

**CHAPTER 129. STANDARDS FOR SOURCES  
CONTROL OF NO<sub>x</sub> EMISSIONS FROM GLASS MELTING FURNACES**

**§ 129.301. Purpose.**

The purpose of this section and §§ 129.302—129.310 is to annually limit the emissions of NO<sub>x</sub> from glass melting furnaces.

**§ 129.302. Applicability.**

This section, § 129.301 (relating to purpose) and §§ 129.303—129.310 apply to an owner or operator of a glass melting furnace in this Commonwealth, including those within the jurisdiction of local air pollution control agencies in Philadelphia and Allegheny Counties approved under section 12 of the act (35 P. S. § 4012), that emits or has the potential to emit NO<sub>x</sub> at a rate greater than 50 tons per year.

**§ 129.303. Exemptions.**

(a) The emission requirements in § 129.304 (relating to emission requirements) do not apply during periods of start-up, shutdown, or idling as defined in § 121.1 (relating to definitions), if the owner or operator complies with the requirements in §§ 129.305, 129.306 and 129.307 (relating to start-up requirements; shutdown requirements; and idling requirements).

(b) The owner or operator of a glass melting furnace claiming an exemption under subsection (a) shall notify the Department or the appropriate approved local air pollution control agency in writing within 24 hours after initiation of the operation for which the exemption is claimed. The methods for submitting the written notice may include e-mail, hand or courier delivery, certified mail or facsimile transmissions to the appropriate regional office described in § 121.4 (relating to regional organization of the Department) or appropriate approved local air pollution control agency. The notification must include:

- (1) The date and time of the start of the exempt operation.
- (2) The reason for performing the operation and an estimated completion date.
- (3) Identification of the emission control system operating during the exemption period.

(c) The owner or operator of a glass melting furnace granted an exemption under this section shall maintain operating records or documentation, or both, necessary to support the claim for the exemption. The records shall be maintained for 5 years onsite and made available or submitted to the Department or appropriate approved local air pollution control agency, upon request.

(d) The owner or operator of a glass melting furnace shall notify the Department or the appropriate approved local air pollution control agencies in writing within 24 hours after completion of the operation for which the exemption is claimed.

**§ 129.304. Emission requirements.**

(a) Except as specified in §§ 129.303, 129.304(c), 129.305, 129.306 and 129.307, the owner or operator of a glass melting furnace may not operate the glass melting furnace in a manner that results in NOx emissions in excess of the following allowable limits or NOx emission limits contained in the plan approval or operating permit, whichever are lower:

- (1) 4.0 pounds of NOx per ton of glass pulled for container glass furnaces.
- (2) 7.0 pounds of NOx per ton of glass pulled for pressed or blown glass furnaces.
- (3) 4.0 pounds of NOx per ton of glass pulled for fiberglass furnaces.
- (4) 7.0 pounds of NOx per ton of glass pulled for flat glass furnaces.
- (5) 6.0 pounds of NOx per ton of glass pulled for all other glass melting furnaces.

(b) The owner or operator of a glass melting furnace shall comply with subsection (a) by January 1, 2012, unless a petition for an alternative emission limitation or compliance schedule is submitted, in writing, to the Department and appropriate approved local air pollution control agency by January 1, 2012, in accordance with subsection (c) and approved, in writing, by the Department or appropriate approved local air pollution control agency.

(c) An owner or operator of a glass melting furnace that does not meet the NOx emission limits specified under this section by January 1, 2012, may petition the Department and appropriate approved local air pollution control agency for an alternative emission limitation or compliance schedule as follows:

(1) The owner or operator of a glass melting furnace subject to this section may submit, in writing, a petition requesting an alternative emission limitation. The petition must demonstrate to the satisfaction of the Department and appropriate approved local air pollution control agency that it is economically or technologically infeasible to meet the emission limitation under this section. The alternative emission limitation must be included in either a plan approval or an operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency.

(2) The owner or operator of a glass melting furnace for which the schedule for cold shutdown does not allow compliance by January 1, 2012 may submit a petition, in writing, requesting an alternative compliance schedule. The alternative compliance schedule for a cold shutdown which occurs after June 19, 2010, may not be extended

beyond 180 days from the start-up of the furnace after the cold shutdown, unless approved, in writing, by the Department.

(3) A petition must include the following:

(i) A brief description, including make, model and location, of each affected glass melting furnace.

(ii) A list of all air pollution control technologies and measures that have been installed on each affected glass melting furnace and are operating to control emissions of NO<sub>x</sub>.

(iii) The date of installation and original commencement of operation for each of the technologies and measures listed in accordance with subparagraph (ii).

(iv) An explanation of how the NO<sub>x</sub> control technology or measure installed has been optimized for the maximum NO<sub>x</sub> emission reduction for each of the technologies and measures listed in accordance with subparagraph (ii).

