection of Environment

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

Subpart T—National Emission Standards for Halogenated Solvent Cleaning

Source: 59 FR 61805, Dec. 2, 1994, unless otherwise noted.

§ 63.460 Applicability and designation of source.

(a) The provisions of this subpart apply to each individual batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machine that uses any solvent containing methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5) or chloroform (CAS No. 67-66-3), or any combination of these halogenated HAP solvents, in a total concentration greater than 5 percent by weight, as a cleaning and/or drying agent. The concentration of these solvents may be determined using EPA test method 18, material safety data sheets, or engineering calculations. Wipe cleaning activities, such as using a rag containing halogenated solvent or a spray cleaner containing halogenated solvent are not covered under the provisions of this subpart.

(b) Except as noted in appendix C (General Provisions Applicability to subpart T) of this subpart, the provisions of subpart A of this part (General Provisions) apply to owners or operators of any solvent cleaning machine meeting the applicability criteria of paragraph (a) of this section.

(c) Except as provided in paragraph (g) of this section, each solvent cleaning machine subject to this subpart that commenced construction or reconstruction after November 29, 1993 shall achieve compliance with the provisions of this subpart, except for § 63.471, immediately upon start-up or by December 2, 1994, whichever is later.

(d) Except as provided in paragraph (g) of this section, each solvent cleaning machine subject to this subpart that commenced construction or reconstruction on or before November 29, 1993 shall achieve compliance with the provisions of this subpart, except for § 63.471, no later than December 2, 1997.

(e) In delegating implementation and enforcement authority to a State under section 112(d) of the Act, the authority contained in paragraph (f) of this section shall be retained by the Administrator and not transferred to a State.

(f) [Reserved]

(g) Each continuous web cleaning machine subject to this subpart shall achieve compliance with the provisions of this subpart, except for § 63.471, no later than December 2, 1999.

(h) If you are an owner or operator of an area source subject to this subpart, you are exempt from the obligation to obtain a permit under 40 CFR part 70 or 71, provided you are not required to obtain a permit under 40 CFR 70.3(a) or 71.3(a) for a reason other than your status as an area source under this subpart. Notwithstanding the previous sentence, you must continue to comply with the provisions of this subpart applicable to area sources.

(i) The compliance date for the requirements in § 63.471 depends on the date that construction or reconstruction of the affected facility commences. For purposes of this paragraph, affected facility means all solvent cleaning machines, except solvent cleaning machines used in the manufacture and maintenance of aerospace products, solvent cleaning machines used in the manufacture of narrow tubing, and continuous web cleaning machines, located at a major source that are subject to the facility-wide limits in table 1 of § 63.471(b)(2), and for area sources, affected facility means all solvent cleaning machines, except cold batch cleaning machines, located at an area source that are subject to the facility-wide limits in table 1 of § 63.471(b)(2).

(1) Each affected facility that was constructed or reconstructed on or before August 17, 2006, shall be in compliance with the provisions of this subpart no later than May 3, 2010.

(2) Each affected facility that was constructed or reconstructed on or after August 17, 2006, shall be in compliance with the provisions of this subpart on May 3, 2007 or immediately upon startup, whichever is later.

[59 FR 61805, Dec. 2, 1994; 59 FR 67750, Dec. 30, 1994, as amended at 60 FR 29485, June 5, 1995; 63 FR 68400, Dec. 11, 1998; 68 FR 37349, June 23, 2003; 70 FR 75345, Dec. 19, 2005; 72 FR 25157, May 3, 2007]

§ 63.461 Definitions.

Unless defined below, all terms used in this subpart are used as defined in the 1990 Clean Air Act, or in subpart A of 40 CFR part 63:

Administrator means the Administrator of the United States Environmental Protection Agency or his or her authorized representative (e.g., State that has been delegated the authority to implement the provisions of this part.)

Air blanket means the layer of air inside the solvent cleaning machine freeboard located above the solvent/air interface. The centerline of the air blanket is equidistant between the sides of the machine.

Air knife system means a device that directs forced air at high pressure, high volume, or a combination of high pressure and high volume, through a small opening directly at the surface of a continuous web part. The purpose of this system is to remove the solvent film from the surfaces of the continuous web part.

Automated parts handling system means a mechanical device that carries all parts and parts baskets at a controlled speed from the initial loading of soiled or wet parts through the removal of the cleaned or dried parts. Automated parts handling systems include, but are not limited to, hoists and conveyors.

Batch cleaning machine means a solvent cleaning machine in which individual parts or a set of parts move through the entire cleaning cycle before new parts are introduced into the solvent cleaning machine. An open-top vapor cleaning machine is a type of batch cleaning machine. A solvent cleaning machine, such as a ferris wheel or a cross-rod degreaser, that clean multiple batch loads simultaneously and are manually loaded are batch cleaning machines.

Carbon adsorber means a bed of activated carbon into which an air-solvent gas-vapor stream is routed and which adsorbs the solvent on the carbon.

Clean liquid solvent means fresh unused solvent, recycled solvent, or used solvent that has been cleaned of soils (e.g., skimmed of oils or sludge and strained of metal chips).

Cleaning capacity means, for a cleaning machine without a solvent/air interface, the maximum volume of parts that can be cleaned at one time. In most cases, the cleaning capacity is equal to the volume (length times width times height) of the cleaning chamber.

Cold cleaning machine means any device or piece of equipment that contains and/or uses liquid solvent, into which parts are placed to remove soils from the surfaces of the parts or to dry the parts. Cleaning machines that contain and use heated, nonboiling solvent to clean the parts are classified as cold cleaning machines.

Combined squeegee and air-knife system means a system consisting of a combination of a squeegee system and an air-knife system within a single enclosure.

Consumption means the amount of halogenated hazardous air pollutant solvent added to the solvent cleaning machine.

Continuous web cleaning machine means a solvent cleaning machine in which parts such as film, coils, wire, and metal strips are cleaned at speeds typically in excess of 11 feet per minute. Parts are generally uncoiled, cleaned such that the same part is simultaneously entering and exiting the solvent application area of the solvent cleaning machine, and then recoiled or cut. For the purposes of this subpart, all continuous web cleaning machines are considered to be a subset of in-line solvent cleaning machines.

Cover means a lid, top, or portal cover that shields the solvent cleaning machine openings from air disturbances when in place and is designed to be easily opened and closed without disturbing the vapor zone. Air disturbances include, but are not limited to, lip exhausts, ventilation fans, and general room drafts. Types of covers include, but are not limited to, sliding, biparting, and rolltop covers.

Cross-rod solvent cleaning machine means a batch solvent cleaning machine in which parts baskets are suspended from “cross-rods” as they are moved through the machine. In a cross-rod cleaning machine, parts are loaded semi-continuously, and enter and exit the machine from a single portal.

Downtime mode means the time period when a solvent cleaning machine is not cleaning parts and the sump heating coils, if present, are turned off.

Dwell means the technique of holding parts within the freeboard area but above the vapor zone of the solvent cleaning machine. Dwell occurs after cleaning to allow solvent to drain from the parts or parts baskets back into the solvent cleaning machine.

Dwell time means the required minimum length of time that a part must dwell, as determined by § 63.465(d).

Emissions means halogenated hazardous air pollutant solvent consumed (i.e., halogenated hazardous air pollutant solvent added to the machine) minus the liquid halogenated hazardous air pollutant solvent removed from the machine and the halogenated hazardous air pollutant solvent removed from the machine in the solid waste.

Existing means any solvent cleaning machine the construction or reconstruction of which was commenced on or before November 29, 1993. A machine, the construction or reconstruction of which was commenced on or before November 29, 1993, but that did not meet the definition of a solvent cleaning machine on December 2, 1994, because it did not use halogenated HAP solvent liquid or vapor covered under this subpart to remove soils, becomes an existing source when it commences to use such liquid or vapor. A solvent cleaning machine moved within a contiguous facility or to another facility under the same ownership, constitutes an existing machine.

Freeboard area means; for a batch cleaning machine, the area within the solvent cleaning machine that extends from the solvent/air interface to the top of the solvent cleaning machine; for an in-line cleaning machine, it is the area within the solvent cleaning machine that extends from the solvent/air interface to the bottom of the entrance or exit opening, whichever is lower.

Freeboard height means; for a batch cleaning machine, the distance from the solvent/air interface, as measured during the idling mode, to the top of the cleaning machine; for an in-line cleaning machine, it is the distance from the solvent/air interface to the bottom of the entrance or exit opening, whichever is lower, as measured during the idling mode.

Freeboard ratio means the ratio of the solvent cleaning machine freeboard height to the smaller interior dimension (length, width, or diameter) of the solvent cleaning machine.

Freeboard refrigeration device (also called a chiller) means a set of secondary coils mounted in the freeboard area that carries a refrigerant or other chilled substance to provide a chilled air blanket above the solvent vapor. A primary condenser capable of meeting the requirements of § 63.463(e)(2)(i) is defined as both a freeboard refrigeration device and a primary condenser for the purposes of these standards.

Halogenated hazardous air pollutant solvent or halogenated HAP solvent means methylene chloride (CAS No. 75-09-2), perchloroethylene (CAS No. 127-18-4), trichloroethylene (CAS No. 79-01-6), 1,1,1-trichloroethane (CAS No. 71-55-6), carbon tetrachloride (CAS No. 56-23-5), and chloroform (CAS No. 67-66-3).

Hoist means a mechanical device that carries the parts basket and the parts to be cleaned from the loading area into the solvent cleaning machine and to the unloading area at a controlled speed. A hoist may be operated by controls or may be programmed to cycle parts through the cleaning cycle automatically.

Idling mode means the time period when a solvent cleaning machine is not actively cleaning parts and the sump heating coils, if present, are turned on.

Idling-mode cover means any cover or solvent cleaning machine design that allows the cover to shield the cleaning machine openings during the idling mode. A cover that meets this definition can also be used as a working-mode cover if that definition is also met.

Immersion cold cleaning machine means a cold cleaning machine in which the parts are immersed in the solvent when being cleaned. A remote reservoir cold cleaning machine that is also an immersion cold cleaning machine is considered an immersion cold cleaning machine for purposes of this subpart.

In-line cleaning machine or continuous cleaning machine means a solvent cleaning machine that uses an automated parts handling system, typically a conveyor, to automatically provide a continuous supply of parts to be cleaned. These units are fully enclosed except for the conveyor inlet and exit portals. In-line cleaning machines can be either cold or vapor cleaning machines.

Leak-proof coupling means a threaded or other type of coupling that prevents solvents from leaking while filling or draining solvent to and from the solvent cleaning machine.

Lip exhaust means a device installed at the top of the opening of a solvent cleaning machine that draws in air and solvent vapor from the freeboard area and ducts the air and vapor away from the solvent cleaning area.

Monthly reporting period means any calendar month in which the owner or operator of a solvent cleaning machine is required to calculate and report the solvent emissions from each solvent cleaning machine.

New means any solvent cleaning machine the construction or reconstruction of which is commenced after November 29, 1993.

Open-top vapor cleaning machine means a batch solvent cleaning machine that has its upper surface open to the air and boils solvent to create solvent vapor used to clean and/or dry parts.

Part means any object that is cleaned in a solvent cleaning machine. Parts include, but are not limited to, discrete parts, assemblies, sets of parts, and parts cleaned in a continuous web cleaning machine (i.e., continuous sheets of metal, film).

Primary condenser means a series of circumferential cooling coils on a vapor cleaning machine through which a chilled substance is circulated or recirculated to provide continuous condensation of rising solvent vapors and, thereby, create a concentrated solvent vapor zone.

Reduced room draft means decreasing the flow or movement of air across the top of the freeboard area of the solvent cleaning machine to meet the specifications of § 63.463(e)(2)(ii). Methods of achieving a reduced room draft include, but are not limited to, redirecting fans and/or air vents to not blow across the cleaning machine, moving the cleaning machine to a corner where there is less room draft, and constructing a partial or complete enclosure around the cleaning machine.

Remote reservoir cold cleaning machine means any device in which liquid solvent is pumped to a sink-like work area that drains solvent back into an enclosed container while parts are being cleaned, allowing no solvent to pool in the work area.

Remote reservoir continuous web cleaning machine means a continuous web cleaning machine in which there is no exposed solvent sump. In these units, the solvent is pumped from an enclosed chamber and is typically applied to the continuous web part through a nozzle or series of nozzles. The solvent then drains from the part and is collected and recycled through the machine, allowing no solvent to pool in the work or cleaning area.

Soils means contaminants that are removed from the parts being cleaned. Soils include, but are not limited to, grease, oils, waxes, metal chips, carbon deposits, fluxes, and tars.

Solvent/air interface means, for a vapor cleaning machine, the location of contact between the concentrated solvent vapor layer and the air. This location of contact is defined as the mid-line height of the primary condenser coils. For a cold cleaning machine, it is the location of contact between the liquid solvent and the air.

Solvent/air interface area means; for a vapor cleaning machine, the surface area of the solvent vapor zone that is exposed to the air; for an in-line cleaning machine, it is the total surface area of all the sumps; for a cold cleaning machine, it is the surface area of the liquid solvent that is exposed to the air.

Solvent cleaning machine means any device or piece of equipment that uses halogenated HAP solvent liquid or vapor to remove soils from the surfaces of materials. Types of solvent cleaning machines include, but are not limited to, batch vapor, in-line vapor, in-line cold, and batch cold solvent cleaning machines. Buckets, pails, and beakers with capacities of 7.6 liters (2 gallons) or less are not considered solvent cleaning machines.

Solvent vapor zone means; for a vapor cleaning machine, the area that extends from the liquid solvent surface to the level that solvent vapor is condensed. This condensation level is defined as the midline height of the primary condenser coils.

Squeegee system means a system that uses a series of pliable surfaces to remove the solvent film from the surfaces of the continuous web part. These pliable surfaces, called squeegees, are typically made of rubber or plastic media, and need to be periodically replaced to ensure continued proper function.

Sump means the part of a solvent cleaning machine where the liquid solvent is located.

Sump heater coils means the heating system on a cleaning machine that uses steam, electricity, or hot water to heat or boil the liquid solvent.

Superheated part technology means a system that is part of the continuous web process that heats the continuous web part either directly or indirectly to a temperature above the boiling point of the cleaning solvent. This could include a process step, such as a tooling die that heats the part as it is processed, as long as the part remains superheated through the cleaning machine.

Superheated vapor system means a system that heats the solvent vapor, either passively or actively, to a temperature above the solvent's boiling point. Parts are held in the superheated vapor before exiting the machine to evaporate the liquid solvent on them. Hot vapor recycle is an example of a superheated vapor system.

Vapor cleaning machine means a batch or in-line solvent cleaning machine that boils liquid solvent generating solvent vapor that is used as a part of the cleaning or drying cycle.

Water layer means a layer of water that floats above the denser solvent and provides control of solvent emissions. In many cases, the solvent used in batch cold cleaning machines is sold containing the appropriate amount of water to create a water cover.

Working mode means the time period when the solvent cleaning machine is actively cleaning parts.

Working-mode cover means any cover or solvent cleaning machine design that allows the cover to shield the cleaning machine openings from outside air disturbances while parts are being cleaned in the cleaning machine. A cover that is used during the working mode is opened only during parts entry and removal. A cover that meets this definition can also be used as an idling-mode cover if that definition is also met.

[59 FR 61805, Dec. 2, 1994; 60 FR 29485, June 5, 1995, as amended at 63 FR 24751, May 5, 1998; 64 FR 67798, Dec. 3, 1999]

§ 63.462 Batch cold cleaning machine standards.

(a) Each owner or operator of an immersion batch cold solvent cleaning machine shall comply with the requirements specified in paragraph (a)(1) or (a)(2) of this section.

(1) Employ a tightly fitting cover that shall be closed at all times except during parts entry and removal, and a water layer at a minimum thickness of 2.5 centimeters (1.0 inch) on the surface of the solvent within the cleaning machine, or

(2) Employ a tightly fitting cover that shall be closed at all times except during parts entry and removal and a freeboard ratio of 0.75 or greater.

(b) Each owner or operator of a remote-reservoir batch cold solvent cleaning machine shall employ a tightly fitting cover over the solvent sump that shall be closed at all times except during the cleaning of parts.

(c) Each owner or operator of a batch cold solvent cleaning machine complying with paragraph (a)(2) or (b) of this section shall comply with the work and operational practice requirements specified in paragraphs (c)(1) through (c)(9) of this section as applicable.

(1) All waste solvent shall be collected and stored in closed containers. The closed container may contain a device that allows pressure relief, but does not allow liquid solvent to drain from the container.

(2) If a flexible hose or flushing device is used, flushing shall be performed only within the freeboard area of the solvent cleaning machine.

(3) The owner or operator shall drain solvent cleaned parts for 15 seconds or until dripping has stopped, whichever is longer. Parts having cavities or blind holes shall be tipped or rotated while draining.

(4) The owner or operator shall ensure that the solvent level does not exceed the fill line.

(5) Spills during solvent transfer shall be wiped up immediately. The wipe rags shall be stored in covered containers meeting the requirements of paragraph (c)(1) of this section.

(6) When an air- or pump-agitated solvent bath is used, the owner or operator shall ensure that the agitator is operated to produce a rolling motion of the solvent but not observable splashing against tank walls or parts being cleaned.

(7) The owner or operator shall ensure that, when the cover is open, the cold cleaning machine is not exposed to drafts greater than 40 meters per minute (132 feet per minute), as measured between 1 and 2 meters (3.3 and 6.6 feet) upwind and at the same elevation as the tank lip.

(8) Except as provided in paragraph (c)(9) of this section, sponges, fabric, wood, and paper products shall not be cleaned.

(9) The prohibition in paragraph (c)(8) of this section does not apply to the cleaning of porous materials that are part of polychlorinated biphenyl (PCB) laden transformers if those transformers are handled throughout the cleaning process and disposed of in compliance with an approved PCB disposal permit issued in accordance with the Toxic Substances Control Act.

(d) Each owner or operator of a batch cold cleaning machine shall submit an initial notification report as described in § 63.468 (a) and (b) and a compliance report as described in § 63.468(c).

(e) Each owner or operator subject to the requirements of paragraph (c)(1) through (8) of this section may request to use measures other than those described in these paragraphs. The owner or operator must demonstrate to the Administrator (or delegated State, local, or Tribal authority) that the alternative measures will result in equivalent or better emissions control compared to the measures described in paragraphs (c)(1) through (8) of this section. For example, storing solvent and solvent-laden materials in an enclosed area that is ventilated to a solvent recovery or destruction device may be considered an acceptable alternative.

[59 FR 61805, Dec. 2, 1994; 60 FR 29485, June 5, 1995, as amended at 64 FR 67799, Dec. 3, 1999; 68 FR 37349, June 23, 2003]

§ 63.463 Batch vapor and in-line cleaning machine standards.

(a) Except as provided in § 63.464 for all cleaning machines, each owner or operator of a solvent cleaning machine subject to the provisions of this subpart shall ensure that each existing or new batch vapor or in-line solvent cleaning machine subject to the provisions of this subpart conforms to the design requirements specified in paragraphs (a)(1) through (7) of this section. The owner or operator of a continuous web cleaning machine shall comply with the requirements of paragraph (g) or (h) of this section, as appropriate, in lieu of complying with this paragraph.

(1) Each cleaning machine shall be designed or operated to meet the control equipment or technique requirements in paragraph (a)(1)(i) or (a)(1)(ii) of this section.

(i) An idling and downtime mode cover, as described in § 63.463(d)(1)(i), that may be readily opened or closed, that completely covers the cleaning machine openings when in place, and is free of cracks, holes, and other defects.

(ii) A reduced room draft as described in § 63.463(e)(2)(ii).

(2) Each cleaning machine shall have a freeboard ratio of 0.75 or greater.

(3) Each cleaning machine shall have an automated parts handling system capable of moving parts or parts baskets at a speed of 3.4 meters per minute (11 feet per minute) or less from the initial loading of parts through removal of cleaned parts.

(4) Each vapor cleaning machine shall be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils. This requirement does not apply to a vapor cleaning machine that uses steam to heat the solvent.

(5) Each vapor cleaning machine shall be equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

(6) Each vapor cleaning machine shall have a primary condenser.

(7) Each cleaning machine that uses a lip exhaust shall be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber that meets the requirements of paragraph (e)(2)(vii) of this section.

(b) Except as provided in § 63.464, each owner or operator of an existing or new batch vapor cleaning machine shall comply with either paragraph (b)(1) or (b)(2) of this section.

(1) Each owner or operator of a batch vapor cleaning machine with a solvent/air interface area of 1.21 square meters (13 square feet) or less shall comply with the requirements specified in either paragraph (b)(1)(i) or (b)(1)(ii) of this section.

(i) Employ one of the control combinations listed in table 1 of this subpart or other equivalent methods of control as determined using the procedure in § 63.469, equivalent methods of control.

Table 1—Control Combinations for Batch Vapor Solvent Cleaning Machines With a Solvent/Air Interface Area of 1.21 Square Meters (13 Square Feet) or Less

Option	Control combinations
1	Working-mode cover, freeboard ratio of 1.0, superheated vapor.
2	Freeboard refrigeration device, superheated vapor.
3	Working-mode cover, freeboard refrigeration device.
4	Reduced room draft, freeboard ratio of 1.0, superheated vapor.
5	Freeboard refrigeration device, reduced room draft.
6	Freeboard refrigeration device, freeboard ratio of 1.0.
7	Freeboard refrigeration device, dwell.
8	Reduced room draft, dwell, freeboard ratio of 1.0.
9	Freeboard refrigeration device, carbon adsorber.
10	Freeboard ratio of 1.0, superheated vapor, carbon adsorber.

Note: Unlike most of the control techniques available for complying with this rule, carbon adsorbers are not considered to be a pollution prevention measure. Use of such units may impose additional cost and burden for a number of reasons. First, carbon adsorption units are generally more expensive than other controls listed in the options. Second, these units may present cross-media impacts such as effluent discharges if not properly operated and maintained, and spent carbon beds have to be disposed of as hazardous waste. When making decisions about what controls to install on halogenated solvent cleaning machines to meet the requirements of this rule, all of these factors should be weighed and pollution prevention measures are encouraged wherever possible.

(ii) Demonstrate that their solvent cleaning machine can achieve and maintain an idling emission limit of 0.22 kilograms per hour per square meter (0.045 pounds per hour per square foot) of solvent/air interface area as determined using the procedures in § 63.465(a) and appendix A to this part.

(2) Each owner or operator of a batch vapor cleaning machine with a solvent/air interface area greater than 1.21 square meters (13 square feet) shall comply with the requirements specified in either paragraph (b)(2)(i) or (b)(2)(ii) of this section.

(i) Employ one of the control combinations listed in table 2 of this subpart or other equivalent methods of control as determined using the procedure in § 63.469, equivalent methods of control.

Table 2—Control Combinations for Batch Vapor Solvent Cleaning Machines With a Solvent/Air Interface Area Greater than 1.21 Square Meters (13 Square Feet)

Option	Control combinations
1	Freeboard refrigeration device, freeboard ratio of 1.0, superheated vapor.
2	Dwell, freeboard refrigeration device, reduced room draft.
3	Working-mode cover, freeboard refrigeration device, superheated vapor.
4	Freeboard ratio of 1.0, reduced room draft, superheated vapor.
5	Freeboard refrigeration device, reduced room draft, superheated vapor.
6	Freeboard refrigeration device, reduced room draft, freeboard ratio of 1.0.
7	Freeboard refrigeration device, superheated vapor, carbon adsorber.

Note: Unlike most of the control techniques available for complying with this rule, carbon adsorbers are not considered to be a pollution prevention measure. Use of such units may impose additional cost and burden for a number of reasons. First, carbon adsorption units are generally more expensive than other controls listed in the options. Second, these units may present cross-media impacts such as effluent discharges if not properly operated and maintained, and spent carbon beds have to be disposed of as hazardous waste. When making decisions about what controls to install on halogenated solvent cleaning machines to meet the requirements of this rule, all of these factors should be weighed and pollution prevention measures are encouraged wherever possible.

(ii) Demonstrate that their solvent cleaning machine can achieve and maintain an idling emission limit of 0.22 kilograms per hour per square meter (0.045 pounds per hour per square foot) of solvent/air interface area as determined using the procedures in § 63.465(a) and appendix A of this part.

(c) Except as provided in § 63.464 for all cleaning machines, each owner or operator of an in-line cleaning machine shall comply with paragraph (c)(1) or (2) of this section as appropriate. The owner or operator of a continuous web cleaning machine shall comply with the requirements of paragraph (g) or (h) of this section, as appropriate, in lieu of complying with this paragraph.

(1) Each owner or operator of an existing in-line cleaning machine shall comply with the requirements specified in either paragraph (c)(1)(i) or (c)(1)(ii) of this section.

(i) Employ one of the control combinations listed in table 3 of this subpart or other equivalent methods of control as determined using the procedure in § 63.469, equivalent methods of control.

Table 3—Control Combinations for Existing In-Line Solvent Cleaning Machines

Option	Control combinations
1	Superheated vapor, freeboard ratio of 1.0.
2	Freeboard refrigeration device, freeboard ratio of 1.0.
3	Dwell, freeboard refrigeration device.
4	Dwell, carbon adsorber.

Note: Unlike most of the control techniques available for complying with this rule, carbon adsorbers are not considered to be a pollution prevention measure. Use of such units may impose additional cost and burden for a number of reasons. First, carbon adsorption units are generally more expensive than other controls listed in the options. Second, these units may present cross-media impacts such as effluent discharges if not properly operated and maintained, and spent carbon beds have to be disposed of as hazardous waste. When making decisions about what controls to install on halogenated solvent cleaning machines to meet the requirements of this rule, all of these factors should be weighed and pollution prevention measures are encouraged wherever possible.

(ii) Demonstrate that their solvent cleaning machine can achieve and maintain an idling emission limit of 0.10 kilograms per hour per square meter (0.021 pounds per hour per square foot) of solvent/air interface area as determined using the procedures in § 63.465(a) and appendix A to this part.

(2) Each owner or operator of a new in-line cleaning machine shall comply with the requirements specified in either paragraph (c)(2)(i) or (c)(2)(ii) of this section.

(i) Employ one of the control combinations listed in table 4 of this subpart or other equivalent methods of control as determined using the procedure in § 63.469, equivalent methods of control section.

Table 4—Control Combinations for New In-Line Solvent Cleaning Machines

Option	Control combinations
1	Superheated vapor, freeboard refrigeration device.
2	Freeboard refrigeration device, carbon adsorber.
3	Superheated vapor, carbon adsorber.

Note: Unlike most of the control techniques available for complying with this rule, carbon adsorbers are not considered to be a pollution prevention measure. Use of such units may impose additional cost and burden for a number of reasons. First, carbon adsorption units are generally more expensive than other controls listed in the options. Second, these units may present cross-media impacts such as effluent discharges if not properly operated and maintained, and spent carbon beds have to be disposed of as hazardous waste. When making decisions about what controls to install on halogenated solvent cleaning machines to meet the requirements of this rule, all of these factors should be weighed and pollution prevention measures are encouraged wherever possible.

(ii) Demonstrate that their solvent cleaning machine can achieve and maintain an idling emission limit of 0.10 kilograms per hour per square meter (0.021 pounds per hour per square foot) of solvent/air interface area as determined using the procedures in § 63.465(a) and appendix A to this part.

(d) Except as provided in § 63.464 for all cleaning machines, each owner or operator of an existing or new batch vapor or in-line solvent cleaning machine shall meet all of the following required work and operational practices specified in paragraphs (d)(1) through (12) of this section as applicable. The owner or operator of a continuous web cleaning machine shall comply with the requirements of paragraph (g) or (h) of this section, as appropriate, in lieu of complying with this paragraph.

(1) Control air disturbances across the cleaning machine opening(s) by incorporating the control equipment or techniques in paragraph (d)(1)(i) or (d)(1)(ii) of this section.

(i) Cover(s) to each solvent cleaning machine shall be in place during the idling mode, and during the downtime mode unless either the solvent has been removed from the machine or maintenance or monitoring is being performed that requires the cover(s) to not be in place.

