(Adopted January 4, 1991)(Amended January 13, 1995)

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)
dichlorofluoroethane (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)
cyclic, branched, or linear, completely fluorinated alkanes
cyclic, branched, or linear, completely fluorinated ethers with no unsaturations
cyclic, 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

Yt*	Pounds VOC/ton Bakery Product	Yt*	Pounds VOC/ton Bakery Product
1.0	0.8488	16.0	7.5176
1.5	1.0711	16.5	7.7399
2.0	1.2934	17.0	7.9622
2.5	1.5157	17.5	8.1845
3.0	1.7380	18.0	8.4068
3.5	1.9603	18.5	8.6291
4.0	2.1826	19.0	8.8514
4.5	2.4049	19.5	9.0737
5.0	2.6272	20.0	9.2959
5.5	2.8495	20.5	9.5182
6.0	3.0718	21.0	9.7405
6.5	3.2941	21.5	9.9628
7.0	3.5163	22.0	10.1851
7.5	3.7386	22.5	10.4074
8.0	3.9609	23.0	10.6297
8.5	4.1832	23.5	10.8520
9.0	4.4055	24.0	11.0743
9.5	4.6278	24.5	11.2966
10.0	4.8501	25.0	11.5189
10.5	5.0724	25.5	11.7412
11.0	5.2947	26.0	11.9635
11.5	5.5170	26.5	12.1857
12.0	5.7393	27.0	12.4080
12.5	5.9616	27.5	12.6303
13.0	6.1839	28.0	12.8526
13.5	6.4061	28.5	13.0749
14.0	6.6284	29.0	13.2972
14.5	6.8507	29.5	13.5195
15.0	7.0730	30.0	13.7418
15.5	7.2953		

* 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)