

3745-21-14

Control of volatile organic compound emissions from process vents in batch operations.

[Comment: For dates and availability of non-regulatory government publications, publications of recognized organizations and associations, federal rules, and federal statutory provisions referenced in this rule, see paragraph ~~(HH)~~ ~~at the end~~ ~~(JJ)~~ of rule 3745-21-01 of the Administrative Code entitled "~~Referenced~~ referenced materials."]

(A) Applicability.

(1) Except as otherwise provided in paragraphs (A)(4) and (A)(5) of this rule, ~~the requirements of~~ paragraph (C) of this rule shall apply to any facility that has a batch process train associated with any of the following SIC codes: 2821, 2833, 2834, 2861, 2865, 2869, or 2879, and meets either ~~the following criteria in~~ paragraphs (A)(1)(a) and (A)(1)(b) of this rule or paragraphs (A)(1)(c) and (A)(1)(d) of this rule:

(a) The facility is located in Butler, Clermont, Hamilton, or Warren county; ~~and,~~

(b) The facility has a combined total potential to emit for VOC emissions equal to or greater than one hundred tons of VOC per calendar year on or after May 27, 2005 from all of the following:

(i) Process vents in batch operations; ~~and,~~

(ii) All non-CTG sources; ~~and,~~

(iii) Unregulated emissions from CTG sources except sources regulated under ~~Subparts~~ 40 CFR part 60, subparts BBB, III, NNN, and RRR ~~of 40 CFR Part 60~~ and sources regulated under 40 CFR part 63, Subpart ~~subpart~~ T ~~of 40 CFR Part 63.~~

(c) The facility is located in Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, or Summit county; ~~and,~~

(d) The facility has a combined total potential to emit for VOC emissions equal to or greater than one hundred tons of VOC per calendar year on or after August 25, 2008 from all of the following:

(i) Process vents in batch operations; ~~and,~~

(ii) All non-CTG sources; ~~and,~~

- (iii) Unregulated emissions from CTG sources except sources regulated under ~~Subparts~~40 CFR part 60, subparts BBB, III, NNN, and RRR ~~of 40 CFR Part 60~~ and sources regulated under 40 CFR part 63, Subpart~~subpart~~ T ~~of 40 CFR Part 63.~~
- (2) For the purposes of ~~paragraphs (A)(1)(a) to (A)(1)(d)~~paragraph (A)(1) of this rule, a source shall be considered regulated by a paragraph, rule or subpart if ~~it~~the source is subject to the limits of that paragraph, rule, or subpart. A source is not considered regulated by a paragraph, rule, or subpart if ~~it~~the source is not subject to the limits of that paragraph, rule, or subpart. For example, if the source is covered by an exemption in the paragraph, rule, or subpart, or the applicability criteria of the paragraph or subpart are not met, then the source is not subject to that paragraph, rule, or subpart. A source is also not considered regulated if there is no rule contained in this chapter regulating the source category.
- (3) Once a facility has met the applicability requirements of paragraphs (A)(1)(a) and (A)(1)(b) of this rule on or after May 27, 2005, or the applicability requirements of paragraphs (A)(1)(c) and (A)(1)(d) of this rule on or after ~~the effective date of this rule~~August 25, 2008, ~~it~~the facility is always subject to ~~the requirements of~~ paragraph (C) of this rule, except as otherwise provided in paragraphs (A)(4) and (A)(5) of this rule.
- (4) In the event a facility meets the applicability requirements under paragraphs (A)(1)(a) and (A)(1)(b) of this rule, but reduces ~~it~~the facility's potential to emit for volatile organic compounds by means of federally enforceable operational restrictions (e.g., production, hours of operation, or capacity utilization) to less than one hundred tons per year by no later than May 27, 2006, and documents that the actual VOC emissions from the above combined sources have never exceeded one hundred tons per year after the baseline year (1990) of the state implementation plan for ozone, the facility is not subject to ~~the requirements of~~ paragraph (C) of this rule.
- (5) In the event a facility meets the applicability requirements under paragraphs (A)(1)(c) and (A)(1)(d) of this rule, but reduces ~~it~~the facility's potential to emit for VOCs by means of federally enforceable operational ~~restriction(s)~~restriction (e.g., production, hours of operation, or capacity utilization) to less than one hundred tons per year by no later than ~~twelve months after the effective date of this rule~~August 25, 2009, and documents that the actual VOC emissions from the above combined sources have never exceeded one hundred tons per year after the baseline year (2002) of the state implementation plan for ozone, the facility is not subject to ~~the requirements of~~ paragraph (C) of this rule.

(B) Definitions.

The definitions applicable to this rule are contained in paragraph (W) of rule 3745-21-01 of the Administrative Code.

(C) Applicability for batch process trains and unit operations (batch operations).

(1) Except as otherwise provided in paragraphs (C)(2) and (C)(3) of this rule, the owner or operator of a batch process train at a facility that meets the applicability criteria of paragraph (A)(1) of this rule is subject to ~~the requirements of~~ paragraphs (D) to (K) of this rule.

