

# ARTICLE 5. OPACITY REGULATIONS

## Rule 1. Opacity Limitations

### 326 IAC 5-1-1 Applicability

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11; IC 13-17-3-12

Affected: IC 13-11; IC 13-17

Sec. 1. (a) This rule applies to opacity, not including condensed water vapor, emitted by or from a facility or source. The limitations set forth in section 2 of this rule shall not apply to facilities for which specific opacity limitations have been established in 326 IAC 6, 326 IAC 6.5, 326 IAC 6.8, 326 IAC 11, or 326 IAC 12.

(b) Section 2(1) of this rule applies to sources or facilities located in areas not listed in this section.

(c) Section 2(2) of this rule applies to sources or facilities located in the following areas:

(1) Clark County, Jeffersonville Township.

(2) Dearborn County, Lawrenceburg Township.

(3) Dubois County, Bainbridge Township.

(4) Lake County, an area bounded on the north by Lake Michigan, on the west by the Indiana-Illinois state line, on the south by U.S. 30 from the state line to the intersection of I-65 to the intersection of I-94 then following I-94 to the Lake-Porter county line, and on the east by the Lake-Porter county line.

(5) Marion County, except the area of Washington Township east of Fall Creek and the area of Franklin Township south of Thompson Road and east of Five Points Road.

(6) St. Joseph County, the area north of Kern Road and east of Pine Road.

(7) Vanderburgh County, the area included in the city of Evansville and Pigeon Township.

(8) Vigo County, the area within a five-tenths (0.5) kilometer radius circle centered at UTM Coordinates Zone 16 East four hundred sixty-four and fifty-two hundredths (464.52) kilometers North four thousand three hundred sixty-nine and twenty-one hundredths (4,369.21) kilometers.

*(Air Pollution Control Division; 326 IAC 5-1-1; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2421; filed May 12, 1993, 11:30 a.m.: 16 IR 2364; filed Jun 19, 1996, 9:00 a.m.: 19 IR 3049; filed Apr 22, 1997, 2:00 p.m.: 20 IR 2366; filed Oct 9, 1998, 3:56 p.m.: 22 IR 426; filed Dec 20, 2001, 4:30 p.m.: 25 IR 1597; errata filed Jan 2, 2013, 2:19 p.m.: 20130123-IR-326130002ACA)*

### 326 IAC 5-1-2 Opacity limitations

Authority: IC 13-14-8; IC 13-17-3-4

Affected: IC 13-11; IC 13-17

Sec. 2. Opacity from a source or facility shall not exceed any of the following limitations, and, unless otherwise stated, opacity levels shall be observed in accordance with the procedures set forth in section 4 of this rule:

(1) Sources or facilities of opacity located in areas not listed in section 1(c) of this rule shall meet the following limitations:

(A) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period.

(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.

(2) Sources or facilities of opacity located in the areas listed in section 1(c) of this rule shall meet the following limitations:

(A) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period.

(B) Opacity from a facility located in Lake County shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period unless otherwise specified in 326 IAC 6.8-2. This opacity limit shall supersede the opacity limit contained in clause (A).

(C) 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.

(3) Opacity from Richmond Power & Light's Coal Boiler No. 1 and Coal Boiler No. 2 shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period. Effective May 1, 1999, opacity from Richmond Power & Light's Coal Boiler No. 1 and Coal Boiler No. 2 shall not exceed an average of twenty-five percent (25%) in any one (1) six (6)

minute averaging period.

(4) Sources and facilities of opacity, for which an alternate opacity limitation has been established under section 5(b) of this rule, shall comply with the limitations in section 5(b) of this rule instead of the limitations in subdivisions (1) and (2).

\*This document is incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. (*Air Pollution Control Division; 326 IAC 5-1-2; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2421; filed May 12, 1993, 11:30 a.m.: 16 IR 2364; filed Jun 15, 1995, 1:00 p.m.: 18 IR 2727; errata filed Jul 6, 1995, 5:00 p.m.: 18 IR 2795; filed Jun 19, 1996, 9:00 a.m.: 19 IR 3049; filed Oct 9, 1998, 3:56 p.m.: 22 IR 427; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28 IR 40; errata filed Jan 2, 2013, 2:19 p.m.: 20130123-IR-326130002ACA*)

### **326 IAC 5-1-3 Temporary alternative opacity limitations**

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11; IC 13-17-3-12

Affected: IC 13-11; IC 13-17

Sec. 3. (a) The following applies, except as otherwise provided in subsections (c) through (e). When building a new fire in a boiler, or shutting down a boiler, opacity may exceed the applicable limit established in section 2 of this rule; however, opacity levels shall not exceed sixty percent (60%) for any six (6) minute averaging period. Opacity in excess of the applicable limit established in section 2 of this rule shall not continue for more than two (2) six (6) minute averaging periods in any twenty-four (24) hour period.