(ii) A reduced room draft as described in § 63.463(e)(2)(ii).

(2) The parts baskets or the parts being cleaned in an open-top batch vapor cleaning machine shall not occupy more than 50 percent of the solvent/air interface area unless the parts baskets or parts are introduced at a speed of 0.9 meters per minute (3 feet per minute) or less.

(3) Any spraying operations shall be done within the vapor zone or within a section of the solvent cleaning machine that is not directly exposed to the ambient air (i.e., a baffled or enclosed area of the solvent cleaning machine).

(4) Parts shall be oriented so that the solvent drains from them freely. Parts having cavities or blind holes shall be tipped or rotated before being removed from any solvent cleaning machine unless an equally effective approach has been approved by the Administrator.

(5) Parts baskets or parts shall not be removed from any solvent cleaning machine until dripping has stopped.

(6) During startup of each vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

(7) During shutdown of each vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(8) When solvent is added or drained from any solvent cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(9) Each solvent cleaning machine and associated controls shall be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to the Administrator's satisfaction to achieve the same or better results as those recommended by the manufacturer.

(10) Each operator of a solvent cleaning machine shall complete and pass the applicable sections of the test of solvent cleaning procedures in appendix A to this part if requested during an inspection by the Administrator.

(11) Waste solvent, still bottoms, and sump bottoms shall be collected and stored in closed containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.

(12) Sponges, fabric, wood, and paper products shall not be cleaned.

(e) Each owner or operator of a solvent cleaning machine complying with paragraph (b), (c), (g), or (h) of this section shall comply with the requirements specified in paragraphs (e)(1) through (4) of this section.

(1) Conduct monitoring of each control device used to comply with § 63.463 of this subpart as provided in § 63.466.

(2) Determine during each monitoring period whether each control device used to comply with these standards meets the requirements specified in paragraphs (e)(2)(i) through (xi) of this section.

(i) If a freeboard refrigeration device is used to comply with these standards, the owner or operator shall ensure that the chilled air blanket temperature (in °F), measured at the center of the air blanket, is no greater than 30 percent of the solvent's boiling point.

(ii) If a reduced room draft is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(ii)(A) and (e)(2)(ii)(B) of this section.

(A) Ensure that the flow or movement of air across the top of the freeboard area of the solvent cleaning machine or within the solvent cleaning machine enclosure does not exceed 15.2 meters per minute (50 feet per minute) at any time as measured using the procedures in § 63.466(d).

(B) Establish and maintain the operating conditions under which the wind speed was demonstrated to be 15.2 meters per minute (50 feet per minute) or less as described in § 63.466(d).

(iii) If a working-mode cover is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iii)(A) and (e)(2)(iii)(B) of this section.

(A) Ensure that the cover opens only for part entrance and removal and completely covers the cleaning machine openings when closed.

(B) Ensure that the working-mode cover is maintained free of cracks, holes, and other defects.

(iv) If an idling-mode cover is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(iv)(A) and (e)(2)(iv)(B) of this section.

(A) Ensure that the cover is in place whenever parts are not in the solvent cleaning machine and completely covers the cleaning machine openings when in place.

(B) Ensure that the idling-mode cover is maintained free of cracks, holes, and other defects.

(v) If a dwell is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(v)(A) and (e)(2)(v)(B) of this section.

(A) Determine the appropriate dwell time for each type of part or parts basket, or determine the maximum dwell time using the most complex part type or parts basket, as described in § 63.465(d).

(B) Ensure that, after cleaning, each part is held in the solvent cleaning machine freeboard area above the vapor zone for the dwell time determined for that particular part or parts basket, or for the maximum dwell time determined using the most complex part type or parts basket.

(vi) If a superheated vapor system is used to comply with these standards, the owner or operator shall comply with the requirements specified in paragraphs (e)(2)(vi)(A) through (e)(2)(vi)(C) of this section.

(A) Ensure that the temperature of the solvent vapor at the center of the superheated vapor zone is at least 10 °F above the solvent's boiling point.

(B) Ensure that the manufacturer's specifications for determining the minimum proper dwell time within the superheated vapor system is followed.

(C) Ensure that parts remain within the superheated vapor for at least the minimum proper dwell time.

(vii) If a carbon adsorber in conjunction with a lip exhaust or other exhaust internal to the cleaning machine is used to comply with these standards, the owner or operator shall comply with the following requirements:

(A) Ensure that the concentration of organic solvent in the exhaust from this device does not exceed 100 parts per million of any halogenated HAP compound as measured using the procedure in § 63.466(e). If the halogenated HAP solvent concentration in the carbon adsorber exhaust exceeds 100 parts per million, the owner or operator shall adjust the desorption schedule or replace the disposable canister, if not a regenerative system, so that the exhaust concentration of halogenated HAP solvent is brought below 100 parts per million.

(B) Ensure that the carbon adsorber bed is not bypassed during desorption.

(C) Ensure that the lip exhaust is located above the solvent cleaning machine cover so that the cover closes below the lip exhaust level.

(viii) If a superheated part system is used to comply with the standards for continuous web cleaning machines in paragraph (g) of this section, the owner or operator shall ensure that the temperature of the continuous web part is at least 10 degrees Fahrenheit above the solvent boiling point while the part is traveling through the cleaning machine.

(ix) If a squeegee system is used to comply with the continuous web cleaning requirements of paragraph (g)(3)(iii) or (h)(2)(i) of this section, the owner or operator shall comply with the following requirements.

(A) Determine the appropriate maximum product throughput for the squeegees used in the squeegee system, as described in § 63.465(f).

(B) Conduct the weekly monitoring required by § 63.466(a)(3). Record the results required by § 63.467(a)(6).

(C) Calculate the total amount of continuous web product processed since the squeegees were replaced and compare to the maximum product throughput for the squeegees.

(D) Ensure squeegees are replaced at or before the maximum product throughput is attained.

(E) Redetermine the maximum product throughput for the squeegees if any solvent film is visible on the continuous web part immediately after it exits the cleaning machine.

(x) If an air knife system is used to comply with the continuous web cleaning requirements of paragraph (g)(3)(iii) or (h)(2)(i) of this section, the owner or operator shall comply with the following requirements.

(A) Determine the air knife parameter and parameter value that demonstrate to the Administrator's satisfaction that the air knife is properly operating. An air knife is properly operating if no visible solvent film remains on the continuous web part after it exits the cleaning machine.

(B) Maintain the selected air knife parameter value at the level determined in paragraph (a) of this section.

(C) Conduct the weekly monitoring required by § 63.466(a)(3).

(D) Redetermine the proper air knife parameter value if any solvent film is visible on the continuous web part immediately after it exits the cleaning machine.

(xi) If a combination squeegee and air knife system is used to comply with the continuous web cleaning requirements of paragraph (g)(3)(iii) or (h)(2)(i) of this section, the owner or operator shall comply with the following requirements.

(A) Determine the system parameter and value that demonstrate to the Administrator's satisfaction that the system is properly operating.

(B) Maintain the selected parameter value at the level determined in paragraph (a) of this section.

(C) Conduct the weekly monitoring required by § 63.466(a)(3).

(D) Redetermine the proper parameter value if any solvent film is visible on the continuous web part immediately after it exits the cleaning machine.

(3) If any of the requirements of paragraph (e)(2) of this section are not met, determine whether an exceedance has occurred using the criteria in paragraphs (e)(3)(i) and (e)(3)(ii) of this section.

(i) An exceedance has occurred if the requirements of paragraphs (e)(2)(ii)(B), (e)(2)(iii)(A), (e)(2)(iv)(A), (e)(2)(v), (e)(2)(vi)(B), (e)(2)(vi)(C), (e)(2)(vii)(B), or (e)(2)(vii)(C) of this section have not been met.

(ii) An exceedance has occurred if the requirements of paragraphs (e)(2)(i), (e)(2)(ii)(A), (e)(2)(iii)(B), (e)(2)(iv)(B), (e)(2)(vi)(A), or (e)(2)(vii)(A) of this section have not been met and are not corrected within 15 days of detection. Adjustments or repairs shall be made to the solvent cleaning system or control device to reestablish required levels. The parameter must be remeasured immediately upon adjustment or repair and demonstrated to be within required limits.

(4) The owner or operator shall report all exceedances and all corrections and adjustments made to avoid an exceedance as specified in § 63.468(h).

(f) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the idling emission limit standards in paragraphs (b)(1)(ii), (b)(2)(ii), (c)(1)(ii), or (c)(2)(ii) of this section shall comply with the requirements specified in paragraphs (f)(1) through (f)(5) of this section.

(1) Conduct an initial performance test to comply with the requirements specified in paragraphs (f)(1)(i) and (f)(1)(ii) of this section.

(i) Demonstrate compliance with the applicable idling emission limit.

(ii) Establish parameters that will be monitored to demonstrate compliance. If a control device is used that is listed in paragraph (e)(2) of this section, then the requirements for that control device as listed in paragraph (e)(2) of this section shall be used unless the owner or operator can demonstrate to the Administrator's satisfaction that an alternative strategy is equally effective.

(2) Conduct the periodic monitoring of the parameters used to demonstrate compliance as described in § 63.466(f).

(3) Operate the solvent cleaning machine within parameters identified in the initial performance test.

(4) If any of the requirements in paragraphs (f)(1) through (f)(3) of this section are not met, determine whether an exceedance has occurred using the criteria in paragraphs (f)(4)(i) and (f)(4)(ii) of this section.

(i) If using a control listed in paragraph (e) of this section, the owner or operator shall comply with the appropriate parameter values in paragraph (e)(2) and the exceedance delineations in paragraphs (e)(3)(i) and (e)(3)(ii) of this section.

(ii) If using a control not listed in paragraph (e) of this section, the owner or operator shall indicate whether the exceedance of the parameters that are monitored to determine the proper functioning of this control would be classified as an immediate exceedance or whether a 15 day repair period would be allowed. This information must be submitted to the Administrator for approval.

(5) The owner or operator shall report all exceedances and all corrections and adjustments made to avoid an exceedance as specified in § 63.468(h).

(g) Except as provided in § 63.464 and in paragraph (h) of this section for remote reservoir continuous web cleaning machines, each owner or operator of a continuous web cleaning machine shall comply with paragraphs (g)(1) through (4) of this section for each continuous web cleaning machine.

(1) Except as provided in paragraph (g)(2) of this section, install, maintain, and operate one of the following control combinations on each continuous web cleaning machine.

(i) For each existing continuous web cleaning machine, the following control combinations are allowed:

(A) Superheated vapor or superheated part technology, and a freeboard ratio of 1.0 or greater.

(B) Freeboard refrigeration device and a freeboard ratio of 1.0 or greater.

(C) Carbon adsorption system meeting the requirements of paragraph (e)(2)(vii) of this section.

(ii) For each new continuous web cleaning machine, the following control combinations are allowed:

(A) Superheated vapor or superheated part technology, and a freeboard refrigeration device.

(B) A freeboard refrigeration device and a carbon adsorber meeting the requirements of paragraph (e)(2)(vii) of this section.

(C) Superheated vapor or superheated part technology, and a carbon adsorber meeting the requirements of paragraph (e)(2)(vii) of this section.

(2) If a carbon adsorber system can be demonstrated to the Administrator's satisfaction to have an overall solvent control efficiency (i.e., capture efficiency removal efficiency) of 70 percent or greater, this system is equivalent to the options in paragraph (g) of this section.

(3) In lieu of complying with the provisions of paragraph (a) of this section, the owner or operator of a continuous web cleaning machine shall comply with the following provisions:

(i) Each cleaning machine shall meet one of the following control equipment or technique requirements:

(A) An idling and downtime mode cover, as described in paragraph (d)(1)(i) of this section, that may be readily opened or closed; that completely covers the cleaning machine openings when in place; and is free of cracks, holes, and other defects. A continuous web part that completely occupies an entry or exit port when the machine is idle is considered to meet this requirement.

(B) A reduced room draft as described in paragraph (e)(2)(ii) of this section.

(C) Gasketed or leakproof doors that separate both the continuous web part feed reel and take-up reel from the room atmosphere if the doors are checked according to the requirements of paragraph (e)(2)(iii) of this section.

(D) A cleaning machine that is demonstrated to the Administrator's satisfaction to be under negative pressure during idling and downtime and is vented to a carbon adsorption system that meets the requirements of either paragraph (e)(2)(vii) of this section or paragraph (g)(2) of this section.

(ii) Each continuous web cleaning machine shall have a freeboard ratio of 0.75 or greater unless that cleaning machine is a remote reservoir continuous web cleaning machine.

(iii) Each cleaning machine shall have an automated parts handling system capable of moving parts or parts baskets at a speed of 3.4 meters per minute (11 feet per minute) or less from the initial loading of parts through removal of cleaned parts, unless the cleaning machine is a continuous web cleaning machine that has a squeegee system or air knife system installed, maintained, and operated on the continuous web cleaning machine meeting the requirements of paragraph (e) of this section.

(iv) Each vapor cleaning machine shall be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils. This requirement does not apply to a vapor cleaning machine that uses steam to heat the solvent.

(v) Each vapor cleaning machine shall be equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

(vi) Each vapor cleaning machine shall have a primary condenser.

(vii) Each cleaning machine that uses a lip exhaust or any other exhaust within the solvent cleaning machine shall be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber that meets the requirements of either paragraph (e)(2)(vii) or (g)(2) of this section.

(4) In lieu of complying with the provisions of paragraph (d) of this section, the owner or operator of a continuous web cleaning machine shall comply with the following provisions:

(i) Control air disturbances across the cleaning machine opening(s) by incorporating one of the following control equipment or techniques:

(A) Cover(s) to each solvent cleaning machine shall be in place during the idling mode and during the downtime mode unless either the solvent has been removed from the machine or maintenance or monitoring is being performed that requires the cover(s) in place. A continuous web part that completely occupies an entry or exit port when the machine is idle is considered to meet this requirement.

(B) A reduced room draft as described in paragraph (e)(2)(ii) of this section.

(C) Gasketed or leakproof doors or covers that separate both the continuous web part feed reel and take-up reel from the room atmosphere if the doors are checked according to the requirements of paragraph (e)(2)(iii) of this section.

(D) A cleaning machine that is demonstrated to the Administrator's satisfaction to be under negative pressure during idling and downtime and is vented to a carbon adsorption system that meets either the requirements of paragraph (e)(2)(vii) of this section or paragraph (g)(2) of this section.

(ii) Any spraying operations shall be conducted in a section of the solvent cleaning machine that is not directly exposed to the ambient air (i.e., a baffled or enclosed area of the solvent cleaning machine) or within a machine having a door or cover that meets the requirements of paragraph (g)(4)(i)(C) of this section.

(iii) During startup of each vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

(iv) During shutdown of each vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(v) When solvent is added or drained from any solvent cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings, and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(vi) Each solvent cleaning machine and associated controls shall be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to the Administrator's satisfaction to achieve the same or better results as those recommended by the manufacturer.

(vii) Waste solvent, still bottoms, sump bottoms, and waste absorbent materials used in the cleaning process for continuous web cleaning machines shall be collected and stored in waste containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.

(viii) Except as provided in paragraph (g)(4)(ix) of this section, sponges, fabric, wood, and paper products shall not be cleaned.

(ix) The prohibition in paragraph (g)(4)(viii) of this section does not apply to absorbent materials that are used as part of the cleaning process of continuous web cleaning machines, including rollers and roller covers.

(h) Except as provided in § 63.464, each owner or operator of a remote reservoir continuous web cleaning machine shall comply with paragraphs (h)(1) through (4) of this section.

(1) Except as provided in paragraph (h)(2) of this section, install, maintain, and operate one of the following controls on each new remote reservoir continuous web cleaning machine.

(i) Superheated vapor or superheated part technology.

(ii) A carbon adsorber meeting the requirements of paragraph (e)(2)(vii) of this section.

(iii) If a carbon adsorber system can be demonstrated to the Administrator's satisfaction to have an overall solvent control efficiency (i.e., capture efficiency removal efficiency) of 70 percent or greater, this system is equivalent to the options in paragraphs (h)(1)(i) and (h)(1)(ii) of this section.

(2) In lieu of complying with the provisions of paragraph (a) of this section, the owner or operator of a remote reservoir continuous web cleaning machine shall comply with the following provisions:

(i) Each cleaning machine shall have an automated parts handling system capable of moving parts or parts baskets at a speed of 3.4 meters per minute (11 feet per minute) or less from the initial loading of parts through removal of cleaned parts, unless the cleaning machine is a continuous web cleaning machine that has a squeegee system or air knife system installed, maintained, and operated on the continuous web cleaning machine meeting the requirements of paragraph (e) of this section.

(ii) Each vapor cleaning machine shall be equipped with a device that shuts off the sump heat if the sump liquid solvent level drops to the sump heater coils.

(iii) Each vapor cleaning machine shall be equipped with a vapor level control device that shuts off sump heat if the vapor level in the vapor cleaning machine rises above the height of the primary condenser.

(iv) Each vapor cleaning machine shall have a primary condenser.

(v) Each cleaning machine that uses a lip exhaust or any other exhaust within the solvent cleaning machine shall be designed and operated to route all collected solvent vapors through a properly operated and maintained carbon adsorber that meets the requirements of either paragraph (e)(2)(vii) or (g)(2) of this section.

(3) In lieu of complying with the provisions of paragraph (d) of this section, the owner or operator of a remote reservoir continuous web cleaning machine shall comply with the following provisions:

(i) Any spraying operations shall be conducted in a section of the solvent cleaning machine that is not directly exposed to the ambient air (i.e., a baffled or enclosed area of the solvent cleaning machine) or within a machine having a door or cover that meets the requirements of paragraph (g)(4)(i)(C) of this section.

(ii) During startup of each vapor cleaning machine, the primary condenser shall be turned on before the sump heater.

(iii) During shutdown of each vapor cleaning machine, the sump heater shall be turned off and the solvent vapor layer allowed to collapse before the primary condenser is turned off.

(iv) When solvent is added or drained from any solvent cleaning machine, the solvent shall be transferred using threaded or other leakproof couplings, and the end of the pipe in the solvent sump shall be located beneath the liquid solvent surface.

(v) Each solvent cleaning machine and associated controls shall be maintained as recommended by the manufacturers of the equipment or using alternative maintenance practices that have been demonstrated to the Administrator's satisfaction to achieve the same or better results as those recommended by the manufacturer.

(vi) Waste solvent, still bottoms, sump bottoms, and waste absorbent materials used in the cleaning process for continuous web cleaning machines shall be collected and stored in waste containers. The closed containers may contain a device that would allow pressure relief, but would not allow liquid solvent to drain from the container.

(vii) Except as provided in paragraph (h)(3)(viii) of this section, sponges, fabric, wood, and paper products shall not be cleaned.

(viii) The prohibition in paragraph (h)(3)(vii) of this section does not apply to absorbent materials that are used as part of the cleaning process of continuous web cleaning machines, including rollers and roller covers.

[59 FR 61805, Dec. 2, 1994; 60 FR 29485, June 5, 1995, as amended at 64 FR 67799, Dec. 3, 1999; 65 FR 54422, Sept. 8, 2000; 68 FR 37349, June 23, 2003]

§ 63.464 Alternative standards.

(a) As an alternative to meeting the requirements in § 63.463, each owner or operator of a batch vapor or in-line solvent cleaning machine can elect to comply with the requirements of § 63.464. An owner or operator of a solvent cleaning machine who elects to comply with § 63.464 shall comply with the requirements specified in either paragraph (a)(1) or (a)(2) of this section.

(1) If the cleaning machine has a solvent/air interface, as defined in § 63.461, the owner or operator shall comply with the requirements specified in paragraphs (a)(1)(i) and (a)(1)(ii) of this section.

(i) Maintain a log of solvent additions and deletions for each solvent cleaning machine.

(ii) Ensure that the emissions from each solvent cleaning machine are equal to or less than the applicable emission limit presented in table 5 of this subpart as determined using the procedures in § 63.465(b) and (c).

Table 5—Emission Limits for Batch Vapor and In-Line Solvent Cleaning Machines With a Solvent/Air Interface

Solvent cleaning machine	3-month rolling average monthly emission limit (kilograms/square meters/month)
Batch vapor solvent cleaning machines	150
Existing in-line solvent cleaning machines	153
New in-line solvent cleaning machines	99

(2) If the cleaning machine is a batch vapor cleaning machine and does not have a solvent/air interface, the owner or operator shall comply with the requirements specified in paragraphs (a)(2)(i) and (a)(2)(ii) of this section.

(i) Maintain a log of solvent additions and deletions for each solvent cleaning machine.

(ii) Ensure that the emissions from each solvent cleaning machine are equal to or less than the appropriate limits as described in paragraphs (a)(2)(ii)(A) and (a)(2)(ii)(B) of this section.

(A) For cleaning machines with a cleaning capacity, as reported in § 63.468(d), that is less than or equal to 2.95 cubic meters, the emission limit shall be determined using table 6 or equation 1. If using table 6, and the cleaning capacity of the cleaning machine falls between two cleaning capacity sizes, then the lower of the two emission limits applies.

(B) For cleaning machines with a cleaning capacity as reported in § 63.468(d), that is greater than 2.95 cubic meters, the emission limit shall be determined using equation 1.

$EL = 330 * (Vol)^{0.6}$ (1)

where:

EL = the 3-month rolling average monthly emission limit (kilograms/month).

Table 6—Emission Limits for Cleaning Machines Without a Solvent/Air Interface

Cleaning capacity (cubic meters)	3-month rolling average monthly emission limit (kilograms/month)
0.00	0
0.05	55
0.10	83
0.15	106
0.20	126
0.25	144
0.30	160
0.35	176
0.40	190
0.45	204
0.50	218
0.55	231
0.60	243
0.65	255
0.70	266
0.75	278
0.80	289
0.85	299
0.90	310
0.95	320
1.00	330
1.05	340
1.10	349
1.15	359
1.20	368
1.25	377
1.30	386
1.35	395
1.40	404
1.45	412
1.50	421
1.55	429

Cleaning capacity (cubic meters)	3-month rolling average monthly emission limit (kilograms/month)
1.60	438
1.65	446
1.70	454
1.75	462
1.80	470
1.85	477
1.90	485
1.95	493
2.00	500
2.05	508
2.10	515
2.15	522
2.20	530
2.25	537
2.30	544
2.35	551
2.40	558
2.45	565
2.50	572
2.55	579
2.60	585
2.65	592
2.70	599
2.75	605
2.80	612
2.85	619
2.90	625
2.95	632

Vol = the cleaning capacity of the solvent cleaning machine (cubic meters).

(b) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with § 63.464(a) shall demonstrate compliance with the applicable 3-month rolling average monthly emission limit on a monthly basis as described in § 63.465(b) and (c).

(c) If the applicable 3-month rolling average emission limit is not met, an exceedance has occurred. All exceedances shall be reported as required in § 63.468(h).

(d) As an alternative to meeting the requirements in § 63.463, each owner or operator of a continuous web cleaning machine can demonstrate an overall cleaning system control efficiency of 70 percent or greater using the procedures in § 63.465(g). This demonstration can be made for either a single cleaning machine or for a solvent cleaning system that contains one or more cleaning machines and ancillary equipment, such as storage tanks and distillation units. If the demonstration is made for a cleaning system, the facility must identify any modifications required to the procedures in § 63.465(g) and they must be approved by the Administrator.

[59 FR 61805, Dec. 2, 1994, as amended at 64 FR 67801, Dec. 3, 1999; 65 FR 54423, Sept. 8, 2000]

§ 63.465 Test methods.

(a) Except as provided in paragraphs (f) and (g) of this section for continuous web cleaning machines, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with an idling emission limit standard in § 63.463(b)(1)(ii), (b)(2)(ii), (c)(1)(ii), or (c)(2)(ii) shall determine the idling emission rate of the solvent cleaning machine using Reference Method 307 in appendix A of this part.

(b) Except as provided in paragraph (g) of this section for continuous web cleaning machines, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with § 63.464 shall, on the first operating day of every month ensure that the solvent cleaning machine system contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent, and used solvent that has been cleaned of soils. A fill line must be indicated during the first month the measurements are made. The solvent level within the machine must be returned to the same fill-line each month, immediately prior to calculating monthly emissions as specified in paragraph (c) of this section. The solvent cleaning machine does not have to be emptied and filled with fresh unused solvent prior to the calculations.

(c) Except as provided in paragraphs (f) and (g) of this section for continuous web cleaning machines, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with § 63.464 shall, on the first operating day of the month, comply with the requirements specified in paragraphs (c)(1) through (3) of this section.

(1) Using the records of all solvent additions and deletions for the previous monthly reporting period required under § 63.464(a), determine solvent emissions (Ei) using equation 2 for cleaning machines with a solvent/air interface and equation 3 for cleaning machines without a solvent/air interface:

$$E_i = \frac{SA_i - LSR_i - SSR_i}{AREA_i} \qquad (2)$$

$$E_n = SA_i - LSR_i - SSR_i \qquad (3)$$

where:

E_i =the total halogenated HAP solvent emissions from the solvent cleaning machine during the most recent monthly reporting period i, (kilograms of solvent per square meter of solvent/air interface area per month).

E_n =the total halogenated HAP solvent emissions from the solvent cleaning machine during the most recent monthly reporting period i, (kilograms of solvent per month).

SA_i =the total amount of halogenated HAP liquid solvent added to the solvent cleaning machine during the most recent monthly reporting period i, (kilograms of solvent per month).

LSR_i =the total amount of halogenated HAP liquid solvent removed from the solvent cleaning machine during the most recent monthly reporting period i, (kilograms of solvent per month).

SSR_i =the total amount of halogenated HAP solvent removed from the solvent cleaning machine in solid waste, obtained as described in paragraph (c)(2) of this section, during the most recent monthly reporting period i, (kilograms of solvent per month).

$AREA_i$ =the solvent/air interface area of the solvent cleaning machine (square meters).

(2) Determine SSR_i using the method specified in paragraph (c)(2)(i) or (c)(2)(ii) of this section.

(i) From tests conducted using EPA reference method 25d.

(ii) By engineering calculations included in the compliance report.

(3) Determine the monthly rolling average, EA, for the 3-month period ending with the most recent reporting period using equation 4 for cleaning machines with a solvent/air interface or equation 5 for cleaning machines without a solvent/air interface:

$$EA_i = \frac{\sum_{j=1}^{3} E_i}{3} \quad (4) \qquad EA_n = \frac{\sum_{j=1}^{3} E_n}{3} \quad (5)$$

Where:

EA_i =the average halogenated HAP solvent emissions over the preceding 3 monthly reporting periods, (kilograms of solvent per square meter of solvent/air interface area per month).

EA_n =the average halogenated HAP solvent emissions over the preceding 3 monthly reporting periods (kilograms of solvent per month).

E_i =halogenated HAP solvent emissions for each month (j) for the most recent 3 monthly reporting periods (kilograms of solvent per square meter of solvent/air interface area).

E_n =halogenated HAP solvent emissions for each month (j) for the most recent 3 monthly reporting periods (kilograms of solvent per month).

j=1 = the most recent monthly reporting period.

j=2 = the monthly reporting period immediately prior to j=1.

j=3 = the monthly reporting period immediately prior to j=2.

(d) Each owner or operator of a batch vapor or in-line solvent cleaning machine using a dwell to comply with § 63.463 shall determine the appropriate dwell time for each part or parts basket using the procedure specified in paragraphs (d)(1) and (d)(2) of this section.

(1) Determine the amount of time for the part or parts basket to cease dripping once placed in the vapor zone. The part or parts basket used for this determination must be at room temperature before being placed in the vapor zone.

(2) The proper dwell time for parts to remain in the freeboard area above the vapor zone is no less than 35 percent of the time determined in paragraph (d)(1) of this section.

(e) An owner or operator of a source shall determine their potential to emit from all solvent cleaning operations, using the procedures described in paragraphs (e)(1) through (e)(3) of this section. A facility's total potential to emit is the sum of the HAP emissions from all solvent cleaning operations, plus all HAP emissions from other sources within the facility.

(1) Determine the potential to emit for each individual solvent cleaning using equation 6.