(2) ~~The requirements of paragraphs~~ Paragraphs (D) to (J) of this rule shall not apply to the following:

(a) Any emissions unit included within any early reduction program, as specified in 40 CFR part 63, and published in 57 Federal Register 61970 (December 29, 1992), evidenced by a timely enforceable commitment approved by USEPA.

(b) Any unit operation at a synthesized pharmaceutical manufacturing facility that is subject to ~~a requirement under~~ paragraph (W)(1) of rule 3745-21-09 of the Administrative Code.

(3) The following unit operations within a batch process train and batch process trains are exempt from ~~the control requirements of~~ paragraph (D) of this rule, but are still subject to ~~the requirements in~~ paragraphs (H), (I) and (K) of this rule pertaining to recordkeeping, reporting, applicability notification, and permit application:

(a) Any unit operation with uncontrolled total annual mass emissions of less than or equal to five hundred pounds per year of VOC.

Such unit operations are also excluded from the calculation of the total annual mass emissions for a batch process train. If the uncontrolled total annual mass emissions from such exempt unit operation exceed five hundred pounds per year of VOC in any subsequent year, the owner or operator shall calculate applicability in accordance with paragraph (C)(4) of this rule for both the individual unit operation and the batch process train containing the unit operation.

(b) Any batch process train containing process vents that have, in the

aggregate, uncontrolled total annual mass emissions, as determined in accordance with paragraph (E)(1) of this rule, of less than thirty thousand pounds per year of VOC for all products manufactured in such batch process train.

(4) The applicability equations in paragraph (C)(5) of this rule, which require the calculation of uncontrolled total annual mass emissions and flow rate value, shall be used to determine whether a unit operation or a batch process train is subject to the control requirements set forth in paragraph (D) of this rule. The applicability equation shall be applied to the following:

(a) Any unit operation with uncontrolled total annual mass emissions that exceed five hundred pounds per year and with a VOC concentration greater than five hundred ppmv. In this individual determination, no applicability analysis shall be performed for any unit operation with a VOC concentration of less than or equal to five hundred ppmv.

(b) Any batch process train containing process vents which, in the aggregate, have uncontrolled total annual mass emissions of thirty thousand pounds per year or more of VOC from all products manufactured in the batch process train. Any unit operation with uncontrolled total annual mass emissions exceeding five hundred pounds per year, regardless of VOC concentration, shall be included in the aggregate applicability analysis.

(5) Applicability equations.

(a) The applicability equations under this paragraph ~~(C)(5) of this rule~~ are specific to volatility.

(b) For purposes of this paragraph ~~(C)(5) of this rule~~, the following abbreviations are employed:

(i) FR = calculated applicability flow rate, scfm.

(ii) UTAME = uncontrolled total annual mass emissions of VOC, expressed as pounds per year.

(iii) WAV = weighted average volatility.

(iv) $MVOC_i$ = mass of VOC component i.

(v) $MWVOC_i$ = molecular weight of VOC component i.

(vi) VP_i = vapor pressure of VOC component i.

(vii) i = subscript denoting a specific VOC component.

(viii) n = total number of VOC components.

(c) Weighted average volatility shall be calculated as follows:

$$WAV = \frac{\sum_{i=1}^n \frac{(VP_i)(MVOC_i)}{(MWVOC_i)}}{\sum_{i=1}^n \frac{(MVOC_i)}{(MWVOC_i)}}$$

(d) For purposes of determining applicability, calculated applicability flow rate values shall be determined as follows:

(i) Process vents with a WAV that is less than or equal to seventy-five mmHg at twenty degrees Celsius (sixty-eight degrees Fahrenheit), shall use the following equation:

$$FR = [0.07 (UTAME)] - 1,821$$

(ii) Process vents with a WAV that is greater than seventy-five mmHg, but less than or equal to one hundred fifty mmHg at twenty degrees Celsius (sixty-eight degrees Fahrenheit), shall use the following equation:

$$FR = [0.031 (UTAME)] - 494$$

(iii) Process vents a WAV that is greater than one hundred fifty mmHg at twenty degrees Celsius (sixty-eight degrees Fahrenheit), shall use the following equation:

$$FR = [0.013 (UTAME)] - 301$$

(D) Control ~~requirements for~~ VOC emissions from process vents.

The ~~control requirements~~ controls set forth in this paragraph ~~(D) of this rule~~ shall apply to process vents of batch process trains and unit operations within batch process trains (batch operations).