(b) The following applies, except as otherwise provided in subsections (c) through (e). When removing ashes from the fuel bed or furnace in a boiler or blowing tubes, opacity may exceed the applicable opacity limit established in section 2 of this rule; however, opacity shall not exceed sixty percent (60%) for any six (6) minute averaging period and opacity in excess of the applicable limit shall not continue for more than one (1) six (6) minute averaging period in any sixty (60) minute period. The averaging periods shall not be permitted for more than three (3) six (6) minute averaging periods in a twelve (12) hour period.

(c) For sources that are not boilers and are not located in Lake County, the commissioner may grant the same temporary alternative opacity limitation with the same opacity level and duration as is granted to boilers under subsection (a) or (b) provided that the facility proves to the satisfaction of the commissioner that the temporary alternative opacity limitation is needed and that during periods of startup and shutdown or when removing ashes or blowing tubes, owners and operators shall, to the extent practicable, maintain and operate an affected facility, including air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used shall be based on information provided to the commissioner upon request, which may include, but is not limited to, the following:

- (1) Monitoring results.
- (2) Opacity observations.
- (3) Review of operating and maintenance procedures.
- (4) Inspection of the source.

The commissioner may require a source to install a certified opacity emissions monitor, where technically feasible, operate the certified opacity emissions monitor in accordance with procedures specified in 326 IAC 3, and maintain other records needed to verify compliance with the temporary alternative opacity limitation.

(d) For sources or facilities that cannot meet the alternative opacity limitation requirements of subsection (a), (b), or (c), the commissioner may grant a temporary alternative opacity limitation of longer duration and greater opacity than provided under subsections (a) and (b) under this subsection in accordance with the following:

- (1) The source or facility burns the following fuels alone or in combination with each other or with any other fossil fuel:
  - (A) Coal.
  - (B) Wood.
  - (C) #4, #5, or #6 fuel oil.
  - (D) Tire-derived fuel.
  - (E) Petroleum coke.

The commissioner may approve a temporary alternative opacity limitation based on the combustion of other types of fuels as long as the source demonstrates that the combustion of the fuel is necessary, alternative fuels are not available or cost-efficient,

and the fuels are identified in the submittal to the U.S. EPA required under section 7 of this rule.

(2) The source or facility owner or operator demonstrates that the temporary alternative opacity limitation is needed and justifiable during periods of startup and shutdown or when removing ashes from the fuel bed or furnace in a boiler or blowing tubes by providing a written petition that does the following:

(A) Requests a state implementation plan (SIP) revision to establish a temporary alternative opacity limitation under this subsection. Sources subject to 326 IAC 2-7 or 326 IAC 2-8 shall include the petition for a SIP revision with the initial permit application, permit revision application, or permit renewal application.

(B) Demonstrate that during periods of startup and shutdown, or when removing ashes from the fuel bed or furnace in a boiler or blowing tubes, the limits of subsections (a) through (c) cannot be met and that the owners and operators shall, to the extent practicable, maintain and operate an affected facility, including air pollution control equipment, in a manner consistent with good air pollution control practice by doing the following:

(i) Minimizing emissions.

(ii) Minimizing duration of startups and shutdowns.

(iii) Minimize the excess emissions caused by the startups and shutdowns.

(C) Demonstrate that during periods of startup and shutdown the temporary alternative opacity limitation will not impact the maintenance of the National Ambient Air Quality Standards (NAAQS).

(D) Demonstrate that during routine operations the source is in compliance with the applicable opacity limitation under section 2 of this rule.

(3) A determination of whether acceptable operating and maintenance procedures are being used shall be based on information provided to the commissioner. The information concerning emissions and operating procedures may include, but is not limited to, the following:

(A) Monitoring results.

(B) Opacity observations.

