Kansas Administrative Regulations

Department of Health and Environment

Article 19.—Ambient Air Quality Standards and Air Pollution Control—Volatile Organic Compound Emissions.

28-19-717. Control of volatile organic compound (VOC) emissions from commercial bakery ovens in Johnson and Wyandotte counties.

(a) Definitions. The following terms shall have the meanings provided below for the purposes of this regulation.

(1) "Baker's percent" means, for a given ingredient, the weight of that ingredient per 100 pounds of flour, expressed as a percentage.

(2) "Commercial bakery oven facility" means an establishment that is primarily engaged in the manufacture, for sale at wholesale or retail, of fresh or frozen bread, bread-type rolls, or dry bakery products, including biscuits, crackers, or cookies, in which the products are made using yeast leavening.

(3) "Spike yeast" means any yeast added to the dough beyond the initial yeast added to the dough.

(4) "Spiking time" means the elapsed time between the addition of the spike yeast to the dough and the placement of the dough into the oven.

(5) "Yeast action time" means the elapsed time between the initial addition of the yeast and the placement of the dough into the oven.

(b) Applicability. This regulation shall apply to each new, modified, or existing commercial bakery oven facility that meets these conditions:

(1) Is operating in either Johnson or Wyandotte county, or both; and

(2) has bakery ovens with a total potential-to-emit for volatile organic compounds (VOCs) equal to or greater than 100 tons per year.

(c)(1) Determination of commercial bakery oven facility potential-to-emit. The owner or operator of each commercial bakery oven facility operating in, or proposed for construction or modification in, the area defined in paragraph (1) of subsection (b) shall calculate the facility's total potential-to-emit (PTE) for VOCs in tons per year, using

either the following equation and the presumptions in paragraph (2) of this subsection, or an EPA administrator-approved alternative method if the use of that alternative method is approved in writing by the department for this purpose:

$$\mathrm{PTE_{Facility}(in\ tons/year) = Sum\ of\ PTE_{VOC}\ for\ all\ ovens\ (in\ tons/year)}$$

Where: $\mathrm{PTE_{VOC} = PA \times EF_{VOC}(in\ pounds\ of\ VOC/ton\ of\ baked\ bread \times 1\ ton/2000\ pounds)}$

P_A = maximum annual production rate for the yeast-leavened finished bakery product (in tons/year)

EF_{VOC} = VOC emission factor for the yeast-leavened finished bakery product having the highest emission potential (in pounds of VOC/ton of baked bread)

$$\mathrm{EF_{VOC} = 0.95Y_i + 0.195t_i - 0.51S - 0.86t_s + 1.90}$$

Where: Y_i = initial baker's percent of yeast to the nearest tenth of a percent;

t_i = total yeast action time in hours to the nearest tenth of an hour;

S = final (spike) baker's percent of yeast to the nearest tenth of a percent; and

t_s = spiking time in hours to the nearest tenth of an hour.

(2) The owner or operator shall presume for purposes of calculating the potential-to-emit that both of the following conditions apply:

(A) Each facility production line is operating 8,760 hours per year at maximum capacity.

(B) Each facility production line is producing the product with the highest level of VOC emissions of those products that it may produce.

(d) Control requirements. Each commercial bakery oven facility subject to this regulation shall install and operate VOC emissions control devices for each bakery oven to achieve at least an 80% total removal efficiency on the combined VOC emissions of all baking ovens, calculated as the capture efficiency times the control device efficiency.

(e) Time for compliance testing.

(1) The owner or operator of each existing bakery oven facility subject to this regulation shall demonstrate compliance with this regulation within one year from the effective date of this regulation by testing in accordance with the methods and procedures specified in subsection (f) of this regulation.

(2) Each new or modified bakery oven facility subject to this regulation shall demonstrate compliance with this regulation within 180 days of start-up by the testing of control equipment in accordance with the methods and procedures specified in subsection (f) of this regulation.

(3) Additional testing of the control equipment may be required by the department to demonstrate continued compliance in accordance with the methods and procedures specified in subsection (f) of this regulation.

(f) Testing requirements. The testing required under subsection (e) of this regulation shall be conducted in accordance with the following requirements:

(1) The testing shall be conducted at the owner's or operator's expense.

(2) The testing shall be conducted in accordance with a test plan submitted by the owner or operator to the department and approved by the department before the scheduled test date.

(3) The test plan shall specify the following elements of the test:

(A) The name of the entity performing the testing;

(B) the testing dates;

(C) the sampling location or locations;

(D) the sampling equipment to be used;

(E) the sampling procedures to be followed;

(F) the sample recovery methods; and

(G) any other information requested by the department pertaining to the facility and the test procedure.