$PTE_i = H_i \times W_i \times SAI_i$ (6)

Where:

PTE_i =the potential to emit for solvent cleaning machine i (kilograms of solvent per year).

H_i =hours of operation for solvent cleaning machine i (hours per year).

=8760 hours per year, unless otherwise restricted by a Federally enforceable requirement.

W_i =the working mode uncontrolled emission rate (kilograms per square meter per hour).

=1.95 kilograms per square meter per hour for batch vapor and cold cleaning machines.

=1.12 kilograms per square meter per hour for in-line cleaning machines.

SAI_i = solvent/air interface area of solvent cleaning machine i (square meters). Section 63.461 defines the solvent/air interface area for those machines that have a solvent/air interface. Cleaning machines that do not have a solvent/air interface shall calculate a solvent/air interface area using the procedure in paragraph (e)(2) of this section.

(2) Cleaning machines that do not have a solvent/air interface shall calculate a solvent/air interface area using equation 7.

$$SAI=2.20 * (Vol)^{0.6} \qquad (7)$$

Where:

SAI=the solvent/air interface area (square meters).

Vol=the cleaning capacity of the solvent cleaning machine (cubic meters).

(3) Sum the PTE_i for all solvent cleaning operations to obtain the total potential to emit for solvent cleaning operations at the facility.

(f) Each owner or operator of a continuous web cleaning machine using a squeegee system to comply with § 63.463(g)(3) shall determine the maximum product throughput using the method in this paragraph. The maximum product throughput for each squeegee type used at a facility must be determined prior to December 2, 1999, the compliance date for these units.

(1) Conduct daily visual inspections of the continuous web part. This monitoring shall be conducted at the point where the continuous web part exits the squeegee system. It is not necessary for the squeegees to be new at the time monitoring is begun if the following two conditions are met:

(i) The continuous web part leaving the squeegee system has no visible solvent film.

(ii) The amount of continuous web that has been processed through the squeegees since the last replacement is known.

(2) Continue daily monitoring until a visible solvent film is noted on the continuous web part.

(3) Determine the length of continuous web product that has been cleaned using the squeegee since it was installed.

(4) The maximum product throughput for the purposes of this rule is equal to the time it takes to clean 95 percent of the length of product determined in paragraph (f)(3) of this section. This time period, in days, may vary depending on the amount of continuous web product cleaned each day.

(g) Each owner or operator of a continuous web cleaning machine demonstrating compliance with the alternative standard of § 63.464(d) shall, on the first day of every month, ensure that the solvent cleaning machine contains only clean liquid solvent. This includes, but is not limited to, fresh unused solvent, recycled solvent, and used solvent that has been cleaned of soils. A fill-line must be indicated during the first month the measurements are made. The solvent level with the machine must be returned to the same fill-line each month, immediately prior to calculating overall cleaning system control efficiency emissions as specified in paragraph (h) in this section. The solvent cleaning machine does not need to be emptied and filled with fresh unused solvent prior to the calculation.

(h) Each owner or operator of a continuous web cleaning machines complying with § 63.464(d) shall, on the first operating day of the month, comply with the following requirements.

(1) Using the records of all solvent additions, solvent deletions, and solvent recovered from the carbon adsorption system for the previous monthly reporting period required under § 63.467(e), determine the overall cleaning system control efficiency (E_o) using Equation 8 of this section as follows:

$$E_o = R_i / (R_i + Sa_i - SSR_i) \qquad \text{(Eq. 8)}$$

Where:

E_o = overall cleaning system control efficiency.

R_i = the total amount of halogenated HAP liquid solvent recovered from the carbon adsorption system and recycled to the solvent cleaning system during the most recent monthly reporting period, i, (kilograms of solvent per month).

Sa_i = the total amount of halogenated HAP liquid solvent added to the solvent cleaning system during the most recent monthly reporting period, i, (kilograms of solvent per month).

SSR_i = the total amount of halogenated HAP solvent removed from the solvent cleaning system in solid waste, obtained as described in paragraph (c)(2) of this section, during the most recent monthly reporting period, i, (kilograms of solvent per month).

[59 FR 61805, Dec. 2, 1994, as amended at 64 FR 67801, Dec. 3, 1999; 65 FR 54423, Sept. 8, 2000]

§ 63.466 Monitoring procedures.

(a) Except as provided in paragraph (g) of this section, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the equipment standards in § 63.463(b)(1)(i), (b)(2)(i), (c)(1)(i), (c)(2)(i), (g)(1), or (g)(2) shall conduct monitoring and record the results on a weekly basis for the control devices, as appropriate, specified in paragraphs (a)(1) through (5) of this section.

(1) If a freeboard refrigeration device is used to comply with these standards, the owner or operator shall use a thermometer or thermocouple to measure the temperature at the center of the air blanket during the idling mode.

(2) If a superheated vapor system is used to comply with these standards, the owner or operator shall use a thermometer or thermocouple to measure the temperature at the center of the superheated solvent vapor zone while the solvent cleaning machine is in the idling mode.

(3) If a squeegee system, air knife system, or combination squeegee and air knife system is used to comply with the requirements of § 63.463(g) or (h), the owner or operator shall visually inspect the continuous web part exiting the solvent cleaning machine to ensure that no solvent film is visible on the part.

(4) Except as provided in paragraph (a)(5) of this section, if a superheated part system is used to comply with the requirements of § 63.463(g) or (h), the owner or operator shall use a thermometer, thermocouple, or other temperature measurement device to measure the temperature of the continuous web part while it is in the solvent cleaning machine. This measurement can also be taken at the exit of the solvent cleaning machine.

(5) As an alternative to complying with paragraph (a)(4) of this section, the owner or operator can provide data, sufficient to satisfy the Administrator, that demonstrate that the part temperature remains above the boiling point of the solvent at all times that the part is within the continuous web solvent cleaning machine. This data could include design and operating conditions such as information supporting any exothermic reaction inherent in the processing.

(b) Except as provided in paragraph (g) of this section, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the equipment standards of § 63.463 (b)(1)(i), (b)(2)(i), (c)(1)(i), or (c)(2)(i) shall conduct monitoring and record the results on a monthly basis for the control devices, as appropriate, specified in paragraphs (b)(1) and (b)(2) of this section.

(1) If a cover (working-mode, downtime-mode, and/or idling-mode cover) is used to comply with these standards, the owner or operator shall conduct a visual inspection to determine if the cover is opening and closing properly, completely covers the cleaning machine openings when closed, and is free of cracks, holes, and other defects.

(2) If a dwell is used, the owner or operator shall determine the actual dwell time by measuring the period of time that parts are held within the freeboard area of the solvent cleaning machine after cleaning.

(c) Except as provided in paragraph (g) of this section, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the equipment or idling standards in § 63.463 shall monitor the hoist speed as described in paragraphs (c)(1) through (c)(4) of this section.

(1) The owner or operator shall determine the hoist speed by measuring the time it takes for the hoist to travel a measured distance. The speed is equal to the distance in meters divided by the time in minutes (meters per minute).

(2) The monitoring shall be conducted monthly. If after the first year, no exceedances of the hoist speed are measured, the owner or operator may begin monitoring the hoist speed quarterly.

(3) If an exceedance of the hoist speed occurs during quarterly monitoring, the monitoring frequency returns to monthly until another year of compliance without an exceedance is demonstrated.

(4) If an owner or operator can demonstrate to the Administrator's satisfaction in the initial compliance report that the hoist cannot exceed a speed of 3.4 meters per minute (11 feet per minute), the required monitoring frequency is quarterly, including during the first year of compliance.

(d) Except as provided in paragraph (g) of this section, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the equipment standards in § 63.463 (b)(1)(i), (b)(2)(i), (c)(1)(i), or (c)(2)(i) using a reduced room draft shall conduct monitoring and record the results as specified in paragraph (d)(1) or (d)(2) of this section.

(1) If the reduced room draft is maintained by controlling room parameters (i.e., redirecting fans, closing doors and windows, etc.), the owner or operator shall conduct an initial monitoring test of the windspeed and of room parameters, quarterly monitoring of windspeed, and weekly monitoring of room parameters as specified in paragraphs (d)(1)(i) and (d)(1)(ii) of this section.

(i) Measure the windspeed within 6 inches above the top of the freeboard area of the solvent cleaning machine using the procedure specified in paragraphs (d)(1)(i)(A) through (d)(1)(i)(D) of this section.

(A) Determine the direction of the wind current by slowly rotating a velometer or similar device until the maximum speed is located.

(B) Orient a velometer in the direction of the wind current at each of the four corners of the machine.

(C) Record the reading for each corner.

(D) Average the values obtained at each corner and record the average wind speed.

(ii) Monitor on a weekly basis the room parameters established during the initial compliance test that are used to achieve the reduced room draft.

(2) If an enclosure (full or partial) is used to achieve a reduced room draft, the owner or operator shall conduct an initial monitoring test and, thereafter, monthly monitoring tests of the windspeed within the enclosure using the procedure specified in paragraphs (d)(2)(i) and (d)(2)(ii) of this section and a monthly visual inspection of the enclosure to determine if it is free of cracks, holes and other defects.

(i) Determine the direction of the wind current in the enclosure by slowly rotating a velometer inside the entrance to the enclosure until the maximum speed is located.

(ii) Record the maximum wind speed.

(e) Except as provided in paragraph (g) of this section, each owner or operator using a carbon adsorber to comply with this subpart shall measure and record the concentration of halogenated HAP solvent in the exhaust of the carbon adsorber weekly with a colorimetric detector tube. This test shall be conducted while the solvent cleaning machine is in the working mode and is venting to the carbon adsorber. The exhaust concentration shall be determined using the procedure specified in paragraphs (e)(1) through (e)(3) of this section.

(1) Use a colorimetric detector tube designed to measure a concentration of 100 parts per million by volume of solvent in air to an accuracy of ±25 parts per million by volume.

(2) Use the colorimetric detector tube according to the manufacturer's instructions.

(3) Provide a sampling port for monitoring within the exhaust outlet of the carbon adsorber that is easily accessible and located at least 8 stack or duct diameters downstream from any flow disturbance such as a bend, expansion, contraction, or outlet; downstream from no other inlet; and 2 stack or duct diameters upstream from any flow disturbance such as a bend, expansion, contraction, inlet or outlet.

(f) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the idling emission limit standards of § 63.463 (b)(1)(ii), (b)(2)(ii), (c)(1)(ii), or (c)(2)(ii) shall comply with the requirements specified in paragraphs (f)(1) and (f)(2) of this section.

(1) If using controls listed in paragraphs (a) through (e) of this section, the owner or operator shall comply with the monitoring frequency requirements in paragraphs (a) through (e) of this section.

(2) If using controls not listed in paragraphs (a) through (e) of this section, the owner or operator shall establish the monitoring frequency for each control and submit it to the Administrator for approval in the initial test report.

(g) Each owner or operator using a control device listed in paragraphs (a) through (e) of this section can use alternative monitoring procedures approved by the Administrator.

[59 FR 61805, Dec. 2, 1994, as amended at 64 FR 67802, Dec. 3, 1999]

§ 63.467 Recordkeeping requirements.

(a) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of § 63.463 shall maintain records in written or electronic form specified in paragraphs (a)(1) through (7) of this section for the lifetime of the machine.

(1) Owner's manuals, or if not available, written maintenance and operating procedures, for the solvent cleaning machine and control equipment.

(2) The date of installation for the solvent cleaning machine and all of its control devices. If the exact date for installation is not known, a letter certifying that the cleaning machine and its control devices were installed prior to, or on, November 29, 1993, or after November 29, 1993, may be substituted.

(3) If a dwell is used to comply with these standards, records of the tests required in § 63.465(d) to determine an appropriate dwell time for each part or parts basket.

(4) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the idling emission limit standards of § 63.463(b)(1)(ii), (b)(2)(ii), (c)(1)(ii), or (c)(2)(ii) shall maintain records of the initial performance test, including the idling emission rate and values of the monitoring parameters measured during the test.

(5) Records of the halogenated HAP solvent content for each solvent used in a solvent cleaning machine subject to the provisions of this subpart.

(6) If a squeegee system is used to comply with these standards, records of the test required by § 63.466(f) to determine the maximum product throughput for the squeegees and records of both the weekly monitoring required by § 63.466(a)(3) for visual inspection and the length of continuous web product cleaned during the previous week.

(7) If an air knife system or a combination squeegee and air knife system is used to comply with these standards, records of the determination of the proper operating parameter and parameter value for the air knife system.

(b) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with § 63.463 shall maintain records specified in paragraphs (b)(1) through (b)(4) of this section either in electronic or written form for a period of 5 years.

(1) The results of control device monitoring required under § 63.466.

(2) Information on the actions taken to comply with § 63.463(e) and (f). This information shall include records of written or verbal orders for replacement parts, a description of the repairs made, and additional monitoring conducted to demonstrate that monitored parameters have returned to accepted levels.

(3) Estimates of annual solvent consumption for each solvent cleaning machine.

(4) If a carbon adsorber is used to comply with these standards, records of the date and results of the weekly measurement of the halogenated HAP solvent concentration in the carbon adsorber exhaust required in § 63.466(e).

(c) Except as provided in paragraph (e) of this section for continuous web cleaning machines, each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of § 63.464 shall maintain records specified in paragraphs (c)(1) through (3) of this section either in electronic or written form for a period of 5 years.

(1) The dates and amounts of solvent that are added to the solvent cleaning machine.

(2) The solvent composition of wastes removed from cleaning machines as determined using the procedure described in § 63.465(c)(2).

(3) Calculation sheets showing how monthly emissions and the rolling 3-month average emissions from the solvent cleaning machine were determined, and the results of all calculations.

(d) Each owner or operator of a solvent cleaning machine without a solvent/air interface complying with the provisions of § 63.464 shall maintain records on the method used to determine the cleaning capacity of the cleaning machine.

(e) Each owner or operator of a continuous web cleaning machine complying with the provisions of § 63.464(d) shall maintain the following records in either electronic or written form for a period of 5 years.

(1) The dates and amounts of solvent that are added to the solvent cleaning machine.

(2) The dates and amounts of solvent that are recovered from the desorption of the carbon adsorber system.

(3) The solvent composition of wastes removed from each cleaning machine as determined using the procedures in § 63.465(c)(2).

(4) Calculation sheets showing the calculation and results of determining the overall cleaning system control efficiency, as required by § 63.465.

[59 FR 61805, Dec. 2, 1994, as amended at 64 FR 67802, Dec. 3, 1999; 68 FR 37349, June 23, 2003]

§ 63.468 Reporting requirements.

(a) Each owner or operator of an existing solvent cleaning machine subject to the provisions of this subpart shall submit an initial notification report to the Administrator no later than August 29, 1995. This report shall include the information specified in paragraphs (a)(1) through (a)(6) of this section.

(1) The name and address of the owner or operator.

(2) The address (i.e., physical location) of the solvent cleaning machine(s).

(3) A brief description of each solvent cleaning machine including machine type (batch vapor, batch cold, vapor in-line or cold in-line), solvent/air interface area, and existing controls.

(4) The date of installation for each solvent cleaning machine or a letter certifying that the solvent cleaning machine was installed prior to, or after, November 29, 1993.

(5) The anticipated compliance approach for each solvent cleaning machine.

(6) An estimate of annual halogenated HAP solvent consumption for each solvent cleaning machine.

(b) Each owner or operator of a new solvent cleaning machine subject to the provisions of this subpart shall submit an initial notification report to the Administrator. New sources for which construction or reconstruction had commenced and initial startup had not occurred before December 2, 1994, shall submit this report as soon as practicable before startup but no later than January 31, 1995. New sources for which the construction or reconstruction commenced after December 2, 1994, shall submit this report as soon as practicable before the construction or reconstruction is planned to commence. This report shall include all of the information required in § 63.5(d)(1) of subpart A (General Provisions), with the revisions and additions in paragraphs (b)(1) through (b)(3) of this section.

(1) The report shall include a brief description of each solvent cleaning machine including machine type (batch vapor, batch cold, vapor in-line, or cold-line), solvent/air interface area, and existing controls.

(2) The report shall include the anticipated compliance approach for each solvent cleaning machine.

(3) In lieu of § 63.5(d)(1)(ii)(H) of subpart A of this part, the owner or operator must report an estimate of annual halogenated HAP solvent consumption for each solvent cleaning machine.

(c) Each owner or operator of a batch cold solvent cleaning machine subject to the provisions of this subpart shall submit a compliance report to the Administrator. For existing sources, this report shall be submitted to the Administrator no later than 150 days after the compliance date specified in § 63.460(d). For new sources, this report shall be submitted to the Administrator no later than 150 days after startup or May 1, 1995, whichever is later. This report shall include the requirements specified in paragraphs (c)(1) through (c)(4) of this section.

(1) The name and address of the owner or operator.

(2) The address (i.e., physical location) of the solvent cleaning machine(s).

(3) A statement, signed by the owner or operator of the solvent cleaning machine, stating that the solvent cleaning machine for which the report is being submitted is in compliance with the provisions of this subpart.

(4) The compliance approach for each solvent cleaning machine.

(d) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of § 63.463 shall submit to the Administrator an initial statement of compliance for each solvent cleaning machine. For existing sources, this report shall be submitted to the Administrator no later than 150 days after the compliance date specified in § 63.460(d). For new sources, this report shall be submitted to the Administrator no later than 150 days after startup or May 1, 1995, whichever is later. This statement shall include the requirements specified in paragraphs (d)(1) through (d)(6) of this section.

(1) The name and address of the owner or operator.

(2) The address (i.e., physical location) of the solvent cleaning machine(s).

(3) A list of the control equipment used to achieve compliance for each solvent cleaning machine.

(4) For each piece of control equipment required to be monitored, a list of the parameters that are monitored and the values of these parameters measured on or during the first month after the compliance date.

(5) Conditions to maintain the wind speed requirements of § 63.463(e)(2)(ii), if applicable.

(6) Each owner or operator of a solvent cleaning machine complying with the idling emission limit standards of § 63.463(b)(1)(ii), (b)(2)(ii), (c)(1)(ii), and (c)(2)(ii) shall submit a test report for tests of idling emissions meeting the specifications in Method 307 of appendix A to this subpart. This report shall comply with the requirements specified in paragraphs (d)(6)(i) through (d)(6)(iv) of this section.

(i) This test must be on the same specific model cleaner used at the source. The test can be done by the owner or operator of the affected machine or can be supplied by the vendor of that solvent cleaning machine or a third party.

(ii) This report must clearly state the monitoring parameters, monitoring frequency and the delineation of exceedances for each parameter.

(iii) If a solvent cleaning machine vendor or third party test report is used to demonstrate compliance, it shall include the following for the solvent cleaning machine tested: Name of person(s) or company that performed the test, model name, the date the solvent cleaning machine was tested, serial number, and a diagram of the solvent cleaning machine tested.

(iv) If a solvent cleaning machine vendor or third party test report is used, the owner or operator of the solvent cleaning machine shall comply with the requirements specified in either paragraphs (d)(6)(iv)(A) and (d)(6)(iv)(B) of this section.

(A) Submit a statement by the solvent cleaning machine vendor that the unit tested is the same as the unit the report is being submitted for.

(B) Demonstrate to the Administrator's satisfaction that the solvent emissions from the solvent cleaning machine for which the test report is being submitted are equal to or less than the solvent emissions from the solvent cleaning machine in the vendor test report.

(7) If a carbon adsorber is used to comply with these standards, the date and results of the weekly measurement of the halogenated HAP solvent concentration in the carbon adsorber exhaust required in § 63.466(e).

(e) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of § 63.464 shall submit to the Administrator an initial statement of compliance for each solvent cleaning machine. For existing sources, this report shall be submitted to the Administrator no later than 150 days after the compliance date specified in § 63.460(d). For new sources, this report shall be submitted to the Administrator no later than 150 days after startup or May 1, 1995, whichever is later. The statement shall include the information specified in paragraphs (e)(1) through (e)(4) of this section.

(1) The name and address of the solvent cleaning machine owner or operator.

(2) The address of the solvent cleaning machine(s).

(3) The solvent/air interface area for each solvent cleaning machine or, for cleaning machines without a solvent/air interface, a description of the method used to determine the cleaning capacity and the results.

(4) The results of the first 3-month average emissions calculation.

(f) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of § 63.463 shall submit an annual report by February 1 of the year following the one for which the reporting is being made. This report shall include the requirements specified in paragraphs (f)(1) through (f)(3) of this section.

(1) A signed statement from the facility owner or his designee stating that, "All operators of solvent cleaning machines have received training on the proper operation of solvent cleaning machines and their control devices sufficient to pass the test required in § 63.463(d)(10)."

(2) An estimate of solvent consumption for each solvent cleaning machine during the reporting period.

(3) The reports required under paragraphs (f) and (g) of this section can be combined into a single report for each facility.

(g) Each owner or operator of a batch vapor or in-line solvent cleaning machine complying with the provisions of § 63.464 shall submit a solvent emission report every year. This solvent emission report shall contain the requirements specified in paragraphs (g)(1) through (g)(4) of this section.

(1) The size and type of each unit subject to this subpart (solvent/air interface area or cleaning capacity).

(2) The average monthly solvent consumption for the solvent cleaning machine in kilograms per month.

(3) The 3-month monthly rolling average solvent emission estimates calculated each month using the method as described in § 63.465(c).

(4) The reports required under paragraphs (f) and (g) of this section can be combined into a single report for each facility.

(h) Each owner or operator of a batch vapor or in-line solvent cleaning machine shall submit an exceedance report to the Administrator semiannually except when, the Administrator determines on a case-by-case basis that more frequent reporting is necessary to accurately assess the compliance status of the source or, an exceedance occurs. Once an exceedance has occurred the owner or operator shall follow a quarterly reporting format until a request to reduce reporting frequency under paragraph (i) of this section is approved. Exceedance reports shall be delivered or postmarked by the 30th day following the end of each calendar half or quarter, as appropriate. The exceedance report shall include the applicable information in paragraphs (h) (1) through (3) of this section.

(1) Information on the actions taken to comply with § 63.463 (e) and (f). This information shall include records of written or verbal orders for replacement parts, a description of the repairs made, and additional monitoring conducted to demonstrate that monitored parameters have returned to accepted levels.

(2) If an exceedance has occurred, the reason for the exceedance and a description of the actions taken.

(3) If no exceedances of a parameter have occurred, or a piece of equipment has not been inoperative, out of control, repaired, or adjusted, such information shall be stated in the report.

(i) An owner or operator who is required to submit an exceedance report on a quarterly (or more frequent) basis may reduce the frequency of reporting to semiannual if the conditions in paragraphs (i)(1) through (i)(3) of this section are met.

(1) The source has demonstrated a full year of compliance without an exceedance.

(2) The owner or operator continues to comply with all relevant recordkeeping and monitoring requirements specified subpart A (General Provisions) and in this subpart.

(3) The Administrator does not object to a reduced frequency of reporting for the affected source as provided in paragraph (e)(3)(iii) of subpart A (General Provisions).

(j) [Reserved]

(k) Each owner or operator of a solvent cleaning machine requesting an equivalency determination, as described in § 63.469 shall submit an equivalency request report to the Administrator. For existing sources, this report must be submitted to the Administrator no later than June 3, 1996. For new sources, this report must be submitted and approved by the Administrator prior to startup.

[59 FR 61805, Dec. 2, 1994; 60 FR 29485, June 5, 1995, as amended at 64 FR 69643, Dec. 14, 1999; 71 FR 75346, Dec. 19, 2005]

§ 63.469 Equivalent methods of control.

Upon written application, the Administrator may approve the use of equipment or procedures after they have been satisfactorily demonstrated to be equivalent, in terms of reducing emissions of methylene chloride, perchloroethylene, trichloroethylene, 1,1,1-trichloroethane, carbon tetrachloride or chloroform to the atmosphere, to those prescribed for compliance within a specified paragraph of this subpart. The application must contain a complete description of the equipment or procedure and the proposed equivalency testing procedure and the date, time, and location scheduled for the equivalency demonstration.

§ 63.470 Implementation and enforcement.

(a) This subpart can be implemented and enforced by the U.S. EPA, or a delegated authority such as the applicable State, local, or Tribal agency. If the U.S. EPA Administrator has delegated authority to a State, local, or Tribal agency, then that agency, in addition to the U.S. EPA, has the authority to implement and enforce this subpart. Contact the applicable U.S. EPA Regional Office to find out if implementation and enforcement of this subpart is delegated to a State, local, or Tribal agency.

(b) In delegating implementation and enforcement authority of this subpart to a State, local, or Tribal agency under subpart E of this part, the authorities contained in paragraph (c) of this section are retained by the Administrator of U.S. EPA and cannot be transferred to the State, local, or Tribal agency.

(c) The authorities that cannot be delegated to State, local, or Tribal agencies are as specified in paragraphs (c)(1) through (4) of this section.

(1) Approval of alternatives to the requirements in §§ 63.460, 63.462(a) through (d), and 63.463 through 63.464 (except for the authorities in § 63.463(d)(9)). Use the procedures in § 63.469 to request the use of alternative equipment or procedures.

(2) Approval of major alternatives to test methods under § 63.7(e)(2)(ii) and (f), as defined in § 63.90, and as required in this subpart.

(3) Approval of major alternatives to monitoring under § 63.8(f), as defined in § 63.90, and as required in this subpart.

(4) Approval of major alternatives to recordkeeping and reporting under § 63.10(f), as defined in § 63.90, and as required in this subpart.

[68 FR 37349, June 23, 2003]

§ 63.471 Facility-wide standards.

(a) Each owner or operator of an affected facility shall comply with the requirements specified in this section. For purposes of this section, affected facility means all solvent cleaning machines, except solvent cleaning machines used in the manufacture and maintenance of aerospace products, solvent cleaning machines used in the manufacture of narrow tubing, and continuous web cleaning machines, located at a major source that are subject to the facility-wide limits in paragraph (b)(2) of this section, and for area sources, affected facility means all solvent cleaning machines, except cold batch cleaning machines, located at an area source that are subject to the facility-wide limits in paragraph (b)(2) of this section.

(b)(1) Each owner or operator of an affected facility must maintain a log of solvent additions and deletions for each solvent cleaning machine.

(2) Each owner or operator of an affected facility must ensure that the total emissions of perchloroethylene (PCE), trichloroethylene (TCE) and methylene chloride (MC) used at the affected facility are equal to or less than the applicable facility-wide 12-month rolling total emission limit presented in Table 1 of this section as determined using the procedures in paragraph (c) of this section.

Table 1—Facility-wide Emission Limits for Facilities With Solvent Cleaning Machines

Solvents emitted	Facility-wide annual emission limits in kg—for general population degreasing machines	Facility-wide annual emission limit in kg for military depot maintenance facilities
PCE only [a]	4,800	8,000
TCE only	14,100	23,500
MC only	60,000	100,000
Multiple solvents—Calculate the MC-weighted emissions using equation 1	60,000	100,000

[a]PCE emission limit calculated using CalEPA URE.

NOTE: In the equation, the facility emissions of PCE and TCE are weighted according to their carcinogenic potency relative to that of MC. The value of A is 12.5. The value for B is 4.25.

$$WE = (PCE \times A) + (TCE \times B) + (MC) \quad \text{(Eq. 9)}$$

Where:

WE = Weighted 12-month rolling total emissions in kg (lbs).

PCE = 12-month rolling total PCE emissions from all solvent cleaning machines at the facility in kg (lbs).

TCE = 12-month rolling total TCE emission from all solvent cleaning machines at the facility in kg (lbs).

MC = 12-month rolling total MC emissions from all solvent cleaning machines at the facility in kg (lbs).

(c) Each owner or operator of an affected facility shall on the first operating day of every month, demonstrate compliance with the applicable facility-wide emission limit on a 12-month rolling total basis using the procedures in paragraphs (c)(1) through (5) of this section. For purposes of this paragraph, “each solvent cleaning machine” means each solvent cleaning machine that is part of an affected facility regulated by this section.