(v) The results of each stack test and other emissions measurements for the affected glass melting furnace following the installation and commencement of operation of the air pollution control technologies and measures listed in accordance with subparagraph (ii).

(vi) The date of last scheduled cold shutdown for each affected furnace.

(vii) The date of next scheduled cold shutdown of each affected furnace.

(viii) Other relevant information requested, in writing, by the Department or appropriate approved local air pollution control agency.

(4) If an alternative compliance schedule is sought to meet the requirements of this section, the owner or operator shall submit a proposed schedule containing proposed interim milestone dates for completing each phase of the required work and a proposed final compliance date. The petition must also include a proposed interim emission limitation until compliance is achieved with the requirements specified in this section.

(5) If an alternative emission limitation is sought to meet the requirements of this section, the conditions or special circumstances which demonstrate that the applicable requirements are technologically or economically infeasible.

(6) If an alternative emission limitation is sought to meet the requirements of this section, the owner or operator shall propose emission limitations in the petition.

(7) Approved interim milestone dates or emission limitations determined to be necessary for effective monitoring of progress toward full compliance with the

requirements of this section, §§ 129.301—129.303 and 129.305—129.310 shall be specified in a plan approval or operating permit issued by the Department or a permit issued by the appropriate approved local air pollution control agency.

(d) During routine maintenance of an add-on emission control system or systems, or maintenance or repair measures on furnace components, the owner or operator of a glass melting furnace subject to the emission limits specified under subsection (a) is exempt from these limits if:

(1) All routine maintenance of an add-on emission control system or maintenance or repair measures on furnace components, or both, combined, in each calendar year does not exceed 144 hours total.

(2) The routine maintenance or maintenance or repair measure, or both, is conducted in a manner consistent with good air pollution control practices for minimizing emissions.

**§ 129.305. Start-up requirements.**

(a) The owner or operator of the glass melting furnace shall submit, in writing, to the Department or appropriate approved local air pollution control agency, no later than 30 days prior to the anticipated date of start-up, information requested by the Department or appropriate approved local air pollution control agency to assure proper operation of the furnace. The information must include the following:

(1) A detailed list of activities to be performed during start-up and an explanation for the length of time needed to complete each activity.

(2) A description of the material process flow rates and system operating parameters and other information that the owner or operator plans to evaluate during the process optimization.

(b) The owner or operator of a glass melting furnace may submit a request for a start-up exemption in conjunction with the plan approval application if required. The actual length of the start-up exemption, if any, will be determined by the Department or appropriate approved local air pollution control agency at the time of the issuance of the plan approval or operating permit.

(c) The length of the start-up exemption following activation of the primary furnace combustion system may not exceed:

(1) Seventy days for a container, pressed or blown glass furnace.

(2) Forty days for a fiberglass furnace.

(3) One hundred and four days for a flat glass furnace and for all other glass melting furnaces not covered under paragraphs (1) and (2).

(d) The requirements of subsection (c) notwithstanding, if the NO<sub>x</sub> control system is not in common use or is not readily available from a commercial supplier, the length of the maximum start-up exemption following activation of the primary furnace combustion system is as follows:

(1) One hundred days for a container, pressed or blown glass furnace.

(2) One hundred and five days for a fiberglass furnace.

(3) Two hundred and eight days for a flat glass furnace and for all other glass melting furnaces not covered under paragraphs (1) and (2).

(e) The Department or appropriate approved local air pollution control agency may approve start-up exemptions, as appropriate, to the extent that the submittal clearly:

(1) Identifies the control technologies or strategies to be used.

(2) Describes the physical conditions that prevail during start-up periods that prevent the controls from being effective.

(3) Provides a reasonably precise estimate as to when physical conditions will have reached a state that allows for the effective control of emissions.

(f) During the start-up period, the owner or operator of a glass melting furnace shall maintain the stoichiometric ratio of the primary furnace combustion system so as not to exceed 5% excess oxygen, as calculated from the actual fuel and oxidant flow measurements for combustion in the glass melting furnace.

(g) The owner or operator shall place the emission control system in operation as soon as technologically feasible during start-up to minimize emissions.

#### **§ 129.306. Shutdown requirements.**

(a) The duration of a glass melting furnace shutdown, as measured from the time the furnace operations drop below 25% of the permitted production capacity or fuel use capacity to when all emissions from the furnace cease, may not exceed 20 days.

(b) The owner or operator of a glass melting furnace shall operate the emission control system whenever technologically feasible, as approved by the Department or appropriate approved local air pollution control agency, during shutdown to minimize emissions.

#### **§ 129.307. Idling requirements.**

(a) The owner or operator of a glass melting furnace shall operate the emission control system whenever technologically feasible, as approved by the Department or appropriate approved local air pollution control agency, during idling to minimize emissions.

