RULE 1153. COMMERCIAL BAKERY OVENS

(a) Applicability
This rule controls volatile organic compound (VOC) emissions from commercial bakery ovens with a rated heat input capacity of 2 million BTU per hour or more and with an average daily emission of 50 pounds or more of VOC.

(b) Definitions
For the purpose of this rule the following definitions shall apply:

(1) AVERAGE DAILY EMISSIONS is the product of the total calendar year emissions (in tons/year) divided by the number of days the oven was employed for production during that year.

(2) BAKERY OVEN is an oven for baking bread or any other yeast leavened products by convection.

(3) BASE YEAR is the calendar 1989 or any subsequent calendar year in which the average daily emissions are 50 pounds or more per day.

(4) EMISSIONS are any VOC formed and released from the oven as a result of the fermentation and baking processes of yeast leavened products.

(5) EXEMPT COMPOUNDS are any of the following compounds which have been determined to be non-precursors of ozone:

(A) Group I (General)
chlorodifluoromethane (HCFC-22)
dichlorotrifluoroethane (HCFC-123)
tetrafluoroethane (HFC-134a)
dichlorodifluoroethane (HCFC-141b)
chlorodifluoroethane (HCFC-142b)
trifluoromethane (HFC-23)
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)
pentafluoroethane (HFC-125)
1,1,2,2-tetrafluoroethane (HFC-143)
1,1,1-trifluoroethane (HFC-143a)
1,1-difluoroethane (HFC-152a)
cylic, branched, or linear, completely fluorinated alkanes
cylic, branched, or linear, completely fluorinated ethers with no unsaturations
cylic, branched, or linear, completely fluorinated tertiary amines with no unsaturations
sulfur-containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine

(B) Group II
- methylene chloride
- 1,1,1-trichloroethane (methyl chloroform)
- trichlorotrifluoroethane (CFC-113)
- dichlorodifluoromethane (CFC-12)
- trichlorofluoromethane (CFC-11)
- dichlorotetrafluoroethane (CFC-114)
- chloropentafluoroethane (CFC-115)

The use of Group II compounds and/or carbon tetrachloride may be restricted in the future because they are toxic, potentially toxic, upper-atmosphere ozone depleters, or cause other environmental impacts. By January 1, 1996, production of chlorofluorocarbons (CFC), 1,1,1-trichloroethane (methyl chloroform), and carbon tetrachloride will be phased out in accordance with the Code of Federal Regulation Title 40, Part 82 (December 10, 1993).

(6) EXISTING OVEN is an oven that was constructed and commenced operation prior to January 1, 1991.

(7) FERMENTATION TIME is the elapsed time between adding yeast to the dough or sponge and placing it into the oven, expressed in hours.

(8) LEAVEN is to raise a dough by causing gas to permeate it.

(9) VOLATILE ORGANIC COMPOUNDS (VOC) is any volatile compound containing the element carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, methane, and exempt compounds.

(10) YEAST PERCENTAGE is the pounds of yeast per hundred pounds of total recipe flour, expressed as a percentage.

(c) Requirements

(1) No person shall operate an existing bakery oven unless VOC emissions are reduced by at least:

(A) 70 percent by weight (as carbon) for an oven with a base year average daily VOC emissions of 50 pounds or more, but less than 100 pounds.

(B) 95 percent by weight (as carbon) for an oven with a base year average daily VOC emissions of 100 pounds or more.
(2) No person shall operate a new bakery oven unless VOC emissions are reduced by at least 95 percent by weight (as carbon) if the uncontrolled average daily VOC emissions are 50 pounds or more.

(d) Compliance Schedule
No person shall operate a bakery oven subject to this rule unless the following increments of progress are met:

(1) For bakery ovens subject to subparagraph (c)(1)(A):
(A) By January 1, 1992, submit required applications for permits to construct and operate.
(B) By July 1, 1993, demonstrate compliance with subparagraph (c)(1)(A).

(2) For bakery ovens subject to subparagraph (c)(1)(B):
(A) By January 1, 1993, submit required applications for permits to construct and operate.
(B) By July 1, 1994, demonstrate compliance with subparagraph (c)(1)(B).

(3) For bakery ovens subject to paragraph (c)(2) be in compliance by July 1, 1992 or by the date of installation, whichever is later.

(e) Alternate Compliance Schedule
The paragraph (d)(1) and (d)(2) compliance deadlines may be postponed by one year if the owner of a bakery oven elects to replace the existing oven with a new one. Such election must be made by January 1, 1992 via a compliance plan submitted to, and subject to approval of, the Executive Officer or his designee. In approving such an election, the Executive Officer may impose interim conditions or control measures on the existing oven in order to assure compliance pending the installation or construction of the new, replacement oven.

(f) Exemptions
The provisions of subdivisions (c) and (d) do not apply to any existing bakery oven that emits less than 50 pounds of VOC per operating day on an uncontrolled basis. Daily VOC emissions shall be determined according to the calculation procedures of Attachment A, or according to any test methods specified in subdivision (h).
(g) Recordkeeping Requirements
Any person operating a bakery oven subject to this rule and claiming an
exemption under subdivision (f) shall maintain a daily record of operations,
including, but not limited to, the amount of raw material processed, yeast
percentage, fermentation time, and the type of product baked. Such records shall
be retained in the owner's or operator's files for a period of not less than two
years.

(h) Determination of Efficiency of Emission Control System

(1) USEPA Test Method 25, or SCAQMD Test Method 25.1 (Determination
of Total Gaseous Non-Methane Organic Emissions as Carbon) shall be
used to determine compliance with this rule. Other test methods reviewed
by the staffs of the SCAQMD, California Air Resources Board, and the
USEPA, and approved in writing by the District Executive Officer may
also be used to determine the efficiency of the emission control system.

(2) Multiple Test Methods
When more than one test method or set of test methods are specified for
any testing, a violation of any requirement of this rule established by any
one of the specified test methods or set of test methods shall constitute a
violation of the rule.

(3) All test methods referenced in this section shall be the most recent
approved version.
ATTACHMENT A

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* Yt = (yeast percentage) x (fermentation time)
  If yeast is added in 2 steps, Yt = (initial yeast percentage) (total fermentation time) + (remaining Yeast percentage) (remaining fermentation time)