(1) Each owner or operator of an affected facility shall, on the first operating day of every month, ensure that each solvent cleaning machine system contains only clean liquid solvent. This includes, but is not limited to, fresh unused

solvent, recycled solvent, and used solvent that has been cleaned of soiled materials. A fill line must be indicated during the first month the measurements are made. The solvent level within the machine must be returned to the same fill-line each month, immediately prior to calculating monthly emissions as specified in paragraphs (c)(2) and (3) of this section. The solvent cleaning machine does not have to be emptied and filled with fresh unused solvent prior to the calculations.

(2) Each owner or operator of an affected facility shall, on the first operating day of the month, using the records of all solvent additions and deletions for the previous month, determine solvent emissions (E_{unit}) from each solvent cleaning machine using equation 10:

$$E_{unit} = SA_i - LSR_i - SSR_i \qquad \text{(Eq. 10)}$$

Where:

E_{unit} = the total halogenated HAP solvent emissions from the solvent cleaning machine during the most recent month i, (kilograms of solvent per month).

SA_i = the total amount of halogenated HAP liquid solvent added to the solvent cleaning machine during the most recent month i, (kilograms of solvent per month).

LSR_i = the total amount of halogenated HAP liquid solvent removed from the solvent cleaning machine during the most recent month i, (kilograms of solvent per month).

SSR_i = the total amount of halogenated HAP solvent removed from the solvent cleaning machine in solid waste, obtained as described in paragraph (c)(3) of this section, during the most recent month i, (kilograms of solvent per month).

(3) Each owner or operator of an affected facility shall, on the first operating day of the month, determine SSR_i using the method specified in paragraph (c)(3)(i) or (c)(3)(ii) of this section.

(i) From tests conducted using EPA reference method 25d.

(ii) By engineering calculations included in the compliance report.

(4) Each owner or operator of an affected facility shall on the first operating day of the month, after 12 months of emissions data are available, determine the 12-month rolling total emissions, ET_{unit}, for the 12-month period ending with the most recent month using equation 11:

$$ET_{unit} = \left[\sum_{j=1}^{12} E_{unit}\right] \qquad \text{(Eq. 11)}$$

Where:

ET_{unit} = the total halogenated HAP solvent emissions over the preceding 12 months, (kilograms of solvent emissions per 12-month period).

E_{unit} = halogenated HAP solvent emissions for each month (j) for the most recent 12 months (kilograms of solvent per month).

(5) Each owner or operator of an affected facility shall on the first operating day of the month, after 12 months of emissions data are available, determine the 12-month rolling total emissions, $ET_{facility}$, for the 12-month period ending with the most recent month using equation 12:

$$ET_{facility} = \left[\sum_{j=1}^{i} ET_{unit}\right] \qquad \text{(Eq. 12)}$$

Where:

$ET_{facility}$ = the total halogenated HAP solvent emissions over the preceding 12 months for all cleaning machines at the facility, (kilograms of solvent emissions per 12-month period).

ET_{unit} = the total halogenated HAP solvent emissions over the preceding 12 months for each unit j, where i equals the total number of units at the facility (kilograms of solvent emissions per 12-month period).

(d) If the applicable facility-wide emission limit presented in Table 1 of paragraph (b)(2) is not met, an exceedance has occurred. All exceedances shall be reported as required in § 63.468(h).

(e) Each owner or operator of an affected facility shall maintain records specified in paragraphs (e)(1) through (3) of this section either in electronic or written form for a period of 5 years. For purposes of this paragraph, “each solvent cleaning machine” means each solvent cleaning machine that is part of an affected facility regulated by this section.

(1) The dates and amounts of solvent that are added to each solvent cleaning machine.

(2) The solvent composition of wastes removed from each solvent cleaning machines as determined using the procedure described in paragraph (c)(3) of this section.

(3) Calculation sheets showing how monthly emissions and the 12-month rolling total emissions from each solvent cleaning machine were determined, and the results of all calculations.

(f) Each owner or operator of an affected facility shall submit an initial notification report to the Administrator no later than May 3, 2010. This report shall include the information specified in paragraphs (f)(1) through (5) of this section.

(1) The name and address of the owner or operator of the affected facility.

(2) The address (i.e., physical location) of the solvent cleaning machine(s) that is part of an affected facility regulated by this section.

(3) A brief description of each solvent cleaning machine at the affected facility including machine type (batch vapor, batch cold, vapor in-line or cold in-line), solvent/air interface area, and existing controls.

(4) The date of installation for each solvent cleaning machine.

(5) An estimate of annual halogenated HAP solvent consumption for each solvent cleaning machine.

(g) Each owner or operator of an affected facility shall submit to the Administrator an initial statement of compliance on or before May 3, 2010. The statement shall include the information specified in paragraphs (g)(1) through (g)(3) of this section.

(1) The name and address of the owner or operator of the affected facility.

(2) The address (i.e., physical location) of each solvent cleaning machine that is part of an affected facility regulated by this section.

(3) The results of the first 12-month rolling total emissions calculation.

(h) Each owner or operator of an affected facility shall submit a solvent emission report every year. This solvent emission report shall contain the requirements specified in paragraphs (h)(1) through (h)(3) of this section.

(1) The average monthly solvent consumption for the affected facility in kilograms per month.

(2) The 12-month rolling total solvent emission estimates calculated each month using the method as described in paragraph (c) of this section.

(3) This report can be combined with the annual report required in § 63.468(f) and (g) into a single report for each facility.

[72 FR 25158, May 3, 2007]

Appendix A to Subpart T of Part 63—Test of Solvent Cleaning Procedures

General Questions

___ 1. What is the maximum allowable speed for parts entry and removal?

A. 8.5 meters per minute (28 feet per minute).

B. 3.4 meters per minute (11 feet per minute).

C. 11 meters per minute (36 feet per minute).

D. No limit.

___ 2. How do you ensure that parts enter and exit the solvent cleaning machine at the speed required in the regulation?

A. Program on computerized hoist monitors speed.

B. Can judge the speed by looking at it.

C. Measure the time it takes the parts to travel a measured distance.

___ 3. Identify the sources of air disturbances.

A. Fans

B. Open doors

C. Open windows

D. Ventilation vents

E. All of the above

___ 4. What are the three operating modes?

A. Idling, working and downtime

B. Precleaning, cleaning, and drying

C. Startup, shutdown, off

D. None of the above

___ 5. When can parts or parts baskets be removed from the solvent cleaning machine?

A. When they are clean

B. At any time

C. When dripping stops

D. Either A or C is correct

___ 6. How must parts be oriented during cleaning?

A. It does not matter as long as they fit in the parts basket.

B. So that the solvent pools in the cavities where the dirt is concentrated.

C. So that solvent drains from them freely.

___ 7. During startup, what must be turned on first, the primary condenser or the sump heater?

A. Primary condenser

B. Sump heater

C. Turn both on at same time

D. Either A or B is correct

___ 8. During shutdown, what must be turned off first, the primary condenser or the sump heater?

A. Primary condenser

B. Sump heater

C. Turn both off at same time

D. Either A or B is correct

___ 9. In what manner must solvent be added to and removed from the solvent cleaning machine?

A. With leak proof couplings

B. With the end of the pipe in the solvent sump below the liquid solvent surface.

C. So long as the solvent does not spill, the method does not matter.

D. A and B

___ 10. What must be done with waste solvent and still and sump bottoms?

A. Pour down the drain

B. Store in closed container

C. Store in a bucket

D. A or B

___ 11. What types of materials are prohibited from being cleaned in solvent cleaning machines using halogenated HAP solvents?

A. Sponges

B. Fabrics

C. Paper

D. All of the above

Control Device Specific Questions

[ ] Freeboard Refrigeration Device

___ 1. What temperature must the FRD achieve?

A. Below room temperature

B. 50 °F

C. Below the solvent boiling point

D. 30 percent below the solvent boiling point

[ ] Working-Mode Cover

___ 2. When can a cover be open?

A. While parts are in the cleaning machine

B. During parts entry and removal

C. During maintenance

D. During measurements for compliance purposes

E. A and C

F. B, C, and D

___ 3. Covers must be maintained in what condition?

A. Free of holes

B. Free of cracks

C. So that they completely seal cleaner opening

D. All of the above

[ ] Dwell

___ 4. Where must the parts be held for the appropriate dwell time?

A. In the vapor zone

B. In the freeboard area above the vapor zone

C. Above the cleaning machine

D. In the immersion sump

Answers

General Questions

1. B
2. A or C
3. E
4. A
5. C
6. C
7. A
8. B
9. D
10. B
11. D

Control Device Specific Questions

1. D
2. F
3. D
4. B

[59 FR 61818, Dec. 2, 1994; 60 FR 29485, June 5, 1995]

Appendix B to Subpart T of Part 63—General Provisions Applicability to Subpart T

Reference	Applies to subpart T		Comments
	BCC	BVI	
63.1(a) (1)-(3)	Yes	Yes	
63.1(a)(4)	Yes	Yes	Subpart T (this appendix) specifies applicability of each paragraph in subpart A to subpart T.
63.1(a)(5)	No	No	
63.1(a) (6)-(8)	Yes	Yes	
63.1(a)(9)	No	No	
63.1(a)(10)	Yes	Yes	
63.1(a)(11)	No	No	Subpart T allows submittal of notifications and reports through the U.S. mail, fax, and courier. Subpart T requires that the postmark for notifications and reports submitted through the U.S. mail or other non-Governmental mail carriers be on or before deadline specified in an applicable requirement.
63.1(a) (12)-(14)	Yes	Yes	
63.1(b)(1)	No	No	Subpart T specifies applicability.
63.1(b)(2)	No	Yes	
63.1(b)(3)	No	No	Subpart T requires that a record of halogenated cleaning machine applicability determination be kept on site for 5 years, or until the cleaning machine changes its operations. The record shall be sufficiently detailed to allow the Administrator to make a finding about the source's applicability status with regard to subpart T.
63.1(c)(1)	Yes	Yes	
63.1(c)(2)	Yes	Yes	Subpart T, § 63.460(h) exempts area sources subject to this subpart from the obligation to obtain Title V operating permits.
63.1(c)(3)	No	No	
63.1(c)(4)	Yes	Yes	
63.1(c)(5)	Yes	Yes	Subpart T does not require continuous monitoring systems (CMS) or continuous opacity monitoring systems. Therefore, notifications and requirements for CMS and COMS specified in subpart A do not apply to subpart T.
63.1(d)	No	No	
63.1(e)	No	Yes	
63.2	Yes	Yes	Subpart T definitions (§ 63.461) for existing and new overlap with the definitions for existing source and new source in subpart A (§ 63.2). Both subpart A and T also define Administrator.
63.3(a)-(c)	Yes	Yes	
63.4(a) (1)-(3)	Yes	Yes	
63.4(a)(4)	No	No	
63.4(a)(5)	Yes	Yes	
63.4(b)-(c)	Yes	Yes	
63.5(a)(1)	Yes	Yes	
63.5(a)(2)	Yes	Yes	
63.5(b)(1)	Yes	Yes	
63.5(b)(2)	No	No	
63.5(b)(3)	No	No	Subpart T overrides the requirement for approval prior to constructing a new or

Reference	Applies to subpart T		Comments
			reconstructing an existing major source.
63.5(b)(4)-(6)	Yes	Yes	
63.5(c)	No	No	
63.5 (d)-(f)	No	No	Subpart T overrides the requirement to submit an application for approval of construction or reconstruction of a halogenated solvent cleaning machine.
63.6(a)	Yes	Yes	
63.6(b) (1)-(5)	Yes	Yes	Subpart T, § 63.460, specifies compliance dates.
63.6(b)(6)	No	No	
63.6(b)(7)	No	No	Subpart T has the same requirements for affected halogenated HAP solvent cleaning machine subcategories that are located at area sources as it does for those located at major sources.
63.6(c)(1)-(2)	Yes	Yes	Subpart T allows 3 years from the date of promulgation for both area and major existing sources to comply.
63.6(c) (3)-(4)	No	No	
63.6(c)(5)	Yes	Yes	Subpart T has the same requirements for affected halogenated HAP solvent cleaning machine subcategories that are located at area sources as it does for those located at major sources.
			Subpart T allows 3 years from the date of promulgation for both area and major existing sources to comply.
63.6(d)	No	No	
63.6(e)(1)-(2)	Yes	Yes	
63.6(e)(3)	No	No	Subpart T overrides the requirement of a startup, shutdown, and malfunction plan. Subpart T specifies startup and shutdown procedures to be followed by an owner or operator for batch vapor and in-line cleaning machines.
63.6(f)-(g)	Yes	Yes	
63.6(h)	No	No	Subpart T does not require compliance with an opacity or visible emission standard.
63.6(i) (1)-(14)	Yes	Yes	
63.6(i)(15)	No	No	
63.6(i)(16)	Yes	Yes	
63.6(j)	Yes	Yes	
63.7(a)	No	Yes	Subpart T gives owners or operators the option to perform an idling emission performance test as a way of demonstrating compliance. Other options are also available that do not require a performance test.
63.7(b)	No	Yes	This is only required for those owners or operators that choose the idling emission standard as their compliance option.
63.7(c)(1)	No	Yes	This is only required for those owners or operators that choose the idling emission standard as their compliance option.
63.7(c) (2)-(3)	No	No	Subpart T does not require a site-specific test plan for the idling emission performance test.
63.7(c)(4)	No	No	Subpart T does not require a performance test that involves the retrieval of gas samples, and therefore this does not apply.
63.7(d)	No	No	Requirements do not apply to the idling emission performance test option.
63.7(e)	No	Yes	
63.7(f)	No	Yes	

Reference	Applies to subpart T		Comments
63.7(g)	No	Yes	Subpart T specifies what is required to demonstrate idling emission standard compliance through the use of the Environmental Protection Agency test method 307 and control device monitoring. Reports and records of testing and monitoring are required for compliance verification. Three runs of the test are required for compliance, as specified in § 63.7(e) of subpart A.
63.7(h)	No	No	Subpart T does not require the use of a performance test to comply with the standard. The idling emission standard option (which requires an idling emission performance test) is an alternative option offered to owners or operators of batch vapor and in-line cleaning machines for compliance flexibility.
63.8 (a)-(b)	Yes	Yes	
63.8 (c)-(e)	No	No	Subpart T does not require the use of continuous monitoring systems to demonstrate compliance.
63.8(f)	Yes	Yes	
63.8(g)	No	No	Subpart T does not require continuous opacity monitoring systems and continuous monitoring systems data.
63.9(a) (1)-(4)	Yes	Yes	
63.9(b)(1)	Yes	Yes	
63.9(b)(2)	Yes	Yes	Subpart T includes all of those requirements stated in subpart A, except that subpart A also requires a statement as to whether the affected source is a major or an area source, and an identification of the relevant standard (including the source's compliance date). Subpart T also has some more specific information requirements specific to the affected source (see subpart T, §§ 63.468(a)-(b)).
63.9(b)(3)	Yes	Yes	The subpart A and subpart T initial notification reports differ (see above).
63.9(b)(4)	No	No	Subpart T does not require an application for approval of construction or reconstruction.
63.9(b)(5)	Yes	Yes	
63.9(c)	Yes	Yes	
63.9(d)	Yes	Yes	
63.9(e)	Yes	Yes	Under subpart T, this requirement only applies to owners or operators choosing to comply with the idling emissions standard.
63.9(f)	No	No	Subpart T does not require opacity or visible emission observations.
63.9(g)(1)	No	No	Subpart T does not require the use of continuous monitoring systems or continuous opacity monitoring systems.
63.9(h)	No	No	Section 63.468 of subpart T requires an initial statement of compliance for existing sources to be submitted to the Administrator no later than 150 days after the compliance date specified in § 63.460(d) of subpart T. For new sources, this report is to be submitted to the Administrator no later than 150 days from the date specified in § 63.460(c).
63.9(i)	Yes	Yes	
63.9(j)	Yes	Yes	
63.10(a)	Yes	Yes	
63.10(b)	No	No	Recordkeeping requirements are specified in subpart T.
63.10(c) (1)-(15)	No	No	Subpart T does not require continuous monitoring systems.
63.10(d)(1)	Yes	Yes	
63.10(d)(2)	No	No	Reporting requirements are specified in subpart T.
63.10(e) (l)-(2)	No	No	Subpart T does not require continuous emissions monitoring systems.
63.10(e)(3)	No	No	Subpart T does not require continuous monitoring systems.
63.10(e)(4)	No	No	Subpart T does not require continuous opacity monitoring systems.

Reference	Applies to subpart T		Comments
63.10(f)	Yes	Yes	
63.11(a)	Yes	Yes	
63.11(b)	No	No	Flares are not a control option under subpart T.
63.12 (a)-(c)	Yes	Yes	
63.13 (a)-(c)	Yes	Yes	
63.14	No	No	Subpart T requirements do not require the use of the test methods incorporated by reference in subpart A.
63.15(a)-(b)	Yes	Yes	

BCC=Batch Cold Cleaning Machines.

BVI=Batch Vapor and In-line Cleaning Machines.

[59 FR 61818, Dec. 2, 1994; 60 FR 29485, June 5, 1995, as amended at 70 FR 75346, Dec. 19, 2005]

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit (FESOP) Renewal

Source Description and Location

Source Name:	**Praxair Surface Technologies, Inc.**
Source Location:	**1500 and 1550 Polco Street and 1245 and 1415 Main Street, Indianapolis, Indiana 46222**
County:	**Marion (Wayne Township)**
SIC Code:	**3479 (Coating, Engraving, and Allied Services, Not Elsewhere Classified)**
Permit Renewal No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

On July 2, 2018, Praxair Surface Technologies, Inc. submitted an application to the Office of Air Quality (OAQ) requesting to renew its operating permit. OAQ has reviewed the operating permit renewal application from Praxair Surface Technologies, Inc. relating to the operation of a stationary manufacturer of metallic and nonmettalic powders for surface coating and polishing. Praxair Surface Technologies, Inc. was issued a FESOP (F097-33186-00060) on April 1, 2014.

Additionally, the source has applied for the following:

(a) Modify the following emission units:

(1) The one (1) specialty ingot manufacturing process by adding one (1) lathe and

(2) The one (1) open top vapor degreaser, identified as LPPS Vapor Degreaser, by changing the solvent.

(b) Modify the following insignificant activity:

The one (1) hydrochloric acid stripping operation by adding an additional hydrochloric acid tank.

(c) Construct and operate one (1) new natural gas-fired boiler. This boiler is a replacement for the existing one (1) natural gas-fired boiler, identified as B-002. The new boiler will use the same unit ID and has the same maximum capacity.

(d) Construct and operate one (1) new 3D printer, which is considered an insignificant activity.

Source Definition

There are no changes to this source determination in this FESOP Renewal No. 097-40170-00060.

(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.

(b) Additionally, Praxair, Inc. owns and operates Praxair Surface 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. Praxair Surface Technologies 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. Praxair Surface Technologies 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 Praxair Surface 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.

Permitted Emission Units and Pollution Control Equipment

Descriptions of these emission units have been revised to provide clarity.

The source consists of the following permitted emission units:

<u>1550 Polco Street</u>

(a) One (1) powder manufacturing process, identified as CSP Department EU020, constructed in 2014, located at 1550 Polco Street, exhausting indoors, 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, with a maximum capacity of four (4) batches of powder per twenty (20) hours, including the following systems:

(A) Spray drying and

(B) Powder to an oxide foam converter

and utilizing the following control devices:

(C) One (1) cyclonic collection system and

(D) 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) natural gas combustion unit, identified as Burner Associated with EU020, with a maximum capacity of 0.40 MMBtu per hour, and utilizing one (1) CSP pollution control system, which includes the following control devices:

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

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

(5) 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 dust collector, identified as DC033, as control.

(6) One (1) electrically-heated rotary kiln, with a maximum capacity of four (4) batches of powder per twenty (20) hours, used to calcine powder, and utilizing no control;

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

(8) One (1) enclosed mill, 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 no control;

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

(10) One (1) primary enclosed blender, used to homogenize the mixture, utilizing no control, and with no exhaust;

(11) One (1) backup enclosed blender, permitted in 2014, used to homogenize the mixture, used to process small product batches and used as a backup blender for the primary enclosed blender, utilizing no control, and with no exhaust; and

(12) 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, as 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-four (24) specialty powders manufacturing operations, located at the 1550 Polco Street Specialty Powders area:

(1) Twenty-two (22) specialty powders manufacturing operations, modified in 2015 to reroute baghouses, modified in 2016 to construct a new operation, and modified in 2018 to change the amount of dust collected by the dust collectors, 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.

Emission Unit ID	**Maximum Throughput (lb/hr)**	**Dust Collectors**	**Description**
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

Emission Unit ID	Maximum Throughput (lb/hr)	Dust Collectors	Description
			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.
EUP-17	8.33	DC035, DC061, Demister 3	Viga 2/5 for Powder 2, support and special orders (SO) processing. Powder handling is controlled by DC061, while the exhaust from the viga is controlled by DC035. Demister 3 is used to remove oil that was used in the viga.
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.

Emission Unit ID	Maximum Throughput (lb/hr)	Dust Collectors	Description
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	314.66	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.

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) One (1) titanium powder process, identified as Titanium Powder Process, 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 this process has been considered confidential information.

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

(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) 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

Emission Unit ID	Unit Description	Maximum Capacity (MMBtu/hr)	Stack / Vent ID
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

(g) Three (3) 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-003	Ajax Boilers	1999	0.45	003
B-004			0.45	004

<u>1500 Polco Street</u>

(h) 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.

(i) 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.

(j) 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

(k) Twenty (20) 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

(l) 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.

(m) 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.

(n) 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.

(o) 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

<u>1415 Main Street</u>

(p) Twenty-two (22) 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-EUG1	Constructed prior to 2014	173	O1P1-CG1
O1P1-EUG2		173	O1P1-CG2
O1P1-EUG5		173	O1P1-CG5
O1P1-EUG6		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

(q) 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

(r) 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.

(s) 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 three (3) integral dust collectors with HEPA filters, identified as DCC1-CV, DCC2-CV, and DCC4-CV, as control, and exhausting indoors.

(t) 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.

(u) 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.

(v) 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.

(w) 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.

(x) 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 Baffles**	07B
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.

(y) 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

Emission Unit ID	Unit Description	Maximum Capacity (MMBtu/hr)
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

(z) Four (4) 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) One (1) open top vapor degreaser, utilizing no control, and exhausting indoors:

Emission Unit ID	Construction Year	Maximum Capacity (gallons per year)	Solvent
Tribomet Line Vapor Degreaser*	2017	660	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			

Emission Units and Pollution Control Equipment Removed From the Source

The source has removed the following emission units:

(a) ~~Two (2) grit blasting units:~~

(1) ~~One (1) silicon carbide grit blasting unit, identified as EU015G, constructed prior to 2014, with a maximum capacity of 360 pounds per hour, located at 1245 Main Street, utilizing a baghouse, identified as C015G, as control, and exhausting indoors.~~

(2) ~~One (1) aluminum oxide grit blasting units, identified as EU17C, constructed in 2017, with a maximum capacity of 360 pounds per hour, located at 1245 Main Street, utilizing a baghouse, identified as C17C, as control, and exhausting to the Stack/Vent 17C.~~

(b) ~~Two (2) process associated with the one (1) specialty ingot manufacturing process, constructed in 2016, and located at 1550 Polco Street:~~

(1) ~~One (1) slurry blending process, with a maximum capacity of:~~

(A) ~~1,093.30 pounds of raw materials per batch and~~
(B) ~~One (1) batch processed every four (4) hours,~~

~~utilizing no control, and exhausting indoors. The slurry is spray dried using spray drying equipment after processing.~~

(2) ~~One (1) final finishing machining chop saw, with a maximum capacity of 275 pounds of specialty ingot per hour, utilizing no control, and exhausting indoors.~~

(c) ~~One (1) plasma surface coating station, identified as EU13B, approved in 2017 for construction, with a maximum throughput of 16.08 pounds of powder coating per hour, located at 1245 Main Street, utilizing a baghouse with HEPA filters, identified as C13D, as control, and exhausting to Stack/Vent 13D.~~

This emission unit was not constructed, and the source requested it to be removed from the permit on November 7, 2018.

(d) ~~Two (2) cold cleaner degreasers, constructed prior to 2014, utilizing no control, and exhausting indoors:~~

~~**Location**~~	~~**Emission Unit ID**~~	~~**Maximum Capacity (gallons per year)**~~	~~**Solvent**~~
~~1550 Polco Street~~	~~Parts Washer~~	~~145~~	~~Super Agitene 141~~
~~1500 Polco Street~~	~~Mineral Spirit Wash~~	~~145~~	~~Mineral Spirits~~

(e) ~~One (1) maintenance spray paint booth, utilizing HVLP application, with a maximum capacity of gallons per year, located at 1500 Polco Street, and utilizing fabric filters as particulate control.~~

Insignificant Activities

Descriptions of these insignificant activities have been revised to provide clarity.

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) Two (2) 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
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) 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

Under NESHAP for Stationary reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ], the three (3) 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

<u>1415 Main Street</u>

(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

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

<u>1550 Polco Street</u>

(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

1415 Main Street

(g) 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.

(h) 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.

(i) One (1) stripping operation consisting of the following:

(1) 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.

(j) 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

<u>General Source</u>

(k) Combustion source flame safety purging on startup.

(l) 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.

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

(n) 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.

(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.

(o) 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.

(p) 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.

(q) 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.

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

(s) Filter or coalescer media changeout.

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

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

Modified Emission Units

The source also consists of the following modified emission units:

1550 Polco Street

(a) 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.

1415 Main Street

(b) One (1) open top vapor degreaser, utilizing no control, and exhausting indoors:

Location	Emission Unit ID	Construction Year	Maximum Capacity (gallons per year)	Solvent
1415 Main Street	LPPS Vapor Degreaser	Constructed in 2013 **and approved in 2018 for modification to change solvent**	660	~~Novec 72DE~~ **N-Propyl Bromide**

Modified Insignificant Activities

The source also consists of the following modified insignificant activity:

1415 Main Street

(a) One (1) stripping operation:

(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:

() ~~One (1) hydrofluoric acid tank,~~
(A) ~~Two (2)~~ **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.

The PTE of these modified units, the new unit, and the new insignificant activity is less than the exemption levels, therefore no approval to construct is required. See Appendix A of TSD for detailed calculations.

New Emission Units

The source also consists of the following new emission unit:

1550 Polco Street

(a) One (1) natural gas-fired boilers, utilizing no control, and consisting of the following:

Location	Emission Unit ID	Unit Description	Construction Year	Maximum Capacity (MMBtu/hr)	Stack / Vent ID
1550 Polco Street	B-002	Multi-Pulse Hot Water Boiler	**Approved in 2018 for construction. This unit replaces the existing B-002.**	0.15	003

The PTE of this new unit, the new insignificant activity, and the modified units is less than the exemption levels, therefore no approval to construct is required. See Appendix A of TSD for detailed calculations.

New Insignificant Activity

The source also consists of the following new insignificant activity:

1550 Polco Street

(a) One (1) 3D printer, 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

The PTE of this new insignificant activity, the new unit, and the modified units is less than the exemption levels, therefore no approval to construct is required. See Appendix A of TSD for detailed calculations.

Existing Approvals

The source was issued FESOP No. F097-33186-00060 on April 1, 2014. The source has since received the following approvals:

Permit Type	Permit Number	Issuance Date
Administrative Amendment	097-34910-00060	October 7, 2014
Significant Permit Revision	097-35157-00060	March 25, 2015
Significant Permit Revision	097-35433-00060	May 7, 2015
Significant Permit Revision	097-36948-00060	June 21, 2016
Significant Permit Revision	097-37221-00060	September 06, 2016
Significant Permit Revision	097-37709-00060	February 10, 2017
Minor Permit Revision	097-38904-00060	November 8, 2017
Significant Permit Revision	097-39440-00060	April 19, 2018
Significant Permit Revision	097-40276-00060	November 14, 2018

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

"Integral Part of the Process" Determination

(a) Baghouse
As part of FESOP SPR No. F097-40276-00060, issued on November 14, 2018, IDEM, OAQ previously determined that the baghouse, identified as DC074, is considered an integral part of the one (1) Specialty Powders Manufacturing operation, identified as EUS-15D.