(b) The NO<sub>x</sub> emissions during idling may not exceed the amount calculated using the following equation: Pounds per day emission limit of NO<sub>x</sub> = (Applicable NO<sub>x</sub> emission limit specified in § 129.304(a) (relating to emission requirements) expressed in pounds per ton of glass produced) x (Furnace permitted production capacity in tons of glass produced per day).

**§ 129.308. Compliance determination.**

(a) Not later than 14 days prior to the applicable compliance date under § 129.304(b) or (c), the owner or operator of a glass melting furnace subject to this section, §§ 129.301—129.307, 129.309 and 129.310 shall install, operate and maintain continuous emissions monitoring systems (CEMS, as defined in § 121.1 (relating to definitions)) for NO<sub>x</sub> and other monitoring systems to convert data to required reporting units in compliance with Chapter 139, Subchapter C (relating to requirements for source monitoring for stationary sources) and calculate actual emissions using the CEMS data reported to the Department. The owner or operator of a glass melting furnace may install or operate, or both, an alternate NO<sub>x</sub> emissions monitoring system or method, approved in writing by the Department or appropriate approved local air pollution control agency.

(b) Data invalidated under Chapter 139, Subchapter C, shall be substituted with the following if approved in writing by the Department or appropriate approved local air pollution control agency:

(1) The highest valid 1-hour emission value that occurred under similar source operating conditions during the reporting quarter.

(2) If no valid data were collected during the reporting quarter, one of the following shall be reported to the Department or appropriate approved local air pollution control agency:

(i) The highest valid 1-hour emission value that occurred under similar source operating conditions during the most recent quarter for which valid data were collected.

(ii) The highest valid 1-hour emission value that occurred under similar source operating conditions during an alternative reporting period.

(3) An alternative method of data substitution.

(c) Instead of data substitution, the Department or appropriate approved local air pollution control agency may approve an alternative procedure to quantify NO<sub>x</sub> emissions and glass production.

(d) The owner or operator of a glass furnace subject to this section shall submit to the Department or the appropriate approved local air pollution control agencies quarterly reports of CEMS monitoring data in pounds of NO<sub>x</sub> emitted per hour, in a format approved by the Department and in compliance with Chapter 139, Subchapter C, or a format approved by the appropriate approved local air pollution control agencies.

(e) The CEMS or approved monitoring system or method for NO<sub>x</sub> installed under this section must meet the minimum data availability requirements in Chapter 139, Subchapter C.

**§ 129.309. Compliance demonstration.**

(a) The owner or operator of a glass melting furnace shall calculate and report to the Department or appropriate approved local air pollution control agency on a quarterly basis, no later than 30 days after the end of the quarter, the CEMS data and glass production data used to show compliance with the allowable NO<sub>x</sub> emission limitation specified in § 129.304 (relating to emission requirements). The glass production data must consist of the quantity of glass, in tons, pulled per day for each furnace.

(b) The owner or operator of a glass melting furnace shall demonstrate compliance with the emission requirements of § 129.304(a) using one of the following methods:

(1) On a furnace-by-furnace basis.

(2) Facility-wide emissions averaging.

(3) System-wide emissions averaging among glass melting furnaces under common control of the same owner or operator in this Commonwealth.

(c) The owner or operator of a glass melting furnace for which the Department or the appropriate approved local air pollution control agency has granted approval to voluntarily opt into a market-based program may not demonstrate compliance on an emissions averaging basis under subsection (b). An emission reduction obtained by emissions averaging to demonstrate compliance with the emission requirements of § 129.304(a) will not be considered surplus for emission reduction credit purposes. The owner or operator of a glass melting furnace shall demonstrate compliance with the emission requirements of § 129.304(a) in accordance with subsection (d).

(d) Compliance with the emission requirements of § 129.304(a) shall be determined on a 30-day rolling average basis.

**§ 129.310. Recordkeeping.**

(a) The owner or operator of a glass melting furnace subject to this section and §§ 129.301—129.309 shall maintain records to demonstrate compliance. The records

must include an operating log maintained for each glass melting furnace that includes, on a daily basis:

- (1) The total hours of operation.
  - (2) The type and quantity of fuel used.
  - (3) The quantity of glass pulled.
- (b) The owner or operator of a glass melting furnace shall maintain records of:
- (1) Source tests and operating parameters established during the initial source test.
  - (2) Maintenance, repairs, malfunctions, idling, start-up and shutdown.
- (c) The owner or operator claiming that a glass melting furnace is exempt from the requirements of §§ 129.301—129.309 based on the furnace's potential to emit shall maintain records that clearly demonstrate to the Department or appropriate approved local air pollution control agency that the furnace is not subject to §§ 129.301—129.309.
- (d) The records required under this section shall be maintained onsite for 5 years. The records shall be made available or submitted to the Department or appropriate approved local air pollution control agency upon request.