- (1) The owner or operator of a unit operation with an average flow rate, as determined in accordance with paragraph (E)(2) of this rule, below the flow rate value calculated by the applicability equations contained in paragraph (C)(5) of this rule, shall reduce uncontrolled VOC emissions from such unit operation by an overall efficiency, on average, of at least ninety per cent, or to twenty ppmv, per batch cycle.
 - (2) The owner or operator of a batch process train with an average flow rate, as determined in accordance with paragraph (E)(2)(b) of this rule, below the flow rate value calculated by the applicability equations contained in paragraph (C)(5) of this rule, shall reduce uncontrolled VOC emissions from such batch process train by an overall efficiency, on average, of at least ninety per cent, or to twenty ppmv, per batch cycle.
 - (3) If a boiler or process heater is used to comply with paragraph (D)(1) or (D)(2) of this rule, the vent stream shall be introduced into the flame zone of the boiler or process heater.
 - (4) If a flare is used to comply with paragraph (D)(1) or (D)(2) of this rule, the flare shall comply with ~~the requirements of~~ paragraph (DD)(10)(d) of rule 3745-21-09 of the Administrative Code. If a process, not subject to this rule, vents an emergency relief discharge into a common flare header of this flare, ~~the requirements of~~ paragraph (DD)(10)(d) of rule 3745-21-09 of the Administrative Code shall not apply during such emergency relief discharge.
- (E) Determination of uncontrolled total annual mass emissions and actual weighted average flow rate values for a batch process train or unit operation.
- (1) Uncontrolled total annual mass emissions shall be determined by the following methods:
 - (a) Direct process vent emissions measurements taken prior to any release to the atmosphere, following any recovery device, prior to mixing with vents from other process trains or unrelated operations, and prior to any

control device, provided such measurements conform with the requirements of measuring the mass flow rate of VOC incoming to the control device as set forth in paragraphs (F)(6)(b), (F)(6)(c)(i)(a) and (F)(6)(c)(i)(b) of this rule.

(b) Engineering estimates of the uncontrolled VOC emissions from a process vent or process vents, in the aggregate, within a batch process train, using either the potential or permitted number of batch cycles per year or total production as represented in the permit for the batch process train as follows:

(i) Engineering estimates of the uncontrolled VOC emissions shall be based upon accepted chemical engineering principles, measurable process parameters, or physical or chemical laws and their properties. Examples of methods include, but are not limited to, the following:

(a) Use of material balances based on process stoichiometry to estimate maximum VOC concentrations.

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

(c) Estimation of VOC concentrations based on saturation conditions.

(ii) All data, assumptions and procedures used in any engineering estimate shall be documented.

(2) Average flow rate shall be determined by any of the following methods:

(a) Direct process vent flow rate measurements taken prior to any release to the atmosphere, following any recovery device, prior to mixing with vents from other process trains or unrelated operations, and prior to any control device, provided such measurements conform with the requirements of measuring incoming volumetric flow rate set forth in paragraph (F)(6)(b) of this rule.

(b) Average flow rate for a unit operation having multiple emission events or batch process trains shall be the weighted average flow rate, calculated as follows:

$$WAF = \frac{\sum_{i=1}^n (AFR_i)(ADE_i)}{\sum_{i=1}^n (ADE_i)}$$

where:

WAF = actual weighted average flow rate for a unit operation or batch process train.

AFR_i = average flow rate of emission event i.

ADE_i = annual duration of emission event i.

i = subscript denoting a specific emission event.

n = number of emission events.

(c) Engineering estimates calculated in accordance with ~~the requirements in~~ paragraph (E)(1)(b) of this rule.

(3) For purposes of determining the average flow rate for steam vacuuming systems, the steam flow shall be included in the average flow rate calculation.

(F) Compliance testing ~~requirements~~ for a batch process train or unit operation.

(1) Upon the director's request, the owner or operator of a batch process train or unit operation within a batch process train shall conduct testing to demonstrate compliance with paragraph (D) this rule. The owner or operator shall, at ~~its~~the owner or operator's own expense, conduct such tests in accordance with the applicable test methods and procedures specified in paragraphs (F)(4), ~~(F)(5), and to~~ (F)(6) of this rule.

(2) Notwithstanding paragraph (F)(1) of this rule, flares and process boilers used to comply with ~~the control requirements of~~ paragraph (D) of this rule shall be exempt from compliance testing requirements.