IDEM, OAQ is not reevaluating this integral justification at this time. Therefore, the potential particulate emissions from the one (1) Specialty Powders Manufacturing operation, identified as EUS-15D, will continue to be calculated after consideration of the baghouse, identified as DC074, for purposes of determining permitting level and applicability of 326 IAC 6.5. Operating conditions in the proposed permit will specify that the baghouse, identified as DC074, shall operate at all times when the one (1) Specialty Powders Manufacturing operation, identified as EUS-15D, is in operation.

(b) Baffles, baghouses, dust collectors, and HEPA filters
As part of FESOP No. F097-33186-00060, issued on April 1, 2014, IDEM, OAQ previously determined that baffles, baghouses, dust collectors, and HEPA filters are an integral part of the specialty powders manufacturing processes and the surface coating processes.

IDEM, OAQ is not reevaluating this integral justification at this time. Therefore, the potential particulate emissions from the specialty powders manufacturing processes and the surface coating processes will continue to be calculated after consideration of the baffles, baghouses, dust collectors, and HEPA filters for purposes of determining permitting level and applicability of 326 IAC 6.5. Operating conditions in the proposed permit will specify that the baffles, baghouses, dust collectors, and HEPA filters shall operate at all times when the specialty powders manufacturing processes and the surface coating processes are in operation.

Enforcement Issue

There are no enforcement actions pending.

Emission Calculations

See Appendix A of this document for detailed emission calculations.

County Attainment Status

The source is located in Marion County (Wayne Township).

Pollutant	Designation
SO_2	Nonattainment effective October 4, 2013, for the 2010 SO2 standard for Center, Perry, and Wayne townships. Better than national standards for the remainder of the county.
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 July 20, 2012, for the 2008 8-hour ozone standard.[1]
$PM_{2.5}$	Attainment effective July 11, 2013, for the annual PM2.5 standard.
$PM_{2.5}$	Unclassifiable or attainment effective December 13, 2009, for the 24-hour $PM_{2.5}$ standard.
PM_{10}	Unclassifiable effective November 15, 1990.
NO_2	Cannot be classified or better than national standards.
Pb	Unclassifiable or attainment effective December 31, 2011.
[1]Attainment effective October 18, 2000, for the 1-hour ozone standard for the Indianapolis area, including Marion County, and is a maintenance area for the 1-hour ozone National Ambient Air Quality Standards (NAAQS) for purposes of 40 CFR 51, Subpart X*. The 1-hour designation was revoked effective June 15, 2005.	

(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 for 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 for Prevention of Significant Deterioration (PSD), 326 IAC 2-2.

(c) SO_2
U.S. EPA, in the Federal Register Notice 78 FR 47191 dated August 5, 2013, designated Marion County, Wayne Township as nonattainment for SO_2. Therefore, SO_2 emissions were reviewed pursuant to the requirements of Emission Offset, 326 IAC 2-3.

This source is located in Wayne Township.

(d) 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.

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.

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source.

	Unrestricted Potential Emissions (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*	**1,499.91**	**1,252.31**	**1,252.31**	**0.39**	**106.81**	**37.36**	**25.42**	**51.13**	**95.22**
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10
PSD Major Source Thresholds	250	250	250	---	250	250	250	NA	NA
Emission Offset Major Source Thresholds	---	---	---	100	---	---	---	NA	NA

[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.
Twenty-three (23) specialty powder manufacturing operations and twenty-two (22) surface coating operations have integral control devices.

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

(a) The potential to emit (as defined in 326 IAC 2-7-1(30)) of PM, PM10, PM2.5 and NOx is equal to or greater than 100 tons per year. However, the Permittee has agreed to limit the source's PM, PM10, PM2.5 and NOx emissions to less than Title V levels; therefore, the Permittee will be issued a FESOP Renewal.

(b) The potential to emit (as defined in 326 IAC 2-7-1(30)) of all other criteria pollutants are less than 100 tons per year.

(c) The potential to emit (as defined in 326 IAC 2-7-1(30)) of any single HAP is equal to or greater than ten (10) tons per year and/or the potential to emit (as defined in 326 IAC 2-7-1(30)) of a combination of HAPs is equal to or greater than twenty-five (25) tons per year. However, the Permittee has agreed to limit the source's single HAP emissions and total HAP emissions below Title V levels. Therefore, the Permittee will be issued a FESOP Renewal.

Potential to Emit After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any new control equipment is considered federally enforceable only after issuance of this FESOP renewal, and only to the extent that the effect of the control equipment is made practically enforceable in the permit.

	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)								
	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*	**167.44**	**93.75**	**93.75**	**0.39**	**93.32**	**37.36**	**25.42**	**4.69**	**20.30**
Title V Major Source Thresholds	NA	100	100	100	100	100	100	25	10

	Potential To Emit of the Entire Source After Issuance of Renewal (tons/year)								
	PM[1]	PM_{10}[1]	$PM_{2.5}$[1, 2]	SO_2	NO_X	VOC	CO	Single HAP[3]	Total HAPs
PSD Major Source Thresholds	250	250	250	---	250	250	250	NA	NA
Emission Offset Major Source Thresholds	---	---	---	100	---	---	---	NA	NA

[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.
Twenty-three (23) specialty powder manufacturing operations and twenty-two (22) surface coating operations have integral control devices.

The source opted to take limits in order to render the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable to this source. See Technical Support Document (TSD) State Rule Applicability - Entire Source section, 326 IAC 2-8 (FESOP) and 326 IAC 2-2 (PSD), for more information regarding the limit(s).

(a) This existing source is not a major stationary source, under PSD (326 IAC 2-2), because no PSD regulated pollutant is emitted at a rate of two hundred fifty (250) tons per year or more and it is not one of the twenty-eight (28) listed source categories, as specified in 326 IAC 2-2-1(ff)(1).

(b) This existing source is not a major stationary source under Emission Offset (326 IAC 2-3) because no nonattainment regulated pollutant is emitted at a rate of 100 tons per year or more.

(c) This existing source is not a major source of HAPs, as defined in 40 CFR 63.2, because HAPs emissions are less than ten (10) tons per year for any single HAP and less than twenty-five (25) tons per year of a combination of HAPs. Therefore, this source is an area source under Section 112 of the Clean Air Act (CAA).

Federal Rule Applicability

Compliance Assurance Monitoring (CAM):

(a) Pursuant to 40 CFR 64.2, Compliance Assurance Monitoring (CAM) is not included in the permit, because the 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.

New Source Performance Standards (NSPS)

Rotary 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 rotary kiln used in the one (1) powder manufacturing process, identified as CSP Department EU020. The electrically-heated rotary 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.

Natural Gas-Fired Combustion Units

(a) The requirements of the New Source Performance Standard for Fossil-Fuel-Fired Steam Generators, 40 CFR 60.40, Subpart D, are still not included in the permit for the following emission units:

   (1) The thirty-three (33) natural gas-fired combustion units, because they do not meet the definition of fossil-fuel-fired steam generator as defined by 40 CFR 60.41.

   (2) The seven (7) natural gas-fired boilers, because each unit has a maximum heat input capacity of less than 250 MMBtu/hr.

(b) The requirements of the New Source Performance Standard for Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60.40b, Subpart Db, are still not included in the permit for the following emission units:

   (1) The thirty-three (33) natural gas-fired combustion units, because they do not meet the definition of fossil-fuel-fired steam generator, as defined by 40 CFR 60.41b.

   (2) The seven (7) natural gas-fired boilers, because each unit has a maximum heat input capacity of less than 100 MMBtu/hr.

(c) The one (1) natural gas-fired boiler, identified as Cleaver Brooks Boiler EU004, is still subject to the New Source Performance Standard for Small Industrial-Commercial-Institutional Steam Generating Units (40 CFR 60.40c, Subpart Dc), which is incorporated by reference as 326 IAC 12. The one (1) natural gas-fired boiler, identified as Cleaver Brooks Boiler EU004, meets the definition of fossil-fuel-fired steam generator, as defined by 40 CFR 60.41c, and has a maximum heat input capacity greater than 10 MMBtu/hr.

   The one (1) natural gas-fired boiler, identified as Cleaver Brooks Boiler EU004, is subject to the following portions of Subpart Dc.

   (1) 40 CFR 60.40c
   (2) 40 CFR 60.41c
   (3) 40 CFR 60.48c(a)(1), (a)(3), (g), and (i)

   The following emission units are not subject to the requirements of Subpart Dc:

   (1) The thirty-three (33) natural gas-fired combustion units, because they do not meet the definition of fossil-fuel-fired steam generator, as defined by 40 CFR 60.41c.

(2) The remaining six (6) natural gas-fired boilers, because each unit has a maximum heat input capacity of less than 10 MMBtu/hr.

Stripping Operations

(a) The requirements of the New Source Performance Standard for Nitric Acid Plants, 40 CFR 60, Subpart G and 326 IAC 12, are still not included in the permit, because this source does not have any emission units that produce weak nitric acid by either the pressure or atmospheric pressure process.

This source uses nitric acid in their Electrolytic Stripping and Acid Stripping operations; however, none of the nitric acid is produced on-site.

Emergency Generators

(a) The requirements of the New Source Performance Standard for Stationary Compression Ignition Internal Combustion Engines, 40 CFR 60.4200, Subpart IIII, are still not included in the permit for the following emission units:

(1) The one (1) emergency generator, identified as BUDA, because this generator is not a compression ignition internal combustion engine. This emergency generator is a spark ignition internal combustion engine.

(2) The two (2) emergency generators, identified as Generac and ONAN/Cummins, because both are stationary compression ignition internal combustion engines that commenced construction prior to July 11, 2005, and are existing units under Subpart IIII.

(b) The requirements of the New Source Performance Standard for Stationary Spark Ignition Internal Combustion Engines, 40 CFR 60.4230, Subpart JJJJ, are still not included in the permit for the following emission units:

(1) The one (1) emergency generator, identified as BUDA, because it is a stationary SI ICE that commenced construction before June 12, 2006 and is an existing unit under Subpart JJJJ.

(2) The two (2) emergency generators, identified as Generac and ONAN/Cummins, because these generators are not spark ignition internal combustion engines. These generators are compression ignition internal combustion engines.

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

National Emission Standards for Hazardous Air Pollutants (NESHAPs)

Surface Coating and Polishing Operations (Manufacturing and Application)

(a) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Surface Coating of Metal Cans, 40 CFR 63.3480, Subpart KKKK (326 IAC 20-86), are not included in the permit, since this source does not perform surface coating of metal cans and ends (including decorative tins) and metal crowns and closures.

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Miscellaneous Metal Parts and Products, 40 CFR 63.3880, Subpart MMMM (326 IAC 20-80), are not included in the permit, since this source is not a major source of HAPs as defined in 40 CFR 63.2.

(c) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Large Appliances, 40 CFR 63.3880, Subpart NNNN (326 IAC 20-63), are not included in the permit, since this source is not a major source of HAPs as defined in 40 CFR 63.2. This source is also does not have large appliance surface coating facilities.

(d) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Printing, Coating, and Dyeing of Fabrics and Other Textiles, 40 CFR 63.4280, Subpart OOOO (326 IAC 20-77), are not included in the permit, since this source does not have any emission unit that performs printing, coating, slashing, dyeing or finishing of fabric and other textiles.

(e) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Plastic Parts and Products, 40 CFR 63.4480, Subpart PPPP (326 IAC 20-81), are not included in the permit, since this source is not a major source of HAPs as defined in 40 CFR 63.2. This source also does not apply surface coating to plastic parts and products.

(f) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Surface Coating of Wood Building Products, 40 CFR 63.4680, Subpart QQQQ (326 IAC 20-79), are not included in the permit, since this source does not apply surface coating to wood building products.

(g) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Surface Coating of Metal Furniture, 40 CFR 63.4880, Subpart RRRR (326 IAC 20-63), are not included in the permit, since this source does not apply surface coating to furniture or components of furniture constructed either entirely or partially from metal.

(h) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs): Miscellaneous Coating Manufacturing, 40 CFR 63.7980, Subpart HHHHH (326 IAC 20-88), are not included in the permit, since this source is not a major source of HAPs as defined in 40 CFR 63.2.

(i) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63.11169, Subpart HHHHHH, are still not included in the permit. Although this source performs spray application of coatings that contain the target HAPs, as defined in 40 CFR 63.11180, to a metal substrate on a part or product, and is located at an area source of HAPs:

(1) Pursuant to 40 CFR 63.11169(d)(6), the following units are exempt from these requirements because they are regulated under 40 CFR 63, Subpart WWWWWW:

Emission Unit
Twenty (20) surface coating stations
EU01A
EU02A
EU16A
EU17A
EU18A
EU06A
EU19A
EU20A
EU05B
EU06B
EU10B

Emission Unit
EU01B
EU02B
EU05B
EU06B
EU07B
EU08B
EU09B
EU11B
EU01S
Insignificant Activities:
Tribomet Lines #1 and #2

(2) The following units are still not subject to these requirements, because they do not spray the target HAPs:

Emission Unit
Four (4) surface coating stations
EU04A
EU03B
EU12B
EU04B

(3) The following units are still not subject to these requirements, because they do not apply coatings by "spray application" or coatings are not applied in these areas:

Emission Unit
Sermatech Process
Physical vapor deposition coating station (EU01T)
LSR1 titanium tetrachloride coating station (EU01R)
Insignificant Activities:
Scale Coating

(4) The following units are still not subject to these requirements, because the strippers do not contain methylene chloride:

Emission Unit
Three (3) stripping operations
One (1) hydrochloric acid stripping operation
One (1) nitric acid stripping operation
One (1) electrolytic stripping operation

(j) This source is subject to the National Emission Standards for Hazardous Air Pollutants for Plating and Polishing Operations, 40 CFR 63, Subpart WWWWWW, because the source operates a plating and polishing facility at an area source of hazardous air pollutants:

(A) The requirements of Subpart WWWWWW are still included for the following emission units, because they spray the metal HAPs listed in the rule, are defined as a thermal spraying operation, are a plating operation using the plating and polishing metal HAPs, or are a dry mechanical polishing operation.

Emission Unit
Three (3) grinders
Bader Grinder #2
Bader Grinder #3
Bader Grinder #4
Twenty (20) surface coating stations
EU01A
EU02A
EU16A
EU17A
EU18A
EU06A
EU19A
EU20A
EU05B
EU06B
EU10B
EU01B
EU02B
EU05B
EU06B
EU07B
EU08B
EU09B
EU11B
EU01S
Insignificant Activities:
Tribomet Lines #1 and #2

Applicable portions of the NESHAP are the following:

(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

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

There are no applicable testing requirements for this NESHAP.

(B) The requirements of Subpart WWWWWW are not included for the following emission units, because they do not spray the metal HAPs listed in the rule, do not perform one of the activities listed in 40 CFR 63.11504(a)(1), or the polishing/plating materials created on-site are not used on-site:

Emission Unit
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) len polish mixing and filling operation
One (1) suspension room mixing operation
Operation 2, Process 2 (O2P2)
Four (4) surface coating stations
EU04A
EU03B
EU12B
EU04B

(k) This source is subject to the National Emission Standards for Hazardous Air Pollutants for Area Sources: Paints and Allied Products Manufacturing, 40 CFR 63, Subpart CCCCCCC (7C), because, this source operates at least one facility that performs paints and allied products manufacturing and it processes, uses, or generates materials containing HAP, as defined in 40 CFR 63.11607 at an area source of hazardous air pollutants.

The affected source consists of all paints and allied products manufacturing processes that process, use, or generate materials containing HAP at the facility, including any, all, or a combination of, weighing, blending, mixing, grinding, tinting, dilution or other formulation. Cleaning operations, material storage and transfer, and piping are considered part of the manufacturing process:

.

(A) The units subject to this rule include the following:

Emission Unit
Twenty-three (23) 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
EUS-15A

Emission Unit
EUS-15B
EUS-15C
Scale
EUS-15F
EUS-15G
EUP-17
EUS-22
EUS-4A
EUS-12
EUS-15D
EUS-15E
One (1) titanium powder process
One (1) coating mixing operation Sermatech Process

Applicable portions of the NESHAP are the following:

(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

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

There are no applicable testing requirements for this NESHAP.

(B) The requirements of Subpart CCCCCCC, do not apply to the following units, because these units do not process, use, or generate materials containing HAP:

Emission Unit
One (1) specialty powders manufacturing operation
EUP-11B
One (1) specialty ingot manufacturing process

Chemical Manufacturing

(a) This source is still subject to the National Emission Standards for Hazardous Air Pollutants for Chemical Manufacturing Area Sources (40 CFR 63.11169, Subpart VVVVVV). This source includes at least one process that 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.

(A) The following unit is subject to this rule:

One (1) powder manufacturing process, identified as CSP Department EU020

Applicable portions of the NESHAP are the following:

(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 provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart VVVVVV.

(B) Pursuant to 63.11494(c)(1)(i), the following units are still not subject to this rule because they are considered Manufacture of Paint and Allied Products, and are regulated by 40 CFR 63, Subpart CCCCCCC:

Emission Unit
Twenty-three (23) 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
EUS-15A
EUS-15B
EUS-15C
Scale
EUS-15F
EUS-15G
EUP-17
EUS-22
EUS-4A
EUS-12
EUS-15D
EUS-15E
One (1) titanium powder process

Emission Unit
One (1) coating mixing operation Sermatech Process

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Area Sources: Chemical Preparations Industry, Subpart BBBBBBB are still not included in the permit for this source.

(1) The following units are not subject to this rule because it does not meet the definition of chemical preparation, defined as manufacturing process operations described by NAICS code 325998 (Note: NAICS code 325998 does not include coatings):

Emission Unit
Twenty-four (24) 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
EUP-17
EUS-22
EUS-4A
EUS-12
EUS-15D
EUS-15E

(2) Pursuant to 40 CFR 63.11579(f), the following units are exempt from the requirements of this rule because they are regulated by the requirements specified in 40 CFR 63, Subpart VVVVVV or Subpart CCCCCCC:

Emission Unit
One (1) powder manufacturing process (CSP Department EU020)
One (1) titanium powder process
One (1) coating mixing operation Sermatech Process

(3) The following unit is not subject to this rule because the products utilized in this area do not contain the target HAPs:

Emission Unit
One (1) polishing operation

Boilers, Process Heaters and Furnaces

(a) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers and Process Heaters, Subpart DDDDD are still not included in the permit for the seven (7) natural gas-fired boilers, because this source is not a major source of HAPs as defined in 40 CFR 63.2

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Industrial, Commercial, and Institutional Boilers Area Sources, Subpart JJJJJJ are still not included in the permit for the following emission units:

(1) The thirty-three (33) natural gas-fired combustion units, because they do not meet the definition of a boiler, as defined by 40 CFR 63.11237, and process heaters are not covered by these provisions.

(2) The seven (7) natural gas-fired boilers, because these units are natural gas-fired boilers that do not use any back-up fuels. Natural gas-fired boilers are not subject to this subpart.

Emergency Generators

(a) The three (3) emergency generators are subject to the National Emission Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines (40 CFR 63. 6580, Subpart ZZZZ), which is incorporated by reference as 326 IAC 20-82. The source owns and operates a RICE at an area source of HAP emissions.

The units subject to this rule include the following:

(1) 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

Under NESHAP for Stationary reciprocating Internal Combustion Engines [40 CFR 63, Subpart ZZZZ], the three (3) emergency generators are considered affected units.

These emission units are subject to the following portions of Subpart ZZZZ.

(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

The provisions of 40 CFR 63 Subpart A – General Provisions, which are incorporated as 326 IAC 20-1-1, apply to the facility described in this section except when otherwise specified in 40 CFR 63 Subpart ZZZZ.

Degreasing Operations

(a) The one (1) open top vapor degreaser, identified as Tribomet Line Vapor Degreaser, is still subject to the National Emission Standards for Hazardous Air Pollutants: Halogenated Solvent Cleaning, 40 CFR 63, Subpart T and 326 IAC 20-6, because the solvent used in this emission unit, Perchloroethylene (PCE), is a halogenated HAP solvent having total concentration greater than five (5) percent (%) by weight.

Applicable portions of the NESHAP are the following:

(1) 40 CFR 63.460
(2) 40 CFR 63.461
(3) 40 CFR 63.463**(a)**~~(1),~~ (b), ~~(c),~~ **(d), (e)**
~~(4) 40 CFR 63.465(b), (c)~~
(4) **40 CFR 63.466(a)(1) and (b)(1)**
(5) 40 CFR 63.467**(a) and (b)** ~~(c)~~
(6) 40 CFR 63.468(b), ~~(e)~~ **(d), (f)** ~~(g)~~ **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

The applicable portions of this NESHAP have been updated in this FESOP Renewal. This source has changed compliance strategies for this NESHAP.

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

The following emission units:

(1) Three (3) cold cleaner degreasers;
(2) Two (2) conveyorized vapor degreasers;
(3) One (1) open top vapor degreaser, identified as LPPS Vapor Degreaser; and
(4) One (1) manual degreasing operation

are not subject to the requirements of 40 CFR 63, Subpart T, because these degreasing operations do not use halogenated cleaning solvents.

Stripping Operations

(a) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Steel Pickling--HCL Process Facilities And Hydrochloric Acid Regeneration Plants, Subpart CCC are still not included in the permit for the three (3) stripping operations, because this source is not a major source of HAPs as defined in 40 CFR 63.2

(b) The requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Hydrochloric Acid Production, Subpart NNNNN are still not included in the permit for the three (3) stripping operations, because this source is not a major source of HAPs as defined in 40 CFR 63.2

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

State Rule Applicability - Entire Source

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

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

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))
This source has unlimited uncontrolled PM, PM10, and PM2.5 PTE greater than 250 tons per year.
In order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) not applicable, this source is maintaining the following limits such that the source-wide total emissions of PM are limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period:

(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)
1550 Polco Street	
Combustion spray pyrolysis (CSP) operation of the CSP Department EU020	2.28
One (1) Titanium Powder Process	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

Emission Unit	PM Limit (lbs/hr)
EU019G	0.50
EU012G	0.50
EU007G	0.50
EU01M	0.50
EU02M	0.50
EU01L	0.50
EU01GB	0.50
EU02GB	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-EUG2	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
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
One (1) surface coating station	
EU07B	3.00

These are existing limits and no change is being made in this FESOP Renewal.

(b) **PM10 and PM2.5**
The following PM10 and PM2.5 PSD minor limitations are being revised to be consistent with the existing PM10 and PM2.5 FESOP limits in this FESOP Renewal.

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)
1500 Polco Street		
One (1) grit blasting unit		
EU13C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
1245 Main Street		
Twenty (20) grit blasting units		
EU09C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU001G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU002G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU004G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU005G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU008G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU010G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU011G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU013G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU014G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU016G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU018G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU019G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU012G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU007G	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU01M	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU02M	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU01L	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU01GB	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU02GB	~~0.50~~ **0.11**	~~0.50~~ **0.11**
One (1) surface coating station		
EU20A	~~0.23~~ **0.15**	~~0.23~~ **0.15**
1415 Main Street		
Twenty-two (22) grit blasting units		
EU01C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU04C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU05C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU06C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU07C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU08C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU10C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU12C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU16C	~~0.50~~ **0.11**	~~0.50~~ **0.11**
EU03C	~~0.50~~ **0.11**	~~0.50~~ **0.11**

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
EU01M	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O1P1-EUG1	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O1P1-EUG2	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O1P1-EUG5	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O1P1-EUG6	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O1P1-EUG7	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O2P1-EUG1	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O2P1-EUG2	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O2P1-EUG3	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O2P1-EUG5	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O2P3-EUG1	~~0.50~~ **0.11**	~~0.50~~ **0.11**
O2P3-EUG2	~~0.50~~ **0.11**	~~0.50~~ **0.11**
One (1) wet grit blasting unit		
EU15C	~~0.50~~ **0.11**	~~0.50~~ **0.11**

The following PSD minor limits are being removed in this FESOP Renewal because they are not necessary based on the potential emissions with the consideration of the integral control devices.

PM, 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 Limit (lbs/hr)**~~	~~**PM_{10} Limit (lbs/hr)**~~	~~**$PM_{2.5}$ Limit (lbs/hr)**~~
~~Twenty-three (23) specialty powders manufacturing operations~~			
~~EUS-1~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-2~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-7~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUP-3~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-3~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-5~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-8B~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-8A~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-10~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUP-11~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUP-11A~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUP-11B~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-15A~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-15B~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-15C~~	~~0.48~~	~~0.48~~	~~0.48~~
~~Scale~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-15F~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-15G~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUP-17~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-22~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-4A~~	~~0.48~~	~~0.48~~	~~0.48~~
~~EUS-12~~	~~0.48~~	~~0.48~~	~~0.48~~

~~Emission Unit~~	~~PM Limit (lbs/hr)~~	~~PM_{10} Limit (lbs/hr)~~	~~$PM_{2.5}$ Limit (lbs/hr)~~
~~EUS-15D~~	~~0.48~~	~~0.48~~	~~0.48~~
~~Twenty (20) surface coating stations~~			
~~EU01A~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU02A~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU16A~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU17A~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU18A~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU06A~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU19A~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU05B~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU06B~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU10B~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU01B~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU02B~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU05B~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU06B~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU08B~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU09B~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU11B~~	~~0.23~~	~~0.23~~	~~0.23~~
~~EU04A~~	~~3.00~~	~~3.00~~	~~3.00~~
~~EU03B~~	~~2.00~~	~~2.00~~	~~2.00~~
~~EU12B~~	~~0.23~~	~~0.23~~	~~0.23~~

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))
The proposed revision is not subject to the requirements of 326 IAC 2-4.1, because the unlimited potential to emit of HAPs from the new and modified units is 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.

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

326 IAC 2-8 (Federally Enforceable State Operating Permit Program (FESOP))
This source has unlimited uncontrolled PM, PM10, PM2.5, and NOx PTE greater than 100 tons per year. Pursuant to 326 IAC 2-8-2 and in order to render 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)) and 326 IAC 2-7 (Part 70 Permits) not applicable, this source is maintaining the following limits such that the source-wide total emissions of PM10, PM2.5, and NOx are limited to less than one hundred (100) tons per twelve (12) consecutive month period:

(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)
1550 Polco Street		
Combustion spray pyrolysis (CSP)	2.28	2.28

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
operation of the CSP Department EU020		
Emission Unit	**PM_{10} Limit (lbs/hr)**	**$PM_{2.5}$ Limit (lbs/hr)**
1550 Polco Street		
One (1) Titanium Powder Process	0.80	0.80
1500 Polco Street		
One (1) grit blasting unit		
EU13C	0.11	0.11
1245 Main Street		
Twenty (20) grit blasting units		
EU09C	0.11	0.11
EU001G	0.11	0.11
EU002G	0.11	0.11
EU004G	0.11	0.11
EU005G	0.11	0.11
EU008G	0.11	0.11
EU010G	0.11	0.11
EU011G	0.11	0.11
EU013G	0.11	0.11
EU014G	0.11	0.11
EU016G	0.11	0.11
EU018G	0.11	0.11
EU019G	0.11	0.11
EU012G	0.11	0.11
EU007G	0.11	0.11
EU01M	0.11	0.11
EU02M	0.11	0.11
EU01L	0.11	0.11
EU01GB	0.11	0.11
EU02GB	0.11	0.11
One (1) surface coating station		
EU20A	0.15	0.15
1415 Main Street		
Twenty-two (22) grit blasting units		
EU01C	0.11	0.11
EU04C	0.11	0.11
EU05C	0.11	0.11
EU06C	0.11	0.11
EU07C	0.11	0.11
EU08C	0.11	0.11
EU10C	0.11	0.11
EU12C	0.11	0.11
EU16C	0.11	0.11
EU03C	0.11	0.11
EU01M	0.11	0.11
O1P1-EUG1	0.11	0.11

Emission Unit	PM_{10} Limit (lbs/hr)	$PM_{2.5}$ Limit (lbs/hr)
O1P1-EUG2	0.11	0.11
O1P1-EUG5	0.11	0.11
O1P1-EUG6	0.11	0.11
O1P1-EUG7	0.11	0.11
O2P1-EUG1	0.11	0.11
O2P1-EUG2	0.11	0.11
O2P1-EUG3	0.11	0.11
O2P1-EUG5	0.11	0.11
O2P3-EUG1	0.11	0.11
O2P3-EUG2	0.11	0.11
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	3.00	3.00

These are existing limits and no change is being made in this FESOP Renewal.