(C) Review of operating and maintenance procedures.

(D) Inspection of the source.

(4) As a condition of the temporary alternative opacity limitation, the commissioner may require a source to do the following:

(A) Install a certified opacity emissions monitor. The requirement to install a certified opacity emissions monitor shall be based on, but not limited to, the type and size of the emission unit, the normal operating schedule, normal operating conditions, and the availability of alternative monitoring methods, and other relevant site-specific information.

(B) Operate the certified opacity emissions monitor in accordance with procedures specified in 326 IAC 3.

(C) Maintain other records needed to verify compliance with the temporary alternative opacity limitation.

(5) For sources required to install a continuous opacity monitor (COM) that do not have previous opacity monitor data, the temporary alternative opacity limitation shall be reviewed by the commissioner after two (2) years of monitoring. The duration of the temporary alternative opacity limitation may be adjusted based on the monitoring data.

(6) The commissioner shall reserve the authority to do the following:

(A) Require a source that has been granted a temporary alternative opacity limit under this subsection to install a COM at a later date if it is determined the COM is necessary to demonstrate compliance with the temporary alternative opacity limit.

(B) Deny a request for a temporary alternative opacity limit if economically and technically feasible means are available to meet a limit that is less than the limit requested.

(7) The temporary alternative opacity limit established for a source shall be submitted to the U.S. EPA as a state implementation plan (SIP) revision in accordance with section 7 of this rule.

(e) Notwithstanding the provisions in subsections (a) through (d), this subsection applies to sources existing on the effective date of this rule located in counties other than Lake County. If, on the effective date of this rule, an existing source has different startup and shutdown conditions from those in subsection (a) or (b) in a valid operating permit, those conditions shall remain in effect until the department issues a final, effective Part 70 operating permit under 326 IAC 2-7 or a final, effective federally enforceable state operating permit under 326 IAC 2-8 for the source that does one (1) of the following:

(1) Makes the startup and shutdown conditions consistent with subsection (a) or (b).

(2) Incorporates startup and shutdown conditions that are at least as stringent as those conditions in the operating permit in effect as of the effective date of this rule. The conditions shall not be less stringent than the following:

- (A) During the startup of the following equipment, burning fuels identified in subsection (d)(1):
  - (i) For equipment that is equipped with baghouses or electrostatic precipitators, the opacity limitation in section 2 of this rule shall not apply until the exhaust gases have achieved a temperature of two hundred fifty (250) degrees Fahrenheit at the inlet of the baghouses or electrostatic precipitators.
  - (ii) For equipment that is either uncontrolled or that is equipped solely with mechanical collectors (including mechanical collectors that are equipped with sidestream separators or similar devices) for the control of particulate emissions, the opacity limitation in section 2 of this rule shall not apply for a period of not more than three (3) hours from the moment of startup.
- (B) During the shutdown of the following equipment, burning fuels identified in subsection (d)(1):
  - (i) For equipment that is equipped with baghouses or electrostatic precipitators, the opacity limitation in section 2 of this rule shall not apply after the exhaust gases have dropped below temperature of two hundred fifty (250) degrees Fahrenheit at the inlet of the baghouses or electrostatic precipitators.
  - (ii) For equipment that is either uncontrolled or that is equipped solely with mechanical collectors (including mechanical collectors that are equipped with sidestream separators or similar devices) for the control of particulate emissions, the opacity limitation in section 2 of this rule shall not apply for a period of not more than three (3) hours from the moment of shutdown.

The source shall include with a permit application, permit revision application, permit renewal application, or a supplement to such application, documentation including, but not limited to, historical opacity information during periods of startup and shutdown and other pertinent information and proposed permit conditions that limit the duration and extent of excess emissions to the greatest extent practicable. The commissioner shall incorporate permit conditions that are necessary for safe and proper operation of equipment and minimize the duration and extent of excess emissions. Such conditions shall require the source to keep records of times of startups, shutdowns, and ash removals and may be more stringent than the operating permit conditions in effect as of the effective date of this rule.

(3) Provides an alternative temporary opacity limit in accordance with subsection (d). If the source requests such an alternative temporary opacity limit, the source shall demonstrate that the alternative limit is needed and justifiable in accordance with subsection (d)(2) through (d)(7).