- (3) When a flare is used to comply with ~~the control requirements of~~ paragraph (D) of this rule, the flare shall comply with ~~the requirements of~~ paragraph (DD)(10)(d) of rule 3745-21-09 of the Administrative Code.
- (4) The owner or operator of a batch process train or unit operation within a batch process train that is exempt from ~~the control requirements of~~ paragraph (D) of this rule due to an average flow rate that is equal to or above the calculated applicability flow rate or due to a VOC concentration of less than or equal to five hundred ppmv (unit operation) shall demonstrate, upon the director's request, the absence of oversized gas moving equipment in any manifold. Gas moving equipment shall be considered oversized if ~~the equipment~~ exceeds the maximum requirements of the exhaust flow rate by more than thirty per cent.
- (5) For the purpose of demonstrating compliance with ~~the control requirements in~~ paragraph (D) of this rule, the batch process train or unit operation shall be run at representative operating conditions and flow rates during any compliance test.
- (6) The following methods in 40 CFR part 60, appendix A shall be used to demonstrate compliance with the reduction efficiency requirement set forth in paragraph (D) of this rule:
- (a) USEPA method 1 or 1A, as appropriate, for selection of the sampling sites if the flow measuring device is not a rotameter. The control device inlet sampling site for determination of vent stream VOC composition reduction efficiency shall be prior to the control device and after the control device.
 - (b) USEPA method 2, 2A, 2B, 2C, or 2D, as appropriate, for determination of gas stream volumetric flow rate flow measurements, which shall be taken continuously. No traverse is necessary when the flow measuring device is an ultrasonic probe.
 - (c) USEPA method 25A or USEPA method 18, if applicable, to determine the concentration of VOC in the control device inlet and outlet.
 - (i) The sampling time for each run shall be as follows:
 - (a) For batch cycles less than eight hours in length, readings shall be taken continuously over the entire length of the batch cycle with a maximum of fifteen-minute intervals between

measurements if using USEPA method 25A. If using USEPA method 18, readings shall be taken continuously with a maximum of fifteen-minute intervals between measurements throughout the batch cycle unless it becomes necessary to change the impinger train, in which case a thirty-minute interval shall not be exceeded.

- (b) For batch cycles of eight hours and greater in length, the owner or operator may either test in accordance with the test procedures defined in paragraph (F)(6)(c)(i)(a) of this rule or the owner or operator may elect to perform tests, pursuant to either USEPA method 25A or USEPA method 18, only during those portions of each emission event which define the emission profile of each emission event occurring within the batch cycle. For each emission event of less than four hours in duration, the owner or operator shall test continuously over the entire emission event as set forth in paragraph (F)(6)(c)(i)(a) of this rule. For each emission event of greater than four hours in duration, the owner or operator shall elect either to perform a minimum of three one hour test runs during the emission event or shall test continuously over the entire emission event within each unit operation in the batch process train. To demonstrate that the portion of the emission event to be tested defines the emission profile for the emission event, the owner or operator electing to rely on this option shall develop an emission profile for the entire emission event. Such emission profile shall be based upon either process knowledge or test data collected. Examples of information that could constitute process knowledge include, but are not limited to, calculations based on material balances and process stoichiometry. Previous test results may be used provided such results are still relevant to the current process vent stream conditions.
- (ii) The mass emission rate from the process vent or inlet to the control device shall be determined by combining concentration and flow rate measurements taken simultaneously at sampling sites selected in accordance with paragraph (F)(6)(a) of this rule throughout the batch cycle.
- (iii) The mass emission rate from the control device outlet shall be obtained by combining concentration and flow rate measurements taken simultaneously at sampling sites selected in accordance

with paragraph (F)(6)(a) of this rule throughout the batch cycle.

- (iv) The efficiency of the control device shall be determined by integrating the mass emission rates obtained in paragraphs (F)(6)(c)(ii) and (F)(6)(c)(iii) of this rule, over the time of the batch cycle and dividing the difference in inlet and outlet mass flow totals by the inlet mass flow total.
- (7) The owner or operator of a batch process train or unit operation may propose an alternative test method or procedures to demonstrate compliance with ~~the control requirements set forth in~~ paragraph (D) of this rule. Such method or procedures shall be approved by the director and USEPA in writing and shall be included as federally enforceable permit conditions.
- (8) In the absence of a request by the director to conduct compliance testing in accordance with ~~provisions of~~ this rule, the owner or operator may demonstrate compliance by the use of engineering estimates or process stoichiometry.
- (9) During the compliance test conducted to demonstrate compliance with the control requirements of paragraph (D) of this rule, the owner or operator shall establish the operating limits (operating parameter values) for the monitoring devices required under paragraph (G) of this rule.
- (G) ~~Monitoring requirements for~~ control devices.
- (1) Every owner or operator using an incinerator to comply with paragraph (D) of this rule shall install, calibrate, maintain and operate, according to manufacturer's specifications, temperature monitoring devices with an accuracy of plus or minus one per cent of the temperature being measured expressed in degrees Celsius or plus or minus 1.8 per cent of the temperature being measured expressed in degrees Fahrenheit, each equipped with a continuous recorder as follows:
- (a) Where a catalytic incinerator is used, ~~temperature monitoring devices shall be installed in the gas stream immediately before and after the catalyst bed.~~ one of the following:
 - (i) Temperature monitoring devices shall be installed in the gas stream immediately before (upstream) and after (downstream) the catalyst bed.
 - (ii) If an owner or operator elects to implement an inspection and

maintenance plan for the catalytic incinerator that meets paragraph (G)(8) of this rule, the temperature monitoring device shall be located upstream of the catalyst bed only.