(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	13.70

This is an existing limit and no change is being made in this FESOP Renewal.

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 thirty percent (30%) 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 (PM Limitations Except Lake County)
326 IAC 6.5 applies to sources or facilities located in Clark, Dearborn, Dubois, Howard, Marion, St. Joseph, Vanderburgh, Vigo, or Wayne Counties. Sources specifically listed in the rule shall comply with the limitations in 326 IAC 6.5-2 through 326 IAC 6.5-10, as applicable. Sources not specifically listed in 326 IAC 6.5-2 through 326 IAC 6.5-10 shall comply with 326 IAC 6.5-1-2, if they have the potential to emit ten (10) tons or more of particulate matter (PM) and are not taking a limit of less than ten (10) tons of particulate matter (PM).

This source, located in Marion County, and has the potential to emit ten (10) tons or more of particulate matter (PM) and is not taking a limit of less than ten (10) tons of particulate matter (PM). Therefore, 326 IAC 6.5 applies and the requirements are included in the permit.

326 IAC 6.8 (PM Limitations for Lake County)
This source is not subject to 326 IAC 6.8 because it is not located in Lake County.

326 IAC 10-3 (Nitrogen Oxide Reduction Program for Specific Source Categories)
This source is not subject to 326 IAC 10-3, because this source is not one of the source categories listed in 326 IAC 10-3-1.

326 IAC 12 (New Source Performance Standards)
See Federal Rule Applicability Section of this TSD.

326 IAC 20 (Hazardous Air Pollutants)
See Federal Rule Applicability Section of this TSD.

State Rule Applicability – Individual Facilities

One (1) powder manufacturing process, identified as CSP Department EU020

(a) **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).

(b) **326 IAC 6.5 (Particulate Matter 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
Burner Associated with EU020
Powder Handling After CSP
Powder Handling After Kiln
Enclosed Mill
Powder Handling After Mill
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 Kiln	
Powder Handling After Mill	
Final Powder Handling	

See Appendix A of TSD for detailed calculations.

These are existing requirements that are not changing in this FESOP Renewal.

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.

(c) **326 IAC 8-1-6 (New Facilities; General Reduction Requirements)**
The unlimited potential to emit of VOC from the each emission unit in the one (1) powder manufacturing process, identified as CSP Department EU020, is less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(d) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to any emission unit in the one (1) powder manufacturing process, identified as CSP Department EU020.

(e) **326 IAC 10-1 (Nitrogen Oxides Control in Clark and Floyd County)**
Pursuant to 326 IAC 10-1-1(a) emissions of nitrogen oxides (NOx) from facilities located in Clark or Floyd County shall by controlled and any proposal to establish an alternative limitation shall be in accordance with 326 IAC 10-1-4(c)(1). This source, located in Marion County, is not subject to this rule.

(f) **326 IAC 10-2 (NOx Emissions from Large Affected Units)**
The one (1) Combustion Spray Pyrolysis (CSP) operation is not subject to 326 IAC 10-2, because it does not meet the definition of "large affected unit" as defined by 326 IAC 10-2-2.

<u>Twenty-four (24) specialty powders manufacturing operations</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the twenty-four (24) specialty powders manufacturing operations, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
(1) The one (1) specialty powders manufacturing operation, identified as EUS-15E, is not subject to 326 IAC 6.5, because this emission unit does not emit particulate matter.

(2) Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the remaining twenty-three (23) specialty powders manufacturing operations shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

The particulate from the remaining twenty-three (23) specialty powders manufacturing operations have potential particulate emissions less than 0.03 grain per dry standard cubic foot of exhaust air after consideration of the integral control device. The integral control devices shall be in operation at all times units in the twenty-three (23) specialty powders manufacturing operations are in operation in order ensure compliance with 326 IAC 6.5-1-2(a).

These are existing requirements that are not changing in this FESOP Renewal.

<u>One (1) titanium powder process, identified as Titanium Powder Process</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not to the one (1) titanium powder process, identified as Titanium Powder Process, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the one (1) titanium powder process, identified as Titanium Powder Process, shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

Emission Unit	Control Device
One (1) Titanium Powder Process	Rotoclone (Wet Collector)

The control device listed in the table above must be in operation at times when this emission unit is in operation, in order to comply with these limits.

This is an existing requirement that is not changing in this FESOP Renewal.

<u>One (1) coating mixing operation, identified as Sermatech Process</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the one (1) coating mixing operation, identified as Sermatech Process, because this source subject to a particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter 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) specialty ingot manufacturing process shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

Emission Unit	Control Device ID
One (1) coating mixing operation Sermatech Process	Scrubber #1 and Scrubber #2

The control device listed in the table above must be in operation at times when this emission unit is in operation, in order to comply with these limits.

This is an existing requirement that is not changing in this FESOP Renewal.

(c) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the each of the one (1) coating mixing operation, identified as Sermatech Process, is less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(d) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) coating mixing operation, identified as Sermatech Process.

Forty-three (43) grit blasting units

(a) **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 forty-three (43) grit blasting units, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the forty-three (43) grit blasting units shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

In order to be in compliance the control devices for particulate control listed in the table below must be in operation at all times these units are in operation.

Emission Unit	Control Device ID
1500 Polco Street	
One (1) grit blasting unit	
EU13C	C13C
1245 Main Street	
Twenty (20) 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
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-EUG1	O1P1-CG1
O1P1-EUG2	O1P1-CG2
O1P1-EUG5	O1P1-CG5
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

See Appendix A of TSD for detailed calculations.

These are existing requirements that are not changing in this FESOP Renewal.

Two (2) aluminum oxide wet grit blasting units

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the two (2) aluminum oxide wet grit blasting units, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**

(1) The one (1) aluminum oxide wet grit blasting unit, identified as EU14C, is not subject to 326 IAC 6.5, because this emission unit does not emit particulate matter.

(2) Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the one (1) aluminum oxide wet grit blasting unit, identified as EU15C, shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

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 ID
One (1) wet grit blasting unit	

Emission Unit	Control Device ID
EU15C	C15C

See Appendix A of TSD for detailed calculations.

This is an existing requirement that is not changing in this FESOP Renewal.

One (1) polishing operation

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the one (1) polishing operation, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

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

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 ID
1550 Polco Street	
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	

This is an existing requirement that is not changing in this FESOP Renewal.

(c) **326 IAC 8-1-6 (New Facilities; General Reduction Requirements)**
The unlimited potential to emit of VOC from the each emission unit in the one (1) polishing operation is less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(d) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to any emission unit in the one (1) polishing operation.

One (1) specialty ingot manufacturing process

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to any unit in the one (1) specialty ingot manufacturing process, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
(1) The following units in the one (1) specialty ingot manufacturing process are not subject to 326 IAC 6.5, because these emission units do not emit particulate matter:

Emission Unit
One (1) specialty ingot manufacturing process
One (1) feed tank
One (1) electric sintering kiln

(2) 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) specialty ingot manufacturing process shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

Emission Unit
One (1) specialty ingot manufacturing process
One (1) material transfer point
Ingot Machining Lathe

This is an existing requirement that is not changing in this FESOP Renewal for the one (1) material transfer point.

This is a new requirement that is being added in this FESOP Renewal for the Ingot Machining Lathe.

One (1) pack diffusion process, identified as Pack Diffusion Process

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the one (1) pack diffusion process, identified as Pack Diffusion Process, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the one (1) pack diffusion process, identified as Pack Diffusion Process, shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

This is an existing requirement that is not changing in this FESOP Renewal.

One (1) Operation 1, Process 1 (O1P1)

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the one (1) Operation 1, Process 1 (O1P1) because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the one (1) Operation 1, Process 1 (O1P1) shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

The particulate from the one (1) Operation 1, Process 1 (O1P1) has potential particulate emissions less than 0.03 grain per dry standard cubic foot of exhaust air after consideration of the integral control device. The integral control device shall be in operation at all times this unit is in operation in order ensure compliance with 326 IAC 6.5-1-2(a).

This is an existing requirement that is not changing in this FESOP Renewal.

One (1) Operation 2, Process 1 (O2P1)

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the one (1) Operation 2, Process 1 (O2P1), because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the one (1) Operation 2, Process 1 (O2P1), shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

This is an existing requirement that is not changing in this FESOP Renewal.

One (1) Operation 2, Process 2 (O2P2)

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the one (1) Operation 2, Process 2 (O2P2), because this source subject to a particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
(1) Pursuant to 326 IAC 6.5-1-1(c)(4), the one (1) slurry masking process, which is part of O2P2, is exempt from 326 IAC 6-3-2, because it is a surface coating manufacturing process that uses a brush coating application method.

(2) Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the one (1) dry masking process, which is part of O2P2, shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

(c) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the each of the one (1) Operation 2, Process 2 (O2P2), is less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(d) **326 IAC 8-2-9 (Miscellaneous Metal Coating)**
The one (1) Operation 2, Process 2 (O2P2), is not subject to 326 IAC 8-2-9 (Miscellaneous Metal Coating), because the actual VOC emissions from this unit less than 15 pounds per day.

The requirements for this rule have been removed from the permit in this FESOP Renewal.

(e) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) Operation 2, Process 2 (O2P2).

One (1) Operation 2, Process 4 (O2P4)

(a) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
The one (1) Operation 2, Process 4 (O2P4) is not subject to 326 IAC 6.5, because this emission unit does not emit particulate matter.

(b) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the one (1) Operation 2, Process 4 (O2P4) is less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(c) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) Operation 2, Process 4 (O2P4).

Three (3) grinders (Bader Grinder #2 through #4)

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the three (3) grinders, identified as Bader Grinder #2 though #4, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the three (3) grinders, identified as Bader Grinder #2 though #4, shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

In order to be in compliance the control devices for particulate control listed in the table below must be in operation at all times these units are in operation.

Emission Unit	Control Device ID
Three (3) grinders	
Bader Grinder #2	C03C
Bader Grinder #3	C07B
Bader Grinder #4	C08B

See Appendix A of TSD for detailed calculations.

This is an existing requirement that is not changing in this FESOP Renewal.

Twenty-four (24) surface coating stations

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the twenty-four (24) surface coating stations, because this source subject to a particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Based on the existing permit, the following one (1) surface coating station is subject to shall not exceed 0.03 grain per dry standard cubic foot of exhaust air, pursuant to 326 IAC 6.5-1-2(a).

Emission Unit
One (1) surface coating station
EU01S

Due to the most recent version of the rule, this surface coating station is now subject to 326 IAC 6.5-1-2(h).

(A) Pursuant to 326 IAC 6.5-1-2(h), the following seven (7) surface coating stations 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

Emission Unit
EU02A
EU16A
EU17A
EU18A
EU06A
1415 Main Street
One (1) surface coating station
EU01S

(i) This is an existing requirement for the six (6) detonation surface coating stations.

(ii) This is a new requirement for the one (1) low pressure plasma spray (LPPS) coating station.

(B) Pursuant to 326 IAC 6.5-3-2(b)(15), the following seventeen (17) surface coating stations are exempt from 326 IAC 6.5-3-2, because they are a surface coating manufacturing process that uses less than five (5) gallons per day:

Emission Unit
Seventeen (17) surface coating stations
EU19A
EU20A
EU05B
EU06B
EU10B
EU01B
EU02B
EU05B
EU06B
EU07B
EU08B
EU09B
EU11B
EU04A
EU03B
EU12B
EU04B

The requirements of 326 IAC 6.5 will be removed from the permit for the following units:

Emission Unit	Control Device ID	Stack/Vent ID
Thirteen (13) surface coating stations		
EU19A	C19A	19A
EU20A	C20A	20A
EU05B	C05D	05D
EU06B	C06D	06D
EU10B	C10D	10D

Emission Unit	Control Device ID	Stack/Vent ID
EU01B	C01B	01B
EU02B	C02B	02B
EU05B	C05B	05B
EU06B	C06B	06B
EU08B	C08B	08B
EU09B	C09B	09B
EU11B	C11B	11B
EU12B	C12B	12B

(c) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the each of the twenty-four (24) surface coating stations is less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(d) **326 IAC 8-2-9 (Miscellaneous Metal Coating)**
The twenty-four (24) surface coating stations are not subject to 326 IAC 8-2-9 (Miscellaneous Metal Coating), because they do not use VOC material for coating. Therefore, actual VOC emissions from each unit are less than 15 pounds per day.

(e) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to twenty-four (24) surface coating stations.

<u>**Kerosene Combustion for Surface Coating**</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The following two (2) kerosene combustion units are exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight:

Emission Unit
<u>1245 Main Street</u>
Kerosene heater for EU19A
<u>1415 Main Street</u>
Kerosene heater for EU08B

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

Emission Unit
<u>1245 Main Street</u>
Kerosene heater for EU19A
<u>1415 Main Street</u>
Kerosene heater for EU08B

This is a new requirement that is being added in this FESOP Renewal.

<u>**One (1) physical vapor deposition coating station, identified as EU01T**</u>

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

The requirements of 326 IAC 6-3-2 are not applicable to one (1) physical vapor deposition coating station, identified as EU01T, because this source subject to a particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-3-2(b)(15), the one (1) physical vapor deposition coating station, identified as EU01T, is exempt from 326 IAC 6.5-3-2, because it is a surface coating manufacturing process that uses less than five (5) gallons per day:

(c) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the one (1) physical vapor deposition coating station, identified as EU01T, is less than twenty-five (25) tons per year. Therefore, this emission unit is not subject to the requirements of 326 IAC 8-1-6.

(d) **326 IAC 8-2-9 (Miscellaneous Metal Coating)**
The one (1) physical vapor deposition coating station, identified as EU01T, is not subject to 326 IAC 8-2-9 (Miscellaneous Metal Coating), because it does not use VOC material for coating. Therefore, actual VOC emissions from each unit are less than 15 pounds per day.

(e) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) physical vapor deposition coating station, identified as EU01T.

<u>**One (1) LSR1 titanium tetrachloride coating station, identified as EU01R**</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to one (1) LSR1 titanium tetrachloride coating station, identified as EU01R, because this source subject to a particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-3-2(b)(15), the one (1) LSR1 titanium tetrachloride coating station, identified as EU01R, is exempt from 326 IAC 6.5-3-2, because it is a surface coating manufacturing process that uses less than five (5) gallons per day.

The requirements for this rule are being removed in this FESOP Renewal for the one (1) LSR1 titanium tetrachloride coating station, identified as EU01R.

(c) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the one (1) LSR1 titanium tetrachloride coating station, identified as EU01R, is less than twenty-five (25) tons per year. Therefore, this emission unit is not subject to the requirements of 326 IAC 8-1-6.

(d) **326 IAC 8-2-9 (Miscellaneous Metal Coating)**
The one (1) LSR1 titanium tetrachloride coating station, identified as EU01R, is not subject to 326 IAC 8-2-9 (Miscellaneous Metal Coating), because it does not use VOC material for coating. Therefore, actual VOC emissions from each unit are less than 15 pounds per day.

(e) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) LSR1 titanium tetrachloride coating station, identified as EU01R.

<u>**Thirty-three (33) natural gas-fired combustion units**</u>

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

The thirty-three (33) natural gas-fired combustion units are exempt from the requirements of 326 IAC 6-3, because, pursuant to 326 IAC 1-2-59, liquid and gaseous fuels and combustion air are not considered as part of the process weight.

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the thirty-three (33) natural gas-fired combustion units shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

This is an existing requirement that is not changing in this FESOP Renewal.

<u>Seven (7) natural gas-fired boilers</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the seven (7) natural gas-fired boilers, because this source subject to a particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (PM Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(b)(3), particulate matter (PM) emissions from the seven (7) natural gas-fired boilers shall not exceed 0.01 grain per dry standard cubic foot (dscf) while combusting natural gas.

This is a new requirement for the one (1) new natural gas-fired boiler, identified as B-002.

This is an existing requirement that is not changing in this FESOP Renewal for all other units.

<u>Three (3) conveyorized vapor degreasers</u>

(A) **326 IAC 8-3-4 (Conveyorized Degreaser Control Equipment and Operating Requirements)**
The three (3) conveyorized vapor degreasers, which meet the definition of a conveyorized degreasing operation, were constructed after July 1, 1990. Therefore, these operations are still subject to the requirements of 326 IAC 8-3-4.

Pursuant to 326 IAC 8-3-4 (Conveyorized Degreaser Control Equipment and Operating Requirements), the owner or operator of a conveyorized degreaser shall ensure the following:

(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 subdivisions (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 subsection (a)(7) includes the additional operating requirements listed in subdivisions (6) and (7).

These are existing requirements that are not changing in this FESOP Renewal.

(B) **326 IAC 8 (VOC Rules)**
There are no other 326 IAC 8 Rules that are applicable to the three (3) conveyorized vapor degreasers.

Two (2) open top vapor degreasers

(A) **326 IAC 8-3-3 (Open Top Vapor Degreasing Operation)**
The Two (2) open top vapor degreasers, which meet the definition of an open top vapor degreasing operation, were constructed after July 1, 1990. Therefore, these operations are still subject to the requirements of 326 IAC 8-3-3.

Pursuant to 326 IAC 8-3-3 (Open Top Vapor Degreasing Operation), the owner or operator of a open top vapor degreaser shall ensure the following:

(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 subdivisions (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 clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S.EPA as a SIP revision.

(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 subsection (a)(13) includes the additional operating requirements listed in subdivisions (3) and (4).

These are existing requirements that are not changing in this FESOP Renewal.

(B) **326 IAC 8 (VOC Rules)**
There are no other 326 IAC 8 Rules that are applicable to the two (2) conveyorized vapor degreasers.

One (1) epoxy kit operation, identified as EUS-12

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the one (1) epoxy kit operation, identified as EUS-12, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the one (1) epoxy kit operation, identified as EUS-12, shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

This is an existing requirement that is not changing in this FESOP Renewal.

(c) **326 IAC 8-22 (Miscellaneous Industrial Adhesives)**
Pursuant to 326 IAC 8-22-1(a), the one (1) epoxy kit operation, identified as EUS-12, is not subject to the requirement of 326 IAC 8-22, because Master Spas, Inc. is not located in Lake County of Porter County. This source is located in Marion County.

(d) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the one (1) epoxy kit operation, identified as EUS-12, is less than twenty-five (25) tons per year. Therefore, this emission unit is not subject to the requirements of 326 IAC 8-1-6.

(e) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) epoxy kit operation, identified as EUS-12.

One (1) grit reclassifier, identified as EU020G

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the one (1) grit reclassifier, identified as EU020G, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the one (1) grit reclassifier, identified as EU020G, shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

This is an existing requirement that is not changing in this FESOP Renewal.

<u>**Three (3) 3D printers**</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the three (3) 3D printers, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the three (3) 3D printers shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

This is an existing requirement that is not changing in this FESOP Renewal.

<u>**Twenty-eight (28) grinding and cutting operations**</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the twenty-eight (28) grinding and cutting operations, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the twenty-eight (28) grinding and cutting operations shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

This is an existing requirement that is not changing in this FESOP Renewal.

<u>**One (1) carpenter shop, identified as Carpentry Shop**</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the one (1) carpenter shop, identified as Carpentry Shop, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the one (1) carpenter shop, identified as Carpentry Shop, shall not exceed 0.03 grain per dry standard cubic foot of exhaust air:

This is an existing requirement that is not changing in this FESOP Renewal.

<u>**Six (6) finishing units**</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the six (6) finishing units, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the six (6) finishing units shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

This is an existing requirement that is not changing in this FESOP Renewal.

<u>Three (3) emergency generators</u>

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to the three (3) emergency generators, because this source is subject to particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-1-2(a) (Particulate Matter Limitations except Lake County), PM emissions from the three (3) emergency generators shall not exceed 0.03 grain per dry standard cubic foot of exhaust air.

This is an existing requirement that is not changing in this FESOP Renewal.

(c) **326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)**
The three (3) emergency generators are not subject to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) because each unit does not have the potential to emit twenty-five (25) tons per year or ten (10) pounds per hour of sulfur dioxide.

(d) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
Pursuant to 326 IAC 8-1-6(1), the three (3) emergency generators are not subject to the provisions of 326 IAC 8-1-6, since the potential to emit VOC from each unit is less than twenty-five (25) tons per year.

(e) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the three (3) emergency generators.

(f) **326 IAC 9-1-1 (Carbon Monoxide Emission Limits)**
The three (3) emergency generators are not subject to 326 IAC 9-1-1 (Carbon Monoxide Emission Limits) because there is no applicable emission limits for these units in 326 IAC 9-1-2.

(g) **326 IAC 10-1 (Nitrogen Oxides Rule)**
The three (3) emergency generators are not subject to 326 IAC 326 IAC 10-1 (Nitrogen Oxides Rule), because it is not located in Clark or Floyd County.

<u>Three (3) cold cleaner degreasers</u>

(A) **326 IAC 8-3-2 (Cold cleaner degreaser control equipment and operating requirements)**
The three (3) cold cleaner degreasers, which meet the definition of a cold cleaner degreasing operation, were constructed after July 1, 1990 and are not equipped with a remote solvent reservoir. Therefore, these operations are still subject to the requirements of 326 IAC 8-3-2.

Pursuant to 326 IAC 8-3-2(a), the owner or operator of a cold cleaner degreaser shall ensure the following control equipment and operating requirements are met:

(1) Equip the degreaser with a cover.

(2) Equip the degreaser with a device for draining cleaned parts.

(3) Close the degreaser cover whenever parts are not being handled in the degreaser.

(4) Drain cleaned parts for at least fifteen (15) seconds or until dripping ceases.

(5) Provide a permanent, conspicuous label that lists the operating requirements in subdivisions (3), (4), (6), and (7).

(6) Store waste solvent only in closed containers.

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

Pursuant to 326 IAC 8-3-2(b), the owner or operator of a cold cleaner degreaser subject to this subsection shall ensure the following additional control equipment and operating requirements are met:

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

(A) A freeboard that attains a freeboard ratio of seventy-five hundredths (0.75) or greater.
(B) A water cover when solvent used is insoluble in, and heavier than, water.
(C) A refrigerated chiller.
(D) Carbon adsorption.
(E) An alternative system of demonstrated equivalent or better control as those outlined in clauses (A) through (D) that is approved by the department. An alternative system shall be submitted to the U.S. EPA as a SIP revision.

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

(3) If used, solvent spray:

(A) must be a solid, fluid stream; and
(B) shall be applied at a pressure that does not cause excessive splashing.

These are existing requirements that are not changing in this FESOP Renewal.

(B) **326 IAC 8-3-8 (Material Requirements for cold cleaner degreasers)**
326 IAC 8-3-8 applies to any person who sells, offers for sale, uses, or manufacturers solvent for use in cold cleaner degreasers before January 1, 2015, in Clark, Floyd, Lake or Porter Counties or on and after January 1, 2015, anywhere in the state. This source is located in a Marion County and uses solvent in cold cleaner degreasers. Therefore, effective January 1, 2015, the degreasing operation is subject to the requirements of 326 IAC 8-3-8.

(a) Material requirements are as follows:

(1) No person shall operate a cold cleaner 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).

(b) Record keeping requirements are as follows:

(1) All persons subject to the requirements of subsection (a)(1) shall maintain each of the following records for each purchase:

(A) The name and address of the solvent supplier.

(B) The date of purchase (or invoice/bill date of contract servicer indicating service date).

(C) The type of solvent purchased.

(D) The total volume of the solvent purchased.

(E) The true vapor pressure of the solvent measured in millimeters of mercury at twenty (20) degrees Celsius (sixty eight (68) degrees Fahrenheit).

(c) All records required by subsection (b) shall be:

(1) retained on-site or accessible electronically from the site for the most recent three (3) year period; and

(2) reasonably accessible for an additional two (2) year period.

These are existing requirements that are not changing in this FESOP Renewal.

(C) **326 IAC 8 (VOC Rules)**
There are no other 326 IAC 8 Rules that are applicable to the three (3) cold cleaner degreasers.

Two (2) Tribomet lines, identified as Lines #1 and #2

(a) **326 IAC 6-3-2 (Particulate Emission Limitations for Manufacturing Processes)**
The requirements of 326 IAC 6-3-2 are not applicable to two (2) Tribomet lines, identified as Lines #1 and #2, because this source subject to a particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-3-2(b)(15), the two (2) Tribomet lines, identified as Lines #1 and #2, are exempt from 326 IAC 6.5-3-2, because they are surface coating manufacturing processes that uses less than five (5) gallons per day:

(c) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the two (2) Tribomet lines, identified as Lines #1 and #2, are each less than twenty-five (25) tons per year. Therefore, this emission unit is not subject to the requirements of 326 IAC 8-1-6.

(d) **326 IAC 8-2-9 (Miscellaneous Metal Coating)**
The two (2) Tribomet lines, identified as Lines #1 and #2, are not subject to 326 IAC 8-2-9 (Miscellaneous Metal Coating), because they do not use VOC material for coating. Therefore, actual VOC emissions from each unit are less than 15 pounds per day.

(e) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the two (2) Tribomet lines, identified as Lines #1 and #2.

One (1) small scale coating operation, identified as Scale Coating

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

The requirements of 326 IAC 6-3-2 are not applicable to one (1) small scale coating operation, identified as Scale Coating, because this source subject to a particulate matter limit under 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(b) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
Pursuant to 326 IAC 6.5-3-2(b)(15), the one (1) small scale coating operation, identified as Scale Coating, is exempt from 326 IAC 6.5-3-2, because it is a surface coating manufacturing process that uses less than five (5) gallons per day:

(c) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the one (1) small scale coating operation, identified as Scale Coating, is less than twenty-five (25) tons per year. Therefore, this emission unit is not subject to the requirements of 326 IAC 8-1-6.

(d) **326 IAC 8-2-9 (Miscellaneous Metal Coating)**
The one (1) small scale coating operation, identified as Scale Coating, is not subject to 326 IAC 8-2-9 (Miscellaneous Metal Coating), because it does not use VOC material for coating. Therefore, actual VOC emissions from each unit are less than 15 pounds per day.

(e) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) small scale coating operation, identified as Scale Coating.

<u>**One (1) Operation 1, Process 3 (O1P3)**</u>

(a) **326 IAC 6.5 (Particulate Matter Limitations Except Lake County)**
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.

(b) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the one (1) Operation 1, Process 3 (O1P3) is less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(c) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) Operation 1, Process 3 (O1P3).

<u>**One (1) IPA room supporting EUS-22, identified as IPA Room**</u>

(a) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the one (1) IPA room supporting EUS-22, identified as IPA Room, is less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(b) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) IPA room supporting EUS-22, identified as IPA Room.

<u>**Three (3) stripping operations**</u>

(a) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the three (3) stripping operations are each less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(b) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the three (3) stripping operations.

One (1) titanium nitrate cleaning operation, identified as Crest Cleaning Line

(a) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the one (1) titanium nitrate cleaning operation, identified as Crest Cleaning Line, is less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(b) **326 IAC 8-3 (Organic Solvent Degreasing Operations)**
The one (1) titanium nitrate cleaning operation, identified as Crest Cleaning Line, is not subject to the requirements of 326 IAC 8-3, because this unit is not a degreasing operation.

(c) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) titanium nitrate cleaning operation, identified as Crest Cleaning Line.

Two (2) lubricant application processes

(a) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the two (2) lubricant application processes are each less than twenty-five (25) tons per year. Therefore, these emission units are not subject to the requirements of 326 IAC 8-1-6.

(b) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the two (2) lubricant application processes.

One (1) manual degreasing operation, identified as Manual Degreasing

(a) **326 IAC 8-1-6 (New facilities; general reduction requirements)**
The unlimited potential to emit of VOC from the one (1) manual degreasing operation, identified as Manual Degreasing, is less than twenty-five (25) tons per year. Therefore, this emission unit is not subject to the requirements of 326 IAC 8-1-6.