*(Air Pollution Control Division; 326 IAC 5-1-3; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2422; filed May 12, 1993, 11:30 a.m.: 16 IR 2365; filed Oct 9, 1998, 3:56 p.m.: 22 IR 428)*

### **326 IAC 5-1-4 Compliance determination**

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11; IC 13-17-3-12

Affected: IC 13-11; IC 13-17

Sec. 4. (a) Determination of opacity from sources or facilities to which this rule applies shall be made in accordance with subdivision (1) or (2) as follows:

(1) Determination of opacity by means of visible emissions readings shall be made in accordance with 40 CFR 60, Appendix A, Method 9\*.

(2) For a source or facility in compliance with the requirements of 326 IAC 3-5, determination of compliance with visible emission limitations established in this rule may also be made in accordance with a source's or facility's continuous monitoring equipment if determined appropriate by the department or the U.S. EPA.

(b) This subsection applies in the event of a conflict between the opacity readings obtained under subsection (a)(1) and those obtained under subsection (a)(2) for the same time period. If the conflict occurs, the commissioner may require that the source perform an audit on the opacity monitoring system consistent with 326 IAC 3-5-2(7)(B). After reviewing the results of the audit, if performed, enforcement action may be taken based on the opacity readings obtained under subsection (a)(1) or the opacity readings obtained under subsection (a)(2). This does not preclude a source from using the opacity readings obtained under subsection (a)(2) or other relevant information to refute the findings of the commissioner.

\*This document is incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center-North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. *(Air Pollution Control Division; 326 IAC 5-1-4; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2422; filed May 12, 1993,*

*11:30 a.m.: 16 IR 2365; filed Oct 9, 1998, 3:56 p.m.: 22 IR 430; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28 IR 41)*

**326 IAC 5-1-5 Violations**

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11; IC 13-17-3-12

Affected: IC 13-11; IC 13-17

Sec. 5. (a) Except as provided in section 4(b) of this rule, a violation of this rule shall constitute prima facie evidence of a violation of the applicable mass emission limitation. A violation of the mass emission rule may be refuted by a performance test conducted in accordance with 326 IAC 3-6. The test shall refute the mass emission violation only if the source is shown to be in compliance with the allowable mass emission limit. An exceedance of the allowable opacity emission limit during a performance test shall not be treated as a violation of the applicable mass emission limitation if, during the test described in 326 IAC 3-6, the source demonstrates compliance with the allowable mass emission limit while simultaneously having opacity more than or equal to the reading at which the exceedance was originally observed.

(b) If a source or facility believes it can operate in compliance with the applicable mass emission limitation, but exceeds the limits specified in section 2 of this rule, the owner or operator may submit a written petition to the commissioner requesting that an alternate opacity limitation (AOL) be established, as follows:

(1) The petition must be submitted to the commissioner, and a copy submitted to the local air pollution control agency, if applicable, not later than sixty (60) days prior to the scheduled performance test date. The petition must contain, contain, at a minimum, the following information:

- (A) Source name and address.
- (B) Address of affected source if different from clause (A).
- (C) List of potentially affected parties.
- (D) Identification of control device or devices and typical operating parameters.
- (E) Applicable particulate matter (PM, PM<sub>10</sub>, or PM<sub>2.5</sub>) and opacity limits.
- (F) Other applicable rule requirements or permit conditions.
- (G) Proposed alternative opacity limit.
- (H) The reason or reasons for requesting the alternative opacity limit.
- (I) Complete test protocol in accordance with 326 IAC 3-6.

(2) The alternative opacity limit shall be based upon a series of three (3) complete mass emission tests (nine (9) sample runs) conducted according to the procedures specified in 326 IAC 3 and three (3) opacity tests conducted simultaneously, according to section 4 of this rule. Where the commissioner determines there is no acceptable test method available, a request for an alternative opacity limit shall be denied.

(3) The performance tests must be witnessed by the commissioner, U.S. EPA, the local air pollution control agency, or their authorized representatives unless other arrangements are made in advance of the start of the testing that will allow the testing to proceed without agency staff present to observe the tests.