- (b) Where an incinerator other than a catalytic incinerator is used, a temperature monitoring device shall be installed in the combustion chamber.
- (2) The owner or operator using a flare to comply with paragraph (D) of this rule shall install, calibrate, maintain and operate, according to manufacturer's specifications, a heat sensing device, such as an ultra-violet beam sensor or thermocouple, at the pilot light to indicate continuous presence of a flame.
- (3) Every owner or operator using a scrubber to comply with paragraph (D) of this rule shall install, calibrate, maintain, and operate, according to manufacturer's specifications, either of the following:
- (a) A temperature monitoring device for scrubbant liquid having an accuracy of plus or minus one per cent of the temperature being monitored expressed in degrees Celsius or plus or minus 1.8 per cent of the temperature being measured expressed in degrees Fahrenheit and a specific gravity device for scrubbant liquid, each equipped with a continuous recorder;~~or,~~
 - (b) A VOC monitoring device used to indicate the concentration of VOC exiting the control device based on a detection principle such as infra-red photoionization, or thermal conductivity, equipped with a continuous recorder.
- (4) Every owner or operator using a condenser to comply with paragraph (D) of this rule shall install, calibrate, maintain, and operate, according to manufacturer's specifications, either of the following:
- (a) A condenser exit temperature monitoring device equipped with a continuous recorder and having an accuracy of plus or minus one per cent of the temperature being monitored expressed in degrees Celsius or plus or minus 1.8 per cent of the temperature being measured expressed in degrees Fahrenheit, equipped with a continuous recorder;~~or,~~
 - (b) A VOC monitoring device used to indicate the concentration of VOC such as infra-red, photoionization, or thermal conductivity, each equipped with a continuous recorder.

- (5) Every owner or operator using a carbon adsorber to comply with paragraph (D) of this rule shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, either of the following equipment:
- (a) An integrating regeneration steam flow monitoring device having an accuracy of plus or minus ten per cent, and a carbon bed temperature monitoring device having an accuracy of plus or minus one per cent of the temperature being monitored expressed in degrees Celsius or plus or minus 1.8 per cent of the temperature being measured expressed in degrees Fahrenheit, both equipped with a continuous recorder; ~~or,~~
 - (b) A VOC monitoring device used to indicate the concentration level of VOC exiting such device based on a detection principle such as infra-red, photoionization, or thermal conductivity, equipped with a continuous recorder.
- (6) Every owner or operator using a boiler or process heater with a design heat input capacity less than one hundred fifty million Btu per hour that is to comply with paragraph (D) of this rule shall install, calibrate, maintain, and operate, according to the manufacturer's specifications, a temperature monitoring device in the firebox with an accuracy of plus or minus one per cent of the temperature being measured expressed in degrees Celsius or plus or minus 1.8 per cent of the temperature being measured expressed in degrees Fahrenheit, equipped with a continuous recorder. Any boiler or process heater in which all process vent streams are introduced with primary fuel is exempt from this requirement.
- (7) Every owner or operator of a process vent shall be permitted to monitor by an alternative method or may monitor parameters other than those listed in paragraphs (G)(1) to (G)(6) of this rule, if approved by the director and USEPA in writing. Such alternative method or parameters shall be contained in a permit pertaining to the process vent as federally enforceable permit conditions.
- (8) In accordance with paragraph (G)(1)(a)(ii) of this rule, for an owner or operator that elects to monitor the upstream temperature only of the catalytic incinerator, an inspection and maintenance plan shall be developed, maintained on-site, and made readily available upon the request of the appropriate Ohio EPA district office or local air agency. At a minimum, the plan shall include the following:
- (a) Annual sampling and analysis of the catalyst activity (i.e., conversion efficiency) following the manufacturer's or catalyst supplier's

recommended procedures.

(b) Monthly inspection of the oxidizer system including the burner assembly and fuel supply lines for problems.

(c) Annual internal and monthly external visual inspection of the catalyst bed to check for channeling, abrasion, and settling. If problems are found, corrective action consistent with the manufacturer's recommendations shall be implemented and a new performance test to determine destruction efficiency in accordance with paragraph (C) of rule 3745-21-10 of the Administrative Code shall be conducted.

(H) Recordkeeping for a batch process train or unit operation.

(1) Every owner or operator of a unit operation or batch process train that is exempt from the control ~~requirements~~ per paragraph (C)(3)(a) or (C)(3)(b) of this rule shall keep records of the uncontrolled total annual mass emissions for such unit operation or batch process train, as applicable, and documentation verifying these values or measurements. The documentation shall include the engineering calculations, any measurements made in accordance with paragraph (F) of this rule, and the potential or permitted number of batch cycles per year, or, in the alternative, total production as represented in the permit pertaining to the unit operation or batch process train.

(2) Every owner or operator of a unit operation or batch process train that is exempt from control ~~requirements~~ per paragraph (C)(4) of this rule shall keep the following records:

(a) The uncontrolled total annual mass emissions and documentation verifying these values or measurements.