(b) **326 IAC 8-3 (Organic Solvent Degreasing Operations)**
The one (1) manual degreasing operation, identified as Manual Degreasing, is not subject to the requirements of 326 IAC 8-3, because manual degreasing is not one of the degreaser operations subject to this rule.

(c) **326 IAC 8 (VOC Rules)**
There are no 326 IAC 8 Rules that are applicable to the one (1) manual degreasing operation, identified as Manual Degreasing.

Compliance Determination and Monitoring Requirements

Permits issued under 326 IAC 2-8 are required to assure that sources can demonstrate compliance with all applicable state and federal rules on a continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a continuous demonstration. When this occurs, IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, Compliance Determination Requirements are included in the permit. The Compliance Determination Requirements in Section D of the permit are those conditions that are found directly within state and federal rules and the violation of which serves as grounds for enforcement action.

If the Compliance Determination Requirements are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also in Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

(a) The Compliance Determination Requirements applicable to this source are as follows:

One (1) powder manufacturing process, identified as CSP Department EU020

(1) 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 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	DC033
Powder Handling After Kiln	
Powder Handling After Mill	
Final Powder Handling	

(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.

These are existing requirements that are not changing in this FESOP Renewal.

Twenty-three (23) specialty powders manufacturing operation

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
Twenty-three (23) specialty powders manufacturing operation	
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
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

Emission Unit	Control Device ID
Scale	DC026
EUS-15F	DC058, DC024, Demisters 5,6,8
EUS-15G	DC021, DC057, Demister 4
EUP-17	DC035, DC061, Demister 3
EUS-22	DC005
EUS-4A	DC007, DC054
EUS-12	DC014
EUS-15D	DC074 (Baghouse)

These are existing requirements that are not changing in this FESOP Renewal.

One (1) titanium powder process

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 ID
One (1) titanium powder process	Rotoclone (Wet Collector)

This is an existing requirement that is not changing in this FESOP Renewal.

One (1) coating mixing operation (Sermatech Process)

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 ID
One (1) coating mixing operation Sermatech Process	Scrubber #1 and Scrubber #2

This is an existing requirement that are is not changing in this FESOP Renewal.

Forty-three (43) grit blasting units

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
1500 Polco Street	
One (1) grit blasting unit	
EU13C	C13C
1245 Main Street	
Twenty (20) grit blasting units	
EU09C	C09C
EU001G	C001G
EU002G	C002G
EU004G	C004G
EU005G	C005G
EU008G	C008G
EU010G	C010G

Emission Unit	Control Device ID
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
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-EUG1	O1P1-CG1
O1P1-EUG2	O1P1-CG2
O1P1-EUG5	O1P1-CG5
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

These are existing requirements that are not changing in this FESOP Renewal.

One (1) wet grit blasting unit

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 ID
One (1) wet grit blasting unit	
EU15C	C15C

This is an existing requirement that is not changing in this FESOP Renewal.

One (1) Operation 1, Process 1 (O1P1)

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 ID
Operation 1, Process 1 (O1P1)	DCC1-CV, DCC2-CV, DCC4-CV

This is an existing requirement that are is not changing in this FESOP Renewal.

Three (3) grinders

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
Three (3) grinders	
Bader Grinder #2	C03C
Bader Grinder #3	C07B
Bader Grinder #4	C08B

These are existing requirements that are not changing in this FESOP Renewal.

Twenty-three (23) surface coating stations

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
Twenty-three (23) surface coating stations	
EU19A	C19A
EU05B	C05D
EU06B	C06D
EU10B	C10D
EU01B	C01B
EU02B	C02B
EU05B	C05B
EU06B	C06B
EU08B	C08B
EU09B	C09B
EU11B	C11B
EU04A	Baffles
EU03B	Baffles
EU12B	C12B

Emission Unit	Control Device ID
EU20A	C20A
EU07B	C07B and Baffles
EU01A	C01A
EU02A	C02A
EU16A	C16A
EU17A	C17A
EU18A	C18A
EU06A	C06A
EU01S	C01S

These are existing requirements that are not changing in this FESOP Renewal.

(b) The Compliance Determination Requirements have been removed from the permit as follows:

One (1) specialty ingot manufacturing process

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
~~One (1) material transfer point~~	~~Voluntary dust collector~~

This Compliance Determination Requirements is being removed in this FESOP Renewal, because the control device is not necessary to assure compliance with the 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(c) The Compliance Monitoring Requirements applicable to this source 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 Kiln				
Powder Handling After Mill				
Final Powder Handling				

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).

These are existing requirements that are not changing in this FESOP Renewal.

Twenty-three (23) specialty powders manufacturing operation

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
EUS-1	DC048	Dust collector inspections	Quarterly	Response Steps
EUS-2	DC015			
EUS-7	DC028, DC013			
EUP-3	DC063			
EUS-3	DC064			
EUS-5	DC012, DC013			
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			
EUP-17	DC035, DC061, Demister 3			
EUS-22	DC005			
EUS-4A	DC007, DC054			
EUS-12	DC014			
EUS-15D	DC074 (Baghouse)			

These monitoring conditions are necessary because the control devices 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)

These are existing requirements that are not changing in this FESOP Renewal.

One (1) titanium powder process

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
Titanium Powder Process	Rotoclone (Wet Collector)	Pressure Drop	Once per day	Response Steps
		Water level in the water reservoir meet the manufacturer's recommended level	Daily	
		Water level in the water reservoir shall be at a level where surface agitation indicates impact of the air flow	Weekly	
		Water reservoir placement and configuration meet recommendations of the manufacturer		

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)

These are existing requirements that are not changing in this FESOP Renewal.

One (1) coating mixing operation (Sermatech Process)

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
One (1) coating mixing operation Sermatech Process	Scrubber #1 and Scrubber #2	Dust collector inspections	Quarterly	Response Steps

These monitoring conditions are necessary because the control devices must operate properly to assure compliance with the following 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

This is an existing requirement that is not changing in this FESOP Renewal.

Forty-three (43) grit blasting units

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
Forty-three (43) grit blasting units				
EU09C	C09C	Dust collector inspections	Quarterly	Response Steps
EU001G	C001G			
EU002G	C002G			

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
EU004G	C004G			
EU005G	C005G			
EU008G	C008G			
EU010G	C010G			
EU011G	C011G			
EU013G	C013G			
EU014G	C014G			
EU016G	C016G			
EU018G	C018G			
EU019G	C019G			
EU01C	C01C			
EU04C	C04C			
EU05C	C05C			
EU06C	C06C			
EU07C	C07C			
EU08C	C08C			
EU10C	C10C			
EU12C	C12C			
EU16C	C16C			
EU012G	DC012G			
EU007G	C007G			
EU01M	C01M			
EU02M	C02M			
EU01L	C01L			
EU01GB	C01GB			
EU02GB	C02GB			
EU03C	C03C			
EU01M	C01M			
O1P1-EUG1	O1P1-CG1			
O1P1-EUG2	O1P1-CG2			
O1P1-EUG5	O1P1-CG5			
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			
EU13C	C13C			

These monitoring conditions are necessary because the control devices 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)

These are existing requirements that are not changing in this FESOP Renewal for EU13C.

These are new requirements that are being added in this FESOP Renewal for the remaining forty-two (42) grit blasting units.

One (1) wet grit blasting unit

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
One (1) wet grit blasting unit				
EU15C	C15C	Dust collector inspections	Quarterly	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)

This is an existing requirement that is not changing in this FESOP Renewal.

One (1) polishing operation

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
One (1) polishing operation				
Four (4) lens polish mixing tank loading	DC030	Dust collector inspections	Quarterly	Response Steps
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				

These monitoring conditions are necessary because the control devices must operate properly to assure compliance with the 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

This is an existing requirement that are is not changing in this FESOP Renewal.

One (1) Operation 1, Process 1 (O1P1)

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
Operation 1, Process 1 (O1P1)	DCC1-CV, DCC2-CV, DCC4-CV	Dust collector inspections	Quarterly	Response Steps

These monitoring conditions are necessary because the control devices must operate properly to assure compliance with the following 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

This is a new requirement that is being added in this FESOP Renewal.

<u>Three (3) grinders</u>

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
Three (3) grinders				
Bader Grinder #2	C03C	Dust collector inspections	Quarterly	Response Steps
Bader Grinder #3	C07B			
Bader Grinder #4	C08B			

These monitoring conditions are necessary because the control devices 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)

These are existing requirements that are not changing in this FESOP Renewal.

<u>Twenty-three (23) surface coating stations</u>

(1) The following emission units and pollution control devices:

Emission Unit	Control Device ID
Twelve (12) surface coating stations	
EU19A	C19A
EU05B	C05D
EU06B	C06D
EU10B	C10D
EU01B	C01B
EU02B	C02B
EU05B	C05B
EU06B	C06B
EU08B	C08B
EU09B	C09B
EU11B	C11B
EU12B	C12B

are subject to the following Compliance Monitoring Requirements:

Parameters	Frequency	Excursions and Exceedances
Dust collector inspections	Quarterly	Response Steps
Inspections shall be performed of the spray booths emissions from each stack and the presence of overspray on the rooftops and the nearby ground.	Monthly	

These monitoring conditions are necessary because the control devices must operate properly to assure compliance with the following:

(1) 326 IAC 2-2 (PSD) and
(2) 326 IAC 2-8 (FESOP)

The monthly inspections are existing requirements that are not changing in this FESOP Renewal.

The quarterly inspections are a new requirement that is being added in this FESOP Renewal.

(2) The following emission units and pollution control devices:

Emission Unit	Control Device ID
Two (2) surface coating stations	
EU04A	Baffles
EU03B	Baffles

are subject to the following Compliance Monitoring Requirements:

Parameters	Frequency	Excursions and Exceedances
Baffle inspections	Weekly	Response Steps
Inspections shall be performed of the spray booths emissions from each stack and the presence of overspray on the rooftops and the nearby ground.	Monthly	

These monitoring conditions are necessary because the control devices must operate properly to assure compliance with the following:

(1) 326 IAC 2-2 (PSD) and
(2) 326 IAC 2-8 (FESOP)

These are existing requirements that are not changing in this FESOP Renewal.

(3) The following emission units and pollution control devices:

Emission Unit	Control Device ID
One (1) surface coating statio	
EU20A	C20A

are subject to the following Compliance Monitoring Requirements:

Parameters	Frequency	Excursions and Exceedances
Dust collector inspections	Quarterly	Response Steps
Inspections shall be performed of the spray booths emissions from each stack and the presence of overspray on the rooftops and the nearby ground.	Monthly	

These monitoring conditions are necessary because the control devices must operate properly to assure compliance with the following:

(1) 326 IAC 2-2 (PSD) and
(2) 326 IAC 2-8 (FESOP)

The monthly inspections are existing requirements that are not changing in this FESOP Renewal.

The quarterly inspections are a new requirement that is being added in this FESOP Renewal.

(4) The following emission unit and pollution control device:

Emission Unit	Control Device ID
One (1) surface coating station	
EU07B	C07B and Baffles

is subject to the following Compliance Monitoring Requirements:

Parameters	Frequency	Excursions and Exceedances
Dust collector inspections	Quarterly	Response Steps
Baffle inspections	Weekly	
Inspections shall be performed of the spray booths emissions from each stack and the presence of overspray on the rooftops and the nearby ground.	Monthly	

These monitoring conditions are necessary because the control device must operate properly to assure compliance with the following:

(1) 326 IAC 2-2 (PSD) and
(2) 326 IAC 2-8 (FESOP)

These are existing requirements that are not changing in this FESOP Renewal.

(5) The following emission units and pollution control devices:

Emission Unit	Control Device ID
Six (6) surface coating stations	
EU01A	C01A
EU02A	C02A
EU16A	C16A
EU17A	C17A
EU18A	C18A
EU06A	C06A

are subject to the following Compliance Monitoring Requirements:

Parameters	Frequency	Excursions and Exceedances
Dust collector inspections	Quarterly	Response Steps
Inspections shall be performed of the spray booths emissions from each stack and the presence of overspray on the rooftops and the nearby ground.	Monthly	

These monitoring conditions are necessary because the control devices 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)

The monthly inspections are existing requirements that are not changing in this FESOP Renewal.

The quarterly inspections are a new requirement that is being added in this FESOP Renewal.

(6) The following emission unit and pollution control device:

Emission Unit	Control Device ID
One (1) surface coating station	
EU01S	C01S

is subject to the following Compliance Monitoring Requirements:

Parameters	Frequency	Excursions and Exceedances
Dust collector inspections	Quarterly	Response Steps
Inspections shall be performed of the spray booths emissions from each stack and the presence of overspray on the rooftops and the nearby ground.	Monthly	

These monitoring conditions are necessary because the control devices must operate properly to assure compliance with 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

These are new requirements that are being added in this FESOP Renewal.

(d) The Compliance Monitoring Requirements have been removed from the permit as follows:

<u>One (1) powder manufacturing process, identified as CSP Department EU020</u>

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
~~Combustion spray pyrolysis (CSP) operation~~	~~BAG (CSP)~~	~~Pressure Drop~~	~~Once per day~~	~~Response Steps~~

This monitoring condition is being removed from in this FESOP Renewal, because it is not necessary to monitor two (2) parameters to ensure 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)

Forty-three (43) grit blasting units

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
~~Forty-three (43) grit blasting units~~				
~~EU09C~~	~~C09C~~	~~Pressure Drop~~	~~Once per day~~	~~Response Steps~~
~~EU001G~~	~~C001G~~			
~~EU002G~~	~~C002G~~			
~~EU004G~~	~~C004G~~			
~~EU005G~~	~~C005G~~			
~~EU008G~~	~~C008G~~			
~~EU010G~~	~~C010G~~			
~~EU011G~~	~~C011G~~			
~~EU013G~~	~~C013G~~			
~~EU014G~~	~~C014G~~			
~~EU016G~~	~~C016G~~			
~~EU018G~~	~~C018G~~			
~~EU019G~~	~~C019G~~			
~~EU01C~~	~~C01C~~			
~~EU04C~~	~~C04C~~			
~~EU05C~~	~~C05C~~			
~~EU06C~~	~~C06C~~			
~~EU07C~~	~~C07C~~			
~~EU08C~~	~~C08C~~			
~~EU10C~~	~~C10C~~			
~~EU12C~~	~~C12C~~			
~~EU16C~~	~~C16C~~			
~~EU012G~~	~~DC012G~~			
~~EU007G~~	~~C007G~~			
~~EU01M~~	~~C01M~~			
~~EU02M~~	~~C02M~~			
~~EU01L~~	~~C01L~~			
~~EU01GB~~	~~C01GB~~			
~~EU02GB~~	~~C02GB~~			
~~EU03C~~	~~C03C~~			
~~EU01M~~	~~C01M~~			
~~O1P1-EUG1~~	~~O1P1-CG1~~			
~~O1P1-EUG2~~	~~O1P1-CG2~~			
~~O1P1-EUG5~~	~~O1P1-CG5~~			
~~O1P1-EUG6~~	~~O1P1-CG6~~			
~~O1P1-EUG7~~	~~O1P1-CG7~~			

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
~~O2P1-EUG1~~	~~O2P1-CG1/2~~			
~~O2P1-EUG2~~				
~~O2P1-EUG3~~	~~O2P1-CG3/4~~			
~~O2P1-EUG5~~	~~O2P1-CG5~~			
~~O2P3-EUG1~~	~~O2P3-CG1~~			
~~O2P3-EUG2~~	~~O2P3-CG2~~			

These monitoring conditions are being removed, because the source has requested to do dust collector inspection to ensure 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)

One (1) Operation 1, Process 1 (O1P1)

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
~~Operation 1, Process 1 (O1P1)~~	~~DCC1-CV, DCC2-CV, DCC4-CV~~	~~Pressure Drop~~	~~Once per day~~	~~Response Steps~~

These monitoring conditions are being removed, because the source has requested to do dust collector inspection to ensure compliance with 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

Three (3) grinders

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
Three (3) grinders				
~~Bader Grinder #2~~	~~C03C~~	~~Pressure Drop~~	~~Once per day~~	~~Response Steps~~
~~Bader Grinder #3~~	~~C07B~~			
~~Bader Grinder #4~~	~~C08B~~			

These monitoring conditions are being removed, because the source has requested to do dust collector inspection to ensure 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)

Twenty-one (21) surface coating stations

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
~~Twenty (20) surface coating stations~~				
~~EU01A~~	~~C01A~~	~~Pressure Drop~~	~~Once per day~~	~~Response Steps~~
~~EU02A~~	~~C02A~~			
~~EU16A~~	~~C16A~~			

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
~~EU17A~~	~~C17A~~			
~~EU18A~~	~~C18A~~			
~~EU06A~~	~~C06A~~			
~~EU19A~~	~~C19A~~			
~~EU20A~~	~~C20A~~			
~~EU05B~~	~~C05D~~			
~~EU06B~~	~~C06D~~			
~~EU10B~~	~~C10D~~			
~~EU01B~~	~~C01B~~			
~~EU02B~~	~~C02B~~			
~~EU05B~~	~~C05B~~			
~~EU06B~~	~~C06B~~			
~~EU07B~~	~~C07B~~			
~~EU08B~~	~~C08B~~			
~~EU09B~~	~~C09B~~			
~~EU11B~~	~~C11B~~			
~~EU12B~~	~~C12B~~			
~~EU01S~~	~~C01S~~			

These monitoring conditions are being removed, because the source has requested to do dust collector inspection to ensure 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)

<u>One (1) LSR1 titanium tetrachloride coating station, identified as EU01R</u>

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
~~LSR1 titanium tetrachloride coating station (EU01R)~~	~~Scrubber~~	~~Pressure Drop~~	~~Once per day~~	~~Response Steps~~

~~Scrubber Monitoring Requirements~~

~~The Permittee shall monitor and record the pressure drop and the flow rate of the scrubber at least once per day when the one (1) LSR1 Titanium tetrachloride coating station, identified as EU01R, is in operation. When for any one reading, the pressure drop across the scrubber is outside the normal range the Permittee shall take reasonable response. The normal range for this unit is a pressure drop between 2.0 and 8.0 inches of water unless a different upper-bound or lower-bound value for this range is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. When for any one reading, the flow rate of the scrubber is less than the normal minimum the Permittee shall take reasonable response. The normal minimum flow rate for this unit is 0.5 gallons per minute unless a different minimum value is determined during the latest stack test. Section C - Response to Excursions or Exceedances contains the Permittee's obligation with regard to the reasonable response steps required by this condition. A pressure reading that is outside the above mentioned range or a flow rate that is below the above mentioned minimum is not a deviation from this permit. Failure to take response steps shall be considered a deviation from this permit.~~

~~The instruments used for determining the pressure drop and flow rate 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.~~

Pursuant to 326 IAC 6.5-3-2(b)(15), the one (1) LSR1 titanium tetrachloride coating station, identified as EU01R, is exempt from 326 IAC 6.5-3-2, because it is a surface coating manufacturing process that uses less than five (5) gallons per day.

These monitoring conditions are being removed, because this unit is not subject to 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

One (1) specialty ingot manufacturing process

Emission Unit	Control	Operating Parameter	Frequency	Excursions and Exceedances
~~One (1) material transfer point~~	~~Voluntary Dust Collector~~	~~Dust collector inspections~~	~~Quarterly~~	~~Response Steps~~

This monitoring condition is being removed in this FESOP Renewal, because the control device is not necessary to assure compliance with the 326 IAC 6.5 (Particulate Matter Limitations Except Lake County).

(e) 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))	August 2014	NOx	Every five (5) years	326 IAC 2-8

IDEM OAQ has determined that testing of the following emission units and control devices:

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	DC033
Powder Handling After Kiln	
Powder Handling After Mill	
Final Powder Handling	
Twenty-three (23) 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

Emission Unit	Control Device
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
EUP-17	DC035, DC061, Demister 3
EUS-22	DC005
EUS-4A	DC007, DC054
EUS-12	DC014
EUS-15D	DC074 (Baghouse)
One (1) titanium powder process	Rotoclone (Wet Collector)
Forty-three (43) 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
EU01C	C01C
EU04C	C04C
EU05C	C05C
EU06C	C06C
EU07C	C07C
EU08C	C08C
EU10C	C10C
EU12C	C12C
EU16C	C16C
EU012G	DC012G
EU007G	C007G
EU01M	C01M
EU02M	C02M

Emission Unit	Control Device
EU01L	C01L
EU01GB	C01GB
EU02GB	C02GB
EU03C	C03C
EU01M	C01M
O1P1-EUG1	O1P1-CG1
O1P1-EUG2	O1P1-CG2
O1P1-EUG5	O1P1-CG5
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
EU13C	C13C
One (1) aluminum oxide wet grit blasting unit	
EU15C	C15C
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	
One (1) coating mixing operation Sermatech Process	Scrubber #1 and Scrubber #2
One (1) material transfer point	Voluntary dust collector
Operation 1, Process 1 (O1P1)	DCC1-CV, DCC2-CV, DCC4-CV
Three (3) grinders	
Bader Grinder #2	C03C
Bader Grinder #3	C07B
Bader Grinder #4	C08B
Twenty-three (23) surface coating stations	
EU01A	C01A
EU02A	C02A
EU16A	C16A
EU17A	C17A
EU18A	C18A
EU06A	C06A
EU01S	C01S
EU19A	C19A
EU20A	C20A
EU05B	C05D
EU06B	C06D

Emission Unit	Control Device
EU10B	C10D
EU01B	C01B
EU02B	C02B
EU05B	C05B
EU06B	C06B
EU07B	C07B and Baffles
EU08B	C08B
EU09B	C09B
EU11B	C11B
EU04A	Baffles
EU03B	Baffles
EU12B	C12B

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.

Conclusion and Recommendation

The staff recommends to the Commissioner that the FESOP Renewal be approved. This recommendation is based on the following facts and conditions:
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 July 2, 2018. Additional information was received on October 2, 2018, October 26, 2018, and December 27, 2018.

The operation of this stationary manufacturer of metallic and nonmettalic powders for surface coating and polishing shall be subject to the conditions of the attached FESOP Renewal No. F097-40170-00060.

IDEM Contact

(a) If you have any questions regarding this permit, please contact Scott Zello-Dean, Indiana Department Environmental Management, Office of Air Quality, Permits Branch, 100 North Senate Avenue, MC 61-53 IGCN 1003, Indianapolis, Indiana 46204-2251, or by telephone at (317) 234-5373 or (800) 451-6027, and ask for Scott Zello-Dean or (317) 234-5373.

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

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

Appendix A: Emissions Summary
Summary of Unlimited Emissions Before Integral Controls

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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	0.00	0.00	0.00	---	---	---	---	---	---	
Raw Material Mixing CSP	negl.	negl.	negl.	---	---	---	---	---	---	
Combustion Spray Pyrolysis (CSP) operation	11.73	11.73	11.73	---	73.48	---	---	2.42	2.42	Nickle
Burner Associated with EU020	0.00	0.01	0.01	0.00	0.17	0.01	0.14	0.00	0.00	Hexane
Powder Handling After CSP	0.00	0.00	0.00	---	---	---	---	0.00	0.00	Nickle
Electrically-Heated Rotary Kiln	---	---	---	---	0.74	---	---	---	---	
Powder Handling After Kiln	0.00	0.00	0.00	---	---	---	---	0.00	0.00	Nickle
Enclosed Mill	14.13	12.01	12.01	---	---	---	---	3.03	3.03	Nickle
Powder Handling After Mill	0.00	0.00	0.00	---	---	---	---	0.00	0.00	Nickle
Primary Enclosed Blender	---	---	---	---	---	---	---	---	---	
Backup Enclosed Blender	---	---	---	---	---	---	---	---	---	
Final Powder Handling	0.00	0.00	0.00	---	---	---	---	0.00	0.00	Nickle
Twenty-four (24) Specialty Powders Manufacturing Operations	7.89	7.89	7.89	---	---	---	---	1.57	1.31	Chromium
Titanium Powder Process	17.52	17.52	17.52	---	---	---	---	0.47	0.47	Chromium
Sermatech Process	1.29	1.29	1.29	---	---	1.33	---	0.06	0.06	Chromium
Forty-three (43) Grit Blasting Units	871.63	630.26	630.26	---	---	---	---	---	---	
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	0.00	0.00	0.00	---	---	---	---	---	---	
Ingot Machining Lathe	0.22	0.00	0.00	---	---	---	---	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)	0.00	0.00	0.00	---	---	0.04	---	0.79	0.79	Methanol
Operation 2, Process 4 (O2P4)	---	---	---	---	---	---	---	1.57	1.57	Hydrofluoric Acid (HF)
Bader Grinders	450.51	450.51	450.51	---	---	---	---	---	---	
Twenty-four (24) surface coating stations	105.60	105.60	105.60	---	---	---	---	77.78	49.30	Chromium
Kerosene Combustion for Surface Coating Stations	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	Selenium
Physical Vapor Deposition Station (EU01T)	0.00	0.00	0.00	---	---	---	---	---	---	
LSR1 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	---	---	---	---	---	9.34	---	3.43	3.36	Perchloroethylene (PCE)
Epoxy Kit Operation (EUS-12)	0.00	0.00	0.00	---	---	4.03	---	---	---	
Grit Reclassifier (EU020G)	0.01	0.00	0.00	---	---	---	---	---	---	
Three (3) 3D Printers	negl.	negl.	negl.	---	---	---	---	negl.	negl.	Nickle
Twenty-eight (28) grinding and cutting operations	1.45	0.01	0.01	---	---	---	---	0.11	0.11	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	0.00	0.00	---	---	---	---	---	---	
Five (5) finishing units	negl.	negl.	negl.	---	---	---	---	---	---	
Diesel Emergency Generators	0.21	0.21	0.21	0.19	2.91	0.24	0.63	0.00	0.00	Formaldehyde
Propane Emergency Generator	0.00	0.00	0.00	0.00	0.18	0.01	0.01	0.00	0.00	Formaldehyde
Tribomet Lines (Lines #1 and #2)	---	---	---	---	---	0.00	---	1.38	0.62	Cobalt
Scale Coating	---	---	---	---	---	0.03	---	0.00	0.00	Chromium
Operation 1, Process 3 (O1P3)	---	---	---	---	---	---	---	0.50	0.50	Hydrofluoric Acid (HF)
IPA Room Supporting EUS-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	**1,499.91**	**1,252.31**	**1,252.31**	**0.39**	**106.81**	**37.36**	**25.42**	**95.22**	**51.13**	**Chromium**
Paved Roads	7.98	1.60	0.39	---	---	---	---	---	---	
Total with Fugitives	**1,507.89**	**1,253.90**	**1,252.70**	**0.39**	**106.81**	**37.36**	**25.42**	**95.22**	**51.13**	**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 6.5 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: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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	0.00	0.00	0.00	---	---	---	---	---	---	
Raw Material Mixing CSP	negl.	negl.	negl.	---	---	---	---	---	---	
Combustion Spray Pyrolysis (CSP) operation(1) (2) (3)	10.00	10.00	10.00	---	59.99	---	---	2.42	2.42	Nickle
Burner Associated with EU020	0.00	0.01	0.01	0.00	0.17	0.01	0.14	0.00	0.00	Hexane
Powder Handling After CSP	0.00	0.00	0.00	---	---	---	---	0.00	0.00	Nickle
Electrically-Heated Rotary Kiln	---	---	---	---	0.74	---	---	---	---	
Powder Handling After Kiln	0.00	0.00	0.00	---	---	---	---	0.00	0.00	Nickle
Enclosed Mill	14.13	12.01	12.01	---	---	---	---	3.03	3.03	Nickle
Powder Handling After Mill	0.00	0.00	0.00	---	---	---	---	0.00	0.00	Nickle
Primary Enclosed Blender	---	---	---	---	---	---	---	---	---	
Backup Enclosed Blender	---	---	---	---	---	---	---	---	---	
Final Powder Handling	0.00	0.00	0.00	---	---	---	---	0.00	0.00	Nickle
Twenty-four (24) Specialty Powders Manufacturing Operations**	7.89	7.89	7.89	---	---	---	---	1.57	1.31	Chromium
Titanium Powder Process(1) (2)	3.50	3.50	3.50	---	---	---	---	0.47	0.47	Chromium
Sermatech Process	1.29	1.29	1.29	---	---	1.33	---	0.06	0.06	Chromium
Forty-three (43) Grit Blasting Units(1) (2)	91.30	20.24	20.24	---	---	---	---	---	---	
Two (2) Wet Grit Blasting Units(1) (2)	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	0.00	0.00	0.00	---	---	---	---	---	---	
Lathe	0.22	0.00	0.00	---	---	---	---	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)	0.00	0.00	0.00	---	---	0.04	---	0.79	0.79	Methanol
Operation 2, Process 4 (O2P4)	---	---	---	---	---	---	---	1.57	1.57	Hydrofluoric Acid (HF)
Bader Grinders(1) (2)	1.35	1.35	1.35	---	---	---	---	---	---	
Twenty-four (24) surface coating stations** (4)	31.04	30.71	30.71	---	---	---	---	2.86	2.85	Cobalt
Kerosene Combustion for Surface Coating Stations	0.00	0.00	0.00	0.02	0.01	0.00	0.00	0.00	0.00	Selenium
Physical Vapor Deposition Station (EU01T)	0.00	0.00	0.00	---	---	---	---	---	---	
LSR1 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	---	---	---	---	---	9.34	---	3.43	3.36	Perchloroethylene (PCE)
Epoxy Kit Operation (EUS-12)	0.00	0.00	0.00	---	---	4.03	---	---	---	
Grit Reclassifier (EU020G)	0.01	0.00	0.00	---	---	---	---	---	---	
Three (3) 3D Printers	negl.	negl.	negl.	---	---	---	---	negl.	negl.	Nickle
Twenty-eight (28) grinding and cutting operations	1.45	0.01	0.01	---	---	---	---	0.11	0.11	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	0.00	0.00	---	---	---	---	---	---	
Five (5) finishing units	negl.	negl.	negl.	---	---	---	---	---	---	
Diesel Emergency Generators	0.21	0.21	0.21	0.19	2.91	0.24	0.63	0.00	0.00	Formaldehyde
Propane Emergency Generator	0.00	0.00	0.00	0.00	0.18	0.01	0.01	0.00	0.00	Formaldehyde
Tribomet Lines (Lines #1 and #2)	---	---	---	---	---	0.00	---	1.38	0.62	Cobalt
Scale Coating	---	---	---	---	---	0.03	---	0.00	0.00	Chromium
Operation 1, Process 3 (O1P3)	---	---	---	---	---	---	---	0.50	0.50	Hydrofluoric Acid (HF)
IPA Room Supporting EUS-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 (PTE for PSD)	**167.44**	**93.75**	**93.75**	**0.39**	**93.32**	**37.36**	**25.42**	**20.30**	**4.69**	**Chromium**
Paved Roads	7.98	1.60	0.39	---	---	---	---	---	---	
Total (PTE for PSD) with Fugitives*	**175.42**	**95.34**	**94.14**	**0.39**	**93.32**	**37.36**	**25.42**	**20.30**	**4.69**	**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.