(4) Testing procedures shall be conducted in accordance with the following requirements:

(A) For the purpose of determining control device efficiency, the owner or operator shall use USEPA test methods 18, 25, or 25A at 40 C.F.R. Part 60, as adopted by reference in K.A.R. 28-19-720.

(B) For the purpose of determining the capture efficiency of the air pollution control device, the owner or operator shall use the methods specified by the USEPA's February 7, 1995 memorandum titled "revised capture efficiency guidance for control of volatile organic compound emissions," and USEPA's technical document titled "guidelines for determining capture efficiency," dated January 9, 1994, both of which documents are hereby adopted by reference.

(C) Each owner or operator who demonstrates that the bakery oven or ovens are totally enclosed and operate under negative pressure with all venting through the air pollution control device may preclude, upon approval by the department, the need for the capture efficiency determination for those ovens so operated. The owner or operator seeking to demonstrate that the ovens operate under negative pressure shall do so by using the protocol titled "negative pressure enclosure qualitative test method for bakery ovens," as approved by EPA by letter of March 20, 1997, which protocol is hereby adopted by reference.

(D) Methods 204, 204A, 204B, 204C, 204D, 204E, and 204F of Appendix M of 40 C.F.R. Part 51, as in effect on July 1, 1999, are hereby adopted by reference.

(g) Compliance plan.

(1) Each owner or operator of an existing commercial bakery oven facility subject to this regulation shall submit a compliance plan to the department within three months of the effective date of this regulation.

(2) The compliance plan shall include the following information:

(A) The control device description;

(B) the testing methods and procedures; and

(C) the operating and maintenance plan for the control devices.

(3) The compliance plan shall identify the steps and processes to be taken to assure that the facility is in compliance by the date required for compliance.

(4) Each owner or operator of a new or modified commercial bakery oven facility subject to this regulation shall submit to the department an operation and maintenance plan for control devices before start-up.

(h) Monitoring and inspection.

(1) The owner or operator of each commercial bakery oven facility subject to this regulation shall continuously monitor and record data, as provided in paragraph (2) of this subsection, for emissions control devices and for operational parameters while the bakery oven is in operation.

(2) Each owner or operator required to monitor under paragraph (1) of this subsection shall continuously monitor and record the following parameters:

(A) The exhaust temperatures of all combustion devices, if used;

(B) the temperature rise across a catalytic oxidation bed, if used;

(C) the exit stream temperature on all condensors, if used;

(D) the volumetric flow rate; and

(E) any other monitoring parameter that the department may require the owner or operator to monitor.

(3) While operating the facility, the owner or operator of the facility shall maintain the parameters listed in paragraphs (2)(A) through (E) of this subsection within the baseline operational data established during the initial compliance test.

(4)(A) The owner or operator shall inspect control devices and monitoring equipment to assure that the control equipment is operating properly in accordance with the operating and maintenance plan prepared under either paragraph (g)(2)(C) or (g)(4) of this regulation, and that no leaks or malfunctions have occurred or are occurring.

(B) Inspections shall be made at the frequency defined by the equipment manufacturer, or as otherwise appropriate for each unit, component, or operation, but not less than monthly.

(C) The owner or operator shall record the results of each inspection in a permanent log to be retained on-site, and shall make the log available for inspection by a department representative upon request.

(i) Recordkeeping.

(1) The owner or operator of each commercial bakery oven facility subject to this regulation shall keep the records required by this regulation on-site for at least five years following the date of record.
(2) The owner or operator of each commercial bakery facility shall make the records required by this regulation available for inspection by a department representative upon request.
(3) Daily records of the following operational data shall be kept:
(A) The amount of raw product processed;
(B) the baker's percent of yeast used;
(C) the fermentation time;
(D) the type of product baked;
(E) the amount of product baked;
(F) the monitoring and inspection records specified in subsection (h) of this regulation; and
(G) any other information that the department may determine to be necessary for determining that the facility is operated in continuous compliance with this regulation.
(4) The owner or operator shall calculate monthly emissions and shall record the emission factor used for each product, including citation of the source of the emission factor and the results of the calculations for the facility's ovens.
(Authorized by K.S.A. 1999 Supp. 65-3005; implementing K.S.A. 1999 Supp. 65-3005, K.S.A. 1999 Supp. 65-3007, and K.S.A. 65-3010; effective Dec. 22, 2000.)

***** Authenticated Kansas Administrative Regulation *****