The documentation shall include any engineering calculations, any measurements made in accordance with paragraph (F) of this rule, and the potential or permitted number of batch cycles per year, or, in the alternative, total production as represented in the permit pertaining to the unit operation or batch process train.

(b) The average flow rate in scfm and documentation verifying this value.

(c) The calculated weighted average volatility and documentation verifying this value.

(d) The calculated applicability flow rate value from paragraph (C)(5)(d) of this rule.

- (3) Every owner or operator of a batch process train or unit operation subject to ~~the control requirements of~~ paragraph (D) of this rule shall keep records of the following parameters required to be monitored under paragraph (G) of this rule:
- (a) If using a thermal or catalytic incinerator to comply with paragraph (D) of this rule, ~~records indicating the average combustion chamber temperature of the incinerator (or the average temperature upstream and downstream of the catalyst bed for a catalytic incinerator), measured continuously and averaged over the same time period as the compliance test that demonstrated compliance.~~ one of the following:
- (i) For a thermal incinerator, records indicating the average combustion chamber temperature of the incinerator measured continuously and averaged over the same time period as the compliance test that demonstrated compliance.
- (ii) For a catalytic incinerator where the owner or operator elects to comply with paragraph (G)(1)(a)(i) of this rule, records indicating the average temperature upstream and downstream of the catalyst bed measured continuously and averaged over the same time period as the compliance test that demonstrated compliance.
- (iii) For a catalytic incinerator where the owner or operator elects to comply with paragraphs (G)(1)(a)(ii) and (G)(8) of this rule, the following records:
- (a) Records indicating the average temperature upstream of the catalyst bed measured continuously and averaged over the same time period as the compliance test that demonstrated compliance.
- (b) Records, and a description of the results of each inspection and catalyst activity analysis resulting from the inspection and maintenance plan for the catalytic incinerator as specified in paragraph (G)(8) of this rule.
- (b) If using a flare (i.e., steam-assisted, air-assisted or nonassisted) to comply with paragraph (D) of this rule, continuous records of the flare pilot flame monitoring and records of all periods of operations during which the pilot flame is absent.
- (c) If using any of the following as a control device, the following records:

- (i) Where a scrubber is used, the exit specific gravity (or alternative parameter which is a measure of the degree of absorbing liquid saturation, if approved by the director) and the average exit temperature of the absorbing liquid, measured continuously and averaged over the same time period as the compliance test that demonstrated compliance (both measured while the vent stream is routed normally).
 - (ii) Where a condenser is used, the average exit (product side) temperature measured continuously and averaged over the same time period as the compliance test that demonstrated compliance while the vent stream is routed normally.
 - (iii) Where a carbon adsorber is used, the total steam mass flow measured continuously and averaged over the same time period as the compliance test that demonstrated compliance (full carbon bed cycle), temperature of the carbon bed after regeneration (and within fifteen minutes after completion of any cooling ~~cycle(s)~~ cycle), and duration of the carbon bed steaming cycle (all measured while the vent stream is routed normally).
 - (iv) As an alternative to paragraph (H)(3)(c)(i), (H)(3)(c)(ii), or (H)(3)(c)(iii) of this rule, at a minimum, records indicating the concentration level or reading indicated by the VOC monitoring device at the outlet of the scrubber, condenser, or carbon adsorber, measured continuously and averaged over the same time period as the compliance test that demonstrated compliance (while the vent stream is routed normally).
- (4) Every owner or operator of a unit operation claiming a vent stream concentration exemption level, as set forth in paragraph (C)(4)(a) of this rule, shall maintain records to indicate the vent stream concentration is less than or equal to five hundred ppmv, and shall notify the director in writing if the vent stream concentration at any time equals or exceeds five hundred ppmv, within sixty days after such event. Such notification shall include a copy of all records of such event.
- (5) An owner or operator of a batch process train or unit operation subject to ~~the control requirements of~~ paragraph (D) of this rule may maintain alternative records other than those listed in paragraph (C) of this rule. Any alternative recordkeeping shall be approved by the director and USEPA in writing and shall be contained in the permit pertaining to the batch process train or unit operation as federally enforceable permit conditions.

- (6) The owner or operator of a unit operation or batch process train that is exempt from ~~the control requirements~~ of paragraph (D) of this rule shall notify the director in writing if the uncontrolled total annual mass emissions from such unit operation or batch process train exceed the threshold in paragraph (C)(3)(a) or (C)(3)(b) of this rule, respectively, within sixty days after the event occurs. Such notification shall include a copy of all records of such event.
- (7) Every owner or operator of a batch process train or unit operation required to keep records under this rule shall maintain such records at the facility for a minimum period of five years and shall make all such records available to the director upon request.

(I) Reporting ~~requirements~~.

- (1) (General) ~~The provisions under~~ This paragraph (I) ~~of this rule describe~~ describes the contents of reports and ~~identify~~ identifies the reporting dates for the following reports:

- (a) Initial compliance status report.
- (b) Semiannual compliance status reports.