Appendix A: Emissions Summary
Summary of Unlimited Emissions of New/Modified Units

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

Emissions Units	Unlimited Potential to Emit of New Units (tons/year)									
	PM	PM_{10}	$PM_{2.5}$	SO_2	NOx	VOC	CO	Total HAPs	Single Worst Case HAP	
One (1) new natural gas-fired boiler (B-002)	0.00	0.00	0.00	0.00	0.06	0.00	0.05	0.00	0.00	Hexane
Ingot Machining Lathe	0.22	0.00	0.00	---	---	---	---	0.02	0.02	Lead
One (1) new 3D Printer	negl.	negl.	negl.	---	---	---	---	negl.	negl.	Nickle
Total PTE of New Units	**0.22**	**0.01**	**0.01**	**0.00**	**0.06**	**0.00**	**0.05**	**0.02**	**0.02**	**Lead**

LPPS Vapor Degreaser	Change in Unlimited Potential to Emit of Modified Unit (tons/year)									
	PM	PM_{10}	$PM_{2.5}$	SO_2	NOx	VOC	CO	Total HAPs	Single Worst Case HAP	
After Modification	---	---	---	---	---	3.23	---	0.06	0.06	1,2-Epoxybutane
Before Modification	---	---	---	---	---	3.09	---	0.06	0.06	1,2-Epoxybutane
Total PTE of New Units	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.14**	**0.00**	**0.00**	**0.00**	**1,2-Epoxybutane**

One (1) hydrochloric acid stripping operation	Change in Unlimited Potential to Emit of Modified Unit (tons/year)									
	PM	PM_{10}	$PM_{2.5}$	SO_2	NOx	VOC	CO	Total HAPs	Single Worst Case HAP	
After Modification	---	---	---	---	---	0.00	---	0.25	0.25	Hydrochloric Acid (HCl)
Before Modification	---	---	---	---	---	0.00	---	0.15	0.14	Hydrochloric Acid (HCl)
Total PTE of New Units	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.10**	**0.11**	**Hydrochloric Acid (HCl)**

New and Modified Units	Unlimited Potential to Emit of New and Modified Units (tons/year)									
	PM	PM_{10}	$PM_{2.5}$	SO_2	NOx	VOC	CO	Total HAPs	Single Worst Case HAP	
New Units	0.22	0.01	0.01	0.00	0.06	0.00	0.05	0.02	0.02	Lead
Increase from Modified Units	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.10	0.11	Hydrochloric Acid (HCl)
Total PTE of New Units	**0.22**	**0.01**	**0.01**	**0.00**	**0.06**	**0.15**	**0.05**	**0.12**	**0.11**	**Hydrochloric Acid (HCl)**

Appendix A: Emission Calculations
EU020 - Raw Material Handling CSP

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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)
12.37	0.0069	0.0033	0.0002	0.0001

METHODOLOGY:

*The throughput is based on the batch weights for dry materials. There are a total of 4 batches with a combined total weight of 12.37 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: Emission Calculations
Combustion Spray Pyrolysis (CSP) Operation

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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
Batches 1, 2, 3, and 4	4	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 1, 2, 3, and 4	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 1, 2, 3, and 4	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 1, 2, 3, and 4	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 1, 2, 3, and 4	**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: Emission Calculations
Burner Associated with EU020

Company Name: **Praxair Surface Technologies**
Address City IN Zip: **1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.: **F097-40170-00060**
Permit Reviewer: **Scott Zello-Dean**

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
0.40	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 (298).
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: Emission Calculations
EU020 Powder Handling After CSP

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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 and 4	605.23	205.55	810.77	770.23	84.90	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 and 4	84.90	0.0069	0.0033	0.0013	0.0006	12.03%	25.19%	1.54E-04	3.23E-04	3.23E-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 and 4	99.9%	0.000001	0.000001	1.54E-07	3.23E-07	3.23E-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	0.0000	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: Emission Calculations
EU020 - Kiln

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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)
21.55	132.18	1%	0.2155	1.3218	0.01	0.07	0.08	0.17	0.74

[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: Emission Calculations
EU020- Powder Handling After Kiln

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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 and 4	84.90	0.00029	84.90

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	84.90	0.0069	0.0033	0.0013	0.0006	12.03%	25.19%	1.54E-04	3.23E-04	3.23E-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: Emission Calculations
EU020- Enclosed Mill

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

Batch	Powder Handling after Kiln Throughput (lbs/hr)	PM Emissions Handling after Kiln (lbs/hr)	Milling Throughput (lbs/hr)
Batches 1, 2, 3 and 4	84.90	0.00029	84.90

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 and 4	84.90	76.00	64.60	14.13	12.01	12.03%	25.19%	1.70	3.03	3.03

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 and 4	0.00	0.00	0.00	0.00	0.00

[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: Emission Calculations
EU020- Powder Handling After Mill

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

Batch	Milling Throughput (lbs/hr)	Milling PM Emissions (lbs/hr)	Powder Handling after Milling Throughput (lbs/hr)
Batches 1, 2, 3 and 4	84.90	14.13	70.77

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	70.77	0.0069	0.0033	1.07E-03	5.11E-04	12.03%	25.19%	1.29E-04	2.69E-04	2.69E-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%	1.07E-06	5.11E-07	1.29E-07	2.69E-07	2.69E-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: Emission Calculations
EU020- Final Powder Handling

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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	70.77	0.00024	70.77

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	70.77	0.0069	0.0033	0.0011	0.0005	12.03%	25.19%	2.69E-04	2.69E-04	2.69E-04
	70.77									

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%	1.07E-06	5.11E-07	2.69E-07	2.69E-04	2.69E-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: Emission Calculations
Building 1550 - Specialty Powders Manufacturing Operations

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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, DC045	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, DC061	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-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	---	--	--	---	---	---	---	---	---
									Total (tons/yr):	552.14	7.89

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, DC045	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, DC061	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-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%	---	---	---	---	---	---
			24				Total (tons/yr):	0.23	1.31	0.17	1.57		

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: Emission Calculations
Titanium Powder Process

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

Titanium Process Emissions

Amount to wet collector =	4.00	lbs/hr
Chromium Content =	2.70%	of particulates
Control Efficiency =	98.00%	

Potential Emissions Before Control

Uncontrolled Particualte Emissions (lb/hr) =	4.00	lbs/hr
Uncontrolled Particualte Emissions (ton/yr) =	17.52	tons/yr
Uncontrolled Chromium Emissions (ton/yr) =	0.47	tons/yr

Potential Emissions After Control

Controlled Particualte Emissions (lb/hr) =	0.08	lbs/hr
Controlled Particualte Emissions (ton/yr) =	0.35	tons/yr
Controlled Chromium Emissions (ton/yr) =	0.01	tons/yr

PSD Limits (PM, PM10, and PM2.5)

Particulate allowable after control (lb/hr) =	0.80	lbs/hr
Particulate allowable after control (ton/yr) =	3.50	tons/yr

FESOP Limits (PM10 and PM2.5)

Particulate allowable after control (lb/hr) =	0.80	lbs/hr
Particulate allowable 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/

Appendix A: Emission Calculations
Grit Blasting

Company Name:	Praxair Surface Technologies
Address City IN Zip:	1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.:	F097-40170-00060
Permit Reviewer:	Scott Zello-Dean

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)	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
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 EUG1	CG1	Aluminum Oxide	138	0.010	0.007	99.7%	6.04	4.23	0.02	0.01
	O1P1 EUG2	CG2	Aluminum Oxide	173	0.010	0.007	99.7%	7.58	5.30	0.02	0.02
	O1P1 EUG5	CG5	Aluminum Oxide	173	0.010	0.007	99.7%	7.58	5.30	0.02	0.02
	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
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):	871.63	630.26		
							Total Controlled PTE (tons/yr):			7.44	5.36

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 Minor Limits		FESOP Limits	
							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	0.11	0.48
	1	EU001G	C001G	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU002G	C002G	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU004G	C004G	4,000	0.0001	YES	0.50	2.17	0.11	0.48
	1	EU005G	C005G	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU008G	C008G	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU010G	C010G	4,000	0.0001	YES	0.50	2.17	0.11	0.48
	1	EU011G	C011G	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU013G	C013G	4,000	0.0006	YES	0.50	2.17	0.11	0.48
	1	EU014G	C014G	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU016G	C016G	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU018G	C018G	4,000	0.0072	YES	0.50	2.17	0.11	0.48
	1	EU019G	C019G	4,000	0.0072	YES	0.50	2.17	0.11	0.48
	1	EU012G	C012G	4,000	0.0001	YES	0.50	2.17	0.11	0.48
	1	EU007G	C007G	4,000	0.0011	YES	0.50	2.17	0.11	0.48
	1	EU01M	C01M	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU02M	C02M	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU01L	C01L	4,000	0.0000	YES	0.50	2.17	0.11	0.48
	1	EU01GB	C01GB	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU02GB	C02GB	4,000	0.0018	YES	0.50	2.17	0.11	0.48
1415 Main Street	1	EU01C	C01C	4,000	0.0011	YES	0.50	2.17	0.11	0.48
	1	EU04C	C04C	4,000	0.0011	YES	0.50	2.17	0.11	0.48
	1	EU05C	C05C	4,000	0.0011	YES	0.50	2.17	0.11	0.48
	1	EU06C	C06C	4,000	0.0011	YES	0.50	2.17	0.11	0.48
	1	EU07C	C07C	4,000	0.0011	YES	0.50	2.17	0.11	0.48
	1	EU08C	C08C	4,000	0.0011	YES	0.50	2.17	0.11	0.48
	1	EU10C	C10C	4,000	0.0011	YES	0.50	2.17	0.11	0.48
	1	EU12C	C12C	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	EU16C	C16C	4,000	0.0005	YES	0.50	2.17	0.11	0.48
	1	EU03C	C03C	4,000	0.0011	YES	0.50	2.17	0.11	0.48
	1	EU01M	C01M	4,000	0.0018	YES	0.50	2.17	0.11	0.48
	1	O1P1 EUG1	CG1	4,000	0.0001	YES	0.50	2.17	0.11	0.48
	1	O1P1 EUG2	CG2	4,000	0.0002	YES	0.50	2.17	0.11	0.48
	1	O1P1 EUG5	CG5	4,000	0.0002	YES	0.50	2.17	0.11	0.48
	1	O1P1 EUG6	CG6	4,000	0.0002	YES	0.50	2.17	0.11	0.48
	1	O1P1 EUG7	CG7	4,000	0.0001	YES	0.50	2.17	0.11	0.48
	1	O2P1 EUG1	CG1/2	4,000	0.0002	YES	0.50	2.17	0.11	0.48
	1	O2P1 EUG2		4,000	0.0002	YES	0.50	2.17	0.11	0.48
	1	O2P1 EUG3	CG3/4	4,000	0.0001	YES	0.50	2.17	0.11	0.48
	1	O2P1 EUG5	CG5	4,000	0.0000	YES	0.50	2.17	0.11	0.48
	1	O2P3 EUG1	CG1	4,000	0.0002	YES	0.50	2.17	0.11	0.48
	1	O2P3 EUG2	CG2	4,000	0.0002	YES	0.50	2.17	0.11	0.48
1500 Polco Street	1	EU13C	C13C	4,000	0.0001	YES	0.50	2.17	0.11	0.48
	43					Total PTE (tons/yr):	---	91.30	---	20.24

Appendix A: Emission Calculations
Wet Grit Blasting

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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: Emission Calculations
Polishing Operation: Powder Handling Operation
(Lens Polish Mixing, Suspension Room Custom Blend Loading, Suspension Room Powder Packaging, Powder Loading)

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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)

Appendix A: Emission Calculations
Polishing Operation: Polish Mixing Operation
(Lens Polish Mixing and Filing & Suspension Room Mixing Operation)

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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: Emission Calculations
Building 1415 - Bader Grinders

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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 PM, PM10, & PM2.5 Limit (lb/hr)**	**FESOP PM, 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: Emission Calculations
Surface Coating at 1245 Main Street and 1415 Main Street

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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.

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 Calculations
Kerosene Combustion Only
MM BTU/HR <100

Company Name: **Praxair Surface Technologies**
Address City IN Zip: **1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.: **F097-40170-00060**
Permit Reviewer: **Scott Zello-Dean**

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 Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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 **see below	5.5	84.0
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.

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).

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

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

Company Name: **Praxair Surface Technologies**
Address City IN Zip: **1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.: **F097-40170-00060**
Permit Reviewer: **Scott Zello-Dean**

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 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 Calculations
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: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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 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 Calculations
Building 1550 Specialty Ingot Manufacturing Process - Material Transfer Point

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

Powder Throughput (lb/hr)	PM EF (lb/ton)	PM10/PM2.5 EF (lb/ton)	Uncontrolled PM PTE (tons/yr)	Uncontrolled PM10/PM2.5 PTE	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: Emission Calculations
Building 1550 Specialty Ingot Manufacturing Process - Ingot Machining Lathe

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

Location	Process:	Max Throughput Rate*		Particulates: Emission Factor ** PM	Particulates: Emission Factor ** PM10/PM2.5	Particulates: Potential to Emit PM	Particulates: Potential to Emit $PM_{10}/PM_{2.5}$	HAPs: Lead Content (%) ***	HAPs: PTE of Lead (tons/year)
		(lbs/hr)	(tons iron/hr)	(lbs/ton)	(lbs/ton)	(tons/yr)	(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 Calculations
Buiolding 1550: Coating Mixing Operation - Sermatech Process

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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 Calculations
Building 1415: Operation 1, Process 1 (O1P1)

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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.

Appendix A: Emissions Calculations
Building 1415 - Operation 2, Process 1 (O2P1)

Company Name: **Praxair Surface Technologies**
Address City IN Zip: **1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.: **F097-40170-00060**
Permit Reviewer: **Scott Zello-Dean**

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

Emissions Calculations
Building 1415 - Operation 2, Process 2 (O2P2)

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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: Emission Calculations
Building 1550- Epoxy Kits (EUS-12)

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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)]

Emission Calculations
Pack Diffusion Process (1415 Main Street)

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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 (tons/yr)
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 (tons/yr)
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 /

Appendix A: Emission Calculations
EU020G - Grit Reclassifier Building 1245

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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: Emission Calculations
Grinding and Metal Cutting Operations

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

Location	Process:	Number of Units	Max Throughput Rate*		Particulates: Emission Factor **		Particulates: Potential to Emit		HAPs	
			(lbs/hr)	(tons iron/hr)	PM (lbs/ton)	PM10/PM2.5 (lbs/ton)	PM (tons/yr)	$PM_{10}/PM_{2.5}$ (tons/yr)	Lead Content (%) ***	PTE of Lead (tons/year)
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
	Four (4) Vented Tables	4			negl.	negl.	negl.	negl.	0.00%	0.00
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
		28		**Total**			**1.45**	**0.01**		**0.11**

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 Calculations
Welding and Thermal Cutting

Company Name: **Praxair Surface Technologies**
Address City IN Zip: **1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.: **F097-40170-00060**
Permit Reviewer: **Scott Zello-Dean**

PROCESS	Number of Stations	Max. electrode consumption per station (lbs/hr)		EMISSION FACTORS* (lb pollutant/lb electrode)				EMISSIONS (lbs/hr)				HAPS (lbs/hr)
WELDING				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
	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)
FLAME CUTTING				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

Emissions Calculations
Carpentry Shop (1500 Polco Street)

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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: Emission Calculations
Reciprocating Internal Combustion Engines - Diesel Fuel
Output Rating (<=600 HP)

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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: Emission Calculations
LP Gas-Fired Emergency Generator
Building 1500 BUDA Propane Emergency Generator

Company Name: **Praxair Surface Technologies**
Address City IN Zip: **1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.: **F097-40170-00060**
Permit Reviewer: **Scott Zello-Dean**

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 Calculations
Degreasing/Solvent Cleaning

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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	11.18	100.00%	0.0%	100.0%	0.0%	660.00	82.00	11.18	11.18	3.23
	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
		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
											Total Potential Emissions (tons/yr)	**9.34**

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 (Lb/Gal)	Max Gal of Material (gal/yr)	Waste Material (gal/yr)	Weight % Benzene	Weight % 1,2-Epoxybutane	Weight % p-dichloro benzene	Weight % Toluene	Weight % Xylene	Weight % PCE	Benzene Emissions (tons/yr)	1,2-Epoxybutane Emissions (tons/yr)	p-dichloro benzene Emissions (tons/yr)	Toluene Emissions (tons/yr)	Xylene Emissions (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
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
	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
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
	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
Open Top Vapor Degreasers																
1415 Main Street	LPPS Vapor Degreaser	N-Propyl Bromide	11.18	660.00	82.00	0.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00E+00	6.46E-02	0.00E+00	0.00E+00	0.00E+00
	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
		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
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
									Potential HAP Emissions (tons/yr)			**0.00E+00**	**6.46E-02**	**0.00E+00**	**0.00E+00**	**0.00E+00**
									Combined HAPs (tons/yr)			**3.43**				

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 (Lb/Gal)	Max Gal of Material (gal/yr)	Waste Material (gal/yr)	Weight % Benzene	Weight % 1,2-Epoxybutane	Weight % p-dichloro benzene	Weight % Toluene	Weight % Xylene	Weight % PCE	Benzene Emissions (tons/yr)	1,2-Epoxybutane Emissions (tons/yr)	p-dichloro benzene Emissions (tons/yr)	Toluene Emissions (tons/yr)	Xylene Emissions (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

Appendix A: Emissions Calculations
Tribomet Lines (Building 1415)

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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.

Emissions Calculations
VOC and Particulate
Building 1500 - Scale Coating

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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 Calculations
Building 1245 - Physical Vapor Deposition Coating Station (EU01T)

Company Name: **Praxair Surface Technologies**
Address City IN Zip: **1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.: **F097-40170-00060**
Permit Reviewer: **Scott Zello-Dean**

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)
EU01T	N/A	PVD	0.25	0.25	5%	0.0003

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)

Appendix A: Emissions Calculations
Building 1245 - LSR1 Titanium Tetrachloride Coating Station (EU01R)

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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)

Appendix A: Emissions Calculations
Building 1415 - Operation 1, Process 3 (O1P3)

Company Name: **Praxair Surface Technologies**
Address City IN Zip: **1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.: **F097-40170-00060**
Permit Reviewer: **Scott Zello-Dean**

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)

Emissions Calculations
Building 1415 - Operation 2, Process 4

Company Name:	**Praxair Surface Technologies**
Address City IN Zip:	**1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.:	**F097-40170-00060**
Permit Reviewer:	**Scott Zello-Dean**

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: Emission Calculations
Building 1550- IPA Room

Company Name: **Praxair Surface Technologies**
Address City IN Zip: **1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.: **F097-40170-00060**
Permit Reviewer: **Scott Zello-Dean**

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 Calculations
Stripping and Cleaning Operations

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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 (%)

Appendix A: Emission Calculations
Miscellaneous Lubricant Usage

Company Name: **Praxair Surface Technologies**
Address City IN Zip: **1500 Polco Street, Indianapolis, Indiana 46222**
Operation Permit No.: **F097-40170-00060**
Permit Reviewer: **Scott Zello-Dean**

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: Emission Calculations
Fugitive Dust Emissions - Paved Roads

Company Name: Praxair Surface Technologies
Address City IN Zip: 1500 Polco Street, Indianapolis, Indiana 46222
Operation Permit No.: F097-40170-00060
Permit Reviewer: Scott Zello-Dean

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

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
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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

December 31, 2018

Michael Bass
Praxair Surface Technologies, Inc.
1500 Polco St
Indianapolis, IN 46224

Re: Public Notice
Praxair Surface Technologies, Inc.
Permit Level: FESOP Renewal
Permit Number: 097-40170-00060

Dear Mr. Bass:

Enclosed is a copy of your draft FESOP Renewal, Technical Support Document, emission calculations, and the Public Notice which will be printed in your local newspaper.

The Office of Air Quality (OAQ) has prepared two versions of the Public Notice Document. The abbreviated version will be published in the newspaper, and the more detailed version will be made available on the IDEM's website and provided to interested parties. Both versions are included for your reference. The OAQ has requested that the Indianapolis Star in Indianapolis, IN publish the abbreviated version of the public notice no later than January 2, 2019. You will not be responsible for collecting any comments, nor are you responsible for having the notice published in the newspaper.

OAQ has submitted the draft permit package to the Speedway Public Library, 5633 W 25th Street in Speedway, IN. As a reminder, you are obligated by 326 IAC 2-1.1-6(c) to place a copy of the complete permit application at this library no later than ten (10) days after submittal of the application or additional information to our department. We highly recommend that even if you have already placed these materials at the library, that you confirm with the library that these materials are available for review and request that the library keep the materials available for review during the entire permitting process.

Please review the enclosed documents carefully. This is your opportunity to comment on the draft permit and notify the OAQ of any corrections that are needed before the final decision. Questions or comments about the enclosed documents should be directed to Scott Zello-Dean, Indiana Department of Environmental Management, Office of Air Quality, 100 N. Senate Avenue, Indianapolis, Indiana, 46204 or call (800) 451-6027, and ask for extension 4-5373 or dial (317) 234-5373.

Sincerely,

Theresa Weaver

Theresa Weaver
Permits Branch
Office of Air Quality

Enclosures
PN Applicant Cover Letter 1/9/2017

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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

ATTENTION: PUBLIC NOTICES, LEGAL ADVERTISING

December 28, 2018

Indianapolis Star
130 S. Meridian St.
Indianapolis, IN 46225

Enclosed, please find one Indiana Department of Environmental Management Notice of Public Comment for Praxair Surface Technologies, Inc., Marion County, Indiana.

Since our agency must comply with requirements which call for a Notice of Public Comment, we request that you print this notice one time, no later than January 2, 2019.

Please send the invoice, notarized form, clippings showing the date of publication to Bo Liu, at the Indiana Department of Environmental Management, Accounting, Room N1340, 100 North Senate Avenue, Indianapolis, Indiana, 46204.

To ensure proper payment, please reference account # 100174737.

We are required by the Auditor's Office to request that you place the Federal ID Number on all claims. If you have any conflicts, questions, or problems with the publishing of this notice or if you do not receive complete public notice information for this notice, please call Theresa Weaver at 800-451-6027 and ask for extension 4-5256 or dial 317-234-5256.

Sincerely,

Theresa Weaver

Theresa Weaver
Permit Branch
Office of Air Quality

Permit Level: FESOP Renewal
Permit Number: 097-40170-00060

Enclosure

PN Newspaper Letter 8/22/2018

December 31, 2018

To: Speedway Public Library

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

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

Applicant Name: Praxair Surface Technologies, Inc.
Permit Number: 097-40170-00060

Enclosed is a copy of important information to make available to the public. This proposed project is regarding a source that may have the potential to significantly impact air quality. Librarians are encouraged to educate the public to make them aware of the availability of this information. The following information is enclosed for public reference at your library:

- Notice of a 30-day Period for Public Comment
- Request to publish the Notice of 30-day Period for Public Comment
- Draft Permit and Technical Support Document

You will not be responsible for collecting any comments from the citizens. Please refer all questions and request for the copies of any pertinent information to the person named below.

Members of your community could be very concerned in how these projects might affect them and their families. **Please make this information readily available until you receive a copy of the final package.**

If you have any questions concerning this public review process, please contact Joanne Smiddie-Brush, OAQ Permits Administration Section at 1-800-451-6027, extension 3-0185. Questions pertaining to the permit itself should be directed to the contact listed on the notice.

Enclosures
PN Library 1/9/2017

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Eric J. Holcomb
Governor

Bruno L. Pigott
Commissioner

Notice of Public Comment

December 31, 2018
Praxair Surface Technologies, Inc.
097-40170-00060

Dear Concerned Citizen(s):

You have been identified as someone who could potentially be affected by this proposed air permit. The Indiana Department of Environmental Management, in our ongoing efforts to better communicate with concerned citizens, invites your comment on the draft permit.

Enclosed is a Notice of Public Comment, which has been placed in the Legal Advertising section of your local newspaper. The application and supporting documentation for this proposed permit have been placed at the library indicated in the Notice. These documents more fully describe the project, the applicable air pollution control requirements and how the applicant will comply with these requirements.

If you would like to comment on this draft permit, please contact the person named in the enclosed Public Notice. Thank you for your interest in the Indiana's Air Permitting Program.

Please Note: *If you feel you have received this Notice in error, or would like to be removed from the Air Permits mailing list, please contact Patricia Pear with the Air Permits Administration Section at 1-800-451-6027, ext. 3-6875 or via e-mail at PPEAR@IDEM.IN.GOV. If you have recently moved and this Notice has been forwarded to you, please notify us of your new address and if you wish to remain on the mailing list. Mail that is returned to IDEM by the Post Office with a forwarding address in a different county will be removed from our list unless otherwise requested.*

Enclosure
PN AAA Cover Letter 1/9/2017

Mail Code 61-53

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8		Johan & Susan Van Den Heuvel 4409 Blue Creek Drive Carmel IN 46033 *(Affected Party)*									
9		Indiana Members Credit Union 5103 Madison Avenue Indianapolis IN 46227 *(Affected Party)*									
10		TGM Autumn Woods, Inc. 500 North Dearboen, Suite 400 Chicago IL 60654 *(Affected Party)*									
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