(4) The owner or operator must demonstrate that the following conditions were met during the performance test:

- (A) The source or emissions unit was operated according to its permitted conditions and under normal or representative operating conditions.
- (B) The associated air pollution control system was installed and was being operated as specified in any applicable permit condition or conditions.
- (C) The air pollution control equipment was:
  - (i) properly maintained and in good operating condition; and
  - (ii) operated according to the manufacturer's recommended operating conditions to minimize emissions and opacity.
- (D) The affected emissions unit and associated air pollution control equipment were incapable of being adjusted or operated to meet the applicable opacity limit, except during:
  - (i) periods when the control equipment is not operating properly; or
  - (ii) other exempt periods under section 3 of this rule.
- (E) Each test was conducted under reasonably similar operating conditions.

- (F) Any other conditions as required by the commissioner or the U.S. EPA.
- (5) The commissioner may require one (1) or more of the following:
  - (A) The installation of a continuous opacity monitoring system that meets the requirements of 326 IAC 3.
  - (B) Monitoring sufficient to demonstrate compliance with the alternative opacity limit.
  - (C) Regular reporting to verify compliance with the alternative opacity limit.
- (6) The alternative opacity limit shall only apply to the emissions unit for which the alternative opacity limit was originally established and shall not be extended to any other unit or units.
- (7) For multiple units or processes with a common stack, all units must be in operation during the entire test series unless operational limitations are specified in the operation permit or simultaneous operation does not conform with the source's operating procedures.
- (8) The alternative opacity limit shall be determined based on the results of the performance tests.
- (9) The particulate matter test results for each sample run must demonstrate compliance with all applicable particulate matter limits or standards. If noncompliance is demonstrated during any sample run, the test series is not valid for an alternative opacity limit determination.
- (10) The alternative opacity limit established for a source shall be incorporated by amendment into the source's operating permit and submitted to the U.S. EPA in accordance with section 7 of this rule.
- (11) If the alternative opacity limit exceeds an applicable new source performance standard (NSPS) opacity limit, the provisions in 40 CFR 60.11\* must be satisfied in addition to the procedures in this rule. The procedures shall be approved by the U.S. EPA, the commissioner, and the local air pollution control agency as appropriate.
- (c) Nothing in this rule shall be construed as allowing an exception or exemption from a requirement in a state or federal new source performance standard without approval by the U.S. EPA.

\*This document is incorporated by reference. Copies may be obtained from the Government Printing Office, 732 North Capitol Street NW, Washington, D.C. 20401 or are available for review and copying at the Indiana Department of Environmental Management, Office of Air Quality, Indiana Government Center North, Tenth Floor, 100 North Senate Avenue, Indianapolis, Indiana 46204. (*Air Pollution Control Division; 326 IAC 5-1-5; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2423; filed May 12, 1993, 11:30 a.m.: 16 IR 2366; filed Oct 9, 1998, 3:56 p.m.: 22 IR 431; errata filed Dec 12, 2002, 3:35 p.m.: 26 IR 1567; filed Aug 26, 2004, 11:30 a.m.: 28 IR 41; filed Jun 11, 2012, 3:15 p.m.: 20120711-IR-326110251FRA*)

### **326 IAC 5-1-6 Compliance schedule (*Repealed*)**

Sec. 6. (*Repealed by Air Pollution Control Division; filed May 12, 1993, 11:30 a.m.: 16 IR 2401*)

### **326 IAC 5-1-7 State implementation plan revisions**

Authority: IC 13-14-8; IC 13-17-3-4; IC 13-17-3-11; IC 13-17-3-12

Affected: IC 13-11; IC 13-17

Sec. 7. Exemptions given or provisions granted by the commissioner in accordance with section 3(c), 3(d), or 5(b) of this rule shall be submitted to the U.S. EPA as a SIP revision and shall not become effective until approved as a SIP revision by the U.S. EPA. (*Air Pollution Control Division; 326 IAC 5-1-7; filed Mar 10, 1988, 1:20 p.m.: 11 IR 2425; filed May 12, 1993, 11:30 a.m.: 16 IR 2368; filed Oct 9, 1998, 3:56 p.m.: 22 IR 432*)

### **326 IAC 5-1-8 Site-specific temporary alternative opacity limitations**

Authority: IC 13-14-8; IC 13-17-3

Affected: IC 13-17

Sec. 8. (a) If the commissioner has approved a temporary alternative opacity limitation for a source in accordance with section 3(d) of this rule, the source may comply with the site-specific temporary alternative opacity limitations applicable to the source in accordance with this section.