- (2) Initial compliance status report.

Each owner or operator of a batch process train or unit operation subject to this rule shall submit an initial compliance status report within sixty calendar days after the compliance dates specified in paragraph (I) of this rule as follows:

- (a) The initial compliance status report shall include the results of exemption, process vent determinations, compliance tests, values of monitored parameters established during compliance tests, and any other information used to demonstrate compliance and recorded pursuant to paragraph (H) of this rule.
- (b) For compliance tests and process vent determinations based on measurements, the initial compliance status report shall include one complete test report for each test method used for a particular kind of process vent. For additional tests and measurements performed for the same kind of process vent using the same test method, the test results or measurement results shall be submitted, but a complete test report is not

required.

- (c) A complete test report shall include a brief process description, sampling site description, description of sampling and analysis procedures and any modifications to standard procedures, quality assurance procedures, record of operating conditions during the test, record of preparation of standards, record of calibrations, raw data sheets for field sampling, raw data sheets for field and laboratory analyses, documentation of calculations, and any other information required by the test method.
- (d) For each monitored parameter for which a range is required to be established under paragraph (F)(9) of this rule, the compliance status report shall include the following information:
 - (i) The specific range of the monitored ~~parameter(s)~~parameter for each control device.
 - (ii) The rationale for the specific range for each parameter for each control device, including any data and calculations used to develop the range and a description of why the range indicates proper operation of the control device or final recovery device.

(3) Semiannual compliance status reports.

The owner or operator of a batch process train or unit operation subject to this rule shall submit semiannual compliance status reports ~~containing the information in paragraphs (I)(3)(a) and (I)(3)(b) of this rule. The semiannual compliance status report shall be submitted~~ no later than sixty calendar days after the end of each six-month period to the ~~Ohio EPA or its delegated local air agency~~appropriate Ohio EPA district office or local air agency. The first report shall be submitted no later than eight months after the date the initial compliance status report is due and shall cover the six-month period beginning on the date the initial compliance status report is due. The semiannual compliance status reports shall contain the following information:

(a) Semiannual reports on parameter monitoring for controlled process vents.

For a process vent equipped with a control device to meet ~~the requirement of~~ paragraph (D) of this rule, the semiannual compliance status reports shall include the following recorded information:

- (i) Reports of monitored parameters for all operating days when the average values recorded under paragraph (H)(3) of this rule were

outside the ranges established in the initial compliance status report or permit issued by the director.

(ii) Reports of the times and durations of all periods recorded under paragraph (J)(3) of this rule when the monitoring device is not working or monitoring data is not collected during process operation generating the process vent stream or during operation of the control or recovery device.

(iii) Reports of the times and durations of all periods recorded under paragraph (H)(3)(b) of this rule in which the pilot flame is absent.

(iv) Reports on monitoring devices and parameters approved by the director pursuant to paragraph (H)(5) of this rule.

(b) Semiannual reports on subsequent compliance tests for controlled process vents and subsequent process vent determination tests.

If any subsequent compliance tests or subsequent process vent determination tests are conducted during the semiannual reporting period after the initial compliance status report has been submitted, the semiannual compliance status report shall include the data recorded pursuant to paragraphs (H) of this rule.

(J) Compliance dates.

(1) Except where otherwise specified within this rule, any batch process train that is subject to this rule shall comply with ~~the requirements of~~ this rule by no later than the following dates:

(a) For any batch process train located in Butler, Clermont, Hamilton, or Warren county for which installation commenced before May 27, 2005, the compliance date of the batch process train is May 27, 2006 or the date the facility becomes subject to this rule, whichever is later.

(b) For any batch process train located in Butler, Clermont, Hamilton, or Warren county for which installation commenced on or after May 27, 2005, the compliance date of the batch process train is the date of initial startup of the batch process train.

(c) For any batch process train located in Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, or Summit county for which installation

commenced before ~~the effective date of this rule~~ August 25, 2008, the compliance date of the batch process train is ~~twelve months from the effective date of this rule~~ August 25, 2009 or the date the facility becomes subject to this rule, whichever is later.

- (d) For any batch process train located in Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, or Summit county for which installation commenced on or after ~~the effective date on this rule~~ August 25, 2008, the compliance date of the batch process train is the date of initial startup of the batch process train.
- (2) In the event a facility reduces ~~its~~ the facility's potential to emit pursuant to paragraph (A)(4) or (A)(5) of this rule, the date on which the facility subsequently meets ~~the applicability criteria of~~ paragraph (A)(1) of this rule is the date the facility becomes subject to this rule.
- (3) In the event a batch process train or unit operation is exempted under paragraph (C)(3) of this rule or is not required to reduce uncontrolled VOC emissions pursuant to paragraph (D)(1) or (D)(2) and is subsequently equipped with a control device to meet the VOC reduction requirements of paragraph (D)(1) or (D)(2) of this rule, the compliance date of the batch process train or unit operation is the date of first startup of the installed control device. Until the date of first startup of the installed control device, the batch process train or unit operation shall continue to meet either the exemption level or the criteria pertaining to applicability equations.
- (4) For any control device that is used to comply with paragraph (D) of this rule, the owner or operator shall demonstrate compliance by testing the control device in accordance with paragraph (F) of this rule within ninety days after the compliance date.
- (5) Additional testing of the control device or testing of the process vents of a batch process train or unit operation in accordance with paragraph (F) of this rule may be required by the director to ensure continued compliance with paragraph (D) of this rule.