(b) In accordance with section 3(d) of this rule, Indiana Michigan Power Company (dba American Electric Power) Rockport Units #1 and #2, located in Spencer County, when burning fuels identified in section 3(d)(1) of this rule shall comply with the

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following temporary alternative opacity limitations:

(1) When building a new fire in a boiler, opacity may exceed the applicable limitation established in section 2 of this rule for a period not to exceed a total of two (2) hours (twenty (20) six (6) minute averaging periods) during the startup period, or until the flue gas temperature reaches two hundred fifty (250) degrees Fahrenheit at the inlet of the electrostatic precipitators, whichever occurs first.

(2) When shutting down a boiler, opacity may exceed the applicable limitation established in section 2 of this rule once the flue gas temperature has dropped below two hundred fifty (250) degrees Fahrenheit at the inlet of the electrostatic precipitators for a period not to exceed a total of one and one-half (1.5) hours (fifteen (15) six (6) minute averaging periods) during the shutdown period.

(c) As an alternative to complying with the opacity limitations in section 3 of this rule, BP Products North America, Inc. (BP), source ID 089-00453, may comply with the following temporary alternative opacity limitation requirements for the fluidized catalytic cracking units (FCU) 500 and FCU 600:

(1) During periods of startup, shutdown, or hot standby at unit FCU 500 or FCU 600, BP shall maintain the inlet velocity to the primary internal cyclones of the respective catalytic cracking unit catalyst regenerator at or above twenty (20) feet per second.

(2) BP shall demonstrate compliance with this subsection as follows:

(A) Collect the volumetric flow rate from the catalyst regenerator, in actual cubic feet per minute (acfm), and determine the average flow rate for:

- (i) each hour; or
- (ii) the duration of the event for events lasting less than one (1) hour.

(B) Determine the cumulative cross-sectional area of the primary internal cyclone inlets in square feet by one (1) of the following methods:

- (i) Use design drawings of the primary internal cyclones to determine the inlet cross-sectional area of each primary internal cyclone, and sum the cross-sectional areas for all primary internal cyclones in the catalyst regenerator.
- (ii) If all primary internal cyclones are identical, determine the inlet cross-sectional area of one (1) primary internal cyclone using design drawings and multiply the area by the total number of primary internal cyclones in the catalyst regenerator.

(C) Calculate the inlet velocity to the primary internal cyclones in feet per second by:

- (i) dividing the average volumetric flow rate (in acfm) by the cumulative cross-sectional area of the primary internal cyclone inlets in square feet; and
- (ii) converting to feet per second.

(D) Maintain the inlet velocity to the primary internal cyclones at or above twenty (20) feet per second for:

- (i) each hour during the startup, shutdown, or hot standby event; or
- (ii) the duration of the event for events lasting less than one (1) hour.

(3) BP shall document compliance with the alternative in this subsection by maintaining the following records:

(A) Records of flow rates, including the:

- (i) volumetric flow rate from the catalyst regenerator (in acfm);
- (ii) average flow rate for each hour; and
- (iii) average flow rate during an event for events lasting less than one (1) hour.

(B) The cumulative cross-sectional area of the primary internal cyclone inlets in square feet.

(C) The inlet velocity to the primary internal cyclones in feet per second.

(D) Records demonstrating compliance with applicable requirements of 40 CFR 63, Subpart UUU, Table 41\* for the continuous parameter monitoring systems used to demonstrate compliance.

(E) The results of each inspection, calibration, and validation check for the continuous parameter monitoring systems used to demonstrate compliance.

(F) Actions taken to minimize emissions in accordance with 40 CFR 63.1570(c)\* and any corrective actions taken to return the affected unit to its normal or usual manner of operation.

(G) The date, time, and duration of each startup, shutdown, or hot standby event.

\*These documents are incorporated by reference. Copies may be obtained from the Government Publishing Office,

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www.gpo.gov, or are available for review at the Indiana Department of Environmental Management, Office of Legal Counsel, Indiana Government Center North, 100 North Senate Avenue, Thirteenth Floor, Indianapolis, Indiana, 46204. (*Air Pollution Control Division; 326 IAC 5-1-8; filed Nov 6, 2014, 10:00 a.m.: 20141203-IR-326120392FRA; filed Nov 10, 2021, 2:10 p.m.: 20211208-IR-326190576FRA*)

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