(K) ~~Requirements on applicability~~ Applicability notification and permit application.

- (1) The owner or operator of a facility that is subject to this rule, is located in Butler, Clermont, Hamilton, or Warren county, and that has an initial startup of a batch process train before May 27, 2005 shall notify the appropriate Ohio ~~environmental protection agency~~ EPA district office or local air agency in writing that the batch process train is subject to this rule. The notification,

which shall be submitted not later than July 26, 2005, shall provide the information specified in paragraph (K)(5) of this rule.

- (2) The owner or operator of a facility that is subject to this rule, is located in Butler, Clermont, Hamilton, or Warren county, and has an initial startup of a batch process train on or after May 27, 2005, shall notify the appropriate Ohio ~~environmental protection agency~~ EPA district office or local air agency in writing that the batch process train is subject to this rule. The notification, which shall be submitted not later than either the date of initial startup of the facility or July 26, 2006 (whichever is later), shall provide the information specified in paragraph (K)(5) of this rule. The application for an installation permit under rule 3745-31-02 of the Administrative Code may be used to fulfill the notification requirements of this paragraph.
- (3) The owner or operator of a facility that is subject to this rule, is located in Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, or Summit county, and has an initial startup of a batch process train before ~~the effective date of this rule~~ August 25, 2008 shall notify the appropriate Ohio ~~environmental protection agency~~ EPA district office or local air agency in writing that the batch process train is subject to this rule. The notification, which shall be submitted not later than ~~sixty days after the effective date of this rule~~ October 24, 2008, shall provide the information specified in paragraph (K)(5) of this rule.
- (4) The owner or operator of a facility that is subject to this rule, is located in Ashtabula, Cuyahoga, Geauga, Lake, Lorain, Medina, Portage, or Summit county, and has an initial startup of a batch process train on or after ~~the effective date of this rule~~ August 25, 2008, shall notify the appropriate Ohio ~~environmental protection agency~~ EPA district office or local air agency in writing that the batch process train is subject to this rule. The notification, which shall be submitted not later than either the date of initial startup of the facility or ~~sixty days after the effective date of this rule~~ October 24, 2008 (whichever is later), shall provide the information specified in paragraph (K)(5) of this rule. The application for an installation permit under rule 3745-31-02 of the Administrative Code may be used to fulfill the notification requirements of this paragraph.
- (5) The notification required in paragraphs (K)(1) to (K)(4) of this rule shall include the following information:
 - (a) Name and address of the owner or operator;
 - (b) Address (i.e., physical location) of the facility;

- (c) Equipment description and Ohio EPA application number (if assigned) of any batch process train or unit operation;
- (d) Identification of the applicable requirements, the means of compliance, and the compliance date for any batch process train; and
- (e) ~~Regarding a permit for any batch process train or unit operation, whichever of the following is applicable~~An application for an operating permit or an application for a modification to an operating permit in accordance with Chapter 3745-77 of the Administrative Code (for sources subject to the Title V permit program) or an application for a permit-to-install and operate or an application for a modification to a permit-to-install and operate in accordance with Chapter 3745-31 of the Administrative Code (for sources not subject to the Title V permit program) for each subject process that meets one of the following:

- (i) ~~Submission of an application for an operating permit, modification, or renewal of an operating permit in accordance with paragraph (B) of rule 3745-31-02 of the Administrative Code; or~~The process does not possess an effective operating permit or permit-to-install and operate.

~~[Comment: Applications requiring submittal prior to June 30, 2008, were submitted in accordance with Chapter 3745-35 of the Administrative Code.]~~

- (ii) ~~Statement of intent to submit an application for a Title V permit or modification of a Title V permit in accordance with rule 3745-77-02 or rule 3745-77-08 of the Administrative Code, respectively.~~The process possesses an effective operating permit or permit-to-install and operate and the owner or operator cannot certify in writing to the director that such subject process is in compliance with this rule. An application for an operating permit or permit-to-install and operate is not required provided the subject process is operating under an effective permit and certifies compliance. Such certification shall include all compliance certification requirements under paragraph (I)(2) of this rule.

[Comment: Applications for sources not subject to Chapter 3745-77, requiring submittal prior to June 30, 2008, were submitted in accordance with Chapter 3745-35 of the Administrative Code.]

Effective:

Five Year Review (FYR) Dates: 07/13/2015

Certification